



Environmental Monitoring Report

PUBLIC

Semestral Report: January 2022 – June 2022
February 2024

India: Assam Power Sector Investment Program - Tranche 3

Part 1 of 2: Main Report (Pages 1 – 143) and Annexures 1 - 11

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

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Asian Development Bank

Environmental Monitoring Report

Project No. 47101-004
Semi-Annual Report
July 2022

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India: Assam Power Sector Investment Program -
Tranche 3

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Environmental Monitoring Report

(as of 30th June 2022)

Loan Number 4029-IND

Assam Power Sector Investment Program – Project-3

Reporting Period : from January, 2022 to June, 2022

Loan Signing Date : 30th December 2020



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

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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	<p>EARF - 2013, EIA - 2018, EMP - 2018 (EIA, EMP being updated)</p> <p>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 4th September, 2019.</p> <p>The disclosed EIA (June 2018) in the ADB's website was prepared on the base document of the EIA and EMP prepared by WAPCOS. As both the Ministry and ADB have different GENERIC STRUCTURE OF ENVIRONMENTAL IMPACT ASSESMENT both the reports were structurally different. But the basic assessment and information provided in the EIA report were the same.</p> <p>Additionally as per ADB's requirement supplementary EIA were carried out in the year 2017 by ES Safeguards consultants. EIA addendum is updated with the current layouts and additional mitigation measures and submitted to ADB consultant for finalization.</p>
Project Stage Obtained	Construction
Detailed Design Required Post-Approval	<p>Yes. It is EPC mode of contract. Currently Package 2 (Civil and Hydromechanical), Package 3 - Electro Mechanical and Package 4 – Transmission line are awarded.</p> <p>Other packages for which detail design required post approval are : Package 1 – Building and Infrastructures works</p>
Contract(s) Awarded	Yes. Package 2 (Civil and Hydromechanical), Package 3 - Electro Mechanical & Package 4 – Transmission line 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 EMP cleared by ADB. Package 4 – Transmission line EMP cleared by ADB. Entire EMP approved by ADB was incorporated in the tender. The sections relevant to Transmission line EMP were incorporated in the respective packages.
Contract(s) Awarded Include EMP Cleared by ADB	Yes. Contract document of Package 2 (Civil and Hydromechanical), Package 3 (Electro mechanical) and Package 4 – Transmission line includes relevant sections of the EMP cleared by ADB. 3 packages (2,3 and 4) the contracts were awarded. Package 4 ADB cleared EMP

	for Transmission line has been incorporated in the tender document Annexure 10 . Rest EMPs already shared in the last report.														
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, CTO for Batching Plant (near Power House), Crusher, Clearances from PESO for establishment of Explosive Magazine, CTE for Batching Plant (near Dam), etc. Application submitted for ground water abstraction.														
Contractor(s) Given Access to Site	Yes. Contractor given access on 20 th November 2020 for package 2. <table border="1"> <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> <tr> <td>20th Nov'20</td> <td>Approx. 63.2 Hectare revenue land -2 handed over to Contractor.</td> </tr> <tr> <td>2nd Jan'21</td> <td>Approx. 150 Hectare revenue land handed over to Contractor.</td> </tr> <tr> <td>11th Jun'21</td> <td>477.76 Hectare, diverted forest land handed over to Contractor.</td> </tr> <tr> <td>03rd Jul'21</td> <td>45.28 Hectare, diverted reserved forest land handed over to Contractor.</td> </tr> </tbody> </table> <p>Total 917.716 Ha land was handed over by the end of June 2022 which is 58.19 % of the total land. All the construction activities of Package 2 and Package 3 will be concentrated within this area only. This figure of 773.24 Ha is excluding the submergence area in Dima Hasao.</p>	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.	03rd Jul'21	45.28 Hectare, diverted reserved forest land handed over to Contractor.		
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Construction Progress (%)	Physical & Financial Progress : Package wise <table border="1"> <thead> <tr> <th>Sl.</th> <th>Package Details</th> <th>Physical Progress</th> <th>Financial Progress</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Civil & Hydro Mechanical (Pkg. 2)</td> <td>26.0 %</td> <td>7.6 % + 10 % Adv.</td> <td rowspan="2">Excluding Mobilization advance</td> </tr> <tr> <td>2</td> <td>Electro Mechanical (Pkg. 3)</td> <td>3.0 %</td> <td>10 % Adv.</td> </tr> </tbody> </table>	Sl.	Package Details	Physical Progress	Financial Progress	Remarks	1	Civil & Hydro Mechanical (Pkg. 2)	26.0 %	7.6 % + 10 % Adv.	Excluding Mobilization advance	2	Electro Mechanical (Pkg. 3)	3.0 %	10 % Adv.
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Unanticipated Impacts including Change of Scope or Design	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 selected 4 additional dumping ground in Revenue land. For these unanticipated impacts EIA update was required (and is in progress).														
Number of Site Inspections and Audits Undertaken by Environment	12 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.														

