

Environmental Monitoring Report

Project No. 47101-004
Semi-Annual Report
July 2021

India: Assam Power Sector Investment Program - Tranche 3

Prepared by the Assam Power Generation Corporation Limited (APGCL) for the Asian Development Bank.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

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Environmental Monitoring Report

(as of 30th June 2021)

Loan Number 4029-IND

Assam Power Sector Investment Program – Project-3

Reporting Period: from January 2021 to June 2021

Loan Signing Date: 30th December 2020



Prepared by the Assam Power Generation Corporation Limited (APGCL) for the Asian Development Bank

This environmental monitoring report is a document of the borrower and made publicly available in accordance with ADB's Access to Information Policy 2018 and the Safeguard Policy Statement 2009. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff.

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AEGCL	Assam Electricity Grid Corporation Limited
APDCL	Assam Power Distribution Company Limited
APGCL	Assam Power Generation Corporation Limited
CPCB	Central Pollution Control Board
CTE	Consent to Establish
CTO	Consent to Operate
DC	Double Circuit
EA	Project Executing Agency
EARF	Environmental Assessment and Review Framework
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
GOI	Government of India
IEE	Initial Environment Examination
MPH	Main Power House
PAM	Project Administration Manual
PCBA	Pollution Control Board of Assam
PMU	Project Management Unit
SPS	Safeguard Policy Statement
TL	Transmission Line

Glossary of Terms

Environmental Safeguards – means the principles and requirements set forth in Chapter V, Appendix 1 and Appendix 4 (as applicable) of the SPS.

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EXECUTIVE SUMMARY

Project Name: Assam Power Sector Investment Program – Project-3					
Executing Agency	Government of Assam acting through Assam Power Generation Corporation Limited (APGCL)				
Implementing Agency	Assam Power Generation Corporation Limited (APGCL)				
Environment Safeguards Categorization	A				
Environment Safeguards Documentation	EARF - 2013, EIA - 2018, EMP - 2018 (EIA, EMP being updated) EIA was also prepared and disclosed in the MoEF&CC, GOI website for the LKHEP in connection with the Environment Clearance for the project. Initially prepared in March 2017 and finally submitted to MoEF&CC in July 2019. On the basis of that Environment Clearance was accorded to the project vide letter No. J-12011/26/2012-IA-I dated 4 th September, 2019.				
Project Stage Obtained	Construction				
Detailed Design Required Post-Approval	Yes. It is EPC mode of contract. Currently Package 2 (Civil and Hydromechanical) is awarded. Other packages for which detail design required post approval are : Package 1 – Internal Road and Building facility Package 3 - Electro Mechanical Package 4 – Transmission line				
Contract(s) Awarded	Yes. Package 2 (Civil and Hydromechanical) awarded				
Bidding Document(s) Include EMP Cleared by ADB	Yes. Bidding document of Package 2 (Civil and Hydromechanical) includes relevant sections of the EMP cleared by ADB. Package 3 (Electro mechanical) including EMP cleared by ADB.				
Contract(s) Awarded Include EMP Cleared by ADB	Yes. Contract document of Package 2 (Civil and Hydromechanical) includes relevant sections of the EMP cleared by ADB. EMP sections relevant specifically for Electro Mechanical works and construction of transmission line are only removed from the project EMP for the package 2 (Civil and Hydromechanical).				
National Environment, Health and Safety Clearance(s) Obtained	All clearances/permits required for the project have been obtained like Environment Clearance, Forest Clearance Stage II, Ministry of Defense, Ministry of Home Affairs, Central Electric Authority, Ministry of Tribal Affairs, etc. Contractor have the Labour License, and applied for CTE for Batching Plant, Crusher, Obtain Clearances from PESO for establishment of Explosive Magazine, etc.				
Contractor(s) Given Access to Site	Yes. 20 th November 2020. <table border="1" data-bbox="634 1749 1414 1900"> <thead> <tr> <th>Date of handover</th> <th>Description of the land</th> </tr> </thead> <tbody> <tr> <td>20th Nov'20</td> <td>Approx. 37 Hectare revenue land -1 handed over to Contractor.</td> </tr> </tbody> </table>	Date of handover	Description of the land	20 th Nov'20	Approx. 37 Hectare revenue land -1 handed over to Contractor.
Date of handover	Description of the land				
20 th Nov'20	Approx. 37 Hectare revenue land -1 handed over to Contractor.				

	20 th Nov'20	Approx. 63.2 Hectare revenue land -2 handed over to Contractor.
	2 nd Jan'21	Approx. 150 Hectare revenue land handed over to Contractor.
	11 th Jun'21	477.76 Hectare, diverted forest land handed over to Contractor.
	Total 727.93 Ha land was handed over by the end of June 2021 which is 46.159 % of the total land. Most of the construction activities of Package 2 will be concentrated within this area only.	
Construction Progress (%)	<p>Physical Progress : Under Package 2 works Overall progress 18 % {Road Excavation 68.14 %; <u>Main Work</u> Surge Shaft Open Excavation 100 %; Switch Yard Excavation 100%; Valve House And Pressure Shaft Open Excavation 34.8%; Adit To HRT Excavation Open Excavation 58.2%; DT Outlet Open Excavation 10%. Site Infrastructure facility Work is also in progress.}</p> <p>Financial Progress : 1.05 %</p>	
Unanticipated Impacts including Change of Scope or Design	<p>As per Forest Advisory Committee's (MoEF&CC) suggestion the miscellaneous area and Muck disposal site has been shifted from Forest Land to Revenue Land. EPC contractor of Package 2 also added 3 additional dumping ground in Revenue land.</p>	
Number of Site Inspections and Audits Undertaken by Environment Safeguards Staff in Reporting Period	<p>4 nos of site inspection of all the components were carried out. Day to day monitoring on EHS were carried out by site staffs of PMC and APGCL and reported to Environment Safeguard team of PMC and APGCL. Due to COVID restrictions (ban on inter-district movements, Lockdown, etc) the activities of the contractor within this reporting period January to June, 2021 was also limited. During site inspections Environment Specialist of PMC and Environment Expert of APGCL participated. Site inspections were carried out on 9th February, 19th to 22nd February and on 29th June 2021. Training were also given by Contractor to their staff on EHS. Details in Table 9.B of the Report.</p>	
Corrective Action Required		Issues
	1	Disclosure of ADB approved EIA on APGCL website
	2	Updating EIA
		Timeline
		Will be disclosed in the APGCL site within 10 th November, 2021.
		Within 15 th November, 2021.

	3	CEMP preparation and approval	Observations on CEMP given to the package 2 contractor. EHS team of contractor will revise it and submit it to APGCL for approval by 10 th November, 2021.
	4	EHS aspects during Pre construction phase	<ul style="list-style-type: none"> • Test of Ambient environment (air, water, Noise, Soil) will be carried out as soon as the External monitor engaged for the package 1, and 3. • For terrestrial Ecology, Camera trap not initiated but will be carried out as soon as the External monitor engaged. But monitoring done during Biodiversity study in February, 2021 and report submitted. • Down stream study will be carried out within December, 2021.
	5	EHS aspects during construction phase	<ul style="list-style-type: none"> • Obtaining CTE from PCBA for Batching plant by 15th November 2021. • Before commencing operations, CTOs for Batching plant and Crusher unit to be obtained from PCBA by 30th November, 2021. • Sedimentation tanks to be prepared from waste waters generated from canteen and other facilities by 25th November, 2021. • Overburden after utilization stacked along the road in the forest area to be shifted to the muck disposal site by 15th November, 2021. • Municipal Solid Waste Management facility to be developed as per rule by 30th November, 2021. • E-flow at the dam will be monitored constantly and will be initiated within December, 2021. • AIDS awareness camp will be carried out by 10th November, 2021.

Outstanding Corrective Action this Reporting Period	Details have been given in the above section.						
Non-Compliances Recorded this Reporting Period							
Corrective Action Required							
Number of Health and Safety Incidents	<p>1 COVID 19 positive patient was admitted to hospital and later shifted to Guwahati for better treatment and later succumbed to death. Another 19 COVID positive patients were recovered.</p> <table border="1"> <tr> <td>Non-Work Related Incident</td> <td>2</td> </tr> <tr> <td>First Aid Cases</td> <td>4</td> </tr> <tr> <td>Near Miss Reports</td> <td>3</td> </tr> </table>	Non-Work Related Incident	2	First Aid Cases	4	Near Miss Reports	3
Non-Work Related Incident	2						
First Aid Cases	4						
Near Miss Reports	3						
GRM Functional	<p>Yes. Project GRM is a three-tier system approved by Government of Assam. Grievances were on land compensation issues. No grievances were on environment, Health and Safety. Contractors own GRM is also there to address contractor's staff and labour grievances.</p>						
Number of Unresolved Grievances from Prior Reporting Period	Nil						
Number of Grievances Received in Reporting Period	Nil						
Number of Grievances Resolved this Reporting Period	NA						
Number of Grievances Still Outstanding	NA						
Number of Grievances referred to Court of Law	Nil						
Number of Grievances referred to the Accountability Mechanism	Nil						

Note : Supplementary environmental assessment studies (CIA, WQRP, WRMP) carried out during project preparation are part of the June 2018 EIA as disclosed on the ADB website.

1.0 Introduction

1.1 Brief Project Description

Government of Assam is the Executing Agency for the Assam Power Sector Investment Program – Project-3 and acting through Assam Power Generation Corporation Limited (APGCL). The Assam Power Generation Corporation Limited and its Project Management Unit are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by Assam Power Generation Corporation Limited and its Project Management Unit of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

The objective of the project is to increase generation from clean energy sources in the State of Assam. The project shall comprise of the following :

- Output 1 : Lower Kopili hydropower generation capacity expanded through the construction and commissioning of the 120 megawatt (MW) Lower Kopili Hydroelectric Project and its connection to the transmission grid. This comprises 2 units of 55 MW main powerhouse, 2 units of 2.5 MW and 1 unit of 5 MW auxiliary powerhouse.
- Output 2 : Institutional capacity of APGCL strengthened. Through capacity building on construction, operations and maintenance and safeguards for 30 staff (including 6 women).
- Output 3 : Resource Management and community resilience initiatives implemented. Through (i) installation of sensors and monitoring equipment. (ii) development of dashboards for state and local government agencies for resource management and (iii) development of plans and training for at least 500 people (including 40% women) along the Kopili River basin for increased capacity for managing disaster.

The Project's impact will be aligned with increased availability of electricity in Assam. The outcome of the project will be increased capacity of energy generation in Assam, where electricity generation will be increased by 469 gigawatt-hour/year (GWh/year). Greenhouse gas generation from electricity generation will decrease by 360,000 tCO₂/year from 2024 onwards.

The dam proposed to be built at Longku will be a concrete gravity dam, of height 65 m and top longitudinal cross section 335 m (Figure-1). The crest of the dam will be 229 m above mean sea level (MSL). The dam will create a reservoir at Longku with a spread of 620 hectares (ha), with live storage of 77 million cubic meter. A tunnel will be excavated to deliver the water from the reservoir to the main power plant. Water from the intake to the main power plant enters the tunnel of diameter 7.0 meter on the right bank of the Kopili river. This tunnel will be 3.641 kilometer (km) long. At the end of this low-pressure tunnel, water will enter the pressure shaft. The pressure shaft will be circular of 6.1 m diameter (UG section, 462m); Surface backfill 6.1m diameter (159m); Inclined surface 5.2 m diameter (89m), steel lined. The pressure shaft will deliver water to two steel penstocks each of length of about 60 m, which in turn would convey water to the turbines. Water to the auxiliary power plant will be taken directly along a steel-lined circular pressure shaft of diameter 2.7 m and of length 70 m, and delivered to the turbine through three steel penstocks, each about 30 m long (Figure-2,3). The designed discharge capacity is 112.7 cubic meter per second (m/s), at a flow velocity of 3.13 m/s.

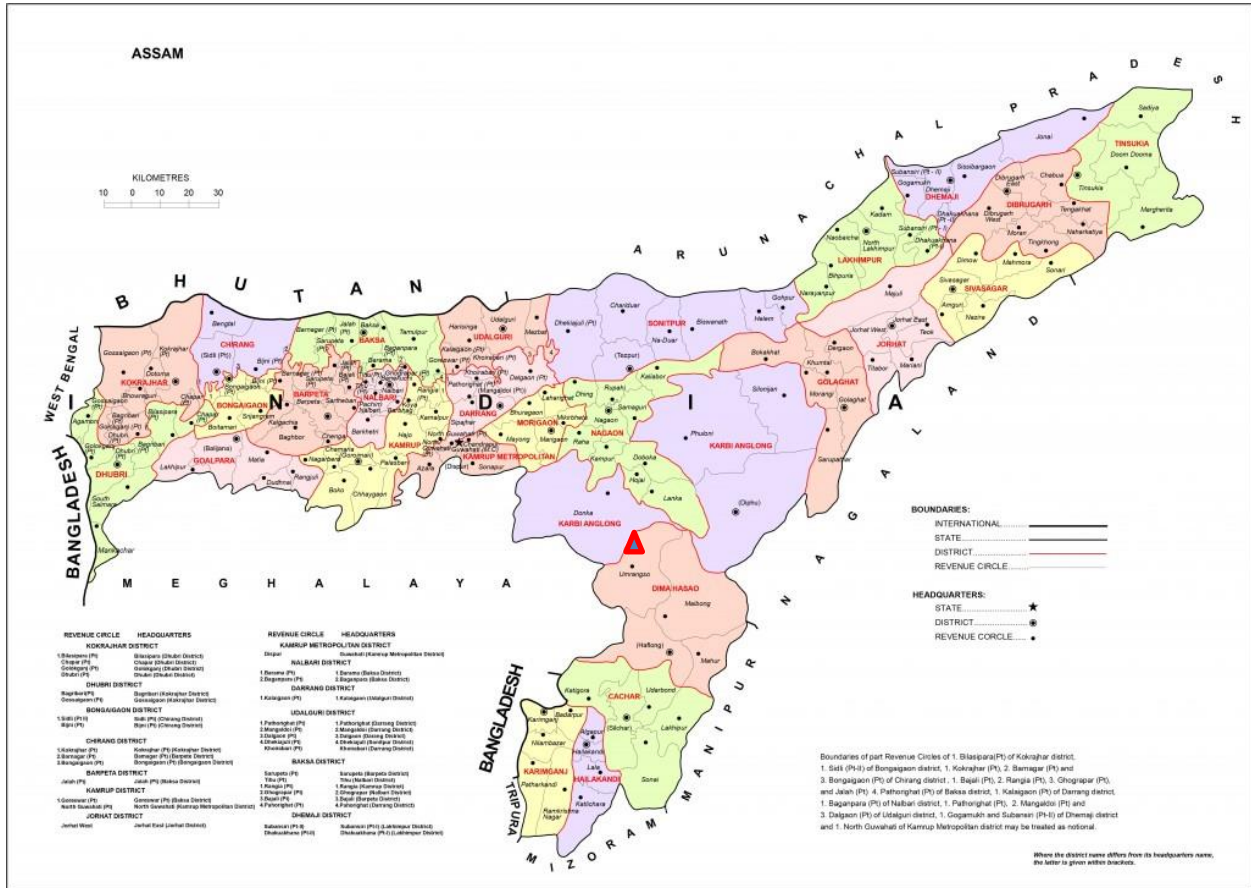
The power evacuation system, an essential component of LKHEP, will be used to evacuate power it generates into the National / local grid. The power evacuation system will include the construction of a 220 kV Double Circuit (DC) transmission line (TL) from the Main Power House (MPH) site of LKHEP to an existing 132/33 kV Substation (S/S) at Sankardev Nagar (Lanka) and the construction of a 33 kV Single Circuit (SC) TL from the Auxiliary Power House (APH) site of LKHEP to an existing 132/33 kV S/S at Umrangsu. The length of TL between the MPH to Sankardev Nagar is 50 km, and between the APH to Umrangsu is 20 km. The TL corridors are envisaged to by-pass some villages / settlements and avoid forests (Figure 4).

The power evacuation system will also involve upgrading of an existing 132/33 kV S/S at Sankardev Nagar with the existing 2 power transformers of capacity 2x25 MVA to 220kV with 2 inter-connected transformers (ICT) of capacity 2 x 160 MVA. The relevant switchgear proposed type is a Gas Insulated Substation (GIS). There is no land acquisition associated with the transmission system activity, and no potential impacts on biodiversity are anticipated.

The Lower Kopili HEP (subproject) is classified as Environment Category A, Involuntary Resettlement (IR) Category A, and Indigenous Peoples (IP) Category A (“triple A”) in accordance with ADB’s Safeguard Policy Statement (SPS 2009). Additionally, based on the results of the climate change risk assessment, the subproject is High Risk for Multi-Hazard Index and Climate. To fulfill national regulatory requirements and ADB’s SPS 2009, APGCL prepared an Environmental Impact Assessment (EIA) with environmental no-objection obtained from the Ministry of Environment, Forest and Climate Change of Government of India.

There is a change in layout since the EIA during the Forest Clearance process as per Forest Advisory Committee (FAC), MoEF&CC. The Figure 2 has been prepared as per FAC requirements and Figure 3 is the tender drawing based on the Forest Clearance. So Figures 2 & 3 are updated layout. As transmission line in on the Revenue Land, hence the figure 4 is not changed.

Figure 1: Project Location Map



▲ Project location in Assam

Figure 2: Project Layout Map

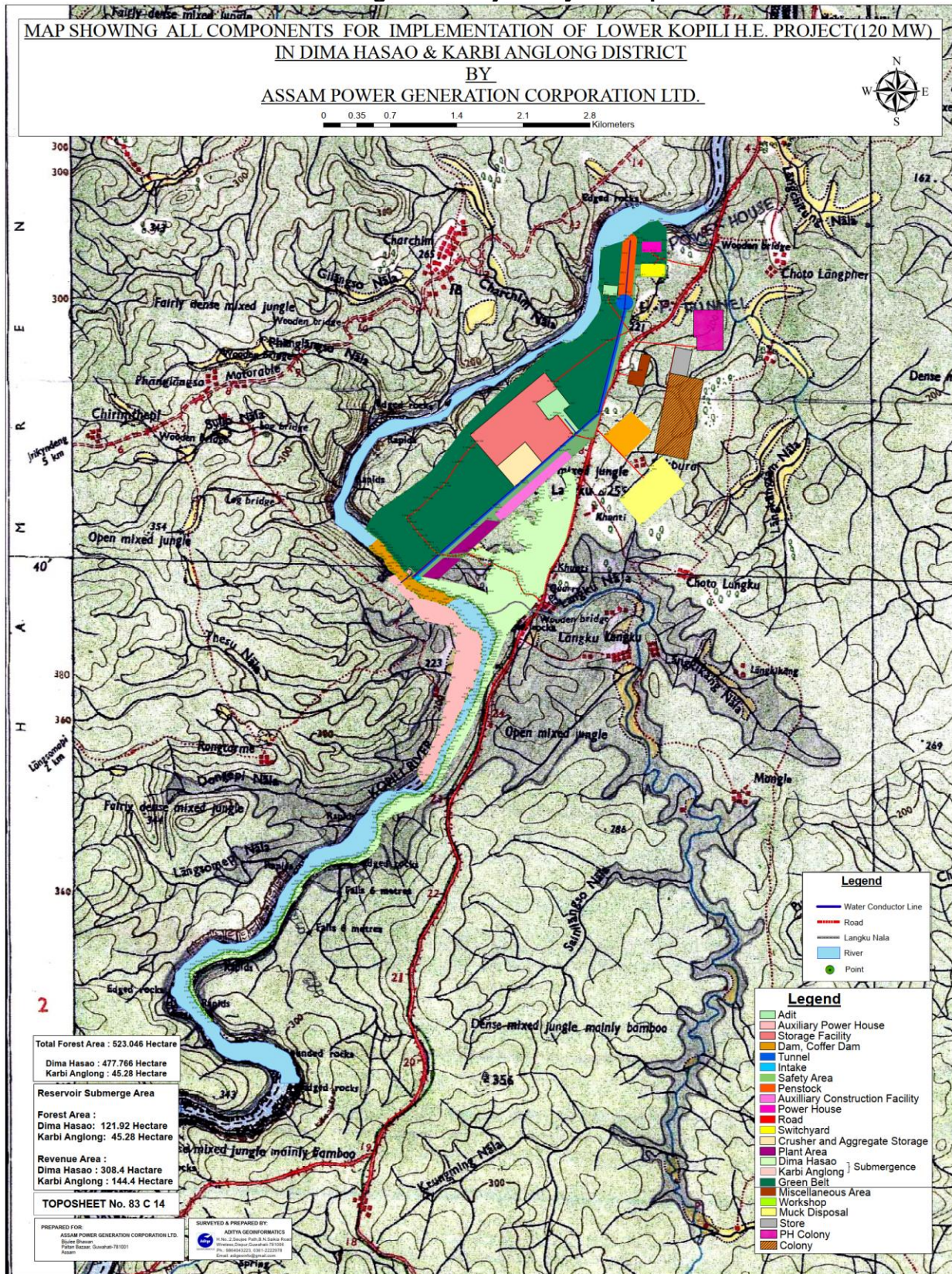


Figure -3 : Detail Layout Plan

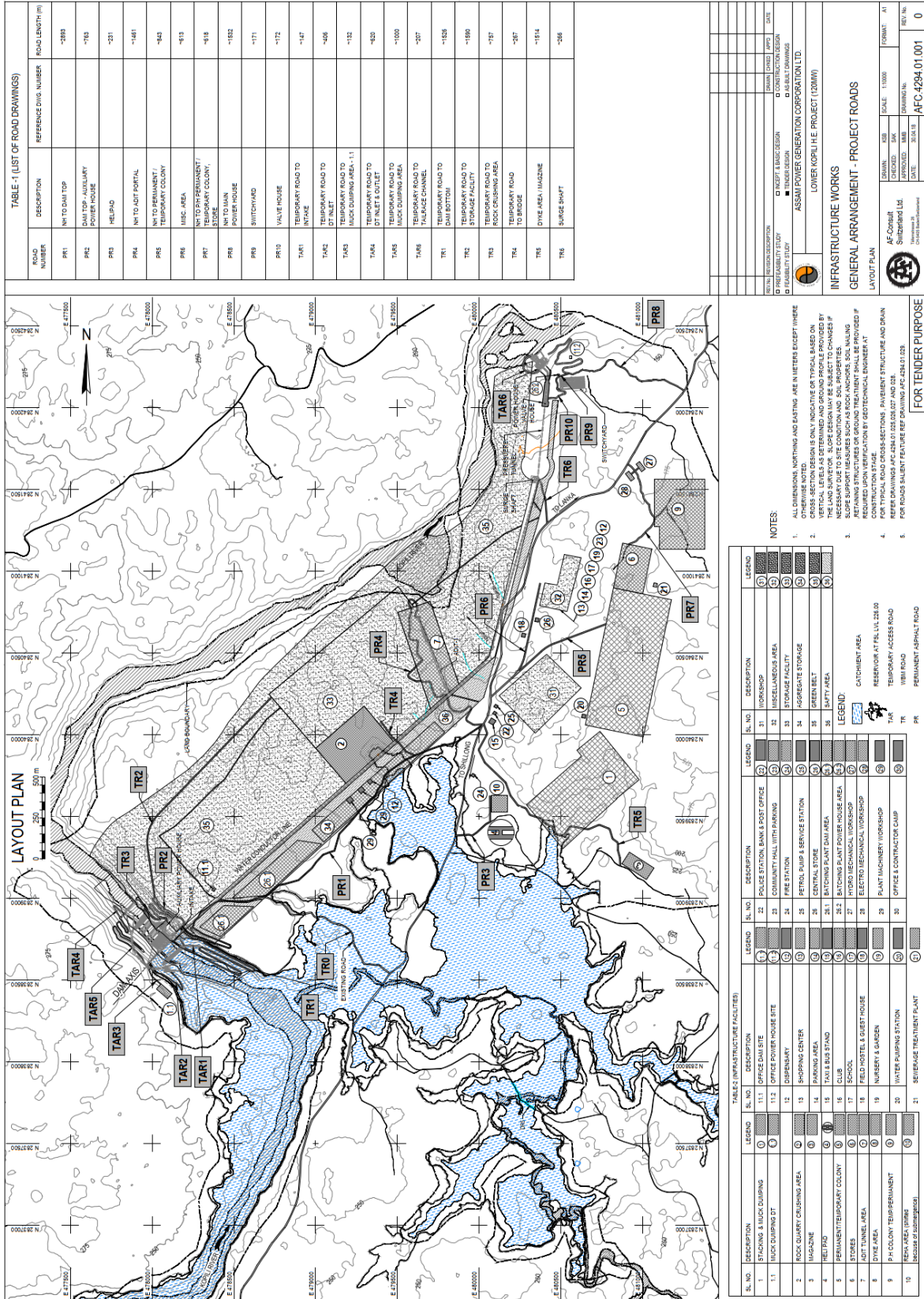
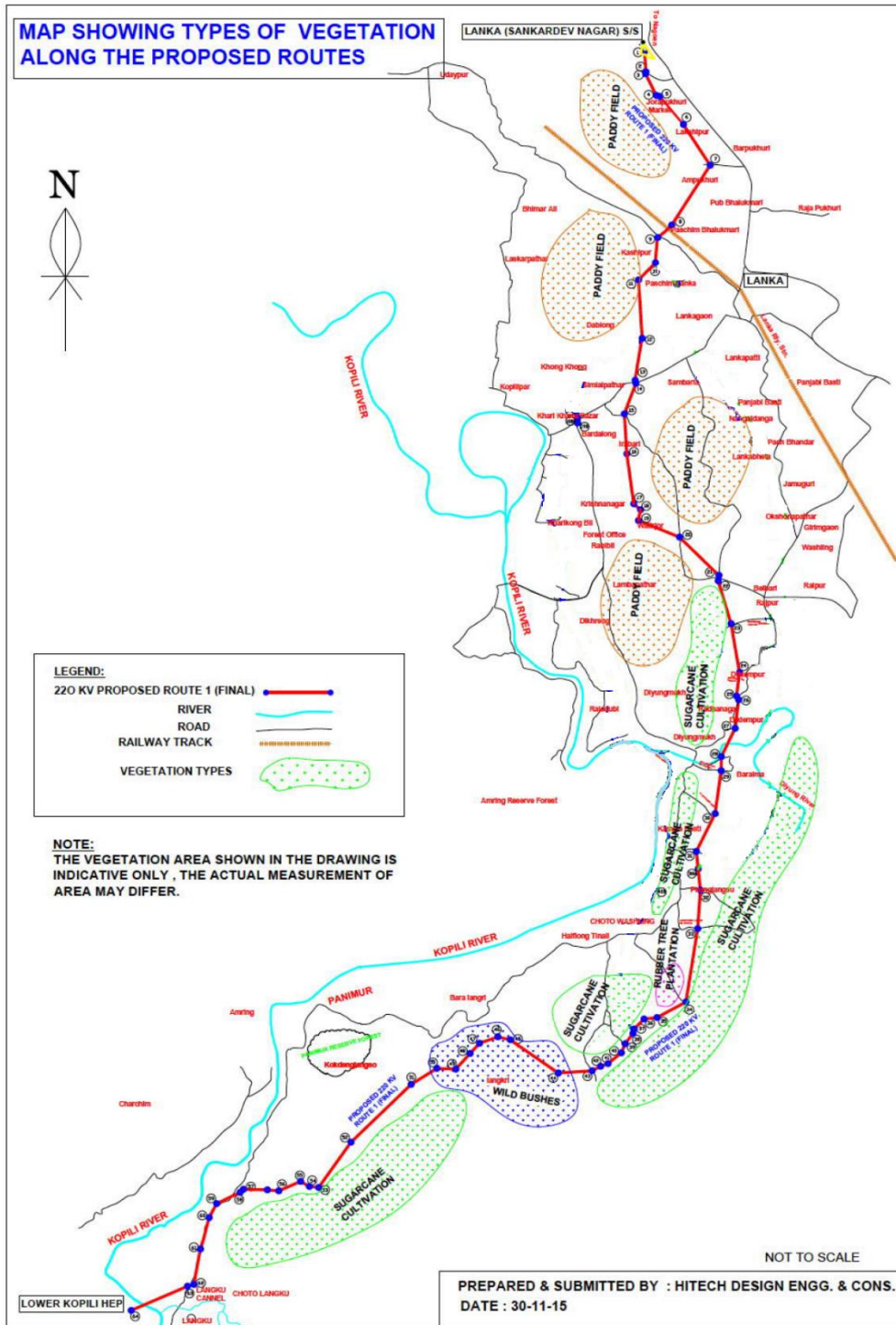


Figure 4: Layout of Transmission line



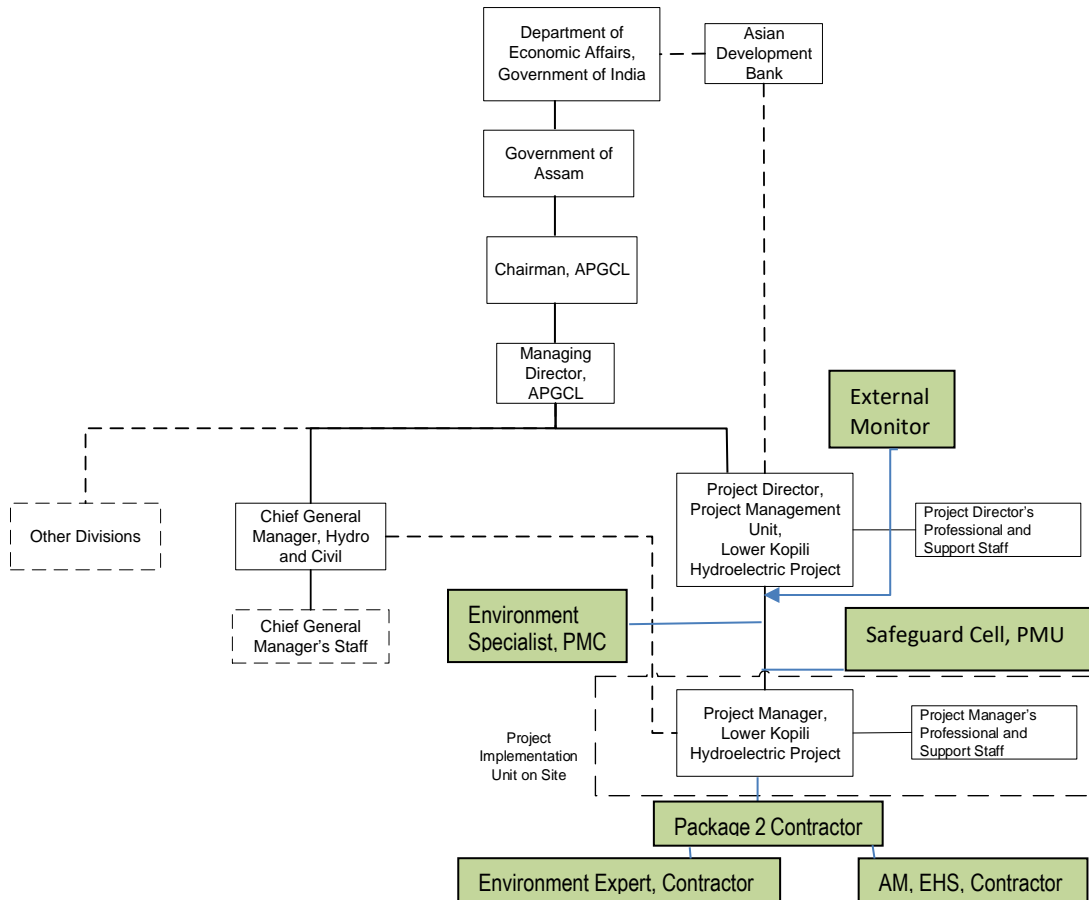
The comprehensive environmental management plan (EMP) includes plans and programs for physical and biological mitigation for aquatic habitat, terrestrial fauna and flora, and hydrological impacts both upstream and downstream of the subproject as well as prescribes quality monitoring activities. As required by ADB's SPS 2009 and the Public Communication

Policy (PCP) 2011, draft EIA was disclosed in April 2018. As per GOI requirements EIA was also approved by MoEF&CC and the EIA was disclosed in the Pollution Control Board of Assam site (http://pcbassam.org/EIAREPORT/EIA%20Report_APGCL/Draft%20EIA%20Report%20Lower%20%20Kopli.pdf). Summary EIA in English, Hindi and Assamese was disclosed in web site (<https://ercindia.org.in/archive.ercindia.org.in/index.php/public-hearings-main?start=22>). June 2018 EIA disclosed in the ADB site will be uploaded in the APGCL web site with all the supplementary EIA studies. Environment Clearance was accorded for the project on 4th September, 2019. As the project requires diversion of forest land stage 1 and stage 2 Forest Clearance was also accorded for the project on 5th February, 2019 and 4th December, 2020 respectively by MoEF&CC. APGCL will adhere to the EIA/EMP and will be responsible for timely implementation to ensure that all activities are in compliance with the applicable national and local policy, legal and administrative framework as well as ADB's SPS 2009.

A grievance redress mechanism (GRM) is established to deal with complaints on environmental and social issues in a timely manner and adequately publicized amongst the affected peoples.

Organogram of environmental safeguards staffing and relationships between executing and implementing agencies, consultants, contractors, subcontractors (Figure 5). Contact details of Environment Safeguard team is given in the table 1.