Safeguards Staff in Reporting Period	<p>During joint site inspections Environment Specialist of PMC and Environment Expert of APGCL participated along with Environment engineer of contractor.</p> <p>Joint Site inspections were carried out on 15th January, 27th January; 9th February, 28th February; 14th March, 24th March; 11th May, 25th May; 12th June, 28th June, 2022.</p> <p>Training was conducted by PMC and APGCL the contractor on EHS. Training was also given by Contractor to their staff on EHS. Details in Table 14 of the Report.</p>																										
Corrective Action Required	<p>Corrective actions as per site visits, ADB Aide Memoire for the ADB Mission 9th – 13th May 2022 and External Monitor's observation. All the corrective actions suggested by PMC, APGCL, External Monitor and ADB were not closed during the reporting period. Status of compliances are mentioned in Table 7.</p>																										
Outstanding Corrective Action this Reporting Period	<p>Environment Safeguards – Outstanding Corrective Action Plan upto June, 2022 are as follows.</p>																										
Non-Compliances Recorded this Reporting Period	<table border="1"> <thead> <tr> <th></th> <th>Actions Required</th> <th>Timeline</th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2">Responsibility of package 2 contractor</td> </tr> <tr> <td>1</td> <td>CTO for Batching plant at Dam site</td> <td>CTO before the start of the batching plant.</td> </tr> <tr> <td>2</td> <td>Obtain outstanding permissions for quarrying and aggregate extraction</td> <td>Quarry permission pending from DFO, Haflong, Assam. EC to be obtained before extraction of boulder.</td> </tr> <tr> <td>3</td> <td>Obtain outstanding permissions for vehicle registration, ensure that all vehicles and plant including DG sets being used have requisite pollution consent in place.</td> <td>By 30th September, 2022</td> </tr> <tr> <td>4</td> <td>Obtain outstanding permissions for groundwater abstraction</td> <td>If extracted in future prior permission from CGWB is required.</td> </tr> <tr> <td>5</td> <td>CEMP to be updated as required to reflect any changes in mitigation measures as a result of the final EIA Addendum</td> <td>Will be done after disclosure of the EIA addendum.</td> </tr> <tr> <td>6</td> <td>Development of solid waste management systems including disposal and storage facilities with transport and disposal to suitably licensed waste management facilities</td> <td>To be completed by 31st August, 22.</td> </tr> </tbody> </table>				Actions Required	Timeline		Responsibility of package 2 contractor		1	CTO for Batching plant at Dam site	CTO before the start of the batching plant.	2	Obtain outstanding permissions for quarrying and aggregate extraction	Quarry permission pending from DFO, Haflong, Assam. EC to be obtained before extraction of boulder.	3	Obtain outstanding permissions for vehicle registration, ensure that all vehicles and plant including DG sets being used have requisite pollution consent in place.	By 30 th September, 2022	4	Obtain outstanding permissions for groundwater abstraction	If extracted in future prior permission from CGWB is required.	5	CEMP to be updated as required to reflect any changes in mitigation measures as a result of the final EIA Addendum	Will be done after disclosure of the EIA addendum.	6	Development of solid waste management systems including disposal and storage facilities with transport and disposal to suitably licensed waste management facilities	To be completed by 31 st August, 22.
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	7	No waste to be disposed of onsite; all of the waste disposed of to date in a pit is to be removed from project site for transport and disposal to suitably licensed waste management facilities	With immediate effect
	8	Regular housekeeping and cleaning at workers camps including toilets and washing facilities; toilets and washing facilities need to be cleaned regularly minimum of twice per day	Immediately
	9	All sanitation and welfare facilities including toilets and canteen to be connected to minimum of septic tank with soak away for sewage treatment. Ensure discharged wastewater is being monitored per the EMoP to ensure discharge standards being met. No untreated sewage is to be disposed to surface water or ground.	By 30 th September, 2022
	10	All worker accommodation, sanitation, and welfare facilities to meet national and International Labor Organization (ILO) standards Ensure clear and safe are walkways provided to access these facilities Drinking water provided must be in accordance with Indian drinking water standards and the water tested after as well as prior to treatment	Results to be reflected in the July 22 Monthly Environment Report.
	11	Worker accommodation facilities to have proper ceilings to control heat	To be completed immediately
	12	Drainage facilities of adequate design and capacity such that there is no standing water on-site to be constructed/ completed at the worker camps and other construction facilities	By 30 th September, 2022
	13	Complete initial AIDS / HIV awareness training for all workers on site and then undertake regular refreshers	By 31 st August, 2022

	14	Installation of effectively designed and operated sedimentation tanks for sediment laden runoff from concrete batching and exposed soils across the construction site. Ensure discharged water from sedimentation tanks being monitored to demonstrate sediment load being adequately reduced. Ensure that soils exposed on slopes are immediately vegetated or temporarily covered with geotextile to help stabilize them and prevent sediment laden surface water runoff.	By 31 st August, 2022
	15	Shifting of all overburdens after utilization to muck storage or disposal sites; the muck currently stacked along the road in the forest area contrary to the EMP to be utilized or shifted to the muck storage or disposal sites	By 30 th September, 2022 all the overburdens to be shifted to the designated dumping yard. Back filling materials may be kept with proper protection measures.
	16	Surfacing of the permanent and temporary access roads to reduce dust emissions. Sprinkling of water to be undertaken regularly on all access roads to and within the project site, minimum of twice per day but more frequently on dry or windy days	Immediately
	17	Ensure H&S of tunnel works with all persons entering tunnels to have training in confined spaces, a tag-in-tag-out system implemented, adequate ventilation, lighting levels, and oxygen monitoring etc.	To be adhered and annexure 29 of EMP to be followed.
	18	Ensure H&S of all excavations which are to be adequately stored up and barricaded.	Immediately
	19	Ensure all trip and fall hazards are removed, good housekeeping to remove debris lying around project site, covering of openings in floors etc.	Immediately
	20	Ensure traffic controls in place with flagmen at all site entrances off the public highway	Immediately