Figure 5 : Organogram of environmental safeguards staffing



Contractors Safeguard Team

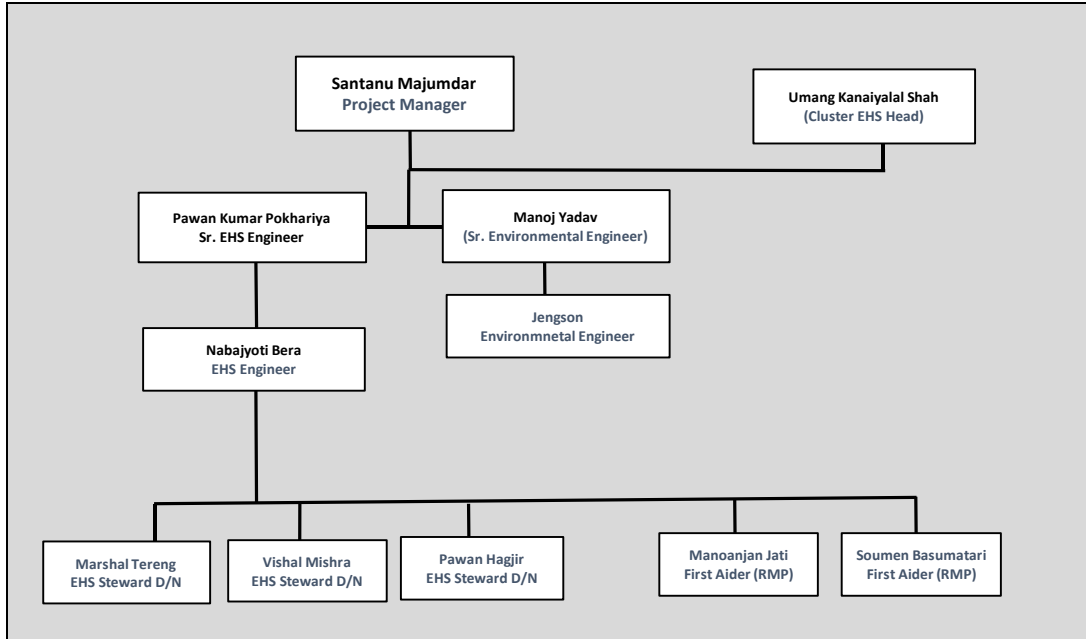


Table 1: Contact Details of the Environment Team under Project Director.

	Name	Contact no	Email Address
PMU	Dr Deepak Kumar Baruah	9435113521	deepakbaruah007@gmail.com
PMC	Dr Jayanta Das	9435406966	gibbonconservation@gmail.com
Contractor	Mr Manoj Yadav Environment Engineer L&T	7838013312	manojyadav@Intecc.com
	Mr. Naba Jyoti Bera Assistant Manager EHS L&T	7099002556	nabajyotibera@Intecc.com

Field level supervision are carried out by the Environment Engineer and Assistant Manager EHS of the contractor and they prepare monthly Environment Report and Monthly Safety Reports and submit it to APGCL. PMC environment specialist visit the sites and prepare field reports. PMC also carry out joint visit with APGCL environment expert and monitor the compliances. Monthly reports submitted by the contractor and field information received from the PMC staff and APGCL staff on the EHS issues are regularly reviewed and necessary actions are being suggested for the compliance and proper implementation of EMP. Trainings are also given on the implementation of EMP, EHS issues, Test of ambient environment for the contractor personal as well as APGCL and PMC staff.

Contractor carry out EHS inspection by EHS Engineer and supervision one per week; EHS inspection by Project EHS 2 per month and Executive EHS inspection 1 per month.

1.2 Project Progress Status and Implementation Schedule

Project progress status are shown in table 2.

Table 2 : Project Progress status

Project Component/Stage	Target Completion Date	Progress Status	Percent Completed	Remarks
<ul style="list-style-type: none"> Contract award (Package 2) (Civil and Hydromechanical) (Construction phase) 	<ul style="list-style-type: none"> 31st December 2023 (as per Loan agreement) 30th June 2024 (as per PAM) 31st August 2024 (as per Contract agreement with Contractor) 	Ongoing	18%	Contract awarded to L&T contractor, Relevant section of the EMP included
<ul style="list-style-type: none"> Contract Package 1 (Buildings) 		Not yet started		Tender under preparation
<ul style="list-style-type: none"> Contract Package 3 (Electro Mechanical) 		Not yet started		Approved by ADB, work order will be issued soon.
<ul style="list-style-type: none"> Contract Package 4 (Transmission Line) 	Bid document forwarded to ADB for scrutiny			
<ul style="list-style-type: none"> Contract Package 5 (ERP) 	<ul style="list-style-type: none"> Lot 1 Contract awarded. Lot 2 TBER under review with ADB Lot 3 Revised bid under preparation after receiving comments from ADB Lot 4 Bid Document under ADB scrutiny 			

ERP - Enterprise resource planning
TBER – Technical Bid Evaluation Report

Physical Progress of Package 2 :

A. Road Works

Activity	Scope	Cum Achieved till June 21
Excavation of Permanent Road-01	2,828	1,708
Excavation of Permanent Road-04	1,329	240
Excavation of Permanent Road-05	397	397
Excavation of Permanent Road-07	580	580
Excavation of Permanent Road-08	1,503	1,120
Excavation of Permanent Road-09	165	165
Excavation of Permanent Road-10	177	114
Excavation of Temporary Road-05	1,100	1,100
Excavation of Temporary Road-06	255	255

B. Main work

Activity	UoM	Cum Achieved till June 21	Balance Qty
Surge Shaft Open Excavation (As per submitted drawing)	%	100	Completed
Switch Yard Excavation (As per submitted drawing)	%	100	Completed
Valve House And Pressure Shaft Open Excavation (As per submitted drawing)	%	34.8	65.2
Adit To HRT Excavation Open Excavation (As per submitted drawing)	%	58.2	41.8
DT Outlet Open Excavation	%	10	90

C. Site Infrastructure facility Work:

C1. Employer/PMC Office: Foundation works, Structural steel works, Prefab panels and Roof sheeting works completed; Door/windows installation, False ceiling, Tiling work, Electrical works and Water Supply works are in progress.

C2. Employer/PMC Accommodation Status: Current Construction status are as follows:

1. Dihing Block-1 (10 Units Double bedroom accommodation for Bachelors): Completed in all aspect.
2. Dihing block- 2 (10 Units Double bedroom accommodation for Bachelors): Foundation work completed; other works are in progress.
3. Barak Block (4 Units 2 BHK Family Accommodation): Foundation completed; other works are in progress.
4. Bhogdoi Block (3 Units 2 BHK family Accommodation cum 2 Units Double bedroom bachelors Accommodation): Foundation work completed; other works are in progress.
5. Diyung Block (Mess cum 6 units of Double bedroom bachelors Accommodation): Foundation works, Structural steel works, Prefab panels and Roof sheeting works completed; Door/windows installation work in progress.

C3. Contractor's Worker Camp Accommodation Status: The Contractor is Constructing 6 no. of Block for workers.

- Kopili Warrior-1: Foundation work completed.
- Manas & Lohit Block: Completed in all aspect.
- Labour Block No-3: Foundation works, Structural Steel works, Roof sheeting works, and Tilling works completed; Prefab panels and Doors/windows installation works are in progress.
- Labour Block No-4: Earth soil filling and PCC works completed.
- Labour Block No-5: Excavation for footing raft completed. Surface leveling and soil compaction in progress.
- Labour Block-6: Footing raft completed.
- Labour Colony Toilet Block Series-2: Plinth beam completed, ready for PCC work.
- Toilet and Shower Block-1: Completed in all aspect.
- Toilet Cum Shower Block-2: Foundation work completed.
- Labour Mess Block-1 & 2: Completed; Drainage works are in progress.
- Labour Mess Block-3 & 4: Foundation work in progress.

C4. Contractor's site Office: Completed; Drainage work in progress.

C5. Dhanshree Block: Foundation works, Structural steel works, Prefab panels and Roof sheeting works completed; Door/windows installation, False ceiling, Tiling work, Electrical works and Water Supply works are in progress.

C6. RMP Centre: Foundation works, Structural steel works, Prefab panels and Roof sheeting works completed; Door/windows installation, False ceiling, Tiling work, Electrical works and Water Supply works are in progress.

C7. APGCL Camp (Kopili Block): Completed in all aspect.

C8. Traditional Model Block: Foundation work completed.

C9. P&M Workshop: Completed.

C10. Fabrication Workshop: Completed.

C11. Main store: Completed.

C12. Store no. 2: Completed.

C13. Quality Assurance & Quality Control Lab: Temporary setup for QA/QC activities established at site.

C14. Explosive Magazine: Excavation for foundation is completed.

C15. Weigh Bridge: Completed; Ramp filling in progress

During January 2021 to June 2021 there was no change in the scope of the works, location and alignment of the components, construction method and implementation schedule. But between June 2018 and December 2020 the layout was changed as per recommendation of Forest Advisory Committee, MoEF&CC in 2019. During the period June 2018 to December 2020 the layout of the project changed as per recommendation of Forest Advisory Committee. The F.C proposal was examined at the different level of forest department GOA, and GOI. Site visit was conducted both by the officials of State and Central government Regional office MoEF & CC during the year 2018. The F.C proposal was discussed in the Forest Advisory Committee (FAC) meeting held on 26.10.2018. FAC raised certain observations/Suggestions. Finally ,the proposal for division of 523.046 Ha of forest land for construction of Lower Kopili H.E Project was deliberated in the FAC MoEF meeting held on 19.12.2018. After thorough deliberations and interaction with APGCL, APCCF, Regional Office, representative of Govt. of Assam, Recommended to grant in Principal approval in favour of APGCL, with the certain suggestions. Which were compiled by APGCL. In this process the layout was modified.

There was no change in the environmental safeguards staffing during the reporting period.

Moreover no unanticipated impacts and updates to EIA/EMP that were required during the reporting period. During the Biodiversity study 3 additional threatened species of mammals were reported from the project area and within 10 km radius of the project site. They are Western Hoolock gibbon (*Hoolock hoolock*) Endangered, Bengal Slow loris (*Nycticebus bengalensis*) Endangered, Leopard (*Panthera pardus*) Vulnerable. All the 3 species are under Schedule I of the Wildlife Protection Act, 1972 and its amendments.

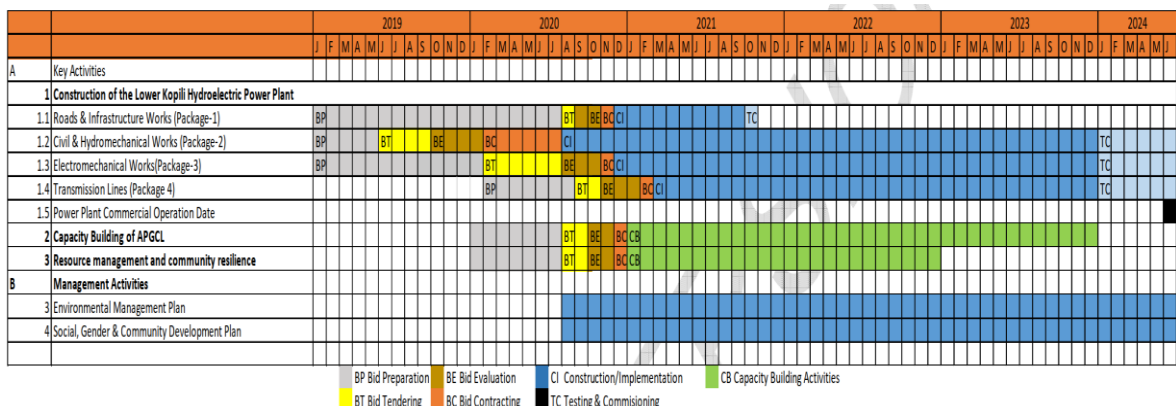
Contractor's Resource Mobilization :

Subcontractor – 13 nos for the month of June 2021.

Number of workers on site – 207 for the month of June 2021 and 20 key personnel for the Contractor.

Implementation schedule is shown in the figure 6.

Figure 6 Implementation schedule



(As per PAM)

2.0 Compliance to National Regulations and International Agreements

This section describes only the compliances of the national regulatory requirements.

Status of the statutory clearances are shown in the table 3.

Table 3 : Statutory Clearances

National Regulation	Compliance Requirements under the Regulation or Agreement including any Environmental Clearances Required	Compliance Status as on 30 th June 2021	Remarks
Environment Protection Act 1986	Environment Clearance	Accorded	EC No. J-12011/26/2012-IA-I dated 04th September, 2019 Annexure 1. <ul style="list-style-type: none"> • Few EC conditions are in process for compliance.
Forest Conservation Act, 1980	Forest Clearance	Accorded	<ul style="list-style-type: none"> • Stage 1 F.No.8-53/2018-FC dated 5th February, 2019 Annexure 2 • Stage 2 File No. 8-53/2018FC dated 4th December, 2020 Annexure 3 • Certificate of possession of Forest Land Dima Hasao vide letter No. FRS/D/10/LKHEP/APGCL/2021 /404 date 10.06.2021. Annexure 4 • Land handover of Karbi Anglong Forest Land is awaited.

National Regulation	Compliance Requirements under the Regulation or Agreement including any Environmental Clearances Required	Compliance Status as on 30 th June 2021	Remarks
			• FC conditions complied.
Assam Minor Minerals Concession Rules, 2013	Mining permit 4.6 hectare, Near Kala Nala for Coarse Aggregates	Pending	Approval Awaited from North Cachar Hill Autonomous council (NCHAC).
	Permission of Village Panchayats (Gaon burah) for installation of crushers & batching plant	Approval received.	NOC Received from Village Panchayats for setting up Crusher plant and Batching Plant near Totelangso, Dima Hasao.
Water (Prevention & Control of Pollution) Act, 1974; and Amendments (1988) Water (Prevention & Control of Pollution) Rules, 1975, and Amendments (2011). The Assam Stone Crusher Establishment and regulation rule 2013 (Crusher)	CTE and CTO from Pollution Control Board, Assam for establishment of Crusher	Approval Awaited.	CTE Application submitted to Pollution Control Board Assam, Silchar vide Application No. 581837. Crusher construction started before getting CTE which is a non compliance. <u>Corrective action</u> : Contractor to submit the CTE by 31 st October, 2021 and should not operate before obtaining CTO from PCBA.
Water (Prevention & Control of Pollution) Act, 1974; and Amendments (1988) Water	CTE and CTO from Pollution Control Board for setting up Batching Plant (Powerhouse)	Approval Awaited.	CTE Application submitted to Pollution Control Board Assam, Silchar vide Application No. 590529 Batching Plant construction started before getting CTE which is a non compliance.

National Regulation	Compliance Requirements under the Regulation or Agreement including any Environmental Clearances Required	Compliance Status as on 30 th June 2021	Remarks
(Prevention & Control of Pollution) Rules, 1975, and Amendments (2011).			<u>Corrective action</u> : Contractor to submit the CTE by 31 st October, 2021 and should not operate before obtaining CTO from PCBA.
The Contract Labour (Regulation and Abolition) Act, 1970	Labour License	Approval obtained from Labour Commissioner.	S.No.327 2 License No. CLL (Assam)06/2020/3 272 dated 9th December 2020 Annexure 5 The labour license is for 250 workers but as per H&S report there are 353 workers, so it is a noncompliance. <u>Corrective action</u> : Contractor to submit additional labour license covering all the workers by 30 th September, 2021. Labour license conditions are being complied.
Indian Forest Act, 1927	NOC for tree cutting		Tree cutting in progress with assistance/ presence of officials of Forest Department, Panimur. As APGCL has deposited the amount for tree cutting, dragging, construction of depot, etc to both the forest divisions, NOC is not required for cutting trees by the Forest Department. It is only a departmental operation.
Petroleum Act, 1934 and Rules 2002	(NOC) from Deputy Commissioner Govt of Assam, for setting up Fuel dispensing Unit	NOC Received from PESO.	NOC from Hon'ble Deputy Commissioner, Govt. of Assam yet to be received.
Explosive Rules, 2008 (under act of 1884)	No Objection Certificate from "PESO"	NOC obtained from Employer	NOC from PESO is under progress.

National Regulation	Compliance Requirements under the Regulation or Agreement including any Environmental Clearances Required	Compliance Status as on 30 th June 2021	Remarks
Explosive Rules, 2008 (under act of 1884)	NOC for blasting operations	Approval Awaited from Deputy Commissioner, Dima Hasao District, Haflong.	Application submitted vide Letter No.: LKHEP-PKG2 /LNT /153 /GL/21 dtd. 31st May'21
Explosive Rules, 2008 (under act of 1884)	Permission for storage of Explosives (Explosive Van) at Longku police station for blasting operation	Permission Received from The Superintendent of Police, Dima Hasao District, Haflong.	Permission Received vide letter No. HFG/DSB/80/2021/1122
Central Motor Vehicles Rule, 1989	PUC of the Vehicles	Complied	All the vehicles used at site has PUC.

3.0 Compliance to Environmental Covenants from the ADB Loan Agreement

Compliance to the environment safeguard loan covenants are shown in the table no 4.

Table 4 : Compliance of Loan Covenants

Schedule #, Para. #	Covenant	Compliance Status	Remarks
Schedule 4, Para 6	The Borrower shall ensure or cause the EA to ensure that it shall not allow commencement of civil works under a Works contract which involves environmental impacts until the EA has obtained the final approval of the EIA from the relevant environmental authority of the Borrower and the State and ADB :	Complied	Environment Clearance received on 04th September, 2019. Contract awarded in 2020.
	ii)The EA has incorporated the relevant provisions form the EMP into the Works contract	Complied	

Schedule #, Para. #	Covenant	Compliance Status	Remarks
	iii)The EIA is updated to reflect the turnkey contractor's detail design and uptodate baseline.	Being complied	EIA update process underway
	iv) such updated EIA is cleared by ADB	Will be complied	
Schedule 4, Para 8	The Borrower shall ensure or cause the EA to ensure to recruit a consulting firm for external validation of the environmental monitoring reports produced by APGCL.	Being complied	Under process of recruitment.
	The Borrower shall ensure or cause the EA to apply individual consultant selection for Consulting Services.	Will be complied	
Schedule 5, Para 5	The Borrower shall ensure, or cause the EA to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the project , and all Project facilities comply with (a) all applicable laws and regulations of the Borrower and the State relating to environment, health and Safety,	Being Complied	Section 6, general Specification, clause 6.1.10. Few noncompliance reported during Jan to June 2021 as reported in the table 3 will be complied within the timeline. EA will facilitate wherever necessary to obtain the required clearances / CTE / licenses, etc.
	(b) the Environmental Safeguards,	Being Complied	
	(c) the EARF, and	Complied	EARF 2013
	(d) all measures and requirements set forth in the EIA and EMP, and any corrective or preventive actions set forth in a Safeguards Monitoring Report.	Being Complied.	First one is compiled for the period January 2021 to June 2021. Few noncompliance reported during Jan to June 2021 in the Executive Summary (corrective actions required section) will be complied.
Schedule 5, Para 9	The Borrower shall ensure or cause the EA to ensure that all necessary budgetary and human resources to fully implement the EMP, and the RIPP as required, are made available on a timely basis.	Being complied	

Schedule #, Para. #	Covenant	Compliance Status	Remarks
Schedule 5, Para 10	Safeguard related provisions in Bidding Documents and Works Contracts. The Borrower shall ensure, or cause the EA to ensure, that all the bidding documents and contracts for works contain provisions that require contractors to : (a) comply with the measures and requirements relevant to the contractor set forth in the EIA, EMP and the RIPP and any corrective or preventive actions set forth in a safeguard Monitoring Report.	Complied.	<u>For Package 2</u> Section 6 general Specification clause 6.1.3.2.; 6.1.10.; 6.26.3.; EMP in the Annexure F of the Bidding document. <u>Other packages</u> Similarly for Package 1 (Building), Package 3 (Electro Mechanical) and Package 4 (Transmission Line) tender documents being prepared incorporating the measures suggested in EIA, EMP and the RIPP.
	(b) make available a budget for all such environmental and social measures.	Complied	EMP budget is part of EIA Report.
	(c) provide the EA with a written notice of any unanticipated environmental or resettlement risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the EIA, EMP, RIPP, RF or the IPPF.	NA till 31 st June 2021.	
	(d) adequately record the condition of roads, agricultural land the other infrastructure prior to starting to transport materials and construction and	Complied.	
	(e) fully reinstate pathways, other local infrastructure and agricultural land to at least their pre project condition upon the completion of construction.	NA	NA as the project is in construction phase.
Schedule 5, Para 11	Safeguard Monitoring and Reporting. The Borrower shall ensure or cause the EA to ensure the following : (a) submit semi annual Safeguard Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission.	Being compiled.	First report compiled for the period January 2021 to June 2021.

Schedule #, Para. #	Covenant	Compliance Status	Remarks
	(b) if any unanticipated environmental and or social risks and impacts arise during construction, implementation, or operation of the Project that were not considered in the EIA, EMP, RIPP,RF or the IPPF as applicable promptly inform ADB of the occurrence of such risks or impacts with detailed description of the event and proposed corrective action plan and	Being communicated to ADB	b) Due to recommendations of FAC, MoEF&CC there is change in layout which has been communicated to ADB. c) EIA addendum is being prepared with the necessary updates.
	(c) report any breach of compliance with the measures and requirements set forth in the EMP or RIPP promptly after becoming aware of the breach.	Will be complied if situation arises.	
Schedule 5, Para 12	The Borrower shall ensure, or cause the EA to ensure, that no proceeds of the Loan under the Project are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.	Being complied	
Schedule 5, Para 13	Labour Standards Health and Safety. The Borrower shall ensure or cause the EA to ensure that works contracts under that Project follow all applicable labour laws of the Borrower and the State and that these further include provisions to the effect that the contractors : (a) carry out HIV / AIDS awareness programmes for labour and disseminate information at worksites on risks of sexually transmitted diseases and HIV / AIDS as part of health and safety measures for those employed during construction. and	Health camps organised. Due to COVID 19 AIDS awareness camp was not possible during the reporting period January 2021 to June 2021.	During the health camps workers were given instructions related to communicable diseases including HIV and its preventive measures.
	(b) follow and implement all statutory provisions on labour (including not employing or using children as labour, equal pay for	Being complied	

Schedule #, Para. #	Covenant	Compliance Status	Remarks
	equal work) health, safety welfare, sanitation, and working conditions.		
	Such contracts shall also include clauses for termination in case of any breach of the stated provisions in the contract	Complied	

4.0 Compliance to Project Administration Manual (PAM)

Compliance to the Project Administration Manual on Environment Safeguards are shown in table 5.

Table 5 : Compliance to PAM

Organization		Tasks	Compliance Status	Remarks
Executing Agency	Government of Assam			
	Project steering committee- Comprising Principal Secretary, Energy with Managing Director, APGCL and AEGCL		Complied	The committee is in place.
	Grant fund related advisory committee- Comprising Principal Secretary, Energy; Managing Director, APGCL; Principal Secretary, Water Resources Department; representatives of Dima Hasao and Karbi Anglong ADC as well as districts of Nagaon,			Will be formed after the receipt of the Grant.

Organization		Tasks	Compliance Status	Remarks
	Morigaon and Hojai			
Implementing Agency	Assam Power Generation supported by PMC Corporation Limited (APGCL)	<p>(i) Conduct overall coordination, preparation, planning, and implementation of all field level activities;</p> <p>(ii) Implement EMPs following ADB's Safeguards Policy Statement 2009, IFC's Environment, Health and Safety general guidelines and national regulations etc. at the project site;</p> <p>(iii) Undertake and supervise compensation to the affected persons based on the entitlement matrix in the RIPP;</p> <p>(iv) Oversight construction contractor(s) on monitoring and implementing mitigation measures during design, construction and operation phases of the project before contracts completed;</p> <p>(v) Advise and coordinate to finalize survey and detailed design and update that safeguard documents following detailed design and survey result;</p> <p>(vi) Engage in grievance redress and ensure the prompt resolution of complaints;</p> <p>(vii) Set up appropriate record keeping system;</p> <p>(viii) Disclose relevant information to the affected people and continue consultations;</p> <p>(ix) Provide training and awareness on environmental and social issues to the project staff and EPC contractor(s);</p> <p>(x) Preparation of semi-annual and annual environmental monitoring reports and semi-annual social monitoring reports; and</p> <p>(xi) Liaise with the concerned ministries, authorities, and government departments for the environmental and resettlement related issues of the project implementation.</p>	<p>Complied</p> <p>Being complied</p> <p>Being complied</p> <p>Being complied</p> <p>Complied and ongoing</p> <p>Complied through APGCL and ongoing</p> <p>Complied through MPR Ongoing</p> <p>Ongoing</p> <p>Complied and ongoing</p> <p>Being complied</p>	
		The designated dedicated social and environmental safeguards cell (SESC) with a full-time	social and environmental safeguards cell	Dr Deepak Kumar Baruah as

Organization		Tasks	Compliance Status	Remarks
		environmental specialist and a full-time social specialist. The SESC will implement EMP and RIPP and be responsible for safeguards monitoring.	(SESC) formed within PMU	Environment Exert and Mr Pankaj Kumar Hazarika as Social Expert with a support team from APGCL.
Para 49. GRM		A grievance redress mechanism (GRM) will be established to deal with complaints on environmental and social issues in a timely manner and adequately publicized amongst the affected peoples.	Being complied. The structure of the GRM and methodology for grievance redress are described in section 8 of this report below.	Resettlement NGO gave awareness training on the GRM of the LKHEP. No grievances reported on environment.
Para 53.		a) training and capacity building b) Dam safety expert c) External monitor appointment	a) Ongoing b) Will be engaged c) External monitor engagement is under process.	
Para 56. Unanticipated impact		In the event of any unanticipated environmental impacts during project implementation, including change in project scope or design, APGCL will update the EIA/EMP as appropriate, which will be disclosed on the ADB website. For any non-compliance with the EMP APGCL will take necessary corrective actions to bring the project back into compliance.	Project layout changed for the compliance of FAC, MoEF&CC. Addendum for EIA update is under process.	
Para 62. HIV/AIDS		NGO will carry out HIV/AIDS awareness for their laborers at work sites	Will be complied	
Para 63. Health		APGCL will ensure that contractors provide adequately for the health and safety of construction workers	Being complied	
Para 64. Labour		APGCL will ensure that civil works contractors comply with all applicable labor laws and regulations, do not employ child labor for construction and maintenance activities, and	Being complied	

Organization		Tasks	Compliance Status	Remarks
		provide appropriate facilities for women and children in construction campsites; contractors do not differentiate wages between men and women for work of equal value.		
Para 67. Safeguards monitoring.		APGCL must adhere to the EMP and CRTDP during contract implementation as prepared in accordance with ADB's SPS 2009 and as agreed and/or endorsed by the government. APGCL will provide environmental and social monitoring reports to ADB on a semi-annual basis during construction phase and on an annual basis during operation phase. The reports will describe implementation progress of environment and resettlement activities and compliance issues and include quantitative monitoring data in accordance with the EIA/EMP and CRTDP and CRIPP, respectively. The environmental and social monitoring reports and other relevant safeguard reports will be posted to the ADB website and disclosed locally by APGCL. In the event of any unanticipated environmental or resettlement impacts during implementation, or if monitoring identifies a breach of performance standards that should be complied with by APGCL and/or their contractors, APGCL will submit to ADB an updated EIA/EMP, CRTDP and CRIPP or a time-bound corrective action plan. The External Monitor will also prepare semi-annual monitoring validation reports during project construction and annual monitoring validation reports during project operation for submission to ADB for disclosure on the ADB website.	Being complied. Recruitment of External monitor is underway.	

Sample field visit report of 30th June 2021 is given in [Annexure -6](#).

5.0 Compliance to Contract

The table 6 shows the compliance to the contract provision during the period January 2021 to June 2021.

Table 6 : Compliance to Contract provisions

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
Package 1	In the tender preparation stage		
Package 2	<p>Construction phase : Section 6, General conditions <u>clause 6.1.3.2.</u></p> <ul style="list-style-type: none"> • The Contractor shall within one month of receipt of Commencement Date, appoint an Environmental Officer • Environmental Officer will submit a Monthly Environment Report every month. <p><u>Clause 6.1.10.1.a.</u></p> <ul style="list-style-type: none"> • The Employer has a goal to create a zero-incident work environment with a safety culture <p><u>Clause 6.1.10.1.b.</u></p> <ul style="list-style-type: none"> • The Contractor will be responsible for the security, safety & health and Group insurance of his Employees. <p><u>Clause 6.1.10.1.c.</u></p> <ul style="list-style-type: none"> • Provide and maintain at his own cost, fencing, warning signs and watch & ward. <p><u>Clause 6.1.10.1.d.</u></p> <ul style="list-style-type: none"> • Take all reasonable steps to protect the environment. <p><u>Clause 6.1.10.1.e.</u></p> <ul style="list-style-type: none"> • The contractor will protect the environment following the principles of Approved Environment Management Plan. <p><u>Clause 6.1.10.1.f.</u></p>	<p>Complied</p> <p>Complied</p> <p>Being complied</p> <p>Complied</p> <p>Being complied</p> <p>Being complied</p> <p>Being complied</p>	<p>L&T appointed Mr Manoj Yadav as Environment Expert.</p> <p>Submission of monthly Environment Report started from November 2020. The 8th MER was submitted for the month of June 2021. App based safety monitoring system of L&T</p> <p>Non compliance with corrective actions are reported in Table 3.</p>

	<ul style="list-style-type: none"> The Officer-in-Charge of Safety will submit monthly safety report <u>Clause 6.26.3</u> <ul style="list-style-type: none"> Environmental obligations 	Being complied	Although L&T has online safety reporting system, Monthly Safety Report submitted for the month of June, 2021.
Package 3	ADB approved for awarding the work. Work order will be issued soon.		
Package 4	Bid document forwarded to ADB for scrutiny		
Package 5	Lot 1 Contract awarded. Lot 2 TBER under review with ADB Lot 3 Revised bid under preparation after receiving comments from ADB Lot 4 Bid Document under ADB scrutiny		Expected to complete in Mar 22.


6.0 Compliance to Environmental Management Plan

Table 7 describes the compliances to EMP and table 8 shows other compliances.


Table 7 : Compliance to Environmental Management Plan

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
DESIGN AND PRE-CONSTRUCTION PHASE				
1	Impact on air, water, noise, soil Exposure to safety related risks	Location and design of power house, office, substation and colony	<ul style="list-style-type: none"> Siting of colony away from construction areas including plantation all around colony. Drainage system with de-silting chamber, will be provided all around power house, office, substation and colony. Solid waste storage bin system will be provided at required location. All buildings are designed and will be constructed as per seismic zone provision. 	Planned and is in tender doc and in contract EMP.


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<ul style="list-style-type: none"> The site-specific earthquake study has been completed by Department of Earthquake Engineering, IIT Roorkee. The site-specific design parameters recommended by IIT for MCE and DBE conditions are recommended as 0.36g and 0.18g for horizontal and 0.24g and 0.12g for vertical ground motion, respectively have been considered. The design has been reviewed by independent experienced dam expert appointed by ADB and found to be adequate. Dam safety surveillance and monitoring aspects are included. Personnel Safety equipment will be provided at required location. 	
2	Release of chemicals ashes in receptors (air, water, land)	Equipment specifications and design parameters.	<ul style="list-style-type: none"> CFC not used in substation transformers or other project facilities or equipment by concerned agencies. Processes, equipment, and systems will not to use chlorofluorocarbons (CFCs), including halon, and their use. 	Incorporated in draft tender doc
3	Exposure to noise	Power Plant /Substation location	Design of plant enclosures to comply with IFC EHS noise regulations (85 dB(A) at work sites for heavy industry.	Planned and is in tender doc EMP
4	Acquisition of private land	Location of powerhouse, head works.	Acquisition of agricultural and cultivable land minimized.	Construction work zones are clustered to minimized the agricultural and cultivable land. Package 2 facilities are concentrated in two patches in revenue land.


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
				
5	Social inequities	Involuntary resettlement or land acquisition.	<ul style="list-style-type: none"> • Compensation will be paid for temporary / permanent loss of productive land as per Govt. rules and regulation. • A list of all the affected persons by type of losses and extent of damages has been prepared through and the same will be compensated as per Resettlement and Tribal Development Plan prepared as per Gol and ADB SPS 2009 requirements. 	Compensation done as per entitlement matrix of CRDTP. Mostly completed.
6	Loss of precious Ecological values/impacts on precious species due to acquisition of 523 ha of forest land	Encroachment into precious ecological areas.	<ul style="list-style-type: none"> • Minimize acquisition of forest areas. • Avoid encroachment by careful site and alignment selection of access roads, and transmission lines. • Afforestation of 1,046 ha (1:2 tree planting ratio) of degraded forest land • A compensatory afforestation and biodiversity conservation and management plan has been prepared (Annex 9). • Cut only trees marked by the Forest Department 	<p>If both permanent (including underground areas) and temporary use areas are included, only 297.75 Ha will be required rest will be kept as Green Belt (198.746 Ha) and Safety Area (26.55 Ha) out of 523.465 ha forest land.</p> <p>As per Government norms it is 1:1 is for Compensatory afforestation of Government projects.</p> <p>In the case of LKHEP, APGCL will undertake compensatory afforestation through State Forest Department 523.046 Ha in Revenue Land (mutated to Reserved Forest) and</p>




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			Ensure that the area is cleared as per directives/delineation of Forestry staff	conversion of temporary use areas to Green belt (69.95 Ha and 11 Ha), it comes to 603.996 Ha. Moreover, APGCL will maintain 198.746 Ha forest land as Green Belt and 26.55 Ha as Safety area as stipulated in the Forest Clearance of MoEF&CC. Hence total Green belt coverage comes to 829.292 Ha. Trees are marked and cut by the Forest Department only.
7	Nuisance to neighbouring properties	Noise related	<ul style="list-style-type: none"> Substations, powerhouse, head works designed to ensure noise will not be a nuisance. Noise will be controlled within IFC EHS noise standards. In any case, there is no proximity of residences to these features. 	Quarterly test are being carried out and so far found within the CPCB norms.
8	Flooding hazards/ loss of agricultural production	Interference with drainage patterns/ Irrigation channels	<ul style="list-style-type: none"> The alignment of river channel and siting of project facilities are done to avoid any flooding hazard. Detailed hydrological assessments have been carried out as part of detailed design. Additional IWRM management plan has been prepared. Dam Break Analysis and disaster management plan has been prepared (Annex 30). 	Followed
9	Environmental pollution	Escape of polluting materials	<ul style="list-style-type: none"> Transformers designed with oil spill containment systems, and purpose-built oil, lubricant and fuel storage system, complete with spill cleanup equipment Construct 110% fenced and bermed area with 	Designed and implemented for the construction power substation. Fence constructed.







Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			impermeable concrete floor. Powerhouses/substations to include drainage and sewage disposal systems (septic tanks, sewage treatment plant) to avoid offsite land and water pollution.	
10	Contamination of receptors (land, water)	Equipment submerged under flood	Powerhouses/substations constructed above the high flood level (HFL) i.e. 185.34 m, by raising the foundation pad. This level also includes any possible effects from future climate change.	Designed and implemented or will be implemented
11	Natural disaster frequently observed	Ground subsidence/ landslide	Civil design and siting of project facilities has been done with due considerations to earthquake and landslide so as to avoid any hazard.	Designed and implemented
12	Fire hazards	Explosions/fire	<ul style="list-style-type: none"> • Design of Powerhouses/substations has included modern fire control systems/firewalls in accordance with the norms of National Fire Protection Association (NFPA) and Tariff Advisory Committee (TAC). • Provision of fire fighting equipment to be located within 20 m of transformers, power generation equipment. • Fire protection and Safety practice have been prepared (Annex 28, 29). 	Designed and implemented
13	Tree cutting	Cutting of trees during site clearance	<ul style="list-style-type: none"> • Restricting tree cutting within construction limit. • Avoiding tree cutting at ancillary sites. • Providing and maintaining compensatory tree plantation i.e. three 	Planned and under implementation.