	21	Ensure that polychlorinated biphenols and asbestos containing materials are not being used in construction works	
	22	Regular monitoring of the water quality is not performed at RO plant. Water quality not monitored between 21.6.2022 to 29.6.2022. Which need to be monitored every time filling the water tank before RO treatment.	Immediately
	23	Drains are not cleared (debris) regularly, and some have stagnant waters which are sites of mosquito breeding.	Immediately
	24	Burning of firewood were observed in the camps which is not allowed as per EMP.	Immediately stop the activities
	25	Burning of solid wastes is not allowed as per Solid Waste Management Rule (SWMR) 2016 and which is a violation of the rule.	Immediately stop the activities
	26	Protection measures to prevent contamination of river water not yet initiated	Immediately take necessary steps
	27	Proper circulation / ventilation of air in the rooms of the camps to be ensured during the summer	Immediately
	28	Biomedical waste plan and Influx management plan pending from Package 2 contractor.	To be submitted by 31 st August, 2022
	29	Water Quality of riverKopili	Agreed
	30	Medical test for Drivers: Construction contractor is required to organised Eyesight and Randomized drug testing (drug and alcohol test) for all Commercial Truck Drivers as per safety protocol for the safety of site staff and locals.	Immediately
	Responsibility of Package 3 & 4 Contractors		
	31	Labour License and Insurance (Package 3)	Immediately the contractor has to submit the copies.
	32	Labour License (Package 4)	Immediately the contractor has to submit the copy.

Responsibility of APGCL		
33	NOC for the Archaeological Site.	To be obtained before submergence.
34	<p>Dam Safety :</p> <p>Detailed design drawings of the dam and foundations are missing, only the list of drawings has been delivered, as well as dam monitoring plan and dam risk assessment.</p> <p>The actualized project implementation schedule should also be always available, in order to identify the priorities for activities to develop taking into account the safety aspects of the dam.</p>	As soon as the Final design is available it will be shared with the independent Dam Safety Expert of External Monitor for review.
35	<p>Biodiversity Management Plan :</p> <p>It needs to be initiated and planned for coming rainy season being a seasonal activity. The following activities in close coordination with the Department of Forest to be initiated:</p> <p>1). Formulation of Biodiversity Monitoring Committee to monitor the BMP activities at project site.</p> <p>2). Biodiversity Monitoring awareness program to be developed with timeline to provide awareness of biodiversity to local community, school and other institutions actively engaged at local levels (if any).</p> <p>3). Self-help groups to be formed for implementing and monitoring the Biodiversity Monitoring activities at local level. If possible and available women may be motivated to participate in self-help group etc.</p> <p>4). It is also suggested to construct water holes, wherever possible and applicable inside the forest for quenching wild animal thirst, which may also greatly avoid human animal encounter and conflicts.</p>	In the Biodiversity Committee meeting to be held by 30 th September 2022.

Number of Health and Safety Incidents	COVID 19 incidents :						
	Month		COVID 19 +ve		Recovered		
	January – June 2022 Total		0		0		
	COVID vaccination status of the staff and workers.						
	Month		1st Dose		2nd Dose		
	January 2022		142		44		
	February 2022		57		161		
	March 2022		23		183		
	April 2022		10		115		
	May 2022		132		55		
	June 2022		29		124		
	Jan - June Total		393		682		
Other incidents :							
Month	Work force	LTi	Dangerous occurrence	Non-Work Related Incident	First Aid Cases	Near Miss Reports	
January 2022	662		0	0	4	2	
February 2022	752		0	0	3	0	
March 2022	781	1	0	0	2	2	
April 2022	841		0	0	2	4	
May 2022	806		1	0	3	3	
June 2022	899		0	0	2	1	
Jan-June 2022		1	1	0	16	12	
Root cause analysis and action taken report for LTI were prepared. (Conclusion of the report : Due to failing, IP cannot hold railing properly while getting down from crane due to oily surface access ladder and handle.)							
Safety Statistics :							
Description			Cumulative for the Project				
No. of Reportable Lost Time Injuries			0				
Frequency Rate (FR)			0.35				
Severity Rate (SR)			2.77				
Million Man-hours worked			2.888587				
No. of Fatalities			-				
GRM Functional	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.
Number of Unresolved Grievances from Prior Reporting Period	Nil related to environment Health and Safety.
Number of Grievances Received in Reporting Period	Nil related to environment Health and Safety.
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 (Figure-1) will be a concrete gravity dam, of height 66.5 m and top longitudinal cross section 335 m. 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. This is the current design and that this has changed since the 2018 EIA. 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 3.64122 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 / 5.2 m diameter (UG section, 610m + 81.9m). The pressure shaft will deliver water to two steel penstocks each of length of about 16.3 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 3.3 m and of length 64 m, and delivered to the turbine through three steel penstocks, each about 26.2m

to 24.2m m long. The designed discharge capacity is 112.71 cubic meter per second (m/s), at a flow velocity of 3.86 m/s and 5.31 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 (final alignment survey not completed), and between the APH to Umrangsu is 22 km. This is the current design and this has changed since the 2018 EIA. The TL corridors are envisaged to by-pass some villages / settlements and to avoid forests (Figure 3).

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 the updated layout map as on 30.06.2022. As transmission line is on the Revenue Land there is no change so far Figure 3.