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<p>times of cutting.</p> <ul style="list-style-type: none"> • Compensatory afforestation plan prepared. 	
14	Removal of vegetative covers (dust, pollution)	Work site clearance	<ul style="list-style-type: none"> • Use of controlled clearing activities • Use of dust controlled measures • Collection and disposal of debris and muck. 	Planned and being implemented.
15	Removal of utilities	Work site clearance	<ul style="list-style-type: none"> • Necessary planning and coordination with concerned authority and local body. • Prior notice to and consultation with concerned authority, local body and public to be affected so as to ensure that work does not get affected and impact on public is minimum. 	No such places seen so far.
16	Religious places	Work site	<ul style="list-style-type: none"> • Suitable mitigation measures have been incorporated in social impact assessment report. 	Office site plan approved by PMC and APGCL. Site EMP being modified as per observation and will be submitted for approval.
17	Camp site and contractor facilities	Establishment of contractors' facilities	<ul style="list-style-type: none"> • Obtain permits and NOCs from ASPBC and other statutory agencies. • Contractor to submit a camp and site office plan defining all facilities to be created. These include human waste disposal facilities and solid waste management facilities. The basic plans provided in Annex 17) to be updated and finalized by contractor. 	
18	Project facilities and commencement of construction	Clearances and permits	<ul style="list-style-type: none"> • Obtain environmental clearance from MoEF&CC • Obtain forest clearance 	Obtained EC and FC. EMP included in the Contract document.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			from forest departments Include EMP in the contract documents.	
CONSTRUCTION PHASE				
1.	Impact and air, water, noise, soil	Civil construction work for power house, tunnel, office, substation, access roads, colony etc.	Air Pollution: <ul style="list-style-type: none"> All the vehicles must have valid PUC certificates at all the time during construction phase of the project. Water sprinkling shall be done to suppress the dust emissions from the site. All the DG sets used for construction shall have valid consents from Assam State Pollution Control Board and shall have built-in stacks to reduce the air emission impacts. Refer to Annex 24: Measures for Air Pollution Control 	PUC monitored for vehicles time to time. Water sprinkling -Being mostly complied. Annexure 7 sample PUC. 4 DG sets have been applied for clearances from PCBA and for rest are under process for obtaining clearance.
			Noise Pollution: <ul style="list-style-type: none"> Construction materials shall be properly maintained and noise barriers, if needed, shall be provided around worksites, to reduce the noise levels. Design of such barriers will be finalized by CSC environment specialist. All the workers will be provided with personal protective equipment including ear plugs and other necessary provisions by the contractor. Refer to Annex 25: Measures for Noise Pollution Control 	<ul style="list-style-type: none"> DG sets has aquistic enclosures to prevent noise. Workers are using ear plug at drilling and blast sites along with other safety equipment.  <ul style="list-style-type: none"> PPE- Mostly complied




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
				
			<p>Water Quality:</p> <ul style="list-style-type: none"> Quality of water (river and wastewater discharged from the construction site) shall be analyzed monthly during construction, for its compliance to the disposal standards of pollution control authority. Refer to Annex 26: Measures for Water Pollution Control 	<p>Waste water generation from the construction site not yet occurred. Will be monitored as seen as generated</p>
	<p>Exposure to safety related risks</p>		<p>Others:</p> <ul style="list-style-type: none"> Proper plantation all around colony. Refer to Annex 21: Green Belt Development Plan Drainage with De silting chamber, will be provide all around power house, office, substation and colony. Solid waste storage bean system will be provided at required location. Refer to Annex 22: Solid Waste Management Plan 	<p>Plantation initiated as per green belt development plan in some areas.</p> <p>Drainage provided in the substation and camp area but outlet and desilting chambers to be constructed.</p> <p>Solid waste storage bean kept at different sites</p>




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<ul style="list-style-type: none"> All buildings designed constructed as per seismic zone provision. Safety system will be provided at required location. Refer to Annex 18, Annex 28, Annex 29 for Occupational, Health and Safety Plans. 	 <p>Permanent structures are constructed as per seismic zone provision.</p> <p>Safety systems are provided at site.</p>
2.	Infrastructure provisions at labor camps	Health and hygiene at workers camps	<ul style="list-style-type: none"> Contractor during the progress of work will provide, erect and maintain necessary living. Accommodation and ancillary facilities for labor as per the requirements of applicable labor regulations of Government of India. All the work sites and camp sites shall also be provided with basic sanitation and infrastructure as per the requirements of Building and other Construction Workers (regulation of Employment and Conditions of Service) Act, 1996. Refer to Annex 12: Public Health Delivery System Refer to Annex 18: Project Personnel Health Plan Refer to Annex 28: Fire Protection in Labor Camps and Staff Colonies 	<p>Housekeeping and Hygiene at workers camps and bathrooms/toilets to be improved. Drainage facilities to be constructed/completed at camps and facilities.</p> <p>Camp sites also be provided with basic sanitation and infrastructure as per the requirements of Building and other Construction Workers.</p>  <p>Labour accommodation</p>  <p>Staff Canteen</p>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<ul style="list-style-type: none"> Refer to Annex 29: Safety Practices during Construction 	 <p>Worker Canteen</p>  <p>Bathing Place</p>  <p>Toilet Block</p>
	<p>Fire Protection in Labor Camp and Staff Colonies</p>	<ul style="list-style-type: none"> Safety Practices During Construction Phase 	<ul style="list-style-type: none"> Safety Practices During Construction Phase Refer to Annex 28: Fire Protection in Labor Camps and Staff Colonies 	  

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
3.	Solid Waste Management	Construction camps	<ul style="list-style-type: none"> Collection and disposal of human waste as per waste management plan. Refer to Annex 22: Solid Waste Management Plan 	<p>Solid waste disposal mechanism is only dumping in a pit. MSW management plan is being developed and will be implemented soon.</p>  <p>Colour coding dustbin at each location</p>
4.	Muck disposal	Tunneling and excavation activities	<ul style="list-style-type: none"> Muck generated from various tunnelling and excavation activities would be dumped suitably to designated sites Refer to Annex 13: Muck Disposal Plan 	<p>Non complied.</p> <p>4 muck dumping sites identified and currently 2 are being used.</p> <p>Muck disposal plan will be submitted soon.</p>  <p>Dumping in the designated dumping yard.</p>  <p>Muck from road works disposed downhill into forest</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
				<p>trees, which is a non compliance.</p> <p>Contractor has been requested to change the practice.</p> <p>Report will be prepared on the number of additional tree/pole/saplings lost by project as a result of this muck disposal incident. Also requested the contractor to immediately replant the slope up with grass to prevent soil erosion and replacement trees to compensate for numbers that were lost due to muck disposal.</p> <p>Update on corrective action (with photos) will be submitted in the next EMR.</p>
5.	Construction sites	Restoration of sites	<ul style="list-style-type: none"> Restoration of construction sites. Refer Annex 19: Construction Site Restoration Plan. 	Not yet arises.
6.	Noise and vibrations	Equipment layout and installation	<ul style="list-style-type: none"> Construction techniques and machinery selection seeking to minimize ground disturbance. Refer to Annex 25: Measures for Noise Pollution Control 	Being complied mostly. Construction activities done in barren areas only and on acquired land. Document related to the construction methodology and machine specification will be prepared and submitted.
7.	Disturbed farming activity	Physical construction	<ul style="list-style-type: none"> Construction activities on cropping land time to avoid disturbance of field crops (within 1 month of harvest wherever possible). 	Being complied.
8.	Noise vibration and operator safety, efficient operation, equipment wear and tear	Mechanized construction	<ul style="list-style-type: none"> Construction Mechanized maintenance and turning of plant. Proper maintenance and turning of plant Implement environmental mitigation and good- construction as integral component of each civil activity and as 	Being complied


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			day-to-day activity	
9.	Increase in airborne dust particles	Construction of access roads	<ul style="list-style-type: none"> Existing roads and tracks used for construction and maintenance access to the site wherever possible. Refer to Annex 24: Measures for Air Pollution Control 	Partially Complied. Existing road used. For excavation of areas dusts are generated but human habitation is far away.
10	Increased land requirement for temporary accessibility	Construction of access roads	<ul style="list-style-type: none"> New access ways restricted to a single /intermediate carriageway width. Refer to Annex 20: Road Construction Management Plan 	Being complied. Permanent and temporary roads are constructed as per plan approved.
11	Temporary blockage of utilities	Construction work	Temporary placement of fill in drains/canals not permitted	Being complied. Whenever observed, immediately cleared.
12	Loss of vegetative cover	Site clearance	Marking of vegetation to be removed prior to clearance, and strict control on clearing activities to ensure minimal clearance.	 <p>Forest Department taking measurement at Permanent Road-05 Location, dated: 03-02-2021</p>   <p>Forest Department taking measurement at switch Yard Location, dated: 12-02-2021</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
				 <p>Tree stamped by Forest department</p>  <p>Tree trunk delivered to Forest Department Panimure Office</p>  <p>Forest Department, and L&T officials during tree cutting at Permanent Road-4 Location, dated: 23-03-2021</p>
13	Fire hazards	Trimming/cutting of trees	<ul style="list-style-type: none"> • Trees allowed growing up to a specified height within the work areas by maintaining adequate clearance between the top of tree and the conductor as per the regulations. 	Will be complied.
14	Loss of vegetation and deforestation		<ul style="list-style-type: none"> • Trees that can survive pruning to comply should be pruned instead of cleared. • Felled trees and other cleared or pruned vegetation to be disposed of as authorized by the statutory bodies. 	Being complied.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
	Loss of vegetation and deforestation	Reservoir clearing	<ul style="list-style-type: none"> Removal of maximum commercially viable timber. All remaining timber, after commercial and salvage logging operations have been completed, will be cut as necessary and burnt. Avoid removing stumps, as disturbed soil may release far more nutrients in water. 	Will be complied.
15	Loss of vegetation and deforestation	Wood/vegetation harvesting	<ul style="list-style-type: none"> Construction workers prohibited from harvesting wood in the project area during their employment, (apart from locally employed staff continuing current legal activities). Contractor should arrange LPG gas for cooking of food for their workers. Refer to Annex 17: Plan for Construction Camp Management 	<p>Fire wood collection not allowed. LPG are used for cooking.</p> 
16	Loss of Biodiversity, Disturbance / accidents/ injury, to wildlife and avian fauna	Construction and clearing of forest areas	<ul style="list-style-type: none"> Implementation of Compensatory afforestation plan. Creation of a greenbelt around the perimeter of various project appurtenances, selected stretches along reservoir periphery, access roads to compensate for the loss of habitat Provisions of adequate signages and speed limit on road sections within forest areas to avoid accidental roadkills . Poaching activities 	<ul style="list-style-type: none"> Amount for compensatory afforestation of 523.046 ha has been deposited in CAMPA Fund. Not yet initiated by the Forest Department. Not yet initiated. Will be complied after completion of civil works. Signages will be put to reduce the speed limit within Forest area. Poaching activity- Partially complied. Poaching activity will be monitored jointly with the Forest Department. Poaching activities monitored and awareness carried out among the


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<p>should be monitored in workers areas and well as community areas (as per Annex 9).</p> <ul style="list-style-type: none"> • Implementation of Biodiversity Conservation and Management Plan (Annex 9) • Compliance with guidelines issued by the National Wildlife Board of India for linear intrusion in natural area pertaining to roads and power lines. • Compliance with guidelines issued by the Central Electricity Authority (CEA) for laying transmission lines in areas critical from the point of view of saving wildlife. • Provision of wild fruit plantation for wildlife • Annual bird count of migratory birds by involving locals and bird experts • Rehabilitation with local fruit bearing species in gaps <p>Anti-grazing drive in drawdown area to protect the bird breeding areas in proximity to reservoir during breeding season – only in winter season. Grazing by local people will be allowed during dry season.</p> <ul style="list-style-type: none"> • Construction of check posts / watch towers in key locations • Conservation actions as proposed by IUCN (during construction and during the initial project 	<p>workers.</p> <ul style="list-style-type: none"> • Awareness programme is planned with the Forest Department fro the nearby villages and will be reported in next monitoring report. • BMP not yet initiated, as in the month of June 2021 APGCL yet to received the entire forest land. <ul style="list-style-type: none"> ➤ Awareness for the workers on the following has been initiated as a part of biodiversity conservation. ➤ Tree cutting only in presence of Forest Department ➤ Fire wood collection not allowed by the construction workers. ➤ Smoking not allowed in the forest area and in construction area. ➤ In any wild animals are sighted not to disturb them. ➤ Hunting is prohibited. ➤ Plantation of trees to be carried out. • NABL clearance not taken as there is no WLS in 10 km radius. • Will be complied, the CEA guideline during construction of transmission line. • Wild fruit plantation initiated. • Annual Bird count not initiated. • Rehabilitation with local fruit bearing species in gaps not initiated. • Anti-grazing drive in drawdown area to protect the bird breeding areas in proximity to reservoir – not initiated.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<p>operation) such as conducting a comprehensive survey and monitoring in and around the project area to establish range, distribution and population status of vulnerable and critical habitats in the project area for assessing its habitat requirements and identifying threats are proposed.</p> <ul style="list-style-type: none"> Establishment of biodiversity conservation committee. Refer to Annex 9: Biodiversity Conservation and management Plan Refer to Annex 21: Green Belt Development Plan 	<ul style="list-style-type: none"> Construction of check posts – not initiated Implementation of Conservation action plan – not initiated. Biodiversity conservation committee – will be constituted shortly.
17	Runoff to cause water pollution, solid waste disposal	Surplus earth work/soil	<ul style="list-style-type: none"> Excess fill from excavations disposed of next to roads or on barren land or personal in agreement with the local community or land owner. Soil excavated from power houses will be disposed as safe & scientific manner by placement on barren land or along back fill trench weir etc. 	<ul style="list-style-type: none"> Does not arise as entire land is acquired for the project including the dumping area. Will be adhered.
18	Loss of soil and water pollution	Substation construction	<ul style="list-style-type: none"> Fill for the substation foundation obtained by creating or improving local water supply ponds or drains, with the agreement of local communities. <p>Construction activities involving significant ground disturbance (i.e., substation land forming) not undertaken during the monsoon season.</p>	<ul style="list-style-type: none"> Does not arise. Followed during construction of construction power substation.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
				
19	Contamination of receptors (land, water, air)	Storage of chemicals and materials	<ul style="list-style-type: none"> Fuel and other hazardous materials securely stored above high flood level with safety measures. Refer to Annex 18: Project Personnel Health Plan 	Mostly followed for fuel. For hazardous chemical materials stores to be constructed.
20	Noise nuisance	Construction schedules	During work near settlements construction activities only undertaken during the day and local communities will be informed of the construction schedule.	Construction scheduled for day only in the revenue land near villages.
21	Contamination of receptors (land, water, air)	Provision of facilities for construction workers	<ul style="list-style-type: none"> Construction workforce will be provided for certain facilities it includes proper sanitation, water supply and waste disposal facilities. Refer to Annex 17: Construction Camp Management Plan 	<p>Housekeeping and Hygiene at workers camps and bathrooms/toilets to be improved.</p> <p>Drainage facilities to be constructed/completed at camps and facilities.</p> <p>Drinking water for the camps are taken from 2 borewell and later treated in RO before use. During lean months mineral water bottles of 20 liters are used for drinking.</p> <p>Municipal Solid Waste Management facility to be developed as per rule.</p> <p>Facilities are under construction. Few facilities constructed till 30th June 2021.</p>
22	Loss of agricultural productivity	Encroachment into agricultural land	<ul style="list-style-type: none"> Use of existing roads wherever possible. Ensure existing irrigation facilities are maintained in working 	<ul style="list-style-type: none"> Followed. Does not arise so far. Top soil preservation not initiated. Will be followed if bunds are damaged.







Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<p>condition.</p> <ul style="list-style-type: none"> • Protect/Preserve topsoil and reinstate after construction completed. • Repair/reinstate damaged bunds, etc. after construction completed 	
23	Social inequities	Encroachment into agricultural land	Compensation for temporary loss in agricultural production as per provisions of Resettlement and Tribal Development Plan	Ongoing. Compensation are given as per entitlement matrix. Resettlement NGO were engaged for the implementation of Rehabilitation plan as per CRTDP.
24	Soil loss, downstream siltation; etc.	Uncontrolled erosion/silt runoff	<ul style="list-style-type: none"> • Need for access tracks minimised, use of existing roads. • Limit site clearing to work areas regeneration of vegetation to stabilize works areas on completion (where applicable). • Avoidance of excavation in wet seasons. • Water courses protected from siltation through use of bunds and sediment ponds. <p>Refer to Annex 26: Water Pollution Control Measures</p>	<ul style="list-style-type: none"> - Followed - Site clearing is done where necessary. - Excavations are avoided during wet season. - Water courses will be protected from siltation through use of bunds and sediment ponds.
25	Losses to neighbouring land uses/values	Nuisance to nearby properties.	<ul style="list-style-type: none"> • Contract clauses specifying careful construction practices on every stage. • Maximum existing access ways will be used. <p>Productive land will be reinstated following completion of construction.</p>	<ul style="list-style-type: none"> - Followed. - Existing access roads are mostly used. - Productive land will be reinstated following completion of construction.
26	Social inequities	Nuisance to nearby properties.	Compensation will be paid for loss of production, if any as per provisions of Resettlement and Tribal Development Plan	Being followed.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
27	Flooding and loss of soils, contamination of receptors (land, water)	Flooding hazards due to construction impediments of natural drainage.	<ul style="list-style-type: none"> Avoid natural drainage pattern/ facilities being disturbed/ blocked/ diverted by ongoing construction activities. Refer to Annex 30: Dam Break Analysis And Disaster Management Plan	Natural drainages are not blocked through any kind of construction activity.
28	Contamination of receptors (land, water)	Equipment submerged under flood	Equipment stored at secure place above the high flood level (HFL) i.e. 185.34 m.	Complied. Storage facility are above the HFL.
29	Loss of land values	Inadequate siting of borrow areas	Existing sites (if available) will be used, therefore, no need to develop new sources of aggregates.	Existing quarries will be used. Tunnel excavation not initiated.
30	Injury and sicknesses of workers and members of the public.	Environment, Health and safety	<ul style="list-style-type: none"> Arrangement of Environment awareness programme. Contract provisions specifying minimum requirements for construction camps. Preparation and implementation of health and safety plan. Arrangement of primary health centre with medicine and instrument with a knowledgeable health staff. Arrangement for health and safety training sessions. Refer to Annex 12: Public Health Delivery System Annex 16: Plan for Environmental Training of Workers 	<ul style="list-style-type: none"> Arrangement of Environment awareness programme- will be initiated. Followed. Health and safety plan prepared and under review. Health unit construction completed. Trained health and Safety officer is engaged by L&T. Operation of the unit will start within a week. COVID 19 SOP also prepared by L&T with the support from PMU, PMC. Health and safety training conducted by L&T. Tool box trainings are conducted almost every day.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
				 <ul style="list-style-type: none"> - PMC and PMU will also arrange formal and structured Health and Safety trainings for the contractor.
31	Likely to maximize damages	Inadequate construction stages monitoring.	<ul style="list-style-type: none"> • Training to personal of implementing agency for environmental monitoring work. • Implementation of effective environmental monitoring and reporting system using checklist of all contractual environmental requirement. 	<ul style="list-style-type: none"> - Informal Trainings are conducted by the PMC and PIU regularly. PMC and PIU will carry out formal training on EHS and implementation of EMP. - Check list prepared and implementation monitored. - Letters issued to the

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30th June 2021
			<ul style="list-style-type: none"> Appropriate contact clauses to ensure satisfactory implementation of contractual environmental mitigation measures. 	contractor on the contractual obligations of noncompliance and this will be continued.
OPERATION PHASE				<i>Operation phase monitoring will be carried out during operation.</i>

Table 8 : Other Safety compliances

		
Critical lifting activity with proper safety control measure and proper supervision	Prestart briefing	Mega phone provide for Emergency siren and Announcements
		
RO water arrangement for water camp. Similar arrangement in staff camp. Drinking water for the camps are taken from 2 borewell and later treated in RO before use. During lean months mineral water bottles of 20 liters are used for drinking.	Alcohol monitoring on pre-deployment of drivers and operators	Double door electrical DB board for rain protection

		
Under construction kitchen block		

7.0 Environmental Supervision and Monitoring Results

7.1 Environmental Supervision

Due to COVID 19 pandemic structured training were not carried out. Only essential training were conducted and the details are shown in table 9.

**Table -9 : Training conducted during the reporting period from
January 2021 to June 2021**

9.A. Training given by PMC/ APGCL

Trainings	Number and Position of Participant/s	Location/s and Date/s	Remarks
On EMP implementation, Muck Management	2 nos. Environment Expert, Assistant Manager EHS of Contractor	Longku, 09.2.2021	
On Biodiversity Monitoring	1 nos. Official from APGCL Longku	Longku, 19.2.2021	
On reporting format of EHS. Monthly Environment Report and Monthly Safety Report	2 nos. Environment Expert, Assistant Manager EHS of Contractor	Longku, 29.6.2021	

9.B. Training given by Contractor

S No	EHS Training by Contractor	No. of People attended Jan 21	No. of People attended Feb 21	No. of People attended Mar 21	No. of People attended Apr 21	No. of People attended May 21	No. of People attended June 21
01	Front Line Supervisor EHS Training	4	7	5	5	7	6
02	L&T LIFE EHS Risk management	4	8	6	4	6	7
03	ATL EHS online Safety Training	2	1	0	0	1	1
04	Work with Electricity	11	10	12	15	9	14
05	Work with crane & Lifting	0	4	3	2	5	2
06	Welding and Gas Cutting	13	12	10	9	14	8
07	Defensive Driving	9	6	6	0	5	2
08	Work at Height	22	15	10	15	17	10

Note : Training given by EHS manager, Environment Engineer and EHS team (Total 344 nos)

9.C. Training given by PMC/ APGCL to Contractor between October 2020 to December 2020

Trainings	Number and Position of Participant/s	Location/s and Date/s	Remarks
Preparation of Monthly Environment Report	2	APGCL, Guwahati, 09.09.2020	Training given by APGCL and PMC Environment experts
Training on Test of ambient environment (Location, methodology, equipment's, calibrations, etc)	4	APGCL, Guwahati, 16.09.2020	Training given by APGCL and PMC Environment experts to Contractor and 3 rd party monitoring team
Training on Test of ambient environment (Location, methodology, equipment's, calibrations, etc)	4	APGCL, Guwahati, 20.09.2020	Training given by APGCL and PMC Environment experts to Contractor and 3 rd party monitoring team

Implementation of EMP provisions	2	Longku 23.09.20 & 24.09.20	Training given by APGCL and PMC Environment experts
Preparation of Monthly Safety Report	2	APGCL, Guwahati, 16.09.2020	Training given by APGCL and PMC Environment experts
Camp behaviour	20	Longku 2.12.20	Training given by APGCL and PMC Environment experts
Implementation of EMP provisions	2	Longku 20.12.20	Training given by APGCL and PMC Environment experts

9.D. Training given by Contractor for their workers between October 2020 to December 2020

Trainings	Number and Position of Participant/s	Location/s	Remarks
Front Line Supervisor EHS Training	30	Longku,	Training given by EHS manager
L&T LIFE EHS Risk management	5	Longku,	Training given by EHS Team
Work with Electricity	25	Longku,	Training given by EHS Team
Work with crane & Lifting	10	Longku,	Training given by EHS Team
Induction training	150	Longku, Regularly	Training given by EHS Team

EMP budget table (Table 10) summarize details of budget allocated for EMP implementation and the current spend profile.

The EMP Budget is revised as per recommendation and direction of MoEF&CC for the Environmental Clearance. The expenditure shown in Table 10 is on the updated budget.

Table 10: EMP Budget Table

S. No.	Item Cost	Revised	Remarks	Expenditure so far (₹ Million)
		(₹ Million)		
1	Compensatory Afforestation, and Bio-diversity conservation, etc	390.259	CA 159.42, Biodiv. 190.979, SMC 39.86	390.259
2	Catchment Area Treatment	282.960		282.960
3	Public health delivery system	42.360		
4	Muck management	34.000		
5	Stabilization of quarry sites	11.500		

S. No.	Item Cost	Revised	Remarks	Expenditure so far
		(₹ Million)		(₹ Million)
6	Restoration and Landscaping of construction sites	10.000		
7	Environmental management in road construction	16.952		
8	Greenbelt development	2.000		
9	Solid Waste Management	23.484		
10	Water pollution control	18.500		
11	Energy Conservation measures	10.000		
12	Disaster Management Plan	37.000		
13	Local Area Development Plan	37.400	As per approved CRDTP (May 2017)	
14	Plan to preserve cultural identity of the locals	12.286		
15	Environmental Monitoring during construction phase	10.992		
16	Monitoring and Evaluation Aspects	6.000		
17	Purchase of meteorological instruments	1.000		
18	Purchase of noise meter	0.100		
19	Water Quality Restoration Plan	65.000		
20	Training and Awareness Building	2.000		
21	External Monitor	159.800	As per PAM	
22	Pre-construction baseline monitoring	50.000		0.300
23	Environmental Monitoring during operation phase (for initial three years)	6.849		
	Total	1230.442		673.519 (54.73%)

Note :

1. As per the Stage I condition of the Forest Clearance Project Proponent has to deposit the CAT (Catchment Area Treatment) Plan budget in the CAMPA Fund prior to Stage II Forest Clearance. Accordingly the amount was deposited CAMPA fund of MoEF&CC. The work on Catchment Area treatment has not been initiated by the Forest Department. APGCL will pursue the matter with the Forest Department for implementation.
2. Biodiversity study was carried out and the expenditure incurred is reflected in the expenditure statement. As soon as the External Monitor is engaged the baseline studies will be carried out before initiation of contract packages 1, 3, 4. Test of Environment parameters were also carried out as per EMP in the month of October, 2020 as a baseline study through the third party engaged by the L&T so the expenditure was not incorporated.

Site inspections and audits completed during the reporting period January 2021 to June 2021 in table 11.

Table 11 : Site inspection and audit.

Date	Type and Purpose of Visit	Location/s Visited	EA, IA, Consultant Staff Participating	Remarks
09.02.2021	Selection of Muck disposal site; Monitoring of the labour camps and construction facilities	Revenue land, Longku;	Dr Deepak Baruah, Environment Expert, APGCL; Dr Jayanta Das Environment Specialist, PMC; Mr. Manoj Yadav, Environmental Engineer of Contractor; Mr. Nabajyoti Bera, EHS Engineer of Contractor.	Selected 5ha muck disposal site under revenue land.
19.02.2021, 20.02.21, 22.02.21	Monitoring Biodiversity study; Monitoring of the labour camps and construction facilities	10 km radius of the project site	Dr Deepak Baruah, Environment Expert, APGCL; Dr Jayanta Das Environment Specialist, PMC; Mr. Manoj Yadav, Environmental Engineer of Contractor; Mr. Nabajyoti Bera, EHS Engineer of Contractor. Biodiversity experts from various field comprising of Dr Pranab Bujarbarua, Dr Jihosuo Biswas, Dr Deep Jyoti Haloi, Mr. Mehatabuddin Ahmed.	
29.06.2021	Monitoring the test of ambient environment by third party; Monitoring of the labour camps and construction facilities	7 locations as mentioned in EMP (Dam site, Power house, submergence are, kala nullha, batching plant site, etc)	Dr Deepak Baruah, Environment Expert, APGCL; Dr Jayanta Das Environment Specialist, PMC; Mr. Manoj Yadav, Environmental Engineer of Contractor; Mr. Nabajyoti Bera, EHS Engineer of Contractor. Ambient environment test monitoring Team.	Calibration of the instruments checked.A

7.2 Quantitative Environmental Monitoring

Baseline Monitoring : Test of ambient environment of Air, Water, Noise in all the 7 locations were carried out in the month of October, 2020. Test results are within the CPCB standards. All the reports will be in the EIA addendum.

Table 12.1 : Pre Construction Monitoring

Environmental Features / Stage	Parameters and Standards	Location	Frequency	Duration	Status as on 30th June 2021
Soil and Sediment					
Pre-construction Stage	pH, Electrical Conductivity, Nitrogen, Phosphates, Potassium, Organic matter, water content, silt content, average grain size, heavy metals, Al, Fe, Cu, Mn, As, Zn, Ni, Pb, Cr, C, Cd	At identified locations <input type="checkbox"/> 1 km upstream of submergence site <input type="checkbox"/> Submergence area <input type="checkbox"/> 1 and 3 km downstream of dam site	Once prior to start of construction	-	Not initiated but will be carried out as soon as the External monitor engaged.
Air Quality and Noise Levels					
Pre-construction Stage	<ul style="list-style-type: none"> • PM_{2.5}, PM₁₀, SO₂, NO_x, CO, HC (Standards given in Annex 2) • Leq - Noise levels day time and noise time on dB (A) scale (Gol and IFC Standards given in Annex 2) 	<ul style="list-style-type: none"> • Wherever the contractor decides to locate the Hot mix plant • At major construction sites as suggested by CSC for regular monitoring • At hot mix plant and equipments yards • At sensitive receptor locations 	Once prior to start of construction	Continuous 24 hours/ or for 1 full working day – twice in a week.	Test carried out
Water Quality					
Pre-construction Stage	pH, Temperature, DO, Oil & Grease, Conductivity, TSS, TDS, Alkalinity, Total Hardness, Calcium, Magnesium Chloride, Phosphate, Sulphate, Nitrate, heavy metals, COD, BOD, Iron, Total Coliform, Faecal Coliform, Salinity (Surface Quality Standards by CPCB as given in Annex 2)	At identified water bodies locations <ul style="list-style-type: none"> • 1 km upstream of submergence site • Submergence area • 1, 3 and 8 km downstream of dam site • At identified water bodies locations (wells and other ground water sources in project area) 	Once prior to start of construction	-	Test carried out
Terrestrial Ecology					

Pre-construction	Terrestrial Flora and fauna (using camera traps, incidental observations)	At selected locations in the project area, near proposed worksites, along the transmission line route, along access roads, and in the forest south of the project area, for determination of baseline	Once prior to start of construction	-	Camera trap not initiated but will be carried out as soon as the External monitor engaged. But monitoring done during Biodiversity study in February, 2021.
Aquatic Ecology					Carried out during biodiversity study in February, 2021.
Pre-construction	Phytoplankton, zooplankton, benthic animals, fish composition	<ul style="list-style-type: none"> • 1 km upstream of reservoir site • downstream of dam site 	Once prior to start of construction	-	Although carried out during biodiversity study but detail study will be covered on the Down stream impact study within 31 st December, 2021.

Construction phase Monitoring :

Environmental monitoring results are summarized in the table 12 (air quality), 13 (noise quality), 14 (drinking water quality), 15 (surface water quality) in the reporting period's quantitative monitoring activities and data obtained in accordance with the Environmental Monitoring Plan (EMoP) of the project. Tests were carried out between 26th June 2021 to 4th July, 2021. Results between 26th June and 30th June 2021 are shown in the following tables. Test reports are shown in Annexure 10.

Table 12.2 : Results of the Ambient Air quality

Date of sampling	Location	Weather	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	NO ₂ (µg/m ³)	HC (mg/m ³)	CO (mg/m ³)
26.062021	Worker camp	Clear	27.6	17.1	10.2	BDL	BDL
28.06.2021	APGCL Camp (Near Hospital, Highway)	Clear	33.1	19.1	9.2	0.01	0.03
30.06.2021	Surge shaft area	Clear	34.3	17.5	10.1	BDL	BDL
Standard			Concentration in Industrial, Residential, Rural and other area				
		Annual	60	40	40		

		24 hours	100	60	80		
		8 hours				2.0	

Table 13 : Results of ambient noise level

Date of sampling	Location	Noise Level in dB (A)Leq (6:00 AM to 10 PM)	
26.06.2021	Worker camp	51.2	
28.06.2021	APGCL Camp (Near Hospital, Highway)	55.2	
30.06.2021	Surge shaft area	44.6	
Standard	Day (6:00 AM to 10:00 PM)	Night (10:00 PM to 6:00 AM)	
Industrial Area	75	70	
Commercial Area	65	55	
Residential Area	55	45	
Silence Zone	50	40	

Table 14 : Water quality of drinking water (from RO Plant)

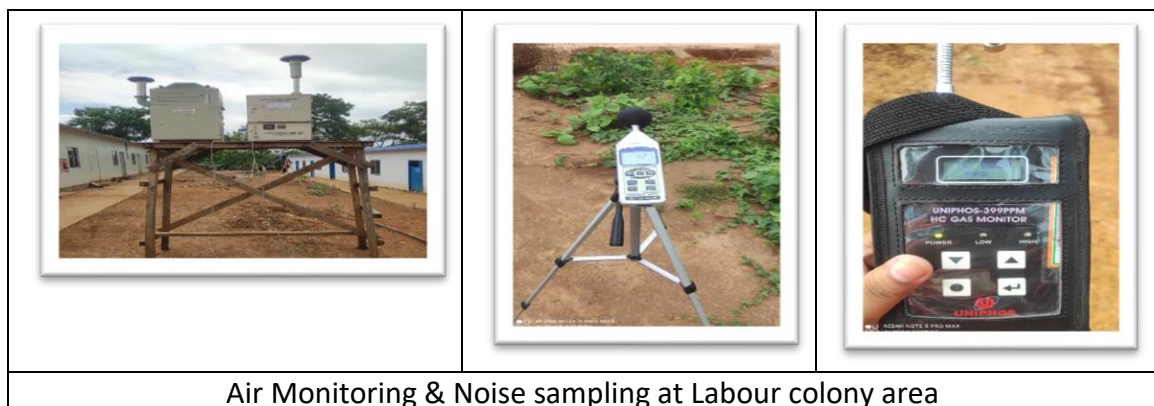
Date of sample collection	Parameters	Unit	Results	Acceptable	Permissible
12.06.2021	p ^H	--	7.16	6.5-8.5	No Relaxation
	Turbidity	NTU	0.4	1.0	5.0
	Total hardness	mg/L	159.6	200	600
	Total Alkalinity	mg/L	310.5	200	600
	Residual Chlorine	mg/L	<0.1	0.2	1.0
	Fluoride	mg/L	0.34	1.0	1.5
	Chloride	mg/L	18.2	250	1000
	Iron (as Fe)	mg/L	0.12	0.3	No Relaxation
Total Coliform	MPN/100 ml	Nil	Absent	Absent	

Table 15 : Surface Water Quality

Parameters	Unit	Results	
		Kala Nalla	Lonku Nala
Sample collection Date		12.06.2021	12.06.21
Temperature		31°C	31°C
p ^H	--	7.18	7.54
Turbidity	NTU	35	4.5
TDS	mg/L	134.8	135.8
TSS	mg/L	22.5	87.6

Parameters	Unit	Results	
Oil and Grease	mg/L	<5	<5
Dissolved Oxygen	mg/L	4.2	7.1
Total Hardness	mg/L	89.6	84
Calcium	mg/L	25.8	20.9
Magnesium	mg/L	15.5	15.3
Total Alkalinity	mg/L	128.2	121
Chloride	mg/L	22.8	24.2
Sulphate	mg/L	12.8	16.2
Nitrates	mg/L	6.4	8.1
Phosphates	mg/L	0.03	0.04
Conductivity	µS/cm	150	190
Arsenic	µg/L	<0.001	<0.001
Iron (As FE)	mg/L	0.82	1.4
Salinity	%	<0,1	0.1
Total Coliform	MPN/100 ml	4	6
Fecal Coliform	MPN/100ml	Nil	Nil
Organic matter	mg/L	1.2	1.8
Inorganic matter	mg/L	24.7	32.8
Required NaOH to Neutralize	ml	Nil	Nil
Required HCl to Neutralize	ml	10.6	13.8
BOD	mg/L	14	13
COD	mg/L	76	29

Photographs of test of ambient environment



Air Monitoring & Noise sampling at Labour colony area



Biodiversity Study : Executive Summary

Study Period : Biodiversity survey were done in the month of February 2021 and the analysis were done in the month of March, 2021.