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 Access to Information Policy 2018, 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 was uploaded in the APGCL web site (<https://old.apgcl.org/EIA.pdf>; <https://old.apgcl.org/EIA%20annexures.pdf> ; <https://old.apgcl.org/EIA%20Transmission%20line.pdf>) 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.

Figure 1: Project Location Map



Figure -2 : Detail Layout Plan (as on 30.06.2022)

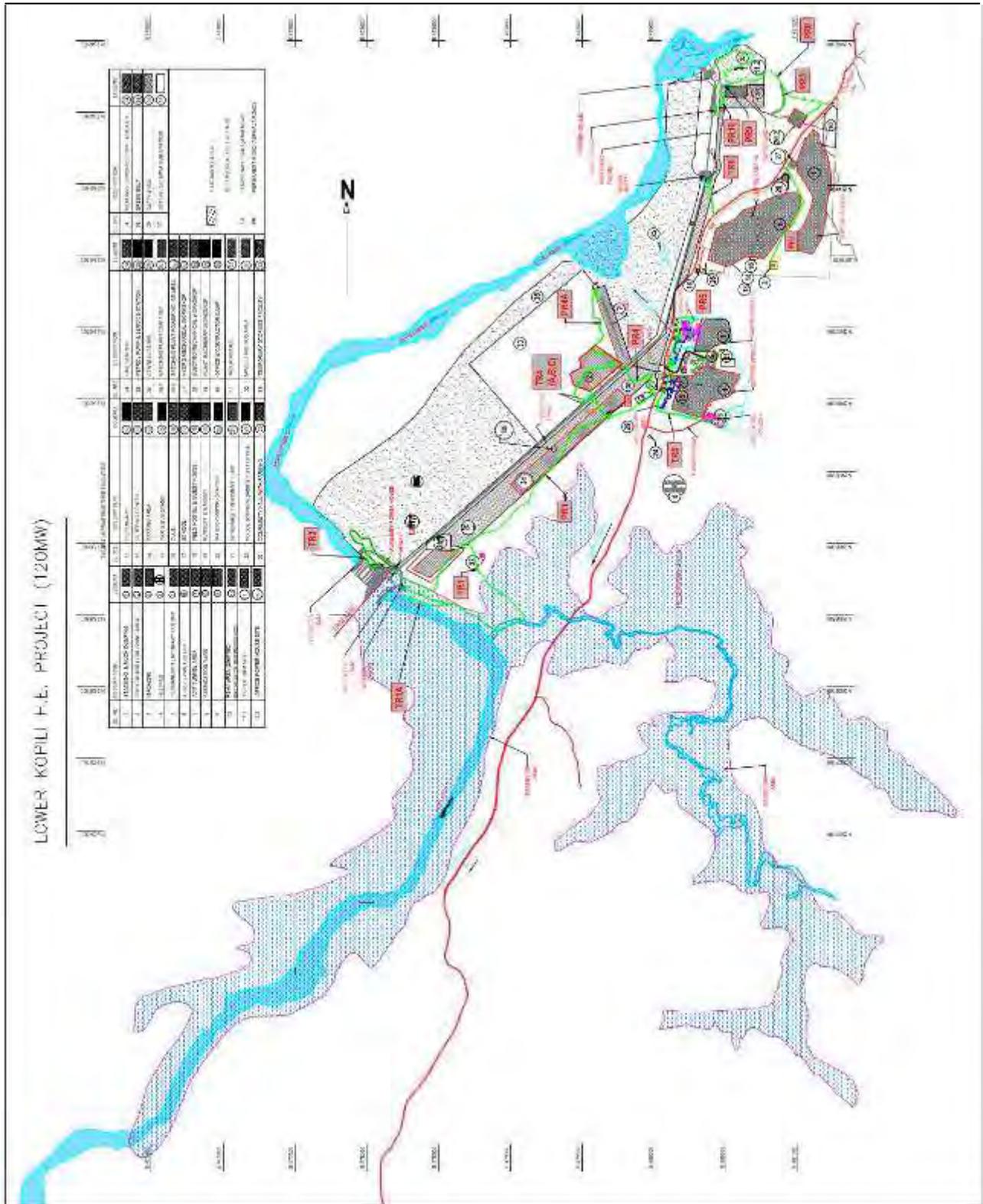
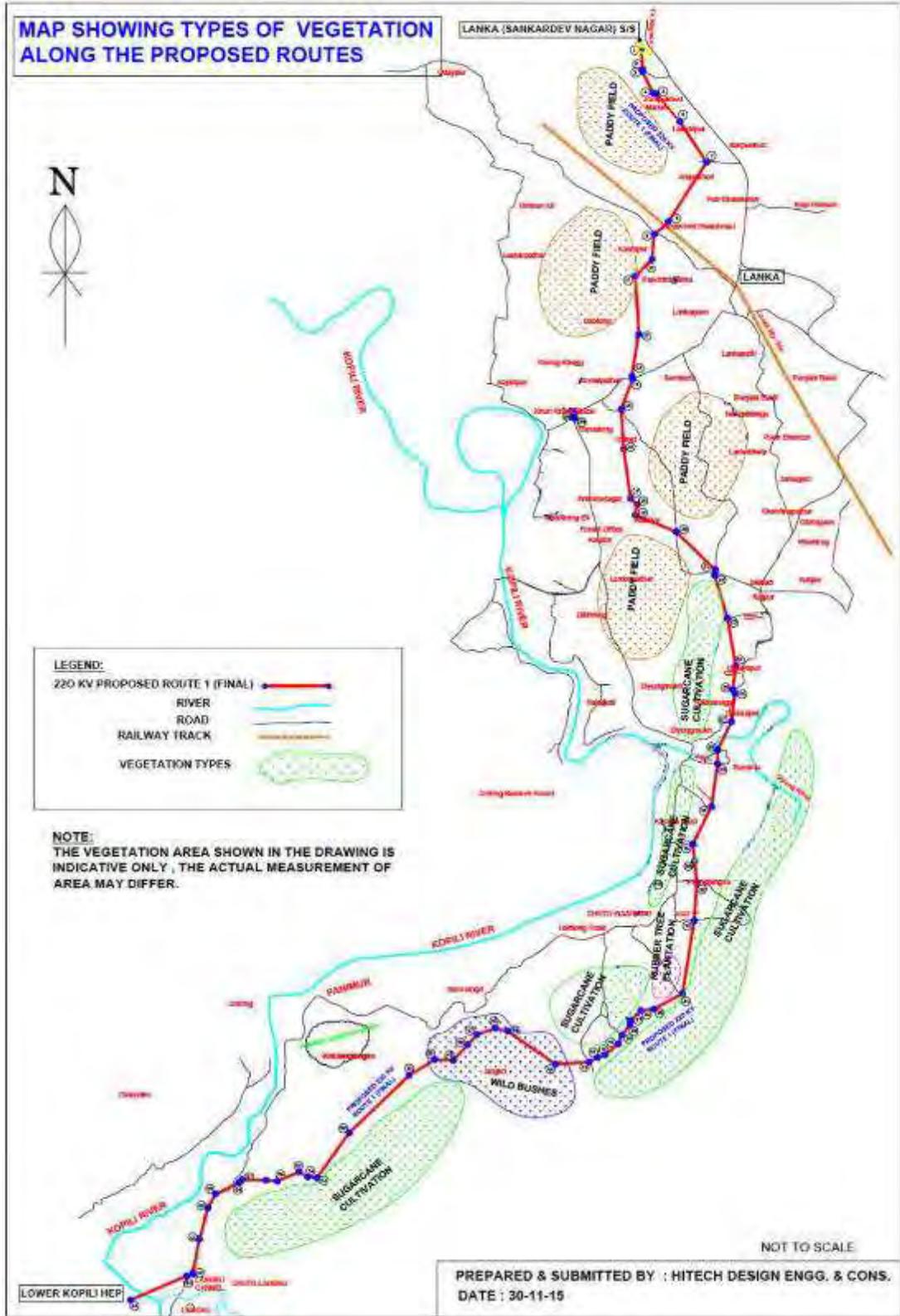