Plant Diversity

The floristic study of LKHEP revealed diverse floristic assemblages unique in structure, composition, and spatial pattern. The forest types in the project area comprises

of Assam valley tropical semi-evergreen forest, East Himalayan moist mixed deciduous forest, and tropical riparian fringing forest. Besides, there are patches of degraded forests. As far as the floristic composition of the study area exhibit remarkable diversity and luxuriance. It also forms habitat many wildlife inhabiting the area. The impenetrable growth of large trees and evergreen shrubs (in the upper rich of dam-outside reservoir area) provide rich habitat for wild elephants and other mammals. The plants collected from the area belong to 186 species of phanerogams. Of the total phanerogams recorded, 26 species were reported newly from the area which were not reported in the earlier study by CISMHE. These include ephemeral, annual, and perennial species of grass, hedges, legumes and non-legume forbs. Out of the total plant species recorded, the dicotyledonous plants belong to 54 families, 125 genera and 135 species and the monocotyledonous to 11 families, 35 genera and 37 species. In addition to this 2 (two) species of gymnosperm and 12 species of ferns belonging to 12 genera under 10 families were also recorded from the area.

The phytosociological study in various sites revealed total basal area (TBA) ranged from 232.36 ha at the submergence area to 410.89 ha at downstream of Power House (PH) site. *Ficus bengalensis*, *Holarrhena pubescens*, *Protium serratum*, and *Magnolia gustavii* were the dominant species with an Importance Value Index (IVI) of 208.78, 82.28, 74.26, 36.07 near the downstream, dam site, PH and submergence site respectively. The diversity index value (H) in the tree layer ranged from 2.11 at the dam site to 2.61 at the PH site. The species diversity for shrub layer ranged from 1.16 at PH site to 1.78 at Dam site. The diversity in tree layers were more or less same at all sites. PH site was with highest 18 species. Similarly shrub diversity was comparatively higher on submerged and dam site as compared to other the sites as gap in the canopy provides high opportunity for the recruitment of shrubs. The value of species diversity (H) in the herbaceous layer ranged from 1.12 (Dam site) to 2.02 (PH site) during winter season. The species diversity generally depends upon adaptation of species and increases with stability of community. The diversity index calculated in the present investigation is found to be within the range for tropical forests of Indian subcontinent, thereby indicate good stability of the community.

The area blessed with taxonomically and ecologically high valued plant species. Therefore, conservation efforts in the project site require much research inputs. There is a need of comprehensive studies on the floristics, phenological responses of wild flora in different ecosystems/habitat, identification of plant species with high carbon sequestration potentials need to be initiated. Identification of keystone species for different sites with perspective of developing strategies for eco-restoration is important. Besides, the vulnerability of major forest types and associated fauna found in the area due to construction of the dam need to be studied.

Plankton, Thytobenthos, Ichthyofauna and Herpetofauna

The health of aquatic ecosystem of river Kopili was assessed by recording different biotic communities namely zooplankton, phytoplankton, and phytobenthos under micro flora and fauna. The Aquatic Ecology in and around the proposed project and surrounding areas (river Kopili) has also been affected grievously by acid drainage due to illegal and uncontrolled rat hole mining upstream in State of Meghalaya. India's National Green Tribunal (NGT) passed a directive in April 2014 to ban rat hole mining in Meghalaya leading to some improvement to the downstream aquatic ecology.

The Total Dissolved Solids (TDS) level ranged from 63 to 68 mg/l in the study period. The water, pH ranged from 4.9 to 6.2 in all the study areas which shows the acidic nature of

the water of Kopili river. This is mainly due to the acid drainage from illegal mining of coal in upstream areas of the river in the adjoining State of Meghalaya. This nature of water is generally not suitable for human & animal consumption as well as for use in the construction & in dam machinery. However, the range of pH has shown some improvement in last four years from the last study done by WAPCOS and it is expected that over the time the pH level of the water will become neutral and the river health will become suitable for different aquatic flora & fauna with planktonic diversity. Present findings of pH value ranged between 5.9 to 6.9.

All the Phytoplanktons which were found during the study belong primarily to filamentous algae - Green algae (Chlorophyceae), blue green algae (Cyanophyceae), Desmidiaceae and Non-filamentous algae Diatoms (Bacillariophyceae algae). A total of **38** species were recorded across the study area. In filamentous algae, a total of 7 taxa from Cyanophyceae, 22 taxa from Chlorophyceae 2 taxa from Desmidiaceae were recorded. *Spirogyra* sp., *Phoridium* sp., *Tribonema* sp., and *Gonatozygon* sp., were the most abundant taxa among filamentous algae at the sampling sites. In non-filamentous algae, 7 different taxa were reported from the sampling sites. *Stauroneus Navicula* sp., *Synedra* sp, *Gomphonema*, and *Acanthidium* were the prominent species found in the sampling sites during the period of investigation

Phytobenthos were represented by same kind of algal groups as found in phytoplankton with varying no of species - A total of 18 nos of species belonging to Cyanophyceae (blue green) and Chlorophyceae (green) and Non-Filamentous algae – Bacillariophyceae of diatoms were recorded in the phytobenthic community as compared to 38 nos of species in planktonic community.

Filamentous algae was similar between phytoplankton and phytobenthos, represented by 7 taxa. *Gloeocapsa* sp., *Spirogyra* sp., *Zygnema* sp. and *Pediastrum simplex* were most abundant taxa in phytobenthic community. *Cyclotella* sp., *Epithemia* sp., *Gomphonema olivaceum*, *Navicula capitata* and *Navicula rostellata* were absent in benthic community while *Gomphonema parvulum* was the most common. *Navicula cryptocephala*, *Synedra ulna*, *Nitzschia sublinearis*, *Gomphonema parvulum*, *Gomphonema affine*, *Achnantheidium affinis*, *Cymbella affinis* and *Stauroneis* were the most represented taxa accounting for more than 10% at least at one site.

In the Zooplankton study a total of 12 species of zooplankton was reported. The dominant zooplankton across the study area was Rotifers, cladocera larvae & caddis fly larvae. The taxa observed across the study area were *Keratella tropica* sp., *Lecane luna*, *Monostylla bulla* sp., (Rotifers) and *Cyclops leuckartisp* (Cladocera), *Daphnia corinata*, & *Ceriodiaphnia cornusa*.

Under the Ichthyofaunal study as reported in the WAPCOS report in 2015, 4 species of fishes namely *Garragotyla gotyla*, *Danio rerio*, *Puntius sophore* and *Barilius bendelisis* were caught inside the streams (small tributaries – not in the main channel) along the downstream influence zone (near Power House site and 4 km downstream of Power House site) while no fish were present or caught in the immediate vicinity of the proposed dam site. During the present study the presence of these fishes were also reported by local communities and they informed that once the water is released from the upstream NEEPCO Hydroelectric project all fishes die and floats on water surface which may be attributed to the release of acidic water from the NEEPCO power project. Some fish fingerlings were also observed during the present study at the proposed Dam site.

A very limited research on the herpatofauna of the proposed dam site as well as surrounding forest areas has been done along with very scanty secondary information on reptiles & amphibians. From published literature of Das, 2009 and other research sources, a total of 32 species grouped under 11 families were reported from the study area. The topography and climatic conditions of the area including the proposed project and surrounding areas some of the herpeto-fauna especially reptiles are found to occur which has been substantiated by local communities also. *Calotes emma*, *Calotes jerdoni* and *Japalura planidorsata* of Family Agamidae are distributed in open forests, in settlements and garden areas. Distribution of Gekkonidae Family are common in the areas. Family Varanidae is represented by 2 species: *Varanus bengalensis* (Common Indian Monitor) and *Varanus salvator* (Water Monitor); both are common in the study area (project component areas). *Ptyas mucosus* (Dhaman or Rat snake), *Ophiophagus hannah* (King cobra), *Naja kaouthia* (Common cobra), *Bungarus fasciatus* (Banded krait) and *Bungarus caeruleus* (Common krait) have common occurrence near settlements and forests. *Ophiophagus hannah* (King cobra) covered as vulnerable in IUCN list *And* is also comes under Schedule II of the IWPA (1972).

Even though the proposed project and surrounding areas is favorable for amphibian fauna very less study has been undertaken on amphibian fauna under the given topography and climate conditions,. So far a total of 19 species grouped under 6 families were reported from the study area. All species are common and widely distributed in the sub- continent. None of the species is endemic to India as well as North-Eastern region of India. Two species namely *Duttaphrynus melanostictus* (Asian common toad) and *Hylarana tytleri* (Common Green Frog) were spotted from the study area as per 2015 field studies. During the present study no amphibian species were sighted which may be attributed to the winter hibernation period of the amphibians.

To reduce pollution from the rat hole mines of the state of Meghalaya, the NGT ban and direction to be strictly implemented which could be a turning point to restore the water quality and improve the aquatic ecosystem of the Kopili river in near future. Algae belonging to order Chroococcales, Nostocales and Stigonematales should be promoted to increase the nitrogen fixation in water from the atmospheric nitrogen. Nitrogen fixation is essential to life because fixed inorganic nitrogen compounds are required for the biosynthesis of all nitrogen-containing organic compounds, such as amino acids and proteins, nucleoside triphosphates and nucleic acids. Green algae may also be promoted in the riverine ecosystem which will increase the oxygen production. Further, constant & continuous monitoring of water & soil for plankton diversity and other water parameters like TDS, TSS, VSS, Salinity, alkalinity, Electrical conductivity, water temperature, transparency, hardness, concentration of metals, inorganic ions, BOD, dissolve oxygen etc. in and around dam area during & post dam construction period is very crucial to maintain the surrounding vegetation, animals & bird species including the forest.

Faunal Diversity

The faunal study of LKHEP revealed 28 different species of mammals and 92 species of avian fauna. The diverse forest types which comprises Assam valley tropical semi-evergreen forest, East Himalayan moist mixed deciduous forest, and tropical riparian fringing forest offers major habitat for many arboreal mammals and bird species. The project area comes under habitat of the only ape species in India i.e. western Hoolock gibbon (Khrumming-Panimur-Amreng Forest Complex) identified for long term conservation in Assam. Our study confirmed its presence through direct observation of

one family group and listened calls of other groups in the project area. Apart from gibbon, observation of Capped langur, Rhesus macaque, Malayan giant squirrel and Hoary bellied squirrel and detection of signage of Bengal Slow loris implies the arboreal species assemblages. 13 mammalian species, were not reported in the previous assessment out of 28 species. Among bird species, 69 species, which were mostly woodland species were not reported in the previous assessment also. Although no threatened bird species were recorded during the study inside the project area. Among mammalian fauna, Chines pangolin, Asian Elephant, western Hoolock gibbon, Bengal Slow loris is threatened (Critically Endangered and Endangered) as per IUCN Red Data Book, 2020 and Schedule-I species as per IWPA, 1972.

Note :


1. *Detail Report on Biodiversity study has already been submitted to ADB)*
2. Analysis of the critical habitat and associated mitigation measures is underway and will be reflected in the EIA addendum. After that additional EMP measures will be followed at site.


7.3 Pollution Control Monitoring

Ambient Test results are within permissible limit for the air quality, surface water quality, noise and drinking water quality. Test of all the 7 sites were carried out. Those tests which were conducted during June 2021 were presented here only, rest will be in the next EMR. Duration of sampling, parameters measured, equipment used, standards, and limits used etc are mentioned in the test reports in the [Annexure 10](#). The method statement for analysing the samples are shown in [Annexure 11](#) and Accreditation of Envision Enviro Technologies North East is in [Annexure 12](#).

Pollution control trainings are part of the tool box training (Table 16) and conducted during the induction training.

Table 16 : Pollution control training

Trainings/Drills/ Inspections	Number and Position of Participant/s	Location/s and Date/s	Photograph
Oil Spill	8 Laborers	Mechanical workshop, 15 th June 2021	

Trainings/Drills/ Inspections	Number and Position of Participant/s	Location/s and Date/s	Photograph
Waste Management and Housekeeping	8 Labours were trained by Environment team.	In front of Office, Langku, 18 th May, 2021	
	But so far Health and Safety Team trained 25 to 30 staff and workers each month on Hazardous wastes and Food wastes.		

During the reporting period January 2021 to June 2021 only domestic waste generated from the camps. Biodegradable and non degradable wastes are separated at source and bio degradable wastes are dumped in a pit separately. All the toilets are fitted with safety tank

Other Pollution control measures adopted by the contractor at site :

1. Water sprinkling near the locality where dust is generated.
2. Drains are constructed but sedimentation tanks are yet to construct.
3. Solid waste management at site is it be improved.
4. 3 numbers of muck disposal sites were approved by PMC and APGCL.
5. Dustbins are kept in all the work places.
6. Mobile bio toilets are installed at all the work locations.
7. Sedimentation tanks for waste water not constructed but will be constructed soon.

7.4 Occupational and Community Health and Safety Monitoring

L&T uses app based monitoring for safety. Following 2 applications are used

1. L&T Safety App
 - a. Prestart Briefing
 - b. Work Permit system
 - c. Near Miss case Reporting
 - d. EHS Observation
 - e. Covid 19 Check list

**Safety App for
Heavy civil Infra IC
- User guide for V3.0**



Date of release - 01 June'19
Android → V3.0 build 8 & IOS → V3.0 build 9

Safety app v3.0 release for HCI

<i>Existing modules:</i>		<i>New modules:</i>	
Mobile	Web portal	Mobile	Web portal
❖ Pre start	❖ CAT (Confirmation on Action Taken)	❖ EHS observation with escalation	❖ User specific dashboard with report download option for EHS observation, Work permit & VR training (pdf + excel)
❖ Near miss reporting	❖ User specific dashboard with report download option (pdf + excel)	❖ Work permit with transactional email and reminder mailer system	
		❖ VR training	
<i>Existing features:</i>		<i>New features:</i>	
❖ Push notification		❖ Offline submission functionality	
❖ One user to multiple project mapping			
❖ Save as draft functionality			
❖ 1 photo mandatory in Pre start form submission			


2. IB4U
 - A. Fire Extinguisher Inspection
 - B. Safety Full body Harness Inspection
 - C. Vehicles and Earth moving Equipment inspection
 - D. Crane Inspection
 - E. DG Inspection
 - F. Earthing Inspection
 - G. Electrical Inspection
 - H. Mobile Crane Inspection
 - I. RCCB/ELCB Inspection
 - J. Scaffold Inspection



Monthly Safety report for the month of June 2021 is given in the [Annexure 10](#).

Fire drills carried out during January 2021 to June 2021 is shown in table 17 and list of fire extinguishers installed at site in table 18.

Table 17 : Fire drills carried out during the reporting period.

Trainings/Drills/ Inspections	Number and Position of Participant/s	Location/s and Date/s	Remarks
Fire Drill	12 Laborers	25 th May 2021	Participants safety, evacuation 


Trainings/Drills/ Inspections	Number and Position of Participant/s	Location/s and Date/s	Remarks
Fire drill	7 Labours	5 th June 2021	

Table 18 : Fire extinguishers installed at site

S.N	Location	Type	Capacity (kg)	Nos
1	Surge Shaft Container	CO2	6.5	2
		DCP	1.0	4
2	Power house Container	CO2	6.5	1
		DCP	1.0	3
3	Crusher Plant Area	CO2	6.5	2
		DCP	1.0	3
4	HRT Adit	CO2	6.5	2
		DCP	1.0	3
5	Kopili Block	DCP	1.0	4
6	APGCL Canteen	DCP	6.0	1
7	APGCL Barak	DCP	6.0	2
8	Eco Green Canteen	DCP	6.0	1
9	Lohit Block	DCP	1.0	4
10	Manas Block	DCP	1.0	4
11	Dihing Block	DCP	1.0	4
12	Store Container	DCP	1.0	1
13	P&M Container	DCP	1.0	1
14	Store	CO2	6.5	2
		DCP	1.0	3
		FOAM	6.2	2
		Fire Bucket		2
15	P&M Workshop	DCP	1.0	1
16	Fabrication Yard	DCP	1.0	1
17	Bhupender Singh Container	DCP	1.0	1
18	Diesel Browser	DCP	1.0	2

Health and Safety related issued are monitored and reported in the Monthly Environment Report by the Contractor. To contain further spread of COVID 19 at worksite COVID 19 SOP has been prepared ([Annexure 14](#)). Compliance to COVID 19 SOP are also reported along with the Monthly Environment Report. Summary of HSE at site is shown in the table 19.

Table 19 : Summary of HSE at site

	Number and Position of Person/s Involved	Location/s and Date/s of Incident	Detailed Description of Incident	Time-bound Corrective Action
Fatality	0	-	-	-
Non-fatal Injury (Lost Time)	0	-	-	-
Non-fatal Injury (Minor)	0	-	-	-
Near-miss	2	Temporary colony	-	-
Illness				
April 2021	15	19.04.21	COVID 19 positive	30.04.21 11 - COVID 19 negative 1 death (Mr Jayanta Kr Paul at Guwahati Hospital)
May 2021	5	21.04.2021	COVID 19 positive	15.05.2021 COVID 19 negative
June 2021	2	14-06-21	COVID 19 positive	20.06.21 and 16.06.21 COVID 19 negative
Other Incidents	Nil			

Timely implementation of COVID SOP and vaccination of the staff and workers were useful. During the second wave only one person lost his life. Timely treatment was provided by L&T and further referred to Apollo Hospital Guwahati where the COVID patient succumbed to death. Due to prior trainings and use of safety measures no causality reported so far. Contractor need to train the staff regularly of EHS issues and Environment issues and EMP guidelines.

8.0 Meaningful Consultation and Grievance Redress

Due to COVID 19 pandemic very few consultations were carried out during the reporting period January 2021 to June 2021 (Table 20).

Table 20 : Consultation carried out during the reporting period

Date	Format/Venue	Participants (Occupation, M/F)	Main Issues Raised
12.02.21, 13.02.21	Conference Hall APGCL, Longku	villagers, gaon buras and the representatives of PAPA, R&R NGO	Meeting regarding GRC and the tools and technicalities of grievance lodging and redressing.



Date	Format/Venue	Participants (Occupation, M/F)	Main Issues Raised
20.02.2021	One to one interview. Total 27 villagers were consulted.	Villagers, especially senior person or hunters	Secondary data collection of the species available in an around the project site.

Grievance Redress Mechanism

A three-tier grievance redress mechanism has already been notified for handling grievances. The first tier is the grassroots level mechanism. Grievances of the APs are first dealt with by gaon buras in consultation with the field officials, and the contractors of the project. Complaints that cannot be addressed at the level of gaon buras are forwarded to the Project-level grievance redress committee (GRC) which is the second tier. The third tier is the appellate GRC at the state level. APGCL deal with the complaints and grievances as the appellate GRC. The presence of GRM or seeking relief from GRM is not a bar to take grievances and complaints to national courts for arbitration.

First-Tier GRC

Grievances and complaints that need immediate attention can be directed to the gaon bura or a project officer who is in the area. These on-site personnel are the accessible first level contacts for a grieved party to obtain a prompt resolution to a grievance or a complaint. Contact phone numbers, addresses, and names of the gaon buras and field level project officials, and project contractors are displayed at all construction site offices in the project area. Registers for recording complaints and grievance are available with gaon buras and field officials. They are trained by the SESC on how to record grievances and complaints, and how to arbitrate and solve them. They are required to resolve an issue within 7 days from the receipt of a complaint or grievance. Records of grievances received at field level are sent once a month to SESC at PMU enabling the tracking of the progress in grievance redress mechanism.

Second-Tier GRC

GRC at the project level are address the APs' complaints and grievances promptly, using a transparent process which is gender responsive, culturally appropriate, and readily accessible to all segments of the APs, at no costs and without retribution. It is chaired by the project director or his/her representative. The safeguard consultants of the SESC, an administrative officer, concerned engineers, contractors, representative from PAPA of Dima Hasao and Karbi Anglong Districts, at least one women representative, and district officials also take part in GRC meetings. GRC will have a secretary. If required the committee calls land surveyors, gaon buras of the project area, and representatives of project-related agencies to participate in GRC meetings.

The secretary receives complaints and grievances. A record of each complaint or grievance are kept at the project office. At this level, each grievance or complaint are resolved within 15 days from the date of it registration. The decisions of the GRC is conveyed in writing to the APs who sought relief through gaon Buras.

Third-Tier GRC

If the GRC at the project-level considers the grievance or the complaint is beyond its jurisdiction, or it cannot resolve the complaint, PMU refers it to APGCL, the third tier GRC located in Guwahati for resolution or relief. APGCL attempt to resolve grievances within 30 days from date of receipt of a complaint or grievance. The Appellate GRC at APGCL is chaired by the Deputy General Manager (Hydro). The other members of GRC are the representatives of the Revenue Department, ADCs, Survey Department, and PAPA and gaon buras. GRC hear the complaint or the grievance and provides its decision to the aggrieved party in 30 days from the registration of the complaint. The decision of the GRC is communicated in writing through gaonburas.

As per the Combined Resettlement and Tribal Development Plan (CRTDP) or R&R plan it is specifically mentioned that during the ongoing implementation a mechanism to handle local grievances of the PAFs is to be redressed through a Grievance Redressal Committee (GRC). The Grievance Redressal Committee was formed vide letter No. APGCL/LKHEP/PD/2017-18/13/43 dated 16th November, 2019 (**Annexure 14**). In the Line with the provisions as entitled in the CRTDP, a state level GRC is to be set up involving members as shown below :

Chief General Manager (Generation), Assam Power Generation Corporation Limited	Chairman
Representative of State Revenue Department	Member
Representatives of Autonomous Councils	Member
Representatives of affected persons association	Member
Village Headman of the affected Village	Member

Land related grievances are resolved at first tie itself. No cases registered so far.

Site Register is maintained in the contractor's camp and in APGCL office. A format has been developed by Social Expert to record the grievances. Grievance Box will be placed at APGCL site office. GRM training given by APGCL Social Expert and R&R NGO to all the affected villages.

8.1. Positive Community Intervention

Tree plantation programmes are done regularly. A drawing competition held in local school and the winners were awarded. Altogether 150 school students participated.



Plantation by the dignitaries



Plantation by the dignitaries

Drawing competition in school

9.0 Conclusions and Recommendations

This is the first Environment Monitoring Report for the period January to June 2021. During this period few noncompliance on the environment safeguard issues were observed and are listed in Table 21. Results of the test of ambient air, noise and water also found within the permissible limit. Regarding safety except one COVID 19 death there is no casualty. Contractor followed COVID 19 SOP and reported monthly on the compliance, vaccination status, etc. During this reporting period 19 COVID positive patients recovered and after complete recovery they joined the work. Most of the facilities are under final stage of construction. Provisions are kept for environmental compliance. Besides tree plantation, awareness programmes and drawing competitions were held in the local schools. The Biodiversity study revelled new sightings of the flora and fauna which was not reported in the earlier assessment. Critical habitat assessment is under way and it will be reflected in the EIA addendum. For Hoolock gibbon special attention to be taken during submergence of the area so that the groups shall not be isolated in future. Further continuous monitoring of biodiversity covering all the aspects during the implementation of the project will be carried out. So far the environmental safeguards measures taken by the contractor was mostly satisfactory but in some fields improvements can be done.

Table 21: Non compliances recorded during Jan to June 2021

	Non compliance	Timeline	Responsibility
1	Crusher construction started before getting CTE	Contractor to submit the CTE by 31st October, 2021 and	Contractor

	Non compliance	Timeline	Responsibility
		should not operate before obtaining CTO from PCBA.	
2	Batching Plant construction started before getting CTE	Contractor to submit the CTE by 31st October, 2021 and should not operate before obtaining CTO from PCBA.	Contractor
3	Muck from road works disposed downhill into forest trees	Update on corrective action (with photos) will be submitted in the next EMR.	Contractor
4	Sedimentation tanks to be prepared from waste waters generated from canteen and other facilities	by 25th November, 2021.	Contractor
5	Overburden after utilization stacked along the road in the forest area to be shifted to the muck disposal site	by 15th November, 2021.	Contractor
6	Municipal Solid Waste Management facility to be developed as per rule	by 30th November, 2021.	Contractor
7	AIDS awareness camp will be carried out	by 10th November, 2021.	Contractor
8	E-flow at the dam will be monitored constantly	will be initiated within December, 2021	APGCL
9	EMoP - Pre construction phase		
	Soil and Sediment baseline	Not initiated but will be carried out as soon as the External monitor engaged.	
	Terrestrial Ecology- Terrestrial Flora and fauna (using camera traps	Camera trap not initiated but will be carried out as soon as the External monitor engaged.	APGCL
	Phytoplankton, zooplankton, benthic animals, fish composition- down stream impact study	Although carried out during biodiversity study but detail study will be covered on the Down stream impact study within 31st December, 2021.	APGCL

Photographs



Safety Month Celebration



Vaccination



COVID 19 SOP Compliance



Two oxygen concentrator available at site for emergency



Isolation ward for COVID 19 Positive patients

Annexure

Annexure 1 – Copy of the Environment Clearance

No. J-12011/26/2012-IA-I
Government of India
Ministry of Environment, Forest & Climate Change
(IA.I Division)

Indira Paryavaran Bhawan
3rd Floor, Vayu Wing
Jor Bagh Road
New Delhi-110 003

Dated: 04th September, 2019

To

The Chief General Manager (Hydro)
M/s Assam Power Generation Corporation Ltd
3rd Floor, Bijulee Bhavan
Paltan Bazar
Guwahati-781001
Assam

Sub: Lower Kopili HEP (120 MW) in Karbi Anglong & Dima Hasao, Assam by M/s Assam Power Generation Corporation Ltd.- reg. Environmental Clearance

Sir,

This has reference to your letter No. APGCL/CGM (H)/W/2007/140/Pt-VII/01 dated 27.03.19 on the above-mentioned subject.

2. The above referred proposal was considered by the Expert Appraisal Committee (EAC) for River Valley & Hydroelectric projects in its meeting held on 24.08.2017 & 05.12.2017. The comments and observations of EAC on the project may be seen in the Minutes of the meeting which are available on the web-site of this Ministry.

3. The proposed Lower Kopili HEP (120 MW) is downstream development of existing Kopili HEP stage I and is located in east of Karbi Anglong and west of Dima Hasao districts of Assam. The dam structure is located on Kopili River (a major tributary of the Brahmaputra River) and the powerhouse structure is located on right bank of Kopili River. The project diversion site is located at village Longku. The project envisages utilization of the regulated discharge from Kopili HEP, spills of Khandong and Umrong Dam and the discharge from the intermediate catchment by creation of a reservoir and utilizing a gross head of about 114 m. This is a run-of-the-river scheme. The scheme has been conceived to run at full potential in monsoon season and operate as a peaking station in non-monsoon season. The total cost of the project is Rs. 1,031.58 Cr excluding the R&R land cost (Rs. 84.33 Cr).

4. The Lower Kopili HE Project envisages construction of a 70.13 m high concrete gravity dam across the river Kopili at Longku, about 20 km downstream of Kopili HEP stage I Power House with an installed capacity of (110 + 10) MW. A water conductor system comprising of an Intake Structure, Head Race Tunnel along with Surge Shaft & penstock and a surface power house with installed capacity of 110 MW, comprising of 2 units of 55MW each. An Auxiliary Power House of installed capacity of 10 MW (2x2.5 MW + 1x5 MW) is also proposed at the dam toe for generation of Power.

5. The total land requirement of the project is 1577 ha. The forest land to be acquired for the project is 523 ha. The private land to be acquired for the project is 1054 ha. In principle approval of Stage 1 Forest Clearance for the diversion of 523.046 ha of forest land was accorded on 27.03.2019.

6. Scoping clearance for pre-construction activities was approved on 30.01.2014. Application for the extension of ToR was considered by the EAC during the meeting held on 30.01.2017 and validity of ToR was extended till 29.01.2018 vide MoEF&CC letter No. J-12011/26/2012-IA-I dated 30.03.2017. The Public Hearing was held on 10.01.2017 at Longku, APGCL Project Site, district Dima-Hasao, Assam for the proposed Lower Kopili HEP (120 MW). The Public Hearing was conducted under the Chairmanship of the ADM, Dima Hasao.

7. The Expert Appraisal Committee (EAC) in its 10th meeting held on 05.12.2017, after due consideration of the relevant documents submitted by the project proponent and clarifications furnished, have recommended for grant of Environmental Clearance for the project mentioned above. Accordingly, the Ministry of Environment, Forest and Climate Change hereby accords necessary Environmental Clearance for the above project as per the provisions of Environmental Impact Assessment Notification, 2006 and as amended thereof, subject to compliance of the following conditions and as given in Annexure I (i.e. Standard EC conditions for River Valley and Hydroelectric projects):

- I. The Environmental Management Plan (EMP) shall be strictly adhered to and a sum of Rs. 26147.5077 lakhs (Capital cost: 15427.689 lakhs & Recurring cost: Rs. 10717.817 lakhs), the budgetary provisions for implementation of EMP, shall be fully utilized and not to be diverted to any other purpose. In case of revision of the project cost or due to price level change, the cost of EMP shall also updated proportionately.
- II. The project proponent shall comply with the provisions contained in this Ministry's OM vide F. No. 22-65/2017-IA.III dated 1st May 2018 regarding Corporate Environment Responsibility. Project proponent shall require to invest Rs 5.81 crore for CER activities as submitted to the Ministry. A total budget of Rs. 5.81 crore shall be spent for upgradation of education facilities in existing schools (Rs. 66.0 lakhs), construction of community toilets (Rs. 380.0 lakhs), upgradation of Health care facilities (Rs. 115.0 lakhs) and awareness generation (Rs 20.0 lakhs). The entire activities under CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half-yearly compliance report and to a District Collector.
- III. The environmental clearance is valid for period of 10 years from the date of issue of this letter for commissioning of the project.
- IV. After 5 years of the commissioning of the project, a study shall be undertaken regarding impact of the project on the environment and downstream ecology. The study shall be undertaken by an independent agency, decided in consultation with the Ministry.
- V. Any other clearances/permissions/approvals from any other organization/department, as applicable to the project shall be taken.


- VI. PP shall procure construction material only from those Govt./Pvt. Agencies/Corporations/etc. that are having all applicable legal/statutory clearances/permissions or necessary permission to be obtained for quarrying construction materials for the project as per the EIA Notification, 2006 and subsequent amendments thereof.
- VII. Based on the recommendation of Cumulative Impact Assessment and Carrying capacity study of river basin or as per the ToR conditions or minimum 15% of the average flow of four consecutive leanest months or as submitted in the EIA/EMP report, whichever value is higher, shall be released as environmental flow.
8. This issues with approval of the Competent Authority.

Yours faithfully


(Dr. S. Kerketta)
Director

Copy to:

1. The Secretary, Ministry of Power, Sharm Shakti Bhawan, Rafi Marg, New Delhi-110001
2. The Advisor (Power), Planning Commission, Yojana Bhawan, New Delhi-110001.
3. The Principal Secretary (Power), Govt. of Assam, Secretariat, P.O Assam, Sachivalaya, Block-C, Ground Floor, Dispur, Guwahati-781 006, Assam.
4. The Principal Secretary, Department of Environment & Forest, Govt. Of Assam, Secretariat, Dispur, Guwahati-781 006, Assam.
5. The Chief Engineer, Project Appraisal Directorate, Central Electricity Authority, Sewa Bhawan R.K. Puram, New Delhi-110066.
6. The Dy. Director General Forest, Regional Office, Ministry of Environment, Forest & Climate Change Upland Road, Laitumkhrah, Shilong, Meghalaya-793 003.
7. The Member Secretary, Assam Pollution Control Board, Bamunimaidam, Guwahati-781 021.
8. NIC Cell- request to upload on the MoEF website.
9. Sr. PSS to JS(GM)
10. Guard File


(Director)

Standard EC Conditions for River Valley and Hydroelectric projects

I. Statutory compliance:

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden, if applicable. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area).
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- v. NOC shall be obtained from National Commission of Seismic Design Parameters (NCSDS) of CWC.
- vi. Necessary approval of CEA shall be obtained for those projects having the project cost more than Rs. 1,000 crore.

II. Air quality monitoring and preservation

- i. Regular monitoring of various environmental parameters viz., Water Quality, Ambient Air Quality and Noise levels as per the CPCB guidelines at designated locations shall be carried out on monthly basis and a detailed database of the same shall be prepared and recorded. This shall be used as a baseline data for post construction EIA / Monitoring purposes.
- ii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed standards.
- iii. Necessary control measures such as water sprinkling arrangements, etc. bet taken up to arrest fugitive dust at all the construction sites.