Figure 3 : Layout of Transmission line



A grievance redress mechanism (GRM) is established to deal with complaints on environmental and social issues is also in place and its mandate is to resolve the grievances in a timely manner and the approved GRM was adequately publicized amongst the affected peoples.

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

Figure 5A : Organogram of environmental safeguards staffing

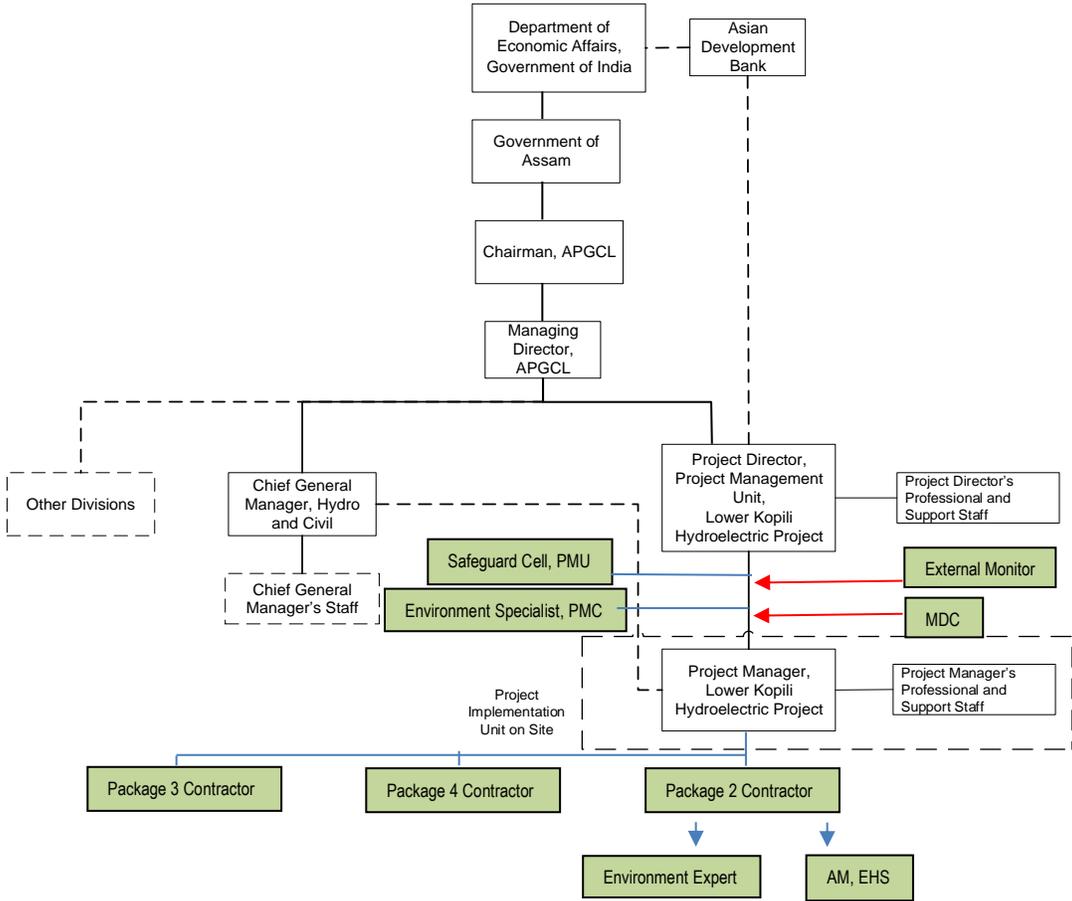
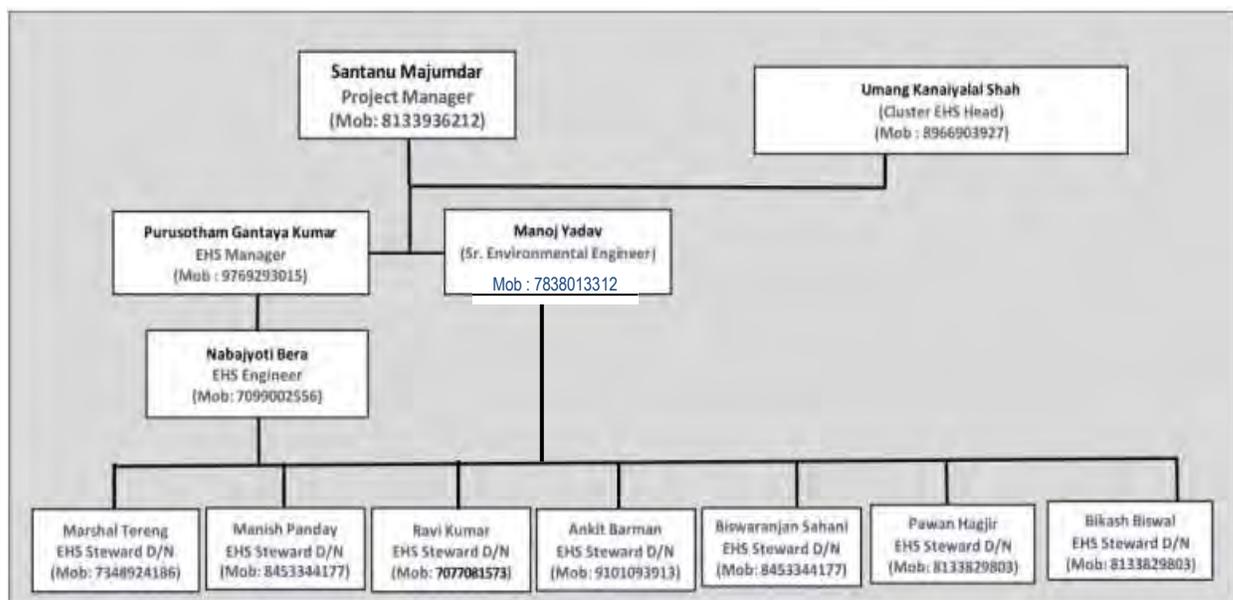


Figure 5B : Organogram of Package 2 Contractors Safeguard Team



(Package 3 and package 4 preparing their safeguards teams.)

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

	Name	Contact no	Email Address
PMU, EE	Dr Deepak Kumar Baruah	9435113521	deepakbaruah007@gmail.com
PMU, EHS	Mr. Dhiraj Borthakur	9435526416	
PMC	Dr Jayanta Das	9435406966	gibbonconservation@gmail.com
Contractor Package 2	Mr. P. G. Kumar	9769293015	
	Mr Manoj Yadav Environment Engineer L&T	7838013312	manojyadav@Intecc.com
	Mr. Naba Jyoti Bera Assistant Manager EHS L&T	7099002556	nabajyotibera@Intecc.com

(Note : Contract of External monitor signed and kick-off meeting was held on 28.12.21 at APGCL, Assam. Subsequent site visits were carried out the month of February and May, 2022.)