III. Water quality monitoring and preservation

- i. Before impounding of the water, Cofferdams for both at the upstream and downstream are to be decommissioned as per EIA/EMP report so that once the project is commissioned; cofferdam should not create any adverse impact on water environment including the rock mass and muck used for the Cofferdam.
- ii. Water depth sensors shall be installed at suitable locations to monitor e-flow. Hourly data to be collected and converted to discharge data. The Gauge and Discharge data in the form of Excel Sheet be submitted to the Regional Office, MoEF & CC and to the CWC on weekly basis.

IV. Noise monitoring and prevention

- i. All the equipment likely to generate high noise shall be appropriately enclosed or inbuilt noise enclosures be provided so as to meet the ambient noise standards as notified under the Noise Pollution (Regulation and Control) Rules, 2000, as amended in 2010 under the Environment Protection Act (EPA), 1986.
- ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Catchment Area Treatment Plan

Catchment Area Treatment (CAT) Plan as proposed in the EIA/EMP report shall be implemented in consultation with the State Forest Department and shall be implemented in synchronization with the construction of the project.

VI. Waste management

- i. Muck disposal be carried out only in the approved and earmarked sites. The dumping sites shall be located sufficiently away from the HFL of the river. Efforts be made to reuse the muck for construction and other filling purposes and balanced be disposed of at the designated disposal sites. Once the muck disposal sites are inactive, proper treatment measures like both engineering and biological measures be carried out so that sites are stabilized quickly.
- ii. Solid waste management should be planned in details. Land filling of plastic waste shall be avoided and instead be used for various purposes as envisaged in the EIA/EMP reports. Efforts be made to avoid one time use of plastics.

VII. Green Belt, EMP Cost, Fisheries and Wildlife Management

- i. Detailed information on species composition particular to fish species from previous study/literature be inventoried and proper management plan shall be prepared for insitu conservation in the streams, tributaries of river and the main river itself for which adequate budget provision be made and followed strictly.
- ii. Wildlife Conservation Plan prepared for both core and buffer zones shall be implemented in consultation with the local State Forest Department, if applicable.

- iii. To enrich the habitat of the project site, plantation shall be raised as envisaged in the EIA/EMP report. Plantation to be developed along the periphery of the reservoir in multi-layers with local indigenous species in consultation with the local State Forest Department.
- iv. Compensatory afforestation programme shall be implemented as per the plan approved.
- v. Fish ladder/pass as envisaged in the EIA/EMP report shall be maintained for migration of fishes. Regular monitoring of this facility be carried out to ensure its effectiveness.

VIII. Public hearing and Human health issues

- i. Resettlement & Rehabilitation plan be implemented in consultation with the State Govt. as approved by the State Govt, if any.
- ii. Budget provisions made for the community and social development plan including community welfare schemes shall be implemented in toto.
- iii. Preventive measures viz. fuming and spraying of mosquito control shall be done in and around the labour colonies, affected villages, stagnated pools, etc. Provisions be made to not to create any stagnated pools to avoid creation of breeding grounds of the vector borne diseases.
- iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- v. Labour force to be engaged for construction works shall be examined thoroughly and adequately treated before issuing them work permit. Medical facilities shall be provided at the construction sites.
- vi. Early Warning Telemetric system shall be installed in the upper catchment area of the project for advance intimation of flood forecast.
- vii. Emergency preparedness plan be made for any eventuality of the dam failure and shall be implemented as per the Dam Break Analysis

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 01.05.2018, as applicable, regarding Corporate Environment Responsibility.

- ii. Skill mapping be undertaken for the youths of the affected project area and based on the skill mapping, necessary trainings to the youths be provided for their long time livelihood generation
- iii. The PP shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iv. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- v. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- vi. Post EIA and SIA be prepared for the project through a third party and evaluation report be submitted to the Ministry after five years of commissioning of the project.
- vii. Multi-Disciplinary Committee (MDC) be constituted with experts from Ecology, Forestry, Wildlife, Sociology, Soil Conservation, Fisheries, NGO, etc. to oversee implementation of various environmental safeguards proposed in EIA/EMP report during construction of the project. The monitoring report of the Committee shall be uploaded in the website of the Company.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by 5 prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public

Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.



Annexure 2 –Copy of the Forest Clearance – Stage 1

F. No. 8-53/2018-FC
Government of India
Ministry of Environment, Forests & Climate Change
(F.C. Division)

Indira Paryavaran Bhawan,
Jor Bagh Road, Aliganj,
New Delhi: 110003,

Dated: 5th February, 2019

To,

The Principal Secretary (Forests),
Government of Assam,
Guwahati.

Sub: Diversion of 523.046 ha of forest land for construction of Lower Kopili Hydro Electric Project by Assam Power Generation Corporation under Dima Hasao West Division, Halflong and Hamren Division, Assam.

Sir,

I am directed to refer to the State Govt. of Assam's letter No. FRS/2018/222 dated 30.07.2018 on the subject mentioned above seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980 and to say that the proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section-3 of the aforesaid Act.

After careful examination of the proposal of the State Government and on the basis of the recommendations of the Forest Advisory Committee, *In-principle approval/Stage-I Clearance* of the Central Government is hereby granted for diversion of 523.046 ha of forest land for construction of Lower Kopili Hydro Electric Project by Assam Power Generation Corporation under Dima Hasao West Division, Halflong and Hamren Division, Assam subject to the following conditions:

- (i) Legal status of the diverted forest land shall remain unchanged;
- (ii) Compensatory Afforestation shall be raised over equal identified non-forest land (NFL) land within three years from the date of Stage –II Clearance and maintained thereafter by the State Forest Department at the cost of the User Agency. At least 1000 saplings per hectares shall be planted over 523.046 ha (523046 plants). If this is not possible to plant these many seedlings in the identified NFL, the balance seedlings will be planted in degraded forest land as per the prescriptions of the Working Plan at the cost of the User agency. In such case CA cost will be revised and duly approved by competent authority and deposited online in the CAF managed by CAMPA;



- ✓(iii) 25% of the CA cost additionally will be spent towards Soil and Moisture Conservation activities in the proposed CA area as per site requirement and deposited in CAMPA Account;
- (iv) **Since muck disposal has not been permitted within the proposed diverted forest area, 22 ha forest land shall be added to the already identified Green Belt within the proposed forest area for diversion. All other items will remain same as submitted earlier. Thus, 198.746 ha out of proposed diversion of 523.046 ha of forest land shall be maintained as Green Belt;**
- ✓(v) **User agency shall modify the DPR accordingly and its authenticated copy of the same shall be submitted to the Regional Office, MoEF&CC, Shillong and this Ministry prior to Stage-II approval;**
- ✓(vi) **The user agency shall submit Landuse Plan and landuse map before Stage-II approval;**
- (vii) The land identified for the purpose of CA shall be clearly depicted on a Survey of India topo-sheet of 1:50,000 scale;
- (viii) The admissible non-forest land shall be identified for raising compensatory afforestation and the same shall be transferred and mutated in favour of the State Forest Department before issue of the Stage-II clearance. The non-forest land identified for raising Compensatory Afforestation shall be notified by the State Government as RF under Section-4 or PF under Section-20 of the Indian Forest Act, 1927 or under the relevant Section(s) of the local Forest Act, as the case may be, within a period of six months;
- ✓(ix) The User Agency shall transfer the cost of raising and maintaining the compensatory afforestation at the current wage rate in consultation with State Forest Department in the account of Ad-hoc CAMPA of the concerned State through online portal. The scheme may include appropriate provision for anticipated cost increase for works scheduled for subsequent years;
- ✓(x) The User Agency shall transfer online, the Net Present Value (NPV) of the forest land being diverted under this proposal, as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02. 2009. The requisite funds shall be transferred through online portal into Ad-hoc CAMPA account of the State Concerned;
- ✓(xi) At the time of payment of the Net Present Value (NPV) at the then prevailing rate, the User Agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;
- ✓(xii) The approved Catchment Area Treatment (CAT) Plan shall be implemented at the cost of the user agency and commensurate funds shall be deposited in the account of CAMPA through on-line portal;
- ✓(xiii) **User Agency shall ensure that the Compensatory levies (CA cost, NPV, etc.) are deposited through challan generated online on web portal and deposited in appropriate bank online only. Amount deposited through other mode will not be accepted as compliance of the Stage-I clearance;**
- (xiv) The Forest clearance will be for a period co terminus with the lease period specified in the lease agreement. The State Government will submit the lease agreement document specified in the lease agreement;

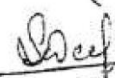
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- (xv) The State Government shall complete settlement of rights, in terms of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence as prescribed by this Ministry in its letter No. 11-9/1998-FC (pt.) dated 03.08.2009 read with 05.07.2013, in support thereof;
- ✓(xvi) The user agency shall implement the R&R Plan as per the R&R Policy of State Government in consonance with National R&R Policy, Government of India before the commencement of the project work. The said R&R Plan will be monitored by the State Government/Regional Office of MoEF &CC along with indicators for monitoring and expected observable milestones;
- ✓(xvii) The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;
- ✓(xviii) The user agency shall carry out muck disposal at pre-designated sites in such a manner so as to avoid its rolling down.
- (xix) The dumping area for muck disposal shall be stabilized and reclaimed by planting suitable species by the user agency at the cost of project under the supervision of State Forest Department. Retaining walls and terracing shall be carried out to hold the dumping material in place. Stabilization and reclamation of such dumping sites shall be completed before handing over the same to the State Forest Department in a time bound manner as per Plan.
- ✓(xx) The State Government and the user agency shall ensure that the tress available between full reservoir level (FRL) and FRL-4 meters are not felled;
- ✓(xxi) The User agency shall undertake afforestation along the periphery of the reservoir;
- ✓(xxii) User agency shall provide free water for the forestry related projects;
- ✓(xxiii) No labour camp shall be established on the forest land and the User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas;
- ✓(xxiv) The boundary of the diverted forest land, mining lease and safety zone, as applicable, shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and GPS co-ordinates;
- (xxv) The layout plan of the proposal shall not be changed without the prior approval of the Central Government and the forest land shall not be used for any purpose other than that specified in the proposal;
- (xxvi) The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government;
- (xxvii) No damage to the flora and fauna of the adjoining area shall be caused;
- ✓(xxviii) The user agency shall explore the possibility of translocation of maximum number of trees identified to be felled and shall ensure that any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department;
- ✓(xxix) User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities. The plan for plantation and SMC activities will be prepared and submitted to MoEF &CC before Stage-II Clearance;

- ✓(xxx) The User Agency shall submit the annual self -compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to this Ministry by the end of March every year regularly;
- (xxxi) Any other condition that the concerned Regional Office of this Ministry may stipulate with the approval of competent authority in the interest of conservation, protection and development of forests & wildlife; and
- ✓(xxxii) The user agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.

After receipt of compliance report on fulfilment of the conditions mentioned above, the proposal shall be considered for final approval under Section-2 of the Forest (Conservation) Act, 1980. Transfer of forest land shall not be affected till final approval is granted by the Central Government in this regard.

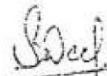
Yours faithfully,


(Sandeep Sharma) 5-2-19

Assistant Inspector General of Forests

Copy to:

1. The PCCF (HoFF), Government of Assam, Guwahati.
2. The Nodal Officer, Office of the PCCF (HoFF) Government of Assam, Guwahati.
3. The Addl.PCCF(Central), Regional Office, Shillong.
4. User Agency
5. Monitoring Cell.
6. Guard file.


(Sandeep Sharma) 5-2-19

Assistant Inspector General of Forests

Annexure 3 - Copy of Forest Clearance Stage 2
File No.8-53/2018FC

Government of India
Ministry of Environment, Forest and Climate Change
(F.C. Division)

Indira Paryavaran Bhawan,
JorBagh Road, Aliganj,
New Delhi: 110003,

Dated: 04 December, 2020

To,

The Addl. Secretary (Forests),
Government of Assam,
Environment and Forest Department,
Dispur, Guwahati-6.

Sub: Diversion of 523.046 ha of forest land for construction of Lower Kopili Hydro Electric Project by Assam Power Generation Corporation under Dima Hasao West Division, Halflong and Hamren Division, Assam.

Sir,

I am directed to refer to the Govt. of Assam's letter No. FRS/2018/222 dated 30.07.2018 on the subject mentioned above seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980 and to say that the proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section-3 of the aforesaid Act. After careful consideration of the proposal by the Forest Advisory Committee (FAC) and after its recommendation, and approval of competent authority in the Ministry, *In-principle/Stage-I* approval was accorded vide this Ministry's letter of even number dated 05.02.2019 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the approval and has requested the Central Government to grant final approval.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the Government of Assam's letters letter No. FRS.152/2018/346 dated 11.09.2020 and No. FRS.152/2018/414 dated 16.10.2020, and clarification on FRA by Ministry of Tribal Affairs letter No.23011/20/2020-FRA dated 30.10.2020, *approval* of the Central Government is hereby accorded under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 523.046 ha of forest land for construction of Lower Kopili Hydro Electric Project by Assam Power Generation Corporation under Dima Hasao West Division, Halflong and Hamren Division, Assam subject to the following conditions:

A: Conditions which need to be complied prior to handing over of forest land :

- i. The Government of Assam, Environment and Forest Department shall issue final notification for the proposed Compensatory Afforestation (CA) area as Reserved Forest/Protected Forest prior to handing over the land to the user agency. The State Government shall ensure that the CA area in the final notification shall not be changed without prior approval of the Government of India and shall not be less than 525.27 ha as proposed in the notification nos. FRS152/2018/354, FRS152/2018/353, FRS152/2018/352, FRS152/2018/351, FRS152/2018/350, FRS152/2018/349, FRS152/2018/348 and FRS152/2018/347 dated 11.9.2020 of the Government of Assam.
- ii. The State Government shall ensure that the User Agency will implement the R&R Plan as per the R&R Policy of the State Government in consonance with the National R&R Policy, Government of India before the commencement of the project work. The said R&R Plan will be monitored by the State Government/concern Regional Office of MoEF&CC along with

File No.8-53/2018FC

- indicators for monitoring and expected observable milestones;
- iii. The State Govt. shall ensure the complete compliance on FRA, 2006.
- iv. The State Govt. ensure that the User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;

B: Conditions which need to be complied after handing over of forest land to the user agency :

- i. Legal status of the diverted forest land shall remain unchanged;
- ii. The State Govt. shall ensure that the State Forest Department will raise the Compensatory Afforestation in identified non -forest land in lieu of 523.046 Ha. of forest land, within three years from the issue of approval and maintained thereafter, from the funds deposited by the User Agency. At least 1000 plants per hectare shall be planted as per approved plan/scheme and maintained thereafter subsequently for ten years. The approved Soil and Moisture Conservation (SMC) activities on the CA land shall be carried out by the State Forest Department;
- iii. The State Govt. shall ensure that 198.746 ha out of proposed diversion of 523.046 ha of forest land shall be maintained as Green Belt at the cost of user agency under the supervision of State Forest Department;
- iv. The User Agency shall pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;
- v. The State Govt. shall ensure that the approved Catchment Area Treatment (CAT) Plan shall be implemented by the State Forest Department from the funds deposited in the account of CAMPA;
- vi. The State Govt. and the User Agency shall ensure that no residential or labour colony/camp shall be constructed over forest land. The User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas;
- vii. The State Govt. ensure that the User Agency shall carry out muck disposal at pre-designated sites in such a manner so as to avoid its rolling down and the dumping area for muck disposal shall be stabilized and reclaimed by planting suitable species by the user agency at the cost of project under the supervision of State Forest Department. Retaining walls and terracing shall be carried out to hold the dumping material in place. Stabilization and reclamation of such dumping sites shall be completed before handing over the same to the State Forest Department in a time bound manner as per Plan.
- viii. The State Government and the User Agency shall ensure that the tress available between full reservoir level (FRL) and FRL-4 meters are not felled and the User Agency shall carry out afforestation along the periphery of the reservoir;
- ix. The State Govt. and the User Agency shall ensure that period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease granted under the Mines and Minerals (Development and Regulation) Act, 1957, as amended and the Rules framed there-under;
- x. The State Govt. shall ensure that the forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government and the layout plan of the proposal shall not be changed without the prior approval of the Central Government;
- xi. The State Govt. shall ensure that no damage to the flora and fauna of the adjoining area shall be caused;
- xii. The State Govt. shall ensure that the User Agency shall explore the possibility of translocation

File No.8-53/2018FC

of maximum number of trees identified to be felled and any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department;

- xiii. The State Govt. shall ensure that the User Agency shall provide free water for the forestry related projects;
- xiv. It may please note that violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as prescribed in para 1.21 of Chapter 1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by this Ministry's letter No. 5-2/2017-FC dated 28.03.2019;
- xv. The State Govt. shall ensure that the User Agency shall submit the annual self-compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to this Ministry by the end of March every year regularly; and
- xvi. The State Govt. shall ensure that the User Agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.

Yours faithfully,

Sd/-

(Sandeep Sharma)

Assistant Inspector General of Forests (FC)

Copy to:

1. PCCF (HoFF), Government of Assam, Guwahati.
2. Nodal Officer (FCA), Office of the PCCF (HoFF) Government of Assam, Guwahati.
3. Dy. Director General (Central), Integrated Regional Office, Shillong.
4. User Agency.
5. Monitoring Cell of FC Division, MoEF&CC, New Delhi.
6. Guard file.

Annexure 4 – Possession certificate from Forset Department, Dima Hasao

**NORTH CACHAR HILLS AUTONOMOUS COUNCIL:..... HAFLONG
DIMA HASAO DISTRICT
DIMA HASAO FOREST DIVISION (WEST)**

E.mail westforestdept@gmail.com

No. FRS/D/10/LKHEP/APGCL/2021/ 404

Dated, Haflong the 10/06/2021

CERTIFICATE OF POSSESSION

Today on 10th June 2021, we have delivered and received over possession of diverted Reserved Forest and Proposed Reserved Forest Land measuring 477.76 Ha. as specified in the schedule below vide Govt. of Assam letter No. i) FRS.152/2018/361, dt. 25/05/21. ii) FRS.152/2018/362, dt. 25/05/21. iii) FRS.152/2018/363, dt. 25/05/21. iv) FRS.152/2018/364, dt. 25/05/21. v) FRS.152/2018/365, dt. 25/05/21. vi) FRS.152/2018/366, dt. 25/05/21. vii) FRS.152/2018/367, dt. 25/05/21. and Chief Conservator of Forest & Nodal Officer (FC. Act), Assam, O/o Principal Chief Conservator of Forest & Head of Forest Force, Assam letter No. FG. Nodal/Lower Kopili HE Project /Pt III, dt 01/06/21 & the P.S. & District Forest settlement officer, N.C. Hills Autonomous Council Haflong No. REV/3/34/2019-20/256, dt. 07/06/21 for construction of 120 MW Lower Kopili Hydro Electric Project at Longku under Garampani & Panimur Range.



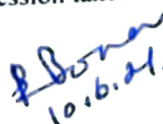
Schedule of Land

District: Dima Hasao
Mouza: Umrangso
R.F & P.R.F. Land
Total area=477.76 Ha

Possession handed over by:


(T. Langthasa)
Divisional Forest Officer,
Dima Hasao Forest Division (West)


Possession taken over by:


10.6.21.
(SRI SANTANU BORAH)
General Manager (LKHEP)
Assam Power Generation Corporation Ltd.
Longku, Dima Hasao
General Manager
LKHEP, APGCL, Longku
Dima Hasao, Assam

Annexure 5 : Labour License

FORM VI
[See rule 25 (1)]



Government of Assam
Office of the Labour Commissioner, Assam
Gopinath Nagar, Guwahati - 781016

Annexure-01

Sl. No.: 3272

Licence No. (LL/ASSAM) Date 10/12/2020
06/2020/3272

Fee paid Rs 1100/-

LICENCE

1. Licence is hereby granted to Larsen & Toubro Ltd. - L&T Construction
Longkri, District- Dima Hasao - 785931 under
section 12 (1) of the Contract Labour (Regulation and Abolition) Act, 1970, subject to the condition
specified in Annexure.

2. This licence is for doing the work of Civil, Hydro, Mechanical & Electrical
(nature of work to be indicated) works for 120 MW Lower Kopili Hydroelectric Project
in the establishment of Chief General Manager, (PP&T), APGCL, Gau-1
(name of the principal employer to be indicated)
at All Assam (place of work to be indicated)

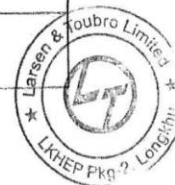
3. The licence shall remain in force till 09/12/2021 (date to be indicated)

Date 10/12/2020

Signature and Seal of the Licensing Officer.
Licensing Officer, Assam
Guwahati-16.

RENEWALS [rule 29]

Sl No.	Date of renewal	Fee paid for renewal	Date of expiry	Signature and seal of the Licensing Officer, Assam
1.				
2.				
3.				
4.				
5.				
6.				
7.				



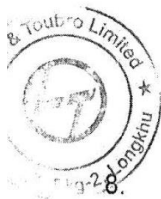
ANNEXURE

The licence is subject to the following conditions .

1. The licence shall be non-transferable
2. The number of workmen employed as contract labour in the establishment shall not, on any day exceed 250 (Two hundred fifty) Nos.
3. Except as provided in the rules the fees paid for the grant, or as the case may be, for renewal of the licence shall be non-refundable
4. The rate of wages payable to the workmen by the contractor shall not be less than the rates prescribed for the Schedule of employment under the Minimum Wages Act, 1948, where applicable, and where the rates have been fixed by agreement, settlement of award, not less than the rates fixed.
5. In cases where the workmen employed by the contractor perform the same or similar kind of work as the workmen directly employed by the principal employer of the establishment the wage-rates, holidays, hours of work and other conditions of service of the workmen of the contractor shall be the same as applicable to the workmen directly employed by the principal employer of the establishment on the same or similar kind of work.

Provided that in the case of any disagreement with regard to the type of work the same shall be decided by the Labour Commissioner, (Assam) whose decision shall be final.

6. In other cases the wage-rate, holidays, hours of work and conditions of service of the workmen of the contractor shall be such as may be specified in this behalf by the Labour Commissioner (Assam).
7. In every establishment where 20 or more women are ordinarily employed as contract labour there shall be provided 2 rooms of reasonable dimensions for the use of their children under the age of six years. One of such rooms would be used as a playroom for the children and the other as bedroom for the children. For this purpose the contractor shall supply adequate number of toys and games in the playroom and sufficient number of cots and beddings in the sleeping room. The standard of construction and maintenance of the crèches may be such as may be specified in this behalf by the Labour Commissioner (Assam).



8. The licence shall notify any change in the number of workmen or the conditions of work to the Licensing Officer.
9. A copy of the licence shall be displayed prominently at the premises where the contract work is being carried on.
10. The licensee shall, within fifteenth day of the commencement and completion of each contract work submit a return to the inspector appointed under section 28 of the Act intimating the actual date of commencement or as the case may be completion of such contract work in Form VI-A

Date

Signature of Contractor

Annexure 6 :

Field visit Report on implementation of Environmental Safeguard Measures

Date : 30th June, 2021

1. **Site specific EMP** particularly for crusher and Batching Plant required, which was not incorporated in the Contractor's EMP. Batching plants disposal and treatment plan to be incorporated in the EMP.
2. **Muck Management Plan** : As per DPR 1005000m³ muck will be generated and if we add 40% swelling factor it becomes 1407000m³. Out of that 30% muck will be utilised so actually 985000m³ excavated materials to be disposed in the muck dumping sites. The capacity of the proposed Dumping site at Revenue Land -01 is only 200000m³. So more dumping sites will be required to accommodate remaining 785000m³ excavated materials.
Within the 5.8 ha area in revenue Land -01, if natural drains exists, the flow should not be obstructed. Contactor has been advised to submit the Muck Management Plan for the project. Disposal of Muck should not destroy the cultivation areas in the valley below. If required proper protection measures to be proposed in the Muck Management Plan for the protection of the rolling of muck in the natural stream or agricultural field. The plan should also cover method of compaction and future plantation for converting it into a green belt at the end of the project.
3. **Muck Management** : No overburden to be stacked near the river. It was observed that overburden in the powerhouse area are disposed in the bank of the river kopili. During rain it will be slipped down to the river which will deteriorate the water quality and impact on aquatic ecology. Proper protection measures with slope management to be taken up or these overburden to be removed to other suitable places. Further dumping or stacking near the river side to be avoided. Usable boulders to be sorted and stacked properly before disposal in a safe area.
4. **Safety measures** : There was no Ambulance at site and the hospital or health unit is under construction. It should be ready immediately as blasting operation and other works has been started.
5. **Hydro metrological data** : Rain gauge to be installed at site (Longku) and data to be collected from site. Monitoring of Discharge data, and p^H (of different sites) to be monitored as it will be required for reporting on eflow in the Biannual Reports to ADB and EC compliance report to MoEF&CC.
6. Safety Plan prepared and submitted by L&T.
7. **Blasting area Safety** : The person involved in the blasting operation and preparation to be well equipped and with proper protective gears. During the visit it was observed that the person involved in drilling holes were not wearing ear plugs and musk for dust prevention. It was suggested to monitor the noise level during blasting and hole making to ensure that the noise levels conform to prescribed standards.
8. During our visit it was observed that local people are doing paddy cultivation in the revenue land No 2 allotted to APGCL near the PR7 road.

9. Project information board, Contact details of GRC was not observed at project site.

10. Photographs of the visit :



Dumping near powerhouse adjacent to the river Kopili



Batching plant location



Hospital / First Aid Centre




Paddy cultivation


Dr Deepak Baruah,
Environment Expert, APGCL
Dr Jayanta Das,
Environment Specialist, PMC

Annexure 7 : Sample of PUC

POLLUTION UNDER CONTROL CERTIFICATE
 Authorised By: KAMRUP(RURAL)
 Transport Commissionerate, Assam


TEST RESULT : PASS
VALID TILL: 06/Jul/2022
 DIESEL DRIVEN VEHICLES
 Certified that the vehicle conforms to the standards prescribed under rule 115(2) of CMV Rules 1989

Certificate St. No.: AS02500370001795 Registration No.: NL01AE5206 Owner Name: M/S GANPATI EARTH MOVERS Chassis No.: MAT479187K3K***** Engine No.: ISBE5.92304091K638***** Class of Vehicle: Goods Carrier Make: TATA MOTORS LTD Model: 22079638000RBP90 Vehicle Category: HEAVY GOODS VEHICLE Date of Registration: 28/Apr/2020 Emission Norms: BHARAT STAGE IV Fuel: DIESEL Date of Testing: 07/Jul/2021	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">FUEL</th> <th style="width: 60%;">Light Absorption Coefficient (Permissible Limit)</th> <th style="width: 30%;">Measured Value</th> </tr> </thead> <tbody> <tr> <td>DIESEL</td> <td>1.62</td> <td>0.80667</td> </tr> </tbody> </table>	FUEL	Light Absorption Coefficient (Permissible Limit)	Measured Value	DIESEL	1.62	0.80667
FUEL	Light Absorption Coefficient (Permissible Limit)	Measured Value					
DIESEL	1.62	0.80667					


Time of Testing: 08:00:19 Govt Fees: 40.0 Center Fees: 90.0 Fee Charged: Rs.130.0 (one hundred thirty rupees only)	Auto Emission Testing Centre Code: AS0250037 Testing Centre Name: TRINAYAN AUTO EMISSION TESTING STATION Centre Address: BIDOYNAGAR, DIST. KAMRUP(RURAL), ASSAM, BIDOYNAGAR, KAMRUP(RURAL), ASSAM, 781122 Test Conducted By: MR. JAGADISH DEKA	
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In case of any complain Please write to Transport Commissioner Assam


	IDLE RPM	MAX RPM	K VALUE	OIL TEMP
TEST 1	700.0	2250.0	0.8	2.0
TEST 2	730.0	2320.0	0.81	0.0
TEST 3	720.0	2140.0	0.81	1.0
AVG	716.66667	2236.66667	0.80667	1.0

This is a computer generated certificate and does not require signature

POLLUTION UNDER CONTROL CERTIFICATE
 Authorised By: KAMRUP(RURAL)
 Transport Commissionerate, Assam


TEST RESULT : PASS
VALID TILL: 06/Jul/2022
 DIESEL DRIVEN VEHICLES
 Certified that the vehicle conforms to the standards prescribed under rule 115(2) of CMV Rules 1989

Certificate St. No.: AS02500370001796 Registration No.: NL01AE5223 Owner Name: M/S GANPATI EARTH MOVERS Chassis No.: MAT479187K3K***** Engine No.: ISBE5.92304091K638***** Class of Vehicle: Goods Carrier Make: TATA MOTORS LTD Model: 22079638000RBP90 Vehicle Category: HEAVY GOODS VEHICLE Date of Registration: 28/Apr/2020 Emission Norms: BHARAT STAGE IV Fuel: DIESEL Date of Testing: 07/Jul/2021	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">FUEL</th> <th style="width: 60%;">Light Absorption Coefficient (Permissible Limit)</th> <th style="width: 30%;">Measured Value</th> </tr> </thead> <tbody> <tr> <td>DIESEL</td> <td>1.62</td> <td>0.82001</td> </tr> </tbody> </table>	FUEL	Light Absorption Coefficient (Permissible Limit)	Measured Value	DIESEL	1.62	0.82001
FUEL	Light Absorption Coefficient (Permissible Limit)	Measured Value					
DIESEL	1.62	0.82001					

Time of Testing: 08:01:49 Govt Fees: 40.0 Center Fees: 90.0 Fee Charged: Rs.130.0 (one hundred thirty rupees only)	Auto Emission Testing Centre Code: AS0250037 Testing Centre Name: TRINAYAN AUTO EMISSION TESTING STATION Centre Address: BIDOYNAGAR, DIST. KAMRUP(RURAL), ASSAM, BIDOYNAGAR, KAMRUP(RURAL), ASSAM, 781122 Test Conducted By: MR. JAGADISH DEKA	
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In case of any complain Please write to Transport Commissioner Assam

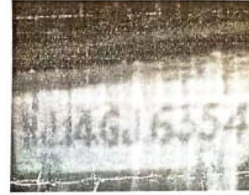
	IDLE RPM	MAX RPM	K VALUE	OIL TEMP
TEST 1	730.0	2260.0	0.81	0.0
TEST 2	800.0	2040.0	0.83	2.0
TEST 3	700.0	2190.0	0.82	1.0
AVG	743.33334	2163.33334	0.82001	1.0

This is a computer generated certificate and does not require signature

Pucc No :	D28RJ47105202
Vehicle No :	RJ14GJ6354
Customer Name :	ms eecogreen infratech
Customer Mobile :	9414031957
Year of Regn :	11-04-2018
Type of Vehicle :	TRUCK
Make :	Tata Motors
Model :	TRUCK
Test Date :	31-10-2020
Time :	10:04:52 AM
Valid UpTo :	30-10-2021
Center Name :	Akheram Mobile Pradushan Centre (RJ14-GA-9369)
Center Address :	Akhepura,Dudu
Licence No :	RJ47-27/28
Test Result :	Pass

VALID IN ALL INDIA

Photo of Vehicle



Flushing Cycle			
Avg	RPM Min	RPM Max	Temp
820		2875	0

Sr. No.	RPM Min	RPM Max	Km	HSU%	Temp
1	820	2937	0.415	16.3	000.0
2	820	6537	0.000	00.0	000.0
3	820	6417	0.000	00.0	000.0
Mean			0.138	05.4	

Prescribed Limit for Diesel vehicle	1/m(Light Absorption Co-efficient)	Hartridge Units (HSU)%
Free Acceleration BS II & III	2.45	65
Free Acceleration BS IV	1.62	50
Free Acceleration BS VI 4/3 wheelers	0.7 / 1.5	26 / 48

Validity Six Months for Bharat Stage III or below and one year for Bharat Stage IV/VI vehicles.

Certificate price: ₹ 100

Get Certificate renewed within the expiry date.

Seal of Testing Station	Testing Station Code D28RJ47	Authorised Signatory
-------------------------	---------------------------------	----------------------

CERTIFICATE IS ONLY VALID IF SMS RECEIVED FROM REIL/TRANSPORT DEPT. KINDLY DESTROY THE INVALID CERTIFICATE.

Transport Dept. Govt. of Rajasthan

Transport Dept. Govt. of Rajasthan



Veh Reg No : RJ14GJ6354
PUC No. : D28RJ47105202
Valid up to : 30-10-2021
Scan QR Code to Validate



Veh Reg No : RJ14GJ6354
PUC No. : D28RJ47105202
Valid up to : 30-10-2021
Scan QR Code to Validate

Pucc No :	D28RJ47105201
Vehicle No :	RJ14GJ6353
Customer Name :	ms eecogreen infratech
Customer Mobile :	9414031957
Year of Regn :	11-04-2018
Type of Vehicle :	TRUCK
Make :	Tata Motors
Model :	TRUCK
Test Date :	31-10-2020
Time :	09:54:48 AM
Valid UpTo :	30-10-2021
Center Name :	Akheram Mobile Pradushan Centre (RJ14-GA-9369)
Center Address :	Akhepura,Dudu
Licence No :	RJ47-27/28
Test Result :	Pass

VALID IN ALL INDIA

Photo of Vehicle



Flushing Cycle			
Avg	RPM Min	RPM Max	Temp
819		2808	0

Sr. No.	RPM Min	RPM Max	Km	HSU%	Temp
1	819	5097	0.429	16.8	000.0
2	819	2877	0.000	00.0	000.0
3	819	2817	0.000	00.0	000.0
Mean			0.143	05.6	

Prescribed Limit for Diesel vehicle	1/m(Light Absorption Co-efficient)	Hartridge Units (HSU)%
Free Acceleration BS II & III	2.45	65
Free Acceleration BS IV	1.62	50
Free Acceleration BS VI 4/3 wheelers	0.7 / 1.5	26 / 48

Validity Six Months for Bharat Stage III or below and one year for Bharat Stage IV/VI vehicles.

Certificate price: ₹ 100

Get Certificate renewed within the expiry date.

Seal of Testing Station	Testing Station Code D28RJ47	Authorised Signatory
-------------------------	---------------------------------	----------------------

CERTIFICATE IS ONLY VALID IF SMS RECEIVED FROM REIL/TRANSPORT DEPT. KINDLY DESTROY THE INVALID CERTIFICATE.