Field level supervision are carried out by the Environment Engineer, EHS Manager 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 and corrective actions to be complied. PMC also carry out joint visit with APGCL environment expert, APGCL EHS Officer 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	Awarded on	Target Completion Date	Progress Status	Physical Progress	Remarks
<ul style="list-style-type: none"> Contract award (Package 2) (Civil and Hydromechanical) (Construction phase) 	<ul style="list-style-type: none"> 5.8.2020 	<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	26.0%	Contract awarded to L&T contractor, Relevant section of the EMP included Labour license and insurance covered 1000 workers.
<ul style="list-style-type: none"> Contract Package 3 (Electro Mechanical) 	<ul style="list-style-type: none"> Signing of contract - 2nd November, 2021. Awarded 9th Sept, 2021 Commencement date : 12th November 2021. 	<ul style="list-style-type: none"> 30th June 2024 	Ongoing	3.0%	Contract awarded to M/s Andritz Hydro Private Limited contractor, Relevant section of the EMP included Copy of the labour license and insurance yet to be submitted.
<ul style="list-style-type: none"> Contract Package 1 (Buildings) 			Yet to be awarded		EMP provisions included in the Tender Document.
<ul style="list-style-type: none"> Contract Package 4 (Transmission Line) 	<ul style="list-style-type: none"> Award: 30.06.2022 NOA- 20.04.2022 		Ongoing		EMP provisions included in the Tender Document. M/S. Salasar Techno Engineering Limited JV with

					M/s. Akelik Group OJCS Insurance submitted by the contractor. Annexure 16. Labour License yet to be submitted.
• Contract Package 5 (ERP)					
Lot 1 & ERP Consultancy	31.07.2019 Effective date : 24th Sept, 2019	June 2022		52 %	
Lot 2	Effective date : 25th Jan, 2022			40 %	
Lot 3	NOA issued 27th June 2022		Yet to be awarded		
Lot 4	Under evaluation				
• Asset Valuation	17.01.2020	March 2022		75 %	
• Resources and Community Resilience (under JFPR)			Being administered by ADB. Offers received and under evaluation.		

ERP - Enterprise resource planning

Physical Progress of Package 2 :

A. Road work

Activity	UoM	Scope	Cum Achieved till 30 th Jun'22	Balance Qty
Excavation of Permanent Road-01	M	2,488	2,488	Completed
Excavation of Permanent Road-02	M	680	680	Completed
Excavation of Permanent Road-03	M	310	310	Completed
Excavation of Permanent Road-04	M	1,329	1,329	Completed
Excavation of Permanent Road-05	M	397	397	Completed
Excavation of Permanent Road-07	M	584	584	Completed
Excavation of Permanent Road-08	M	1,552	1,552	Completed
Excavation of Permanent Road-08A	M	95	95	Completed
Excavation of Permanent Road-09	M	165	165	Completed
Excavation of Permanent Road-10	M	188	188	Completed

Excavation of Temporary Road-01	M	1,590	1,590	Completed
Excavation of Temporary Road-01A	M	346	346	Completed
Excavation of Temporary Road-03	M	168	168	Completed
Excavation of Temporary Road-04A	M	252	252	Completed
Excavation of Temporary Road-05	M	1,099	1,099	Completed
Excavation of Temporary Road-06	M	254	254	Completed
Excavation of Temporary Road-07	M	188	188	Completed
Activity	UoM	Scope	Cum Achieved till Jun'22	Balance Qty
Cross Drainage (Box Culvert + Hume pipe culvert)	Nos	12	12	Completed
Rectangular RCC Cross Drainage's	Nos	9	9	Completed
Road drain concreting (side drain)	M	10,545	10,545	Completed
Road GSB laying	M	11,358	11,358	Completed
Road WMM laying (1st Layer)	M	11,358	5,585	5,773
Road WMM laying (2nd Layer)	M	11,358	1,070	10,288

B. Main work

Activity	UoM	Scope	Cum Achieved till Jun'22	Balance Qty
Adit Tunnel UG Excavation				
In tunnel RM	M	355	355	Completed
w.r.t Percentage	%	100	100%	Completed
Diversion Tunnel UG Excavation (Heading)				
From Outlet Portal (Heading)	M	264.9	264.9	Completed
w.r.t Percentage	%	100	100%	Completed
Diversion Tunnel UG Excavation (Heading)				
From Inlet Portal (Heading)	M	148.4	148.4	Completed
w.r.t Percentage	%	100	100%	Completed
Surge Shaft Open Excavation				
w.r.t Volume	cum	75,014	75,014	Completed
w.r.t Percentage	%	100	100%	Completed
Surge Shaft Collar Beam Excavation				
w.r.t Volume	cum	1,078	1,078	Completed
w.r.t Percentage	%	100	100%	Completed

Activity	UoM	Scope	Cum Achieved till Jun'22	Balance Qty
Switch Yard Excavation (As per submitted drawing)				
w.r.t Volume	cum	17,400	17,400	Completed
w.r.t Percentage	%	100	100%	Completed
Valve House Open Excavation				
w.r.t Volume	cum	22,018	22,018	Completed
w.r.t Percentage	%	100	100%	Completed
Horizontal Pressure Shaft Open Excavation				
w.r.t Volume	cum	68,006	68,006	Completed
w.r.t Percentage	%	100	100%	Completed
Adit To HRT Excavation Open Excavation				
w.r.t Volume	cum	19,000	19,000	Completed
w.r.t Percentage	%	100	100%	Completed
DT Outlet Open Excavation				
w.r.t Volume	cum	7,000	7,000	Completed
w.r.t Percentage	%	100	100%	Completed
DT Inlet Open Excavation				
w.r.t Volume	Cum	37,431	37,431	Completed
w.r.t Percentage	%	100	100%	Completed
Right Bank Drift Tunnel Excavation @ EL-190				
In tunnel RM	M	30	30	Completed
w.r.t Percentage	%	100	100%	Completed
Surge Shaft Collar Beam & Granty Foundation Concrete				
w.r.t Volume	Cum	438	438	Completed
w.r.t Percentage	%	100	100%	Completed
Diversion Tunnel UG Excavation (Benching)				
Portal (Benching)	M	413	413	Completed
w.r.t Percentage	%	100	100%	Completed
Intake Structure Open Excavation				
w.r.t Volume	Cum	82,042	82,042	Completed
w.r.t Percentage	%	100	100.0%	Completed
HRT UG Excavation Face: II (Adit to Power Intake)				
Portal (UG Excavation)	M	1,241	155.6	1,085.4
w.r.t Percentage	%	100	13%	87%
HRT UG Excavation Face: III (Adit to Surge Shaft)				