Transport Dept. Govt. of Rajasthan

Transport Dept. Govt. of Rajasthan



Veh Reg No : RJ14GJ6353
PUC No. : D28RJ47105201
Valid up to : 30-10-2021
Scan QR Code to Validate



Veh Reg No : RJ14GJ6353
PUC No. : D28RJ47105201
Valid up to : 30-10-2021
Scan QR Code to Validate

డైవింగ్ లైసెన్స్ తనిదీ వాహనములు నడుపరాదు

COMPUTERISED POLLUTION UNDER CONTROL CERTIFICATE
 Rule 115 (2) of C.M.V.Rule 1989
 AUTHORISED BY

Serial No. **3351**
A1/0001942

Transport Department, Govt. of A.P

All India Valid

RJ14 GJ 0194
 2017
 150/-

Type of Vehicle : TATA
 hgv

Type of Engine :
 Make :

Fuel : **DIESEL**
 21-Jan-2021
 11:57:17 AM

Catalyst
 Date :
 Time :

I.D.No. :
 Model

OF K	K-val	Min. RPM	Max. RPM	Interval	Oil Temp	Test Time
2.12	2052	3340	2.0	60	11:05:08	
2.10	2048	3335	3.0	51	11:08:30	
2.10	2048	3335	2.0	54	11:10:48	
1.00	2053	3346	1.0	63	11:12:33	
Test Results: Free Acceleration						
1.02	2060	3347	1.5	66	11:16:48	
2.12	2050	3339	2.0	58	11:19:06	
--	--	--	--	--	--	
--	--	--	--	--	--	
Prescribed Standard Measured Level						
CO	7.49	1.73	2051	3339		
HC						

Certified that this vehicle's CO Emission level confirms to the Standards prescribed under Rules 115(2) of CMV Rules 1989

Validity : 6 Months
ALL INDIA VALID
 Seal of the Test Station

Valid Upto : 20-Jul-2021

Authorised Signature

మ షాల్చి రక్షణకై పాల్చి పోలను రుంపండి

ప్రజాదరణ ప్రాజెక్టు క్షేత్రాల్లో ప్రజాస్వామ్య నిర్వహణ

GIVE YOUR CHILDREN POLLUTION FREE NATION

డైవింగ్ లైసెన్స్ తనిదీ వాహనములు నడుపరాదు

COMPUTERISED POLLUTION UNDER CONTROL CERTIFICATE
 Rule 115 (2) of C.M.V.Rule 1989
 AUTHORISED BY

Serial No. **3352**
A1/0001943

Transport Department, Govt. of A.P

All India Valid

RJ14 GJ 0193
 2017
 150/-

Type of Vehicle : TATA
 hgv

Type of Engine :
 Make :

Fuel : **DIESEL**
 21-Jan-2021
 11:58:32 AM

Catalyst
 Date :
 Time :

I.D.No. :
 Model

OF K	K-val	Min. RPM	Max. RPM	Interval	Oil Temp	Test Time
2.12	2052	3340	2.0	60	11:05:08	
2.10	2048	3335	3.0	51	11:08:30	
2.10	2048	3335	2.0	54	11:10:48	
1.00	2053	3346	1.0	63	11:12:33	
Test Results: Free Acceleration						
1.02	2060	3347	1.5	66	11:16:48	
2.12	2050	3339	2.0	58	11:19:06	
--	--	--	--	--	--	
--	--	--	--	--	--	
Prescribed Standard Measured Level						
CO	7.49	1.73	2051	3339		
HC						

Certified that this vehicle's CO Emission level confirms to the Standards prescribed under Rules 115(2) of CMV Rules 1989

Validity : 6 Months
ALL INDIA VALID
 Seal of the Test Station

Valid Upto : 20-Jul-2021

Authorised Signature

మ షాల్చి రక్షణకై పాల్చి పోలను రుంపండి

ప్రజాదరణ ప్రాజెక్టు క్షేత్రాల్లో ప్రజాస్వామ్య నిర్వహణ

GIVE YOUR CHILDREN POLLUTION FREE NATION

COMPUTERISED POLLUTION UNDER CONTROL CERTIFICATE

Rule 115 (2) of C.M.V.Rule 1989

AUTHORISED BY

Serial No. **3353**
A1/0001944

Transport Department, Govt. of A.P

All India Valid

RJ14 GH 9978

Type of Vehicle :

TATA

Fuel : DIESEL

2017

Type of Engine :

hgv

Catalyst

I.D.No. :

Make :

Date :

21-Jan-2021

11:42:54 AM

Time :

OF K	K-val	Min. RPM	Max. RPM	Interval	Oil Temp	Test Time
1.36	2106	3388	2.0	103	11:12:51	
1.34	2104	3384	3.0	96	11:16:13	
1.32	2102	3380	2.0	99	11:18:31	
1.30	2100	3376	1.0	108	11:20:16	
Test Results: Free Acceleration						
1.36	2106	3388	2.0	103	11:22:48	
--	--	--	--	--	--	
--	--	--	--	--	--	
Prescribed Standard Measured Level						
AVG	1.35	2105	3386	2	101	
CO	35.82					

Photograph of the Vehicle



HC
Certified that this vehicle's CO Emission level conforms to the Standards prescribed under Rules 115 (2) of CMV Rules 1989

Valid Upto :

20-Jul-2021

Validity : 6 Months

ALL INDIA VALID

Seal of the Test Station

Authorised Signature

GIVE YOUR CHILDREN POLLUTION FREE NATION

COMPUTERISED POLLUTION UNDER CONTROL CERTIFICATE

Rule 115 (2) of C.M.V.Rule 1989

AUTHORISED BY

Serial No. **3264**
A1/0001600

Transport Department, Govt. of A.P

All India Valid

RJ 14 GH 9975

Type of Vehicle :

TATA

Fuel : DIESEL

2017

Type of Engine :

hgv

Catalyst

I.D.No. :

Make :

Date :

02-Jan-2021

2:26:36 PM

Time :

OF K	K-val	Min. RPM	Max. RPM	Interval	Oil Temp	Test Time
1.92	1522	2877	2.0	76	13:55:05	
1.89	1519	2873	3.0	67	13:58:27	
1.88	1516	2871	2.0	73	14:00:45	
1.86	1514	2870	2.0	69	14:03:17	
Test Results: Free Acceleration						
1.88	1516	2871	2.0	73	14:05:35	
--	--	--	--	--	--	
--	--	--	--	--	--	
Prescribed Standard Measured Level						
AVG	1.86	1517	2871			
CO	9.88					

Photograph of the Vehicle



HC
Certified that this vehicle's CO Emission level conforms to the Standards prescribed under Rules 115 (2) of CMV Rules 1989

Valid Upto :

01-Jul-2021

Validity : 6 Months

ALL INDIA VALID

Seal of the Test Station

Authorised Signature

GIVE YOUR CHILDREN POLLUTION FREE NATION

మీ ప్రాంత రక్షణకు సేవల్ని అందించండి

మీ ప్రాంత రక్షణకు సేవల్ని అందించండి

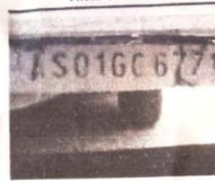
అనుమతించిన ప్రాంతం నుండి ఇతర ప్రాంతాలకు వాడకం చేయకండి

అనుమతించిన ప్రాంతం నుండి ఇతర ప్రాంతాలకు వాడకం చేయకండి

Pucc No :	D68RJ23104353
Vehicle No :	AS01GC6771
Customer Name :	SHREE BALAJEE CONSTRUCTION
Customer Mobile :	9636686936
Year of Regn :	12-01-2016
Type of Vehicle :	L.G.V
Make :	Mahindra & Mahindra
Model :	BOLERO CAMPER
Test Date :	27-06-2021
Time :	10:51:06 AM
Valid UpTo :	26-06-2022
Center Name :	Chhotu Ram Mobile Vahan Pradushan Janch Kendra (#218-GA-7262)
Center Address :	Gokulpura, Sikar
Licence No :	RJ23-0068/0068
Test Result :	Pass

VALID IN ALL INDIA

Photo of Vehicle



Flushing Cycle			
Avg	RPM Min	RPM Max	Temp
	3420		00

Sr. No.	RPM Min	RPM Max	Km	HSU%	Temp
1		1730	0.15	06.1	00
2		6040	0.18	07.5	00
3		600	0.24	09.8	00
Mean			0.19	07.8	

Prescribed Limit for Diesel vehicle	1/m(Light Absorption Co-efficient)	Nartridge Units (HSU)%
Free Acceleration BS II & III	2.45	65
Free Acceleration BS IV	1.62	50
Free Acceleration BS VI 4/3 wheelers	0.7 / 1.5	26 / 48

Validity Six Months for Bharat Stage III or below and one year for Bharat Stage IV / VI vehicles.

Certificate price: ₹ 100

Get Certificate renewed within the expiry date.

Seal of Testing Station	Testing Station Code D68RJ23	Authorised Signatory
-------------------------	---------------------------------	----------------------

CERTIFICATE IS ONLY VALID IF SMS RECEIVED FROM REELTRANSPORT DEPT. KINDLY DESTROY THE INVALID CERTIFICATE.

Transport Dept. Govt. of Rajasthan

Transport Dept. Govt. of Rajasthan



Veh Reg No : AS01GC6771
PUC No. : D68RJ23104353
Valid up to : **26-06-2022**
Scan QR Code to Validate



Veh Reg No : AS01GC6771
PUC No. : D68RJ23104353
Valid up to : **26-06-2022**
Scan QR Code to Validate

Annexure 8 : Joint verification of Tree felling (Sample)

Date :- 12/feb/2021

Page No.
Date:

S.No.	Location/ Change	Species Name	Girth	No
74	SWITCH YARD	BOHIRA	250	1
75	SWITCH YARD	SIDHA	100	1
76	SWITCH YARD	KUMBIR	230	1
77	SWITCH YARD	TEENPATI	120	1
78	SWITCH YARD	BOHIRA	70	1
79	SWITCH YARD	BOHIRA	75	1
80	SWITCH YARD	KUMBIR	160	1
81	SWITCH YARD	OXI	130	1
82	SWITCH YARD	Jam	340	1
83	SWITCH YARD	SERISH	60	1
84	SWITCH YARD	KANCHAN	60	1
85	SWITCH YARD	UDDAL	140	1
86	SWITCH YARD	R- MALA	85	1
87	SWITCH YARD	BOHIRA	250	1
88	SWITCH YARD	SERISH	175	1
89	SWITCH YARD	OXI	70	
90	SWITCH YARD	OXI	80	



Signature of officials on 12/feb/2021

Page No.
Date:

Forest Department	APGCL/PMC	L&T
11. Hamraj Naiding Forester II @ 12/02/2021	<i>[Signature]</i> (Suryjit Choudhary)	① Manoj Yadav <i>[Signature]</i> 12/02/21
11. Tulara Bithasi F n II @ 12.2.21	<i>[Signature]</i> (Suryjit Choudhary)	②
<i>[Signature]</i> 12/02/2021 Forest Range Officer. Panimur Fange Dimu Hasao.		

Joint Record of tree cutting at Surge shaft, P&M workshop, Permanent Road-06, Permanent Road-05, Temporary Road-06, Switch yard dated: 12-02-2021

Annexure 9 : Monthly Environment Report of Contractor

	HEAVY CIVIL INFRASTRUCTURE INDEPENDENT COMPANY LARSEN & TOUBRO LIMITED 120 MW- LOWER KOPILI HEP	Monthly Environment Report
		Month: June-21 [Report No.8]
		Contract Reference: APGCL/CGM (PP&I)/ ADB/LKHEP/Pkq-2/02 of 2020-21 Date: 21.08.2020
Monthly Environmental Report (Jun'21) (120MW LOWER KOPILI HYDEL ELECTRIC PROJECT)		
		Reference: IM 27 A

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120 MW- LOWER KOPILI HEP

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Month: June-21 [Report No.8]
Contract Reference: APGCL/CGM
(PP&I)/ ADB/LKHEP/Pkq-2/02 of
2020-21 Date: 21.08.2020

Index

S.NO.	Description	Page No
1	Status on Statutory Clearances	3-7
2	Status of permits/licenses of the quarries	8-9
3	Status use of natural resources	10
4	Status of Aggregate Crusher/Concrete Batching plant setting up application	11
5	Environmental Initiative, Energy Consumption, Water, Wastewater and Waste management status	11-13
6	Rainfall Data Month of Jun'21	13
7	Environmental Monitoring and sampling status	14-24
8	Contractor's Equipment availability at Project Site	24-26
9	Status of first aid Medical Box availability at project site	26
10	Status of Fire Extengusire availability at Project sites	26-28
11	Construction safety Measure adopted at Project site due to COVID 19	28-36
12	Status of the labour camp setup	36-40
13	EHS initiaves for the month of Jun'21	40-42
14	Next month activities	42
15	COVID related Notification/guidline	42-46
16	Joint Site Visit (APGCL, PMC , L&T and M/S En-vision (Environmental Monitoring agency)	46



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1. Status on Statutory Clearance:

Sl. No.	Activities for which clearances are required	Statutory Requirement	Location (Km.)	Under the Act	Statutory Authority	Approval Status	Approval Consent Letter No	Valid till	Remark/Annexure
1	Permission of the State Government for extraction of boulders from quarry.	1.NOC from North Sachar Hills Autonomous Council 2. Mining Plan approval from department of geology and mining, Assam	Longku, Dima Hasao (45 km from Lanka Railway Station)	Assam Minor Minerals commencement Concession Rules, 2013	Stage-1. North Cachar hills Autonomous Council Stage-2. Department of geology and mining, govt. of Assam	Approval Awaited from North Cachar Hill Autonomous council (NCHAC).	-	-	- - Possession of diverted Reserved Forest and Proposed Reserved Forest land measuring 477.76 Ha. under Garampani & Panimur range was handed over on 11th Jun'21. - Possession of diverted reserved forest land measuring 45.28 Ha. Under Hamren Division West Karbi Anglong is pending for handed over.



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2.1	Permission of Village Panchayats (Gaon burah) for installation of crushers & batching plant	Permission from Village Panchayats.	Longku, Dima Hasao (45 km from Lanka Railway Station)		Applied to Village Panchayats for installation of Crushers on 30-06-2021	Approval received.			- NOC Received from Village Panchayats for setting up Crusher plant and Batching Plant near Totelangso, Dima Hasao.
2.2	Permission of Pollution Control Board for installation of crushers.	Permission from Pollution Control Board, Assam	Longku, Dima Hasao (45 km from Lanka Railway Station)		Applied to Pollution Control Board for installation of Crushers.	Approval awaited			Application submitted to Pollution Control Board Assam, Silchar vide Application No. 581837
3	Permission of the State Government for drawing water from river.	Central Ground water Board or District Administration	Longku, Dima Hasao (45 km from Lanka Railway Station)	Water (Prevention & Control of Pollution) Act, 1974; and Amendments (1988) Water (Prevention & Control of Pollution) Rules, 1975, and Amendments (2011)	-	Not applicable as we are not drawing water from river			- The Contractor is in process for obtaining permission of clearances.



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4	Clearance of Pollution Control Board for setting up Batching Plant (Powerhouse)	State Pollution Control Board, Assam	Longku, Dima Hasao (45 km from Lanka Railway Station)	The Assam Stone Crusher Establishment and regulation rule 2013 (Crusher)	Stage-1. North Cachar hills Autonomous Council Stage-2. Pollution control board for installation of crusher.	Approval Awaited. Approval Awaited.			Application submitted to Pollution Control Board Assam, Silchar vide Application No. 590529
5	Permission of Labor commission for labour license	Labour Laws	Longku, Dima Hasao (45 km from Lanka Railway Station)	Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner, Assam Gopinath Nagar, Guwahati 781016	Approval obtained from Labour Commissioner.	S.No.327 2 License No. CLL (Assam)06/2020/3272	09 th Dec'21	Copy of Permission enclosed as Annexure-1
6	NOC for tree cutting	Forest Department	Longku, Dima Hasao (45 km from Lanka Railway Station)	Indian Forest Act, 1927	Forest Department Assam	-	-		- Tree cutting in progress with assistance/ presence of officials of Forest Department, Panimur and APGCL.



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7	Application submitted Regarding No Objection Certificate (NOC) from Deputy Commissioner Govt of Assam, for setting up Fuel dispensing Unit at Project location.	Deputy Commissioner Govt of Assam.	Longku, Dima Hasao (45 km from Lanka Railway Station)	Petroleum Act, 1934 and Rules 2002	The Deputy Commissioner, Government of Assam, Haflong,	Applied. Approval Awaited.	-	-	- NOC Received from PESO. - NOC from Hon'ble Deputy Commissioner, Govt. of Assam yet to be received.
8	No Objection Certificate Obtained from "PESO" for establishment of Explosive magazine.	Petroleum and Explosives Safety Organization	Longku, Dima Hasao (45 km from Lanka Railway Station)	Explosive Rules, 2008 (under act of 1884)	Petroleum and Explosives Safety Organization, Kolkata.	NOC obtained from Employer, further NOC from PESO is under progress.	Employer-Letter- No APGCL/L KHEP/PD /201-20/39/Part- I/59 dated 05 th Apr'21	-	- NOC obtained from APGCL. - NOC applied to PESO for establishment of Explosive magazine.



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9	Request for issuing Non Objection Certificate for blasting operations for construction of 120 MW Lowe Kopili Hydel Electric Project at Longku Dim Hasao	Deputy Commissioner, Dima Hasao District, Haflong.	Longku, Dima Hasao (45 km from Lanka Railway Station)	Explosive Rules, 2008 (under act of 1884)	Deputy Commissioner, Dima Hasao District, Haflong.	Applied. Approval Awaited.	Approval Awaited	-	Application submitted vide Letter No.: LKHEP-PKG2 /LNT /153 /GL/21 dtd. 31 st May'21
10	Request for permission for storage of Explosives (Explosive Van) at Longku police station for blasting operation for construction 120 MW Lowe Kopili Hydel Electric Project at Longku, Dima Hasao	The Superintendent of Police, Dima Hasao District, Haflong.	Longku, Dima Hasao (45 km from Lanka Railway Station)	Explosive Rules, 2008 (under act of 1884)	The Superintendent of Police, Dima Hasao District, Haflong.	Permission received.	Permission Received vide letter No. HFG/DSB /80/2021 /1122	-	Permission Received from Hon'ble Superintendent of Police, Dima Hasao District, Haflong.



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2. Status of permits/licenses of the quarries:

2.1 Quarry selected for Coarse Aggregates by Employer

Name of the quarry	Near Kala Nala [3 km d/s of proposed Powerhouse]
Location	Village- Longku, District- Dima Hasao, Assam
Size of the Mining Area	4.6 hectare
GPS Coordinate	Lat: 25°41'53.56" N; Long: 92°48'47.50 E
Operated by	L&T
EC Status	Handover of Forest Land from State Forest Department to APGCL is awaited.
Quantity approved under EC	15,58,037 m ³
CTE/CTO (where applicable)	NA
Name of the landowner	Assam Power Generation Corporation Limited (APGCL)
Agreement with the landowner	In Employer Scope
Permit No. with date	NOC awaited from North Cachar Hill Autonomous Council.
Validity till	NOC awaited from North Cachar Hill Autonomous Council.
Status	NOC awaited from North Cachar Hill Autonomous Council.

2.2 (A) Quarry selected for Fine Aggregates by Employer

Name of the quarry	Near Sudariang Nala [10 km u/s of dam axis]
Location	Village- Longku, District- Dima Hasao, Assam
Size of the Mining Area	40,500 m ³ /year
GPS Coordinate	Lat: 25°35'30" N; Long: 92°44'30 E
Operated by	To be reviewed after feasibility study
EC Status	To be applied.
Quantity approved under EC	40,500 m ³ /year
CTE/CTO (where applicable)	NA
Name of the landowner	Assam Power Generation Corporation Limited (APGCL)
Agreement with the landowner	In Employer Scope
Permit No. with date	To be applied.
Validity till	To be applied.
Status	Feasibility Study to be done.



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2.2 (B) Quarry selected for Fine Aggregates by Employer

Name of the quarry	Near Langpher Nala [7 km d/s of proposed Powerhouse]
Location	Village- Panimur, District- Dima Hasao, Assam
Size of the Mining Area	55,000 m ³ /year
GPS Coordinate	Lat: 25 ^o 42'49" N; Long: 92 ^o 50'21 E
Operated by	To be reviewed after feasibility study
EC Status	To be applied
Quantity approved under EC	55,000 m ³ /year
CTE/CTO (where applicable)	NA
Name of the landowner	Assam Power Generation Corporation Limited (APGCL)
Agreement with the landowner	In Employer Scope
Permit No. with date	To be applied.
Validity till	To be applied.
Status	Feasibility Study to be done.



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3. Status use of natural resource:

Natural Resources	Sources	Cumulative Purchase Qty (MT)	Quantity used in the reporting month (MT)	Cumulative Consumption Qty (MT)	Royalty Paid
Aggregate (10 mm Size)	M/s D.H Stone Crusher	154	-	25	Reimbursed to supplier based on physical submission of chalan by the vendor /supplier
Aggregate (20 mm Size)	M/s D.H Stone Crusher	1604	116	997	
Aggregate (40 mm Size)	M/s D.H Stone Crusher	307	-	256	
River Sand	M/s Bhanujit Sand supply	954	72	846	
Crusher sand		792	-	424	

Please refer **Annexure-2** for documentation proof.



4. Status of Aggregate Crusher/ Concrete Batching plant setting up application.

4.1 Status of setting up Crusher Application.

Land Handing Over Status by Employer	Handed over on 2 nd Jan 2021
Search of PP Land date with date and Location	Within Project area and approved by Project Proponent
Joint Verification Status with copy	Refer Employer letter no. APGCL/LKHEP/PD/2020-21/56/Part-I/19 dtd. 12 th Jan'2021
Submission to North Cachar Hills Autonomous Council for Approval	Refer EPC Contractor letter no. LKHEP-PKG2/LNT/155/LL/40 dtd. 15 th Jan'21
Status	<ul style="list-style-type: none"> - Approval awaited from North Cachar Hills Autonomous Council. - Request Employer to support contractor for setting up crusher in proposed land.

4.2 Status of setting up Batching Plant (Powerhouse) Application

Land Handing Over Status by Employer	Handed over on 2 nd Jan 2021
Search of PP Land date with date and Location	Within Project area and approved by Project Proponent
Joint Verification Status with copy	Refer Employer letter no. APGCL/LKHEP/PD/2020-21/56/56 dtd. 08 th Jan'2021
Submission to North Cachar Hills Autonomous Council for Approval	Refer EPC Contractor letter no. LKHEP-PKG2/LNT/155/LL/41 dtd. 15 th Jan'21
Status	<ul style="list-style-type: none"> - Approval awaited from North Cachar Hills Autonomous Council. - Request Employer to support contractor for setting up crusher in proposed land.

5. Environmental Initiative, Energy Consumption, Water, Wastewater, and Waste Management Summary.

Environment	For the Month of June'21	FY: 2020-21
Environmental Initiative		
No of trees cut	-	185
No of trees planted	-	83



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No of community clean-up activity organised	-	1
No of awareness campaign organised for school children /slum dwellers/local community/vendors	0	17
Any other environmental initiative (Road Show/ Animal Rescue/Award etc.)	-	-
Energy Consumption		
Electricity Consumption for the Project (Grid Source) Kwh	314*	11,940
Non-Renewable Source of Energy Produced and used at Project - (Solar Heater, Solar Lighting etc.) Kwh	-	-
Diesel Consumption for Generators & Construction Equipment's (Litre)	44,555	1,94,244
Water and Wastewater		
Treated or Partially Treated Wastewater Discharged to Land/Surface Water/Marine /Sewer/Storm Water etc. (Litre)	-	-
Treated Wastewater Recycled/Reused (Irrigation, Toilet Flushing, Cleaning Etc.) (Litre)	-	-
Waste Management		
General C&D Waste Sent for Land Disposal/Dumping- m ³	-	-
Segregated Waste Concrete Sent for Disposal - m ³	-	-
Waste Concrete Recycled at Site or Sent to 3rd Party for Recycling- m ³	-	-
E-waste for Recycling- m ³	-	-
Metal Scrap for Recycling (Steel + Aluminium + Copper)- kg	-	1,994
Used Lubricating Oil for Recycling- Litres	-	-
Other Hazardous Waste (Paint, Construction Chemicals etc. Sent for Treatment/Disposal- m ³	-	-
Bio-Medical Waste for Disposal- Kg	-	0.1
Food Waste for Disposal- m ³	0.03	2.579
Training and Awareness		
Environmental Management System (Training Hours)	-	2
Waste Management (Training Hours)	-	3



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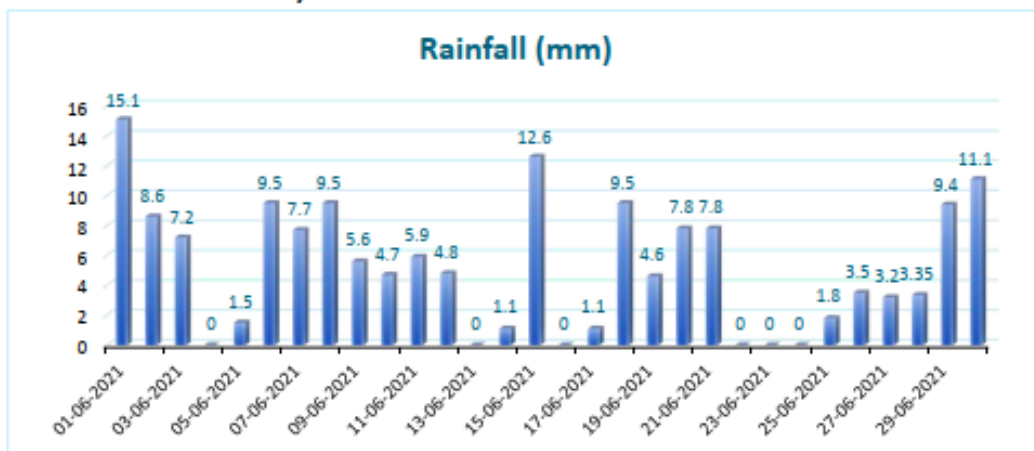
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General Environmental Awareness (Training Hours)	-	8
Environmental Sustainability Skills for Managers (Training Hours)	-	1
Environmental Inspection		
Environmental Inspection Conducted	2	10
No of Non-Conformance Raised	-	-
No of Non-Conformance Closed	-	-
Regulatory Violation		
Number of NC/Violation/Warning/Prohibition Notice Received from Authority (MoEF & CC, SPCB, CPCB, Local Municipality etc.)	-	-
Total Fine/Penalty Amount if any	-	-
Environmental Monitoring		
Total number of ambient air quality monitoring conducted	Sample collected	9
Total number of noise monitoring conducted		9
Total number of water quality monitoring conducted		9
Total number of soil/sediment testing conducted for contamination	-	-

Note: - * Site Power Consumption bill yet to be generated.

6. Rainfall Data Month of May'21



*Data source- Accuweather.com



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7. Environmental Monitoring and sampling status:
Air Sampling:



Fig- 1,2 &3: Air Monitoring & Noise sampling at Labour colony area



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Fig- 3, 4 &5: Air monitoring and Noise sampling at APGCL camp



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Fig- 5,6 &7: Air monitoring and Noise sampling at Surge shaft area



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Fig- 8,9 &10: Air monitoring and Noise sampling at Power House area



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Fig-11,12,13 &14: Air monitoring and Noise sampling at Dam area



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Fig- 15,16,17&18: Air monitoring and Noise sampling at HRT area



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Fig- 19,20 &21: Air monitoring and Noise sampling at Crusher area



Water Sample Collection:



Fig- 22,23 &24: Surface water sampling at Dam location



Fig-25,26&27: Surface water sampling at 1km upstream Dam location



Fig-28,29&30: Surface water sampling at 1km downstream Dam location



Fig- 31,32&33: Surface water sampling at Dam location



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Fig-34,35&36: Surface water sampling at 8 km downstream Dam location





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LARSEN & TOUBRO LIMITED**
120 MW- LOWER KOPILI HEP

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Fig-37,38,39 &40: Water sample collected from Longku nala, kala nala and water fall

8. Contractor's Equipment available at Project Site:

Contractor's Equipment available at site			
Sl No	Major Equipment	Specification	Nos
1	Excavator 20T	CAT 320	1
2	Excavator 20T	CAT 320	1
3	Excavator 20T	PC 210	1
4	Excavator 20T	CAT 320	1
5	Excavator 20T	CAT 320	1
6	Excavator 20T	SANY 220	1
7	Excavator 45T	Komatsu PC 450	1
8	Excavator 20T	Hyundai Smart 215	1
9	Dumper	18 Cum	1
10	Dumper	18 Cum	3
11	Dumper	18 Cum	3
12	Truck	10 T	1
13	Dozer	165 HP	1
14	Tractor Dozer	2 cum	1
15	Double Boom Hydraulic Drill Rig (Drill Jumbo)	158 kw	1



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16	Truck Mounted Shotcrete Machine Robo Arm	30 Cum/h	1
17	Wheel Loader 9020	1.7 Cum	1
18	Vibromax Roller	10 T	1
19	Rock Breaker	20 T	1
20	Rock Breaker	20 T	1
21	Rock Crawler Drill	ROC 203	2
22	Rock Crawler Drill	D35	1
23	Tyre Mounted Crane	30 T	1
24	Tyre Mounted Crane	15 T	1
25	DG	180 kVA	1
26	DG	250 kVA	1
27	DG	40 kVA	1
28	DG	15 kVA	2
29	DG	125 kVA	2
30	Diesel Tanker	5 KL	1
31	Diesel Tanker	9 KL	1
32	Diesel Air Compressor	1000 cfm	1
33	Electrical Air Compressor	500 cfm	1
34	Atlas Copco Screw Compressor	600 CFM	1
35	Bar Bending Machine	B-42	2
36	Bar Cutting Machine	C-42	2
37	Chaser Machine	12mm - 38mm	1
38	Chopsaw Machine	14"	1
39	Cement Feeding Pump	30 TPH	1
40	Portable Mixer Machine	0.25 cum	3
41	Light mast	3.5 KW	2
42	Esab welding DG	400 Amps	1
43	Total Station	LC 5 Sec = 2nos, 3sec= 1nos	3
44	Auto Level	-	1
45	Water Tanker	10 KL	1
46	Water Tanker	5 KL	1
47	Weigh Bridge	80 T	1
48	Welding Machine (Electrical)	400 Amps	8
49	Welding Machine (Electrical)	400 Amps	2
50	Wet Classifier	100 TPH	1
51	Primary Crusher	200TPH	1
52	Teritary Crusher	200 TPH	1
53	Secondary Crusher	200TPH	1
54	Ventilation Fan	55KW	3
55	Self Loading Transit Mixer	4 cum	1
56	JCB 3DX (Backhoe Loader)	1 cum / 0.25 cum	1
57	Pick Up Van	-	3
58	Bus	26+1 Seater	2
59	Mahindra Bolero	GLX	1



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60	Mahindra Scorpio	S10	1
61	Telehandler	11 Meter	1

9. Status of first aids at project site :- We have kept first aid box in following location:

1. APGCL camp
2. P&M container
3. Ambulance
4. Staff bus
5. wrokmen bus.



Fig- 41: First aid box kept in above mentioned locations.

10. Status of Fire Extenguisire at Project sites: We have kept fire extenguisire in following location:

S.N	Location	Type	Capacity (kg)	Nos
1	Surge Shaft Container	CO2	6.5	2
		DCP	1.0	4
2	Power house Container	CO2	6.5	1
		DCP	1.0	3
3	Crusher Plant Area	CO2	6.5	2
		DCP	1.0	3
4	HRT Adit	CO2	6.5	2
		DCP	1.0	3
5	Kopili Block	DCP	1.0	4



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6	APGCL Canteen	DCP	6.0	1
7	APGCL Barak	DCP	6.0	2
8	Eco Green Canteen	DCP	6.0	1
9	Lohit Block	DCP	1.0	4
10	Manas Block	DCP	1.0	4
11	Dihing Block	DCP	1.0	4
12	Store Container	DCP	1.0	1
13	P&M Container	DCP	1.0	1
14	Store	CO2	6.5	2
		DCP	1.0	3
		FOAM	6.2	2
		Fire Bucket		2
15	P&M Workshop	DCP	1.0	1
16	Fabrication Yard	DCP	1.0	1
17	Bhupender Singh Container	DCP	1.0	1
18	Diesel Browser	DCP	1.0	2



Fig-42,43: Fire Extinguisher kept in above mentioned location.



Fig-44: Fire Extinguisher kept in Dihing Block (Employer/PMC Accommodation).

11. Construction safety Measure taking at Project site due to COVID 19:-

Use of Arogya Setu app and coninute checking, Providing soap, water, hand sanitizer and paper towels for workers and visitors to wash their hands, and encourage frequent and proper (for at least 20 seconds) handwashing along with using mask and maintaining social distance.

Following activivites performed.

1. Regular senitization of Vehicles & worker accomodation.
2. Regular thermal scanning of staff & workers.
3. Promoting good respiratory hygiene in the workplace.
4. Mandatory Covid test those are coming from outside Assam.
5. Established Quarantine center at site.
6. Employees who have returned should monitor themselves for symptoms for 14 days and take their temperature twice a day.
7. Installation of arogysetu app in android phone and regular monitoring.



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Fig-45, 46,47,48: Regular Sanitization of worker camp and office.



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Fig-49,50,51 &52: Regular thermal scanning and Monitoring body temperature of staff & workers on regular basis. at site before start of work.



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Fig-53: two Oxygen cconcentrator availavle at site for medical emergency.

COVID TEST REPORT OF STAFF Month of June'21

SL. NO.	STAFF NAME	Staff/Workmen	1 st COVID TEST	Result	2 nd COVID TEST	Result
1	Ritupam Bhartukur	Staff	14.06.2021	Positive	20.06.2021	Negative
2	Sulagan Thakur	Staff	14.06.2021	Positive	16.06.2021	Negative
3	Alip Talukdar	Staff	06.06.2021	Negative	-	-
4	Raju Panigari	Staff	06.06.2021	Negative	-	-
5	Manoj Yadav	Staff	16.06.2021	Negative	-	-
6	Prasana das	Staff	04.06.2021	Negative	-	-
7	Afzol Husain	Staff	04.06.2021	Negative	-	-
8	Majid Rahman	Staff	04.06.2021	Negative	-	-
9	Anand kumar	Staff	04.06.2021	Negative	-	-



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10	Mantu Parida	Staff	04.06.2021	Negative	-	-
11	Pintu Raut	Staff	04.06.2021	Negative	-	-
12	Mansid kispatta	Staff	04.06.2021	Negative	-	-
13	Biton das	Staff	04.06.2021	Negative	-	-
14	Om Prakash	Staff	04.06.2021	Negative	-	-
15	Utpal Das	Staff	04.06.2021	Negative	-	-
16	Arijit Hait	Staff	04.06.2021	Negative	-	-
17	Anup Halder	Staff	04.06.2021	Negative	-	-
18	Suresh GR	Staff	04.06.2021	Negative	-	-
19	Prajit machary	Staff	04.06.2021	Negative	-	-
20	Rahul Basumathry	Staff	04.06.2021	Negative	-	-
21	Avdesh Singh	Staff	04.06.2021	Negative	-	-
22	Sachin kumar	Staff	04.06.2021	Negative	-	-
23	Pradip Sarkar	Staff	04.06.2021	Negative	-	-
24	Ramgash Prsad	Staff	04.06.2021	Negative	-	-
25	Raj sharma	Staff	04.06.2021	Negative	-	-
26	Prasanjit Benanzi	Staff	04.06.2021	Negative	-	-
27	Provit datto	Staff	04.06.2021	Negative	-	-
28	Rambabu singh	Staff	04.06.2021	Negative	-	-
29	Bharat Deheri	Staff	04.06.2021	Negative	-	-
30	Munna kumar	Staff	04.06.2021	Negative	-	-
31	Ranjit	Staff	04.06.2021	Negative	-	-
32	Povitro Das	Staff	04.06.2021	Negative	-	-
33	Sudama Sarkar	Staff	04.06.2021	Negative	-	-
34	Nitya Suandan Parvani	Staff	04.06.2021	Negative	-	-
35	Paranjith Sobha Pandit	Staff	04.06.2021	Negative	-	-



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Staff Vaccination Status till Jun'21

S.N.	NAME	1 st Dose Date	2 nd Dose Date
1	SANTANU MAJUMDAR	√	√
2	DINESH SHARMA	√	√
3	ZAKIR HUSSAIN HAZARIKA	√	
4	AKHILESH PATHAK	√	√
6	B. MAHESHWARAN	√	
7	ACHARYA JAYDIP BHIKHALAL	√	
8	PRATIK KUMAR BHUNIA	√	√
9	KAILAS CHANDRA MAHARANA	√	
10	RITUPAM BARTHAKUR	√	
11	DEVRAJ SINGH CHAUHAN	√	
12	RAJU KOMANDLA	√	
13	ABHIJIT MAJUMDER	√	√
14	VELUGURI VENKATA RAMARAO	√	√
15	SUDIP KR DAS	√	√
16	SANTANU BORAH	√	
17	MANOJ YADAV	√	√
18	PRANJIT SAVAPANDIT	√	√
19	Pradip Sarkar	√	√
20	Someren Basumatary	√	√
21	Om Prakash Singh	√	√
22	Pabitra Mohan Swaim	√	√
23	Satyanath Barmen	√	√
24	Avdesh Singh	√	√
25	Kamal Prakash	√	√
26	Sanoj Kumar Yadav	√	√



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27	Santosh Kr. Rai	√	√
28	Ajay Narah	√	√
29	Pradip Tanuli	√	√
30	Ram Yash Prasad	√	√
31	NABAJYOTI BERA	√	
32	ANANDHAPANDI R	√	
33	LAXMI KANT TAGORE	√	
34	JITHIN B A	√	
35	NARENDER KUMAR	√	
36	RAJU PANIGRAHI	√	
37	NITYA SUNDAR PARAMANIK	√	
38	MANOJ KUMAR	√	
39	MD MUBARAQ ANSARI	√	
40	SHATRUDHAN PANDEY	√	
41	SUMIT KUMAR	√	
42	MANAS MAJUMDAR	√	
43	ALIP KUMAR TALUKDER	√	
44	SATYAM TIWARI	√	
45	PRIYANUJ SARMAH	√	
46	JOHNS K JOSE	√	
47	JOSEPH SEBASTIAN	√	
48	AYON CHOWDHURY	√	
49	NIKHIL SINGH MAHAPATRA	√	
50	ANUP BARMEN	√	
51	ROBERT SAHANI	√	
52	RAVINDRA SINGH RANA	√	
53	SAWPAN KR ROY	√	
54	CHAMPAK KR SINGH	√	



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55	RAHUL BASUMATARY	✓	
56	JHANGIR ALOM	✓	
57	JESU DOSS	✓	
58	SAMIR KUJUR	✓	
59	PABITRA DAS	✓	
60	PRABIR DUTTA	✓	
61	SUSHIL BARMEN	✓	
62	SUDHAM SARKAR	✓	
63	SURESH GR	✓	
64	ARIJIT HAIT	✓	
65	ARUP HAIDER	✓	
66	AVISHEK SAMANTA	✓	
67	SATYA ACHARJEE	✓	
68	ANANGA KUMAR DEY	✓	
69	SULAGNA THAKUR	✓	
70	GAURI KUMARI SAHA	✓	
71	Sardar Mal	✓	
72	Mohandas	✓	
73	Binen Khersa	✓	
74	Deben Saikaia	✓	
75	Amerika Payeng	✓	
76	Dhanjay Das	✓	
77	Aditya Patra	✓	
78	Ajit Vishvas	✓	
79	Ashok Karki	✓	
80	Bhupendra Singh	✓	
81	Tamal Mukherjee	✓	
82	RAJESH SRIVASTAV	✓	



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83	RAM BABU	√	
84	AJAY RAI	√	
85	BHARAT DEHERA	√	
86	RAJAT ROY	√	
87	RANJEET ROY	√	
88	PRITAM BHOMIK	√	
89	MRIDUL RAJKHOWA	√	
90	ARUP RAJKHOWA	√	
91	BABA RAJKHOWA	√	
92	DIPAK MONDAL	√	
93	ALOK ROY	√	

12. Status of the labour camp:

Contractor's Worker Camp & staff Accommodation Status: The Contractor is Constructing 6 no. of Block for workers.

- Kopili Warrior-1: Foundation work completed.
- Manas & Lohit Block: Completed in all aspect.
- Labour Block No-3: Foundation works, Structural Steel works, Roof sheeting works and Tilling works completed; Prefab panels and Doors/windows installation works are in progress.
- Labour Block No-4: Earth soil filling and PCC works completed.
- Labour Block No-5: Excavation for footing raft completed. Surface leveling and soil compaction in progress.
- Labour Block-6: Footing raft completed.
- Labour Colony Toilet Block Series-2: Plinth beam completed, ready for PCC work.
- Toilet and Shower Block-1: Completed in all aspect.
- Toilet Cum Shower Block-2: Foundation work completed.
- Labour Mess Block-1 & 2: Completed; Drainage works are in progress.
- Labour Mess Block-3 & 4: Foundation work in progress.

Labour Colony (Tentative)	Unit	Scope	Achieve FTM	Cum Achieved
Excavation	Cum	700	-	433



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Concreting				
M15	Cum	87	-	69
M25	Cum	866	-	315
Brick Work	Cum	100	-	57
Plastering	Sqm	1,000	-	269



Fig- 54: Lohit Block (Worker camp) Completed.



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Fig- 55: Manas Block (Worker Camp) Completed.



Fig- 56: Shower Block for Lohit & Manas camp completed.



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Fig- 57 &58: Toilet block for Lohit & Manas camp completed.



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Fig-59: Employer /PMC Accommodation ready for possession (Dihing Block).

13. EHS initiatives June'21 :

Regular Safety Pledze and EHS Brefig before start of work :





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Fig- 60,61,62 &63 : EHS briefing before start of work every day before start of work.

14. Next month activities:

- Lower Kopili Project team has planned General awareness training for workers on 15th July (World Youth Skills Day)
- Lower Kopili Project team has planned Special "Mango Species" Plantation on 22nd Jul'2021 (National Mango Day)
- Lower Kopili Project team has planned "Solid Waste Management" on 28th Jul'2021 (World Nature Conservation Day) at project site

15. COVID related Notification/guideline:-

S.No	Description	Remark
1	Govt. of Assam, Health & family order No. HLA.301/2020/177, Dated 21 st April'2021 (compulsory home quarantine for 7 days)	Standard Operating Procedures (SOPs) for person arriving in Assam, All Passengers arriving by flight/train and vehicles from outside the state of Assam will have to undergo compulsory



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		home quarantine for 7 days even if the result of COVID test undergone on arrival is negative
2	District Disaster Management Authority (DDMA) Dima Hasao, haflong vide letter no. DDMA/COVID-19/2021-2022/Pt.1/02/4 dated 22 nd April'2021.	7 day Mandatory quarantine as per Assam state govt. COVID SOPs
3	Govt. of Assam Office Order No.ASDMA.28/2021/11, dated: 20.04.2021 regarding issue of the guidelines for effective control of COVID-19. (All offices, both government and private, to function with a maximum staff strength of 50%)	State Disaster Management Authority, Assam, hereby issues the revised and consolidated directives as follows which shall come in force with immediate effect and remain in force till 30 th April, 2021
4	Govt. of Assam Office Order No.ASDMA.28/2021/18, dated: 26.04.2021 regarding issue of the guidelines for effective control of COVID-19 in force till 01.05.2021. (All offices, both government and private, to function with a maximum staff strength of 50%)	State Disaster Management Authority, Assam, hereby issues the revised and consolidated directives as follows which shall come in force with immediate effect and remain in force till 1 st May, 2021
5	Govt. of Assam Office Order No.ASDMA.28/2021/27, dated: 27.04.2021 regarding issue of the guidelines for effective control of COVID-19 in force till 01.05.2021. (All offices, both government and private, to function with a maximum staff strength of 50%. Total Ban on movement of individuals from 8 pm to 5 am daily)	State Disaster Management Authority, Assam, hereby directs that there shall be total ban on movement of individuals from 8.00 PM to 5.00 AM daily till 1 st May'2021
6	Govt. of Assam Office Order No.ASDMA.28/2021/41, dated: 30.04.2021 regarding issue of the guidelines for effective control of COVID-19 in force till 07.05.2021. (All offices, both government and private, to function with a maximum staff strength of 50%. Total Ban on	State Disaster Management Authority, Assam, hereby directs that



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	movement of individuals from 8 pm to 5 am daily)	there shall be total ban on movement of individuals from 8.00 PM to 5.00 AM daily remain in force till 7 th May'2021
7	Govt. of Assam Office Order No.ASDMA.28/2021/63, dated: 04.05.2021 regarding issue of the guidelines for effective control of COVID-19 with effect from 05:00 AM of 5 th May 2021 and remain in force until further orders. (All offices both private and Government shall shut down at 2.00 PM on all days.)	State Disaster Management Authority, Assam, hereby issues the revised and consolidated directives as follows which shall be in supersession of all earlier orders and shall come in force from 5.00 AM of 5 th May 2021 and remain in force until further orders.
8	Govt. of Assam Office Order No.ASDMA.24/2020/Pt-2/241, dated: 12.05.2021 regarding issue of the guidelines for effective control of COVID-19 with effect from 05:00 AM of 13 th May 2021 and remain in force until further orders. (All offices both private and Government shall shut down for 15 days.)	State Disaster Management Authority, Assam, hereby issues the revised and consolidated directives as follows which shall be in supersession of all earlier orders and shall come in force from 5.00 AM of 13 th May 2021 and remain in force until further orders.
9	District Disaster Management Authority (DDMA) Dima Hasao, order no. DDMA/COVID-19/2021-2022/Pt.2/ dtd. 12.05.2021 regarding issue of the guidelines for effective control of COVID-19 with effect from 05:00 AM of 13 th May 2021 and remain in force until further orders. (Restriction in regards to plying of private/personal vehicles have been made from 5:00 AM to 2:00 PM)	District Disaster Management Authority (DDMA), Dima Hasao, hereby directs that Vehicle with odd number will be allowed to ply on odd dates. Vehicle with even number will be



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2020-21 Date: 21.08.2020**

		allowed to ply on even dates.
10	Govt. of Assam Office Order No.ASDMA.24/2020/Pt-2/253, dated: 15.05.2021 regarding issue of the guidelines for effective control of COVID-19 with effect from 05:00 AM of 16 th May 2021 and remain in force until further orders. (There shall be total ban on movement of individual from 12 Noon to 5 PM daily.)	State Disaster Management Authority, Assam, hereby directs that there shall be total ban on movement of individuals from 12 Noon to 5 AM daily with effect from 16 th May 2021 and remain in force until further orders.
11	Govt. of Assam Office Order No. ASDMA. 24/2020/Pt-2/255 dtd. 17.05.2021 regarding issue of the guidelines for effective control of COVID-19 with effect from 05:00 AM of 13th May 2021 and remain in force until further orders. (Inter-district transport services and movement of people to and from other districts shall remain suspended for 15 days with effect from 5 AM of May 21, 2021 and remain in force until further orders)	State Disaster Management Authority, Assam, hereby directs that there shall be total ban on movement of individuals from 12 Noon to 5 AM daily with effect from 21 st May 2021 and remain in force until further orders.
12	Govt. of Assam Office Order No. ASDMA.28/2021/86 Dated 25th May'21 regarding issue of revised and consolidated directives for containment of COVID 19 cases across the state and shall come into force w.e.f till 5th June,2021. (All offices both Government & Private shall open till 1 PM on all days)	State Disaster Management Authority, Assam, hereby issue the following directive which will be applicable across the state and shall come into force with immediate effect till 5 th Jun'2021
13	Govt. of Assam Office Order No. ASDMA.28/2021/90 Dated 04th June'21 regarding issue of revised and consolidated directives for containment of COVID 19 cases across the state and shall come into force w.e.f till 16th June'21 (All offices both Government & Private shall remain closed till 15 th June)	State Disaster Management Authority, Assam, hereby issue the following directive which will be applicable across the state and shall come into force with





**HEAVY CIVIL INFRASTRUCTURE
INDEPENDENT COMPANY
LARSEN & TOUBRO LIMITED**
120 MW- LOWER KOPILI HEP

Monthly Environment Report
Month: June-21 [Report No.8]
**Contract Reference: APGCL/CGM
(PP&I)/ ADB/LKHEP/Pkq-2/02 of
2020-21 Date: 21.08.2020**

		immediate effect till 16 th Jun'2021
14	Govt. of Assam Office Order No. ASDMA.28/2021/92 Dated 15th June'21 regarding issue of revised and consolidated directives for containment of COVID 19 cases across the state and shall come into force w.e.f 5 AM of June 16, 2021 till 5 AM of June 22, 2021 (All offices both Government & Private shall open till 12 PM on all days)	State Disaster Management Authority, Assam, hereby issue the following directive which will be applicable across the state and shall come into force with immediate effect till 22 nd Jun'2021
15	Govt. of Assam Office Order No. ASDMA.28/2021/108 Dated 21st June'21 regarding issue of revised and consolidated directives for containment of COVID 19 cases across the state and shall come into force w.e.f 5 AM of 22nd June'21 until further order. (All offices both Government & Private shall open till 12 PM on all days)	State Disaster Management Authority, Assam, hereby issue the following directive which will be applicable across the state and shall come into force with immediate effect Unit further order
16	Govt. of Assam Office Order No. ASDMA.28/2021/126 Dated 26th June,2021 regarding issue of new directives for containment of COVID 19 cases across the state and shall come into force w.e.f 5 AM of June 28, 2021 until further order. (All offices both Government & Private shall open till 12 PM on all days)	State Disaster Management Authority, Assam, hereby issue the following directive which will be applicable across the state and shall come into force with immediate effect Unit further order

16. Joint Site Visit (APGCL, PMC , L&T and M/S En-vision (Environmental Monitoring agency): Joint Site visit conducted on 29th Jun'21 at several locations (Power House, Surge Shaft, Labour colony, APGCL camp, Batching Plant)

Annexure – 10 Monthly safety Report June 2021 of Contractor

 Environment, Health and Safety Integrated Management System Manual		 IM Format No. : 20 A	
Monthly EHS Statistics Report 120 MW LOWER KOPILI HEP		Date: Month & Year: June 2021	
Job Number: LE200685 BU: HYDEL & TUNNEL		Name of the Project EHS Incharge: Nabajyoti Bera	
Name of the Project Head : Santanu Majumdar	Description	For the Month	Remarks
Statistics		FY: 2021-22	
No. of workers (including staff and workmen)		353	
Total Manhours worked		73040	37,366.3
Safe manhours from last Reportable Lost Time Injury			37,366.3
Incident details			
No. of Fatalities (Category 1 Incident) - (Zero fatality*)		0	Mention date of last RL TI
No. of Reportable Lost Time Injuries (Non-fatal) (Category 2 Incident)		0	
No. of Mandays Lost		0	
Dangerous Occurrences (Category 3 Incident)		0	
Reportable Sick Cases (Category 4 Incident)		0	
Major Environment Incidents (Category 5 Incident)		0	
Non-Work Related Incident (not included in statistics)		1	
First Aid Cases (Category 6 Incident)		0	
Near Miss Reports (Category 7 Incident) - (5 Nearmiss cases per million man hours*)		2	
Minor Environment Incidents (Category 8 Incident)		0	
Frequency Rate - No. of RL TI (incl. fatal) per million manhours worked (AFR < 0.15*)		0	0
Severity Rate - No. of mandays lost per million manhours worked		0	0
Breakup of Total Manhours worked for the Month			
Company Staff	Number	Manhours Worked	OverTime performed
Departmental workmen (including regular supply)	38	11856	11856
Subcontractor's workmen (including security personnel)	64	19968	19968
Grand Total of Manhours worked	353	42024	42024
EHS Leading Indicators			
		For the Month	FY: 2021-22
Number of Project EHS committee meetings held - 1 per month*		1	1
Number of Monthly Workmen Safety Meetings held - 1 per month*		1	1
Number of Monthly EHS Coordination meetings with EHS teams held - 1 per month*		0	0

Number of Risk Assessments / Safe work procedures developed -Activities must be performed with approved SWM*		1	1
Number of key EHS documents reviewed (EHS plan, Emergency plan, etc.) - 100%*		1	1
No. of Risk Assessment & SWMS reviewed & implemented - Minimum once for a new activity immediate within a week & consecutively on every 3 months		1	1
No. of SWM checklist completed for Implementation- IM 12 J SWM Summary Checklist		0	0
No. of Class 1 Risk Identified and reviewed for implementation		1	1
Number of Emergency Mock Drills -once in every 6 months.*		0	1
Number of observations posted in EHS observation App-100%*		0	13
Number of IVRS complaints closed		0	0
Number of Safety Moments recorded		0	0
Number of pre-start verification & briefing conducted for the month-100% as per plan*		3	23
EHS Performance Measurement & Monitoring - Audits & Inspections			
EHS Inspections	Number of Inspections conducted during the Month	No of UA/UJC observed during the Month	No of UA/UJC rectified during the month
Executive EHS inspections conducted by Project Head-1 per Month*	1	3	3
EHS Inspections conducted by Project EHS Incharge - 2 per Month*	0	0	0
EHS Inspections conducted by EHS Engineers & Supervisors - 1 per week*	0	17	17
Workplace OHS monitoring Program- As per activity Risk*	1	5	5
EHS Audits	Number of Audits during the Month	No of NCs & Observations issued	No of NCs & Observations closed
EHS Risk management audit conducted by Project EHS Incharge- 1/month & verify all CAT compliance*	1	0	0
Cluster EHS head Risk Management audit- 2 per year per project.	0	0	0
Intra site EHS audits conducted within projects-All projects audited once in a year & After any Major category incidents.*	0	0	0
Internal EHS audits conducted by IC- 2 per year per project.	0	0	0
Cluster level cross projects EHS Audit- 2 per year per project.	0	0	0
External EHS audits conducted by Client / Consultant / 3rd Party	0	0	0
Occupational Health & Hygiene Inspections	1	3	3
Training Details			
Availability of Site Annual EHS Training Plan	Yes	Details	
Is Project Head IOSH- Managing Safety qualified	No		
Is Project EHS Incharge NEBOSH qualified	Yes		
Project has atleast two qualified internal EHS auditor*?	No	If yes: write the 2 auditor name.	
Project has atleast two qualified incident investigator*?	Yes	Nabajyoti Bera	
Note: Please update the below training details in EHS Training Master sheet every month		No of eligible people	No. of People attended during the month
IOSH Managing Safety Course (All technical employees from M-1A & Above)*100%		14	0
			No. of People attended till now FY: 2021-22
			7

EHS certification course on ATL (All employees up to MITC including trainees)*100%	26	0	10
Refresher EHS Leadership and Risk management training (All employees from O2 to Project Head)*100%	17	0	0
Front Line Supervisor EHS Training (Supervisory staff up to O1)*100%	16	0	0
Front Line Supervisor EHS Training (site appointed supervisors, JV partner, sub-contractor supervisors)*100%	0	0	0
Cranes Operator Training (Operators of L&T owned cranes)*100%	3	0	0
Rigger Training(Site-nominated Rigger)*100%	2	0	0
Scaffold Inspector Certification Training from STI, USA * 100% To all relevant Scaffold Inspector at site.	1	0	0
All New procedures & standards briefing * To all relevant parties including employees & workers.	30	0	0
Site BBS Training * To all relevant employees	30	0	0
Safety in Marine Construction Training * To all relevant parties including employees & workers.	0	0	0
Comprehensive Waste Management Training(Hazardous Waste and Food Waste) *Site Staff and Workers	30	0	0
Online assessments on procedures*All project execution staffs	0	0	0
Follow system*S1 to M1A project execution staffs	16	0	0
Environment Management at Site Awareness Course* To all relevant employees	0	0	0
For the Month	FY: 2021-22	Remarks	
Number of personnel attended the EHS Induction programme as per new procedure- All new Joinees*	29	130	Total 529
Total Training Manhours (Staff)- 100% as per plan*	52	90	
Total Training Manhours (Site appointed Supervisors+JV+ SC supervisor)-100% as per plan*	54	96	
Total Training Manhours (Workers)-100% as per plan*	58	260	
EHS Mobile App	No. of Eligible	No. of Installed	No. of Using
Pre-Start Verification & Briefing App- 100% as per plan*	17	17	6
Near Miss Reporting App- 100% as per plan*	17	17	3
EHS inspection App- 100% as per plan*	17	17	17
Write the details of customer appreciation/ feedback/ complaints/ audit remarks/ Site disciplinary action for EHS non compliance by EHS etc. if any			
Give details of any Legal non-compliance if any			

Annexure – 11 : Test results of Ambient environment during January to June 2021.
Ambient Air Quality



Recognized by Pollution Control Board, Assam

NABL ACCREDITED
Certificate No. TC-7669

AMBIENT AIR ANALYSIS REPORT

TESTREPORT

Rep.No. AAAR_1503163_01_942 / 413
Sample ID: EETNE/JUNE/22/21
Issued to : M/s. Lower Kopili Project, Near Lanka, Dist.- Dima Hasao, Assam.

Date: 10/07/2021
ULR NO.: TC766921000000424P

Sample Drawn By : UTPAL BEZBARUAH
Sampling Plan & Procedure : EETNE/SOP/01
Analysis Duration : 26/06/21 TO 01/07/21, 30/06/21 TO 05/07/21, 01/07/21 TO 06/07/21
02/07/21 TO 06/07/21, 03/07/21 TO 08/07/21, 04/07/21 TO 09/07/21
05/07/21 TO 09/07/21, 28/06/21 TO 03/07/21
Sampling Instrument Used : AMBIENT AIR SAMPLER/RDS
Pollution Control Device, if any : NO/YES

SL. NO.	DATE OF SAMPLING	LOCATION / SOURCE	WEATHER	PARAMETERS				
				PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	NO ₂ (µg/m ³)	* HC (mg/m ³)	* CO (mg/m ³)
i)	03/07/21	Power Intale / Dam Site	Clear	28	19.3	10	BDL	BDL
ii)	01/07/21	Power House		35.2	17.6	10.2	BDL	BDL
iii)	05/07/21	Quarry Site		38.1	18	11.1	BDL	BDL
iv)	04/07/21	Crusher Site		37.1	21.1	11.5	BDL	BDL
v)		HRT Audit		34.1	17.1	10.2	BDL	BDL
vi)	28/06/21	APGCL Camp (Near Hospital/High way)		33.1	19.1	9.2	0.01	0.03
vii)	02/07/21	Batching plant		32.6	20.6	8.2	BDL	BDL
viii)	30/06/21	Surge Shaft Site		34.3	17.5	10.1	BDL	BDL
ix)	26/06/21	Worker Camp		27.6	17.1	10.2	BDL	BDL

Remarks: - Sampling were done within the annual based.

NATIONAL AMBIENT AIR QUALITY STANDARDS:

Sl. No.	Pollutant	Test Method	Time Weighted Average	Concentration in Ambient Air Industrial, Residential, Rural and Other Area
1	Particulate Matter (PM ₁₀), µg/m ³	IS:5182 Part-XXIII/CPCB	Annual	60
2	Particulate Matter (PM _{2.5}), µg/m ³	EETNE/SOP/01/2017	24 hours	100
			Annual	40
3	Nitrogen Dioxide (NO ₂), µg/m ³	IS:5182 Part-VI/CPCB	24 hours	60
			Annual	40
4	Carbon Monoxide (CO), mg/m ³		24 hours	80
			8 Hours	2.0

For Envision Enviro Technologies North East, Guwahati

Utpal Bezbaruah
(Environmental Chemist)

Dr. Pranita Chakraborty
Authorized by (Quality Manager)

Note: i) The results relate only to the parameters tested.
ii) The test report shall not be reproduced except in full, without written approval of laboratory.

Ambient Noise Quality

Recognized by Pollution Control Board, Assam

TEST REPORT

AMBIENT NOISE LEVEL MEASUREMENT REPORT

Rep.No. ANLMR_1503163_06A_943/4/3
Sample ID: EETNE/JUNE/22/21

Date: 10/07/2021
ULR NO.: TC766921000000424P


Issued to : M/s. Lower Kopili Project, Near Lanka, Dist.- Dima Hasao, Assam.

SL. NO.	DATE OF SAMPLING	LOCATION /SOURCE	NOISE LEVEL in dB(A)Leq
			Day Time (6:00 am to 10:00 pm)
i)	02/07/21	Power Intale / Dam Site	48.1
ii)	01/07/21	Power House	47.2
iii)	05/07/21	Quarry Site	50.0
iv)	04/07/21	Crusher Site	51.2
v)	27/06/21	HRT Audit	48.6
vi)	28/06/21	APGCL Camp (Near Hospital/High way)	55.2
vii)	02/07/21	Batching plant	45.2
viii)	30/06/21	Surge Shaft Site	44.6
ix)	26/06/21	Worker Camp	51.2

Remarks: Noise level is carried out during 75% of the Day Time.
Method of analysis : CPCB July 2015
Sampling Instrument Used : Lutron SL-4033SD, HTC SL 1350

Ambient Noise Standards:

Area Code	Category of area	Limits in dB(A) Leq	
		Day (6:00 am to 10:00 pm)	Night (10:00 pm to 6:00 am)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40


Utpal Bezbaruah
(Environmental Chemist)

For Enviro Technologies North East, Guwahati



Dr. Pranita Chakraborty
Authorized by (Quality Manager)

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Page 1 of 1

Drinking water quality

en-VISION
Enviro Technologies North East

Technologies for better tomorrow

Recognized by Pollution Control Board, Assam



NABL ACCREDITED

TEST REPORT:

Report No: 210706_1503163_0
ULR NO-TC76692100000058P
Sample ID No: EETNE/June/03/21/D
Test Starting Date: 19/06/21

Date of Report: 06/07/21 Certificate No. TC-7669
Date of sample receipt: 19/06/21
Test completion Date: 02/07/21

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: RO Water	Source: Workman Camp				
Sample collected by	Mr. Anandhapandi Jointly with PMC					
Sample Collection Particulars	Date 12/06/2021	Time 11:40 A.M	Temperature 30°C	p ^H 7.18	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500: 2012	
					Acceptable limit	Permissible limit
1	p ^H	---	7.16	APHA 23 rd Edition,4500 H ⁺ ,Page:4-95	6.5-8.5	No relaxation
1	Turbidity	NTU	0.4	APHA 23 rd Edition,2130,Page:2-13	1.0	5.0
2	Total hardness	mg/L	159.6	APHA 23 rd Edition,2340 B,Page:2-48	200	600
3	Total Alkalinity	mg/L	310.5	APHA 23 rd Edition,2320 B,Page:2-37	200	600
4	Residual Chlorine	mg/L	<0.01	APHA 23 rd Edition,4500-Cl B,Page:4-63	0.2	1.0
5	Fluoride	mg/L	0.34	APHA 23 rd Edition,4500-F ⁻ D,Page:4-90	1.0	1.5
6	Chloride	mg/L	18.2	APHA 23 rd Edition,4500-Cl ⁻ B,Page:4-75	250	1000
7	Iron(as Fe)	mg/L	0.12	APHA 23 rd Edition,3500-Fe B,Page:3-80	0.3	No relaxation
8	Total coliform	MPN/100 ml	Nil	APHA 23 rd Edition,9222B,Page:9-81	Absent	Absent

Rimpi Sarma
Environmental Chemist
Test Done By

For Envision Enviro Technologies North East

Dr. Pranita Chakraborty
Quality Manager
Authorized Signatory

Note: i) The results relate only to the parameters tested.
ii) The test report shall not be reproduced except in full, without written approval of laboratory.
iii) Parameter no.4 to 8 are analyzed by Department of Chemistry,B. Borooah College as per our MOU.
End of report

Surface Water Quality



NABL ACCREDITED
Certificate No. TC-7669

Recognized by Pollution Control Board, Assam

TEST REPORT:
Report No: 210706_1503163_0
ULR No:TC766921000000065P
Sample ID No: EETNE/June/11/21/D
Test Starting Date: 19/06/21

Date of Report: 06/07/21
Date of sample receipt: 19/06/21
Test completion Date: 05/07/21

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Surface Water + QC				Source: Kala Nala	
Sample collected by	Mr. Anandhapandi Jointly with PMC					
Sample Collection Particulars	Date 12/06/2021	Time 03:45 P.M	Temperature 31°C	p ^H 7.2	Quantity Drawn:4Ltg	Sampling Method: EETNE/SOP/02

SI No.	Parameters	Unit	Result	Reference Method
1	p ^H	---	7.18	APHA 23 rd Edition,4500 H ⁺ ,Page:4-95
2	Turbidity	NTU	35	APHA 23 rd Edition,2130,Page:2-13
3	TDS	mg/L	134.8	APHA 23 rd Edition,2540 C, Page :2-69
4	TSS	mg/L	22.5	APHA 23 rd Edition,2540,Page:2-70
5	Oil and Grease	mg/L	<5	APHA 23 rd Edition,5520 B,Page:5-42
6	Dissolved Oxygen	mg/L	4.2	APHA 23 rd Edition,4500-O C,Page:4-146
7	Total hardness	mg/L	89.6	APHA 23 rd Edition,2340 B,Page:2-48
8	Calcium	mg/L	25.8	APHA 23 rd Edition,3500-Ca B,Page:3-69
9	Magnesium	mg/L	15.5	APHA 23 rd Edition,3500-Mg B,Page:3-86
10	Total Alkalinity	mg/L	128.2	APHA 23 rd Edition,2320,Page:2-37
11	Chloride	mg/L	22.8	APHA 23 rd Edition,4500-Cl ⁻ B,Page:4-75
12	Sulphate	mg/L	12.8	APHA 23 rd Edition,4500-SO ₄ ²⁻ E,Page:4-199
13	Nitrates	mg/L	6.4	APHA 23 rd Edition,4500-NO ₃ ⁻ B,Page:4-127
14	Phosphate	mg/L	0.03	APHA 23 rd Edition,4500-P,Page:4-163
15	conductivity	µS/cm	150	APHA 23 rd Edition,2520B,Page:2-60





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
Sample ID No: EETNE/June/11/21/D
Test Starting Date: 19/06/21

Date of sample receipt: 19/06/21
Test completion Date: 05/07/21

SI No.	Parameters	Unit	Result	Reference Method
16	Arsenic	µg/L	<0.001	APHA 23 rd Edition,3114A,Page:3-36
17	Iron(as Fe)	mg/L	0.82	APHA 23 rd Edition,3500-Fe B,Page:3-80
18	Salinity	%	<0.1	APHA 23 rd Edition,2520B,Page:2-60
19	Total Coliform	MPN/100mL	4	APHA 23 rd Edition,9222B,Page:9-81
20	Fecal Coliform	MPN/100mL	Nil	APHA 23 rd Edition,9222 D,Page:9-89
21	Organic Matter	mg/L	1.2	APHA 23 rd Edition
22	Inorganic Matter	mg/L	24.7	APHA 23 rd Edition
23	Required NaOH to Neutralize	ml	Nil	APHA 23 rd Edition
24	Required HCl to Neutralize	ml	10.6	APHA 23 rd Edition
25	BOD	mg/L	14	APHA 23 rd Edition,5210B,Page:5-6
26	COD	mg/L	76	APHA 23 rd Edition,5220 b,Page:5-18

NOTE: (BOD) Biochemical Oxygen Demand, (COD) Chemical Oxygen Demand, (TSS) Total Suspended solids (TDS) Total Dissolved Solids.

For Envision Enviro Technologies North East, Guwahati


Rimpi Sarma
Environmental Chemist
Test Done By


Dr. Pranita Chakraborty
Quality Manager
Authorized Signatory

Note: i) The results relate only to the parameters tested.
ii) The test report shall not be reproduced except in full, without written approval of laboratory
iii) Parameter no.11 to 24 are analyzed by Department of Chemistry, B. Borooah College as per our MOU.

End of report

Page 2 of 2



Recognized by Pollution Control Board, Assam

TEST REPORT:
 Report No: 210706_1503163_0
 ULR No:TC76692100000066P
 Sample ID No: EETNE/June/10/21/D
 Test Starting Date: 19/06/21

Date of Report: 06/07/21
 Date of sample receipt: 19/06/21
 Test completion Date: 05/07/21

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Surface Water + QC				Source: Lonku Nala	
Sample collected by	Mr. Anandhapandi Jointly with PMC					
Sample Collection Particulars	Date 12/06/2021	Time 03:15 P.M	Temperature 31°C	p ^H 7.62	Quantity Drawn:4Ltg	Sampling Method: EETNE/SOP/02

SI No.	Parameters	Unit	Result	Reference Method
1	p ^H	---	7.54	APHA 23 rd Edition,4500 H ⁺ ,Page:4-95
2	Turbidity	NTU	4.5	APHA 23 rd Edition,2130,Page:2-13
3	TDS	mg/L	135.8	APHA 23 rd Edition,2540 C, Page :2-69
4	TSS	mg/L	87.6	APHA 23 rd Edition,2540,Page:2-70
5	Oil and Grease	mg/L	<5	APHA 23 rd Edition,5520 B,Page:5-42
6	Dissolved Oxygen	mg/L	7.1	APHA 23 rd Edition,4500-O C,Page:4-146
7	Total hardness	mg/L	84	APHA 23 rd Edition,2340 B,Page:2-48
8	Calcium	mg/L	20.9	APHA 23 rd Edition,3500-Ca B,Page:3-69
9	Magnesium	mg/L	15.3	APHA 23 rd Edition,3500-Mg B,Page:3-86
10	Total Alkalinity	mg/L	121	APHA 23 rd Edition,2320,Page:2-37
11	Chloride	mg/L	24.2	APHA 23 rd Edition,4500-Cl ⁻ B,Page:4-75
12	Sulphate	mg/L	16.2	APHA 23 rd Edition,4500-SO ₄ ²⁻ E,Page:4-199
13	Nitrates	mg/L	8.1	APHA 23 rd Edition,4500-NO ₃ ⁻ B,Page:4-127
14	Phosphate	mg/L	0.04	APHA 23 rd Edition,4500-P,Page:4-163
15	conductivity	µS/cm	190	APHA 23 rd Edition,2520B,Page:2-60





Recognized by Pollution Control Board, Assam


Sample ID No: EETNE/June/10/21/D
Test Starting Date: 19/06/21

Date of sample receipt: 19/06/21
Test completion Date: 05/07/21

SI No.	Parameters	Unit	Result	Reference Method
16	Arsenic	µg/L	<0.001	APHA 23 rd Edition,3114A,Page:3-36
17	Iron(as Fe)	mg/L	1.4	APHA 23 rd Edition,3500-Fe B,Page:3-80
18	Salinity	%	0.1	APHA 23 rd Edition,2520B,Page:2-60
19	Total Coliform	MPN/100mL	6	APHA 23 rd Edition,9222B,Page:9-81
20	Fecal Coliform	MPN/100mL	Nil	APHA 23 rd Edition,9222 D,Page:9-89
21	Organic Matter	mg/L	1.8	APHA 23 rd Edition
22	Inorganic Matter	mg/L	32.8	APHA 23 rd Edition
23	Required NaOH to Neutralize	ml	Nil	APHA 23 rd Edition
24	Required HCl to Neutralize	ml	13.8	APHA 23 rd Edition
25	BOD	mg/L	13	APHA 23 rd Edition,5210B,Page:5-6
26	COD	mg/L	29	APHA 23 rd Edition,5220 b,Page:5-18

NOTE: (BOD) Biochemical Oxygen Demand, (COD) Chemical Oxygen Demand,(TSS) Total Suspended solids (TDS) Total Dissolved Solids.

For Envision Enviro Technologies North East, Guwahati


Rimpi Sarma
Environmental Chemist
Test Done By


Dr. Pranita Chakraborty
Quality Manager
Authorized Signatory

Note: i) The results relate only to the parameters tested.
ii) The test report shall not be reproduced except in full, without written approval of laboratory
iii) Parameter no.11 to 24 are analyzed by Department of Chemistry,B.Borooh College as per our MOU.
End of report

Annexure 12 : Methodology used for analysing the water samples

Sl no	Group of products, materials or items tested	Specific tests performed	* Test Method / Standard against which tests are performed	Instruments Used
1.	Gr- Atmospheric Pollution Air Monitoring	PM 10	IS:5182 (Part 23):2006	Respiratory Dust Sampler
		PM 2.5	USEPA FRM 40 CFR Part 50, 53 Appendix-L FEM candidate Method - I	Ecotech PM10/2.5 Sampler
		Oxides of Nitrogen	IS: 5182 Part-VI :2006	Gaseous Pollutant Sampler
		Sulfur Dioxide	IS: 5182 Part-II: 2001	Gaseous Pollutant Sampler
		CO	IS: 5182 Part-X: 1999 (Reaffirmed year: 2019)	CO Monitor
		HC	IS: 5182 Part-XVII: 1979 (Reaffirmed year: 2019)	HC Monitor (Outsourced)
	Ambient Noise Levels (Excluding vibration)	Ambient Noise Level	IS 9989 : 1981 RA: 2014	SOUND LEVEL METER(SL-1350) SOUND LEVEL METER (ENVIROTECH SLM 100) TYPE II DbA
	Source Noise Levels (Excluding vibration) Particular Source to be specified	Sound Level	IS 4758 : 1968 RA: 2017	SOUND LEVEL METER(SL-1350) SOUND LEVEL METER (ENVIROTECH SLM 100) TYPE II DbA

Sl no	Group of products, materials or items tested	Specific tests performed	* Test Method / Standard against which tests are performed	Instrument Used
3.	Water (Drinking Water, Surface Water, Ground Water)	pH	IS 3025 (Part 11)1983 (Reaffirmed 2017) Electrometric Method/	pH Meter
			APHA 23rd Edition 2017, 4500-H+ B, Page No.4-95	pH Meter
			APHA 22 nd Edition, 2150 B	pH Meter
		Turbidity	APHA 23rd Edition 2017, 2130 B	Turbidity Meter

		TSS	IS 3025 (Part 18)1984 (Reaffirmed 2017) /	Filtration Apparatus
			APHA 23rd Edition 2017, 2540 D , Page No.2-66	Filtration Apparatus
		TDS	IS 3025 (Part 16)1984 (Reaffirmed 2017)/	Filtration Apparatus, Steam bath, Drying oven, Balance
			APHA 23rd Edition 2017, 2540 C, Page No.2-65	
		Oil & Grease	IS 3025 (Part 39)1991 (Reaffirmed 2014) Partition Gravimetric /	Distillate recovery apparatus
			APHA 23rd Edition 2017, 5520 B, Page No.5-42	Distillate recovery apparatus
		BOD	IS 3025 (Part 44)1993 (Reaffirmed 2014) /	BOD Incubator
		COD	IS 3025 (Part 58):2017 /	Soxhlet apparatus
			APHA 23rd Edition 2017, 5220- B, Page No.5-18, Open Reflex method	Soxhlet apparatus
		Alkalinity	IS. 3025 (Part-23)1986 Reaffirmed 2014 /	pH Meter, Magnetic Stirrer
			APHA23rd Edition 2017, 2320 B, Page No.2-37, Titration method	pH Meter, Magnetic Stirrer
		Calcium	APHA 23rd Edition 2017, 3500- Ca B, Page No. 3-69 EDTA titrimetric /	Hot Plate
			IS 3025 (Part 40)1991 (Reaffirmed 2014)	Hot Plate
				Total Hardness
Magnesium	APHA23rd Edition, 3500 Mg B, Page No.3-86			
Chloride	APHA23rd Edition, 4500 Cl ⁻ B, Page No.4-75, Argentometric method			
Sulphate	APHA23rd Edition, 4500 SO ₄ ²⁻ E, Page No.4-199			Outsourced
Heavy Metals	APHA23rd Edition			Outsourced
Nitrate	APHA23rd Edition, 4500 NO ₃ ⁻ B, Page No.4-127			Spectrophotometer
Iron	APHA23rd Edition, 3500 Fe B, Page No.380			Outsourced



		Total Coliform	APHA21st Edition, 9221:IV	Outsourced
		Faecal Coliform	APHA21st Edition, 9221:IV	Outsourced
		Salinity	APHA23rd Edition, 2510 B, Page No.2-58	Conductivity meter
4	Waste Water	Ph	IS 3025 (Part 11)1983 (Reaffirmed 2017) Electrometric Method /	
			APHA 23rd Edition 2017, 4500-H+ B, Page No.4-95	
		Turbidity	IS 3025 (Part 4)1983 (Reaffirmed 2017) Nephelometric /	
			APHA 23rd Edition 2017, 2130 B	
		TSS	IS 3025 (Part 18)1984 (Reaffirmed 2017) /	
			APHA 23rd Edition 2017, 2540 D , Page No.2-66	
		TDS	IS 3025 (Part 16)1984 (Reaffirmed 2017)/	
			APHA 23rd Edition 2017, 2540 C, Page No.2-65	
		Oil & Grease	IS 3025 (Part 39)1991 (Reaffirmed 2014)) Partition Gravimetric /	
			APHA 23rd Edition 2017, 5520 B, Page No.5-42	
		BOD (3 days @ 27°C)	IS 3025 (Part 44)1993 (Reaffirmed 2014) /	
		BOD at 20°C for 5 days	APHA 23rd Edition 2017, 5210-B, Page No.5-6	
		COD	IS 3025 (Part 58):2017 /	
			APHA 23rd Edition 2017, 5220-B, Page No.5-18	
Alkalinity	I.S. 3025 (Part-23)1986 Reaffirmed 2014 /			
	APHA23rd Edition 2017, 2320 B, Page No.2-37			
Calcium	APHA 23rd Edition 2017, 3500-Ca B, Page No. 3-69/			
			IS 3025 (Part 40)1991 (Reaffirmed 2014) 69 EDTA titrimetric Method	

Annexure 13 : Accreditation of Envision Enviro Technologies North East



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)

NABL / T-4099

05.11.2020

PRANITA CHAKRABORTY

Envision Enviro Technologies North East
SANKAR DEV PATH, HOUSE NO.-6, PUB
SARANIA, CHANDMARI
GUWAHATI, ASSAM-781003
Mobile: 9864010097
E-mail: pranita_18@rediffmail.com

Subject: **Renewal of accreditation**

Dear Sir,

I am pleased to inform you the renewal of accreditation to your Laboratory in accordance with ISO/IEC 17025:2017 in the discipline of Chemical testing as per scope recommended by the assessment team.

All personnel proposed by the laboratory to report, review & authorize the results are accepted.

The Certificate number for your Testing laboratory is TC-7669 with validity from 03.11.2020 to 02.11.2022.

Laboratory to submit the results of already participated PT program.

Please note that the continuation of accreditation is subject to satisfactory annual surveillance.

You are requested to follow latest NABL-133 which is available on website 'www.nabl-india.org' on using NABL symbol.

The accreditation is subject to your satisfactory compliance to the requirements of NABL terms and conditions as referred in NABL 131.

Please Upload the 4 year PT/ILC plan on portal.

Yours Sincerely,
Nand Kumar Kushwaha
nand@nablqcin.org

NABL House, Plot 45, Sector 44, Gurugram 122 003, Haryana, India
Tel. No.: +91-124-4679700 (30 lines) * Fax: +91-124-4679799 * Website: www.nabl-india.org

Annexure 14 : COVID SOP for worksite

 L&T Construction <i>Heavy Civil Infrastructure</i>	Environment, Health and Safety Integrated Management System Manual	
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<h2>Standard Operating Procedure for Managing Risks from COVID 19</h2>
<h3>Project: 120 MW-Lower Kopili HEP</h3>
<p>Document: LKHEP-PKG2/LNT/141/MS/02</p>

Review & Approval:

	Name	Position	Date	Signature
Prepared by				
Reviewed by				

Revision History:

Revision	Date	Change Summary
0	01.09.2020	First issue

Sensitivity: LNT Construction Internal Use

Content

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1. Purpose

The purpose of this SOP is to manage risks arising out of COVID-19.

2. Scope

This SOP is applicable to managing risks due to COVID-19 at workplace and maintaining thereafter.

This procedure is intended to supplement, not replace requirements stated by Central, State & Local Government Authorities.

2.1. Management Review

The compliance level shall be reviewed there after every week till the COVID 19 risks are completely mitigated.

2.2. Operational Control

A specific meeting shall be organized at the site chaired by PM with all Section In-charges and Senior staff members.

This SOP shall be discussed point wise and site-specific action plan shall be drawn including,

- Action points location wise / dept. wise
- Allocation of responsibilities and accountabilities for each action item
- Resources required
- Target dates
- Pre-requisites before starting the activities

2.3. Monitoring & Control

- The points mentioned in this SOP shall be converted into an action plan and periodically verified for compliance.
- Targeted inspection specific to COVID 19 risks shall be conducted to verify compliance to this SOP.
- The summary of the compliance shall be reported to PM / EHSM before starting the operations and after that on a weekly basis.

2.4. Emergency Response / Business continuity in case of COVID 19 exposure

- ERT shall be formed for COVID 19 as one of the emergencies.
- EHSO shall train all the ERT members on COVID 19 response and their roles & responsibilities as ERT member.

- A site specific COVID 19 emergency response shall be evolved based on this SOP requirements and
 - Recommendations from Local Authority
 - Availability of assistance from Local Authority
 - Customer specific requirement if any
- That response shall specifically cover.
 - Reporting of suspected cases from site
 - Quarantine of suspected individuals
 - Isolation & treatment
 - Reporting to local authorities
 - Disinfecting areas worked by the suspected individual
 - Contract tracing of people worked with the suspected individual
 - Reporting to PM for further coordinated response
- Using government ambulances only as far as possible for transporting suspected cases to health care facilities.

2.5. Staff & workmen at high risk

- Individuals with other co-morbid conditions such as diabetics, blood pressure, renal ailments etc. are at high risk from COVID 19 infection.
- Hence new workmen who fall in the above category shall not be deployed.
- Staff with the above conditions shall be instructed to take additional care & precautions from COVID 19. In addition to the precautions taken by other staff members, they shall consult a doctor and follow the precautions as per his advice.

2.6. Roles & Responsibilities matrix for managing COVID 19 risks

Responsibilities & Accountabilities Matrix

SI NO	Activity	PM	Admin	Section IC	All staff	EHSO	ERT member	Supervisor	Camp Care	Workmen
1.	Preparing a site-specific action plan	A	R	R		R	R			
2.	Screening of workmen		A	R	R	R		R		R
3.	EHS Induction		R			A		R		R
4.	Access Control measures		A	R	R	R		R		R
5.	Training on COVID-19 response		R		R	A	R	R		
6.	Disinfection		A		R	R		R	R	

SI NO	Activity	PM	Admin	Section IC	All staff	EHSO	ERT member	Supervisor	Camp Care	Workmen
7.	Risk Control in Workmen Camp		A						R	
8.	Social distancing in site office & facilities	A	R	R	R	R	R	R		
9.	Pre-startup checks location /area wise	A	R	R	R	R		R	R	
10.	Promoting Self Hygiene & Respiratory Hygiene		R		R	R		R	R	
11.	Display of posters for COVID19 Response	R	R			A				
12.	Organizing resources for COVID-19 response		A	R		R	R			
13.	Maintaining social distance	A	R	R	R	R	R	R	R	R
14.	Monitoring of compliance	A	R	R		R		R	R	
15.	Reporting in case of symptoms		A	R	R	R	R	R	R	R
16.	Checks for COVID during safe to start of activities				A	R		R		
17.	Periodical review	A	R	R		R	R			
18.	Emergency Response	A	R	R		R	R		R	

A – Accountability R – Responsibility

2.7. Process

2.7.1. Mobilization Phase:

❖ Manpower

- Manpower (Staff & Workmen) reaching project site from other state via. Air, rail, or bus will be screened as per Central/State guidelines in recognized centers.
- Quarantine of manpower shall be planned as per Central/State guidelines.
- Contact less thermal scanning will be practiced at site.
- Contact less attendance system will be practiced at site.
- Streamlined exit pathways to maintain social distancing.

- Mandatory Nose mask.

❖ **Plant& Machinery**

- Equipment's mobilized for the project shall be parked in proper place and sanitization will be planned in regular interval.
- All the equipment's/ vehicles shall be inspected by P&M and EHS personnel and provided with 'Safe' Sticker indicating the date of inspection.
- All the operators and workforce shall be informed that the equipment to be operated only after obtaining 'Green cards.

❖ **Facilities**

- **Transport Facilities**

Occupancy of People Transport system should be planned as per Central/State Govt's guidelines.

2.8. Managing the social distancing while deployment and working:

Strategy for workmen deployment at sites considering the social distancing requirements and COVID 19 risks includes

- i. Sequence of work – ensure the planning of work as per sequence of work with minimum number of workmen.
- ii. Deploy workmen in different locations, wherever feasible to ensure social distancing.
- iii. Staggered deployment of workmen in case of congested work locations.
- iv. Working in shifts to minimize crowding of workmen in one place wherever possible.
- v. Discourage workers from using other worker's phones, clothes, wallets.
- vi. Things or other work tools and equipment, as far as possible.
- vii. Adopting queue system while entry to bus, dining facilities, workplaces, bus, etc.
- viii. Sanitize conveyance vehicle/ bus of staff and workmen prior to start at periodical intervals.
- ix. Identifying multiples access and egress pathways.
- x. Before restarting identifying multiple rests are as within the site premises considering number of workmen at the project.

2.9. Integrating the risk management of COVID-19 in all existing EHSMS:

2.9.1. Screening

Apart from the regular information collected during the screening process, self-declaration form shall be obtained to identify the COVID-19 risk level of workmen.

This information shall include

- Place of his latest stay (to identify whether, it is a hotspot).
- Arogya Setu App indicator.

2.9.2. Medical Checkup

- Medical checkup by the medical practitioner before allowing for EHS Induction.

2.9.3. EHS Induction

Number of workmen participating in EHS Induction shall be restricted to maintain the social distance during training.

Number of programs shall be increased in case more workmen need to be covered. Apart from the regular EHS induction, workmen will be trained on COVID19 risks and the precautionary measures covering the following topics,

- Symptoms of COVID 19.
- How virus spreads.
- Importance of maintaining social distancing.
- Importance and DO's and DON'T's of hand washing.
- Overview of the precautionary measure taken at site for COVID 19.
- Roles & Responsibility of workmen specific to the precautions towards COVID 19.
- Reporting in case of symptoms like Flu.
- Importance of Arogya setu App.

2.9.4. Training & Awareness

Targeted training for ERT members, staff and front-line supervisors specific to COVID19 risks, PEP Talks, Feedback mechanism and controls measures:

The training shall include,

ERT Members

- Strategy adopted for COVID 19 risk management.
- Social distancing measures.
- Isolation, containment, treatment of symptomatic workmen.
- Handling suspected cases of COVID 19.
- Keeping updated on COVID 19 response from HQ / Cluster/ Local Government authorities.
- Handling Myths, Misconceptions, misinformation & rumors related to COVID19.
- Specific roles & responsibilities related to COVID 19 response as ERT member.

Staff Members

- Strategy adopted for COVID 19 risk management.
- Action items from this SOP related to staff members.
- Specific roles & responsibilities related to COVID 19 response.
- Social distancing measures.
- Promoting self-hygiene & respiratory hygiene

- Handling suspected cases of COVID 19 & informing to ERT members

Frontline Supervisors

- Action items corresponding to Frontline supervisors from this SOP.
- Specific roles & responsibilities related to COVID 19 response.
- Social distancing measures.
- Promoting self-hygiene & respiratory hygiene.
- Handling suspected cases of COVID 19 & informing to Staff / ERT members.

2.9.5. Safe to start

The safe to start work process shall include hazards, risks and controls related to COVID19. The checks shall include:

- Whether social distancing is followed in that activity.
- Whether any workmen showing symptoms.
- Whether hand washing facility available in the workplace in proximity.
- Whether spots of high risk for transmission of virus such as handrails, door handles etc. are disinfected where applicable.

2.9.6. Resources

Resources required specifically required to manage the COVID19 risks shall be identified, planned, procured, and made available at site in adequate quantities. The resources which are required to manage COVID19 risks may include:

- Thermal scanners.
- Contactless attendance system.
- Liquid Soap with hand washing arrangement.
- Team for cleaning & disinfection.
- Nose masks for teams who are screening workmen, conducting medical checkup & disinfection.
- Hand gloves for teams who are screening workmen, conducting medical checkup & disinfection.
- Quarantine Facilities for accommodating symptomatic workmen.
- Posters & Promotional material for creating awareness.
- Sample poster from Ministry of Health & Family Welfare given below.
- Additional posters, videos & audio resources for COVID 19 can be accessed from the following website link <https://www.mohfw.gov.in/> (under resources section).

2.10. Disinfection at workplaces and offices:

- Maintain regular housekeeping practices, including routine cleaning and disinfecting of surfaces, equipment, and other elements of the work environment.
- When choosing cleaning chemicals for disinfection, projects shall consult with Local Authorities for appropriate disinfectant against emerging viral pathogens of COVID19.

- Follow the manufacturer's instructions for use of all cleaning and disinfection products (e.g., concentration, application method and contact time, PPE).
- Focusing disinfection efforts on frequently touched surfaces such as handrails, door handles, etc.
- Conference rooms, site offices shall be disinfected on daily basis and social distancing shall be followed at the projects.
- Dining area shall be disinfected before and after the dining hours.

2.11. Managing risks due to COVID-19 during meetings:

2.11.1. Before the meeting:

- Consider whether face-to-face meeting or event when other is very much required. Otherwise plan the meetings over conference calls.
- If the above step is not feasible, restrict the number participants with important people.
- Ensure hand sanitization and nose mask mandatory for all participants.
- Advise participants in advance that if they have any symptoms or feel unwell, they should not attend.

2.11.2. During and after the meeting

- Briefly explain the participants on the actions being taken to prevent COVID-19
 - a. Avoid handshake and practice ways to say hello without touching
 - b. Encourage regular hand washing or use of an alcohol rub by all participants at the meeting
 - c. Encourage participants to cover their face with the bend of their elbow or at issue if they cough or sneeze. Supply tissue and closed bins to dispose of them.
- Display dispensers of alcohol-based hand rub prominently around the venue.
- If there is space, arrange seats so that participants are at least one meter apart.
- Open windows and doors whenever possible to make sure the venue is well ventilated.
- Soon after the meeting, the area shall be dis-infected and dust bins shall be cleared.

2.12. Additional PPE for COVID-19:

- In addition to the regular PPE, Nose masks and hand gloves for teams who are screening workmen, conducting medical checkup & disinfection and others those who need to work in proximity to a greater number of people.
- All types of PPE must be:
 - a. Properly fitted and periodically refitted, as applicable (e.g., respirators).
 - b. Consistently and properly worn when required.
 - c. Regularly inspected, maintained, and replaced, as necessary.
 - d. Properly removed, cleaned, and stored or disposed of, as applicable.

2.13. Managing COVID-19 risks in workmen camp:

2.13.1. Cooking

- Daily thermal screening and symptom checking of cooks.
- Cleaning and disinfection on daily basis once the cooking is over.

2.13.2. Dining

- Staggered Timings shall be adopted to limit the no of workmen using the hall to maintain social distance
- Increase the Space of dining facility where possible

2.13.3. Usage of common facilities

- Areas or places of high risk for transmission of virus such as doorknobs handles, latches, handrails in common facilities shall be cleaned and disinfected at regular intervals

2.13.4. Quarantine and Isolation rooms

- Adequate number of rooms shall be identified and reserved to accommodate symptomatic workmen.

2.13.5. Disinfection

- Disinfection of the workmen habitat in all the places shall be carried out on a periodical basis and closely monitored by camp boss and verified by IR officers.

2.13.6. Separate dwelling for new workmen

- New workmen shall not be accommodated in the same rooms as the existing workmen.
- Dwelling units / rooms shall be suitably organized to ensure the avoidance of proximity of the workmen groups.

2.13.7. Promoting self-hygiene and cleanliness

- Pictorial posters in local language shall be placed across the workmen habitat to create awareness on maintaining self – hygiene and respiratory hygiene.

2.14. Emergency Response / Business continuity in case of COVID 19 exposure

- ✓ Project Specific Emergency Response Plan (ERP) shall be developed for COVID 19 as one of the emergencies.
- ✓ Emergency Response Team shall be constituted to ensure necessary coordination and action to be taken during an COVID_19 Emergency.
- ✓ Chief SHE Manager shall train all the team members on COVID 19 response and their roles & responsibilities during an emergency.
- ✓ The COVID 19 emergency response shall be evolved based on this SOP requirement

- ✓ Recommendations from local authority
- ✓ Availability of assistance from local authority
- ✓ Customer specific requirement if any
- ✓ That response shall specifically cover
- ✓ Reporting of suspected cases from site
- ✓ Quarantine of suspected individuals
- ✓ Isolation & treatment
- ✓ Reporting to local authorities
- ✓ Disinfecting areas worked by the suspected individual
- ✓ Contract tracing of people worked with the suspected individual
- ✓ Using government ambulances only as far as possible for transporting suspected cases to health care facilities.

2.15. Norms of persons allowed and prohibited entering the peripheries of project

Below are the guidelines for employees, staff, workmen, associates having permissions while mobilizing into Project premises/ Workmen habitat/Staff habitat-

Category 1:

Employee/ Person with

- No travel from foreign (Self, family, relative, visitor), or does not have any symptom of cough, fever or cold in last 14 days.

Employee is fit to start his duties and enter inside the different premises of project scope.

Category 2:

Any employee / person having a symptom of cough, fever or cold in last 14 days, will not be allowed to start his duties. He/ she is advised for home quarantine & take treatment from his treating doctor.

At the time of resuming, it is mandatory to produce fitness certificate from his/her treating doctor with / without laboratory test reports.

End

Annexure 15 :Copy of GRC committee



ASSAM POWER GENERATION CORPORATION LIMITED

Registered Office: Bijulee Bhawan, 3rd floor, Paltanbazar, Guwahati-781 001, Assam

Sri. Utpal Gohain

Project Director

LOWER KOPILI HYDRO ELECTRIC PROJECT

E-mail: pdpmu@apgcl.com

No: APGCL/LKHEP/PD/2017-18/13/43

Dated: 16/11/2019

To

The Secretary to the Govt. of Assam,
Department of Revenue,
Dispur, Guwahati-06

Sub: Constitution of Grievance Redressal Committee for Lower Kopili H.E. Project of APGCL

Sir,

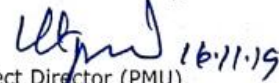
This is to inform you that APGCL is in the process of implementing the 120 MW Lower Kopili H.E. Project (LKHEP) with funding from Asian Development Bank (ADB). In this connection a Resettlement and Rehabilitation (R&R) Plan for Project Affected Persons (PAFs) has been prepared and duly approved by Govt. of Assam and ADB. As per the Combined Resettlement and Tribal Development Plan (CRTDP) or R&R Plan it is specifically mentioned that during the ongoing implementation a mechanism to handle local grievances of the PAFs is to be redressed through a Grievance Redressal Committee (GRC). In line with the provisions as entailed in the CRTDP, a state level GRC is to be set up involving members as shown below:

Chief General Manager (Generation) Assam Power Generation Corporation Limited	Chairman
Representative of the State Revenue Department	Member
Representative of the Autonomous Councils	Member
Representatives of affected persons association	Member
Village Headman of the affected village	Member

I would therefore like to request you to kindly nominate 1 (one) Officer from the State Revenue Department to be a member of the State level GRC. The excerpt of the Grievance Redressal Mechanism as published in the ADB website is enclosed for your ready reference.

Encl: As above

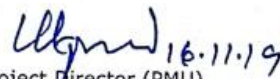
Yours Faithfully,



Project Director (PMU),
Lower Kopili H.E. Project, APGCL

Copy to:

- 1) The Additional Chief Secretary, Department of Revenue, Govt. of Assam, Dispur, Guwahati-06, for favour of kind information.
- 2) The Principal Secretary, Power (Electricity) Department, Govt. of Assam, Dispur, Guwahati - 06, for favour of kind information.
- 3) The Managing Director, APGCL, Bijulee Bhawan, Paltan bazar, Guwahati-1, for favour of kind information.
- 4) Relevant file.



Project Director (PMU),
Lower Kopili H.E. Project, APGCL



ASSAM POWER GENERATION CORPORATION LIMITED

Registered Office: Bijulee Bhawan, 3rd floor, Paltan-bazar, Guwahati-781 001, Assam

Sri. Utpal Gohain

Project Director

Lower Kopili Hydro Electric Project (LKHEP)

E-mail: pdpmu@apgcl.com

No: APGCL/LKHEP/PD/2017-18/21/Part-1/45

Dated: 17.06.2020

OFFICE ORDER

Sub: Constitution of a three tier Grievance Redressal Committee for Lower Kopili Hydro Electric Project to be implemented under assistance from ADB by APGCL.

With the approval of the Competent Authority, the three tier Grievance Redressal Committee for 120 MW Lower Kopili Hydro Electric Project is hereby constituted for Redressal of the grievances related to social and environmental issues of Project Affected Families (PAFs).

A) First Tier of GRC

Site Engineer of APGCL	Deputy Manager (Civil) Lower Kopili Construction Division, APGCL, Lanka, Hojai District, PIN-782446
Site Engineers of Civil & Hydro-mechanical Contractor & Electro-mechanical Contractor	To be Notified in due course
Gaon Burahs of Affected Villages	<u>Dima Hasao District:</u> 1) Digremdisa 2) Borolangklam 3) Dimalongku 4) Sokpuru 5) Torthelangso 6) Borolongku 7) Krungminglangso 8) Rongkhlan 9) Chotolangpher 10) Chotolongku 11) Lorulangso 12) Disabra 13) Mungkele 14) Waperdisa 15) Longku-II
	<u>Karbi Anglong District:</u> 1) Cherimthepe 2) Langsomepe

B) Second Tier GRC

Deputy General Manager, Civil, (PMU) O/o the Chief General Manager (PP&I), APGCL, Bijulee Bhawan, Paltan Bazar, Guwahati-781001	Chairman
Secretary, Revenue North Cachar Hills Autonomous Council, Haflong, Dima Hasao District.	Member
Secretary, Revenue Karbi Anglong Autonomous Council, Diphu Karbi Anglong District.	Member
Assistant General Manager (Civil) Lower Kopili Construction Division, APGCL, Lanka, Hojai District, PIN-782446	Member-Secretary

Environment Expert & Social Safeguards Expert Lower Kopili Hydro Electric Project, APGCL Bijulee Bhawan, Paltan Bazar, Guwahati-781001	Members
Contractor's Representative	Member
Project Affected Peoples Association's Representative	Member
Women's Representative	Member

C) Third Tier GRC

Chief General Manager (PP&I) / Project Director, APGCL, Bijulee Bhawan, Paltan Bazar, Guwahati-781001	Chairman
Secretary to the Govt. of Assam, Revenue & Disaster Management Department, Dispur, Guwahati-06 (Representative of the State Revenue Department)	Member
General Manager (Project), O/o the Chief General Manager (PP&I), APGCL Bijulee Bhawan, Paltan Bazar, Guwahati-781001	Member Secretary
Deputy General Manager (PMU), O/o the Chief General Manager (PP&I), APGCL Bijulee Bhawan, Paltan Bazar, Guwahati-781001	Member
Representative of both Dima Hasao and Karbi Anglong District Autonomous Councils	Members
Representatives of Affected persons association	Members

Powers and Functions of Grievance Redressal Committee:-

- A) First Tier of Grievance Redressal Committee will receive grievances and complaints of the aggrieved party and in consultation will try to resolve the same within 15 (fifteen) days. Complaints and grievances will be recorded and the same will be made available during inspection. Contact Details of Gaon Burahs, contractors and project site engineers will be prominently displayed at all construction site offices. The complaints and grievances not resolved at the project level will subsequently be placed in the Second Tier of the GRC.
- B) The second tier of the GRC will have a Member Secretary who will receive complaints and grievances. He may call representatives of project related agencies and Gaon Burahs of the project affected villages to participate in the GRC meetings. Record of each complaint and grievance will be maintained and decision taken will be conveyed in writing to the Affected Persons. Time frame to resolve the issues by the 2nd tier is 45 (forty five) days from the date of receipt of the complaint. In case the grievance cannot be resolved the same needs to be forwarded to the 3rd tier for further action.
- C) The third tier is the APGCL appellate authority located at Guwahati. The Chairman may call representatives of project affected persons, survey department and Gaon Burahs of the project area to participate in GRC meetings. The time frame to resolve the grievance is 90 (ninety) days from registration of the complaint. Any decision taken should be in writing and recorded and the concerned person will be intimated on the decision taken.

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Project Director (PMU)
Lower Kopili H. E. Project, APGCL

Copy to:

- 1) The P.S to the Chairman, APGCL/AEGCL/APDCL, Bijulee Bhawan, Paltan Bazar, Guwahati- 01 for kind information of the Hon'ble Chairman.
- 2) The Principal Secretary, Power (Elec.) Department, Govt. Of Assam, Dispur, Guwahati-06, for kind information.
- 3) The Managing Director, APGCL, Bijulee Bhawan, Paltan Bazar, Guwahati-01 for kind information.
- 4) The Secretary to the Govt. of Assam, Revenue & Disaster Management Department, E-Block, Assam Secretariat, Dispur, Guwahati-06 for kind information.
- 5) The Secretary (Revenue), North Cachar Hills Autonomous Council (NCHAC), Dima Hasao District, Haflong- 788819 for kind information.
- 6) The Secretary (Revenue), Karbi Anglong Autonomous Council (KAAC), Karbi Anglong District, Diphu- 782460 for kind information.
- 7) The General Manager (Project), O/o the Chief General Manager (PP&I), APGCL, Bijulee Bhawan, Paltan Bazar, Guwahati- 01, for information.
- 8) The Chief Executive Officer, KANCH Electrical Circle, CAR, APDCL, Diphu-782460 for information.
- 9) The Deputy General Manager (PMU), O/o the Chief General Manager (PP&I), APGCL, Bijulee Bhawan, Paltan Bazar, Guwahati-01, for information.
- 10) The Deputy General Manager, Civil, (PMU), O/o the Chief General Manager (PP&I), APGCL, Bijulee Bhawan, Paltan Bazar, Guwahati- 01, for information.
- 11) The Assistant General Manager (Civil), APGCL, Lower Kopili Construction Division, Lanka, Hojai District, PIN- 782446 for information.
- 12) The Deputy Manager (Civil), APGCL, Lower Kopili Construction Division, Lanka, Hojai District, PIN- 782446 for information.
- ✓ 13) The Environment Expert APGCL Lower Kopili H. E. Project, Bijulee Bhawan, Paltan Bazar, Guwahati-01 for information.
- 14) Social Safe Guard Expert, APGCL Lower Kopili H. E. Project, Bijulee Bhawan, Paltan Bazar, Guwahati-01 for information.
- 15) The Gaon Burahs of Affected Villages, Dima Hasao & Karbi Anglong Districts for information.
- 16) The President, Project Affected Peoples Association, Dima Hasao & Karbi Anglong Districts for information.
- 17) Relevant file.

 17.6.20

Project Director (PMU)
Lower Kopili H. E. Project, APGCL