Activity	UoM	Scope	Cum Achieved till Jun'22	Balance Qty
Portal (UG Excavation)	M	1,100	115.4	984.6
w.r.t Percentage	%	100	10.5%	89.5%
Surge Shaft UG Excavation				
In tunnel RM	M	47	5	42
w.r.t Percentage	%	100	11%	89%
Pressure Tunnel UG Excavation				
In tunnel RM	M	462	290.9	171.1
w.r.t Percentage	%	100	63%	37%
Inclined Pressure Shaft Open Excavation				
w.r.t Volume	cum	55,548	52,586	2,962
w.r.t Percentage	%	100	95%	5%
Powerhouse Open Excavation				
w.r.t Volume	Cum	1,04,987	88,237	16,750
w.r.t Percentage	%	100	84%	16%
Tail Race Channel Open Excavation				
w.r.t Volume	cum	54,380	33,157	21,223
w.r.t Percentage	%	100	61%	39%
Right Bank Open Excavation				
w.r.t Volume	Cum	1,03,000	52,272	50,728
w.r.t Percentage	%	100	51%	49%
Left Bank Open Excavation				
w.r.t Volume	Cum	1,00,000	11,464	88,536
w.r.t Percentage	%	100	11%	89%
Auxiliary Powerhouse Open Excavation				
w.r.t Volume	Cum	1,24,000	10,123	1,13,877
w.r.t Percentage	%	100	8%	92%
Right Bank Drift Tunnel Excavation @EL-188				
w.r.t Volume	M	45	41	4
w.r.t Percentage	%	100	90%	10%
U/S Cofferdam Concrete				
w.r.t Volume	Cum	39,300	7,121	32,179
w.r.t Percentage	%	100	18%	82%
DT Inlet Structure Concrete				
w.r.t Volume	Cum	5,200	1,309	3,891

Activity	UoM	Scope	Cum Achieved till Jun'22	Balance Qty
w.r.t Percentage	%	100	25%	75%

* Tentative quantities.

C. Site Infrastructure Facility Work:

Employer/PMC Office: Handed over to Employer/PMC.

Employer/PMC Accommodation Status: Current Construction status are as follows [Already occupied by PMC & Employer]:

1. **APGCL Camp (Kopili Block):** Handed over to the Employer.
2. **Dihing Block-1 (10 Units Double bedroom accommodation for Bachelors):** Handed over to the Employer.
3. **Block named after a tributary of Meghna, (4 Units 2 BHK Family Accommodation):** Handed over to the Employer.
4. **Bhogdoi Block (3 Units 2 BHK family Accommodation cum 2 Units Double bedroom bachelors Accommodation):** Handed over to the Employer.
5. **Diyung Block (Mess cum 6 units of Double bedroom bachelors Accommodation):** Handed over to the Employer.
6. **Fencing Work:** Completed

Contractor's Worker Camp Accommodation Status:

- Labour Block No.1 (Manas Block): Completed.
- Labour Block No.2 (Lohit Block): Completed.
- Labour Block No.3 (Digaru Block): Completed.
- Labour Block No.4: Completed.
- Labour Block No.5: Completed.
- Labour Block No.6 (Mess cum 6 units of accommodation): Completed.
- Labour Block No.7: Completed.
- Labour Block No.8: Completed.
- Labour Block No.9: Completed.
- Labour Block No.10 (Toilet Block): Completed.
- Labour Block No.11 (Shower Block): Completed.
- Labour Block No.12 (Toilet Cum Shower Block): Completed.
- Labour Block No.13 (Toilet Block): Completed.
- Labour Block No.14 (Shower Block): Completed.
- Labour Block No.15 (Toilet Cum Shower Block): Completed.
- Labour Block No.16 (Mess Block-1 & 2): Completed.
- Labour Block No.17 (Mess Block-3): Completed.
- Labour Block No.18 (Mess Block-4): Completed.

Contractor's site Office: Completed.

Staff Mess: Completed.

RMP Centre: Completed.

Staff - Manager Accommodation-1: Completed.
Staff - Manager Accommodation-2: Completed.
Staff - Manager Accommodation-3: Completed.
Staff - Bachelor Accommodation-1: Completed.
Staff - Bachelor Accommodation-2: Completed.
Staff - Bachelor Accommodation-3: Completed.
Staff - Bachelor Accommodation-4: Completed.
Staff - Bachelor Accommodation-5: Completed.
Staff - Bachelor Accommodation-6: Completed.
Staff - Bachelor Accommodation-7: Completed.
P&M Workshop: Completed.
Fabrication Workshop: Completed.
Main Store: Completed.
Store No. 2: Completed.
Quality Assurance & Quality Control Lab: Completed.
Crusher Plant (200 TPH): Completed.
Batching Plant (60 cum/hr Capacity) at Powerhouse complex: Completed.
Batching Plant (120 cum/hr Capacity) at Dam complex: Foundation & Erection works in progress.
Explosive Magazine: Completed.
Weigh Bridge: Completed.
P&M/Store Office: Completed.

During January 2022 to June 2022 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&CC 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. The EIA is being updated to reflect the change in layout.

There was no change in the environmental safeguards staffing during the reporting period. There was increase of 2 stewards looking after EHS at site.

Moreover no unanticipated impacts and updates to EIA/EMP that were required during the reporting period.

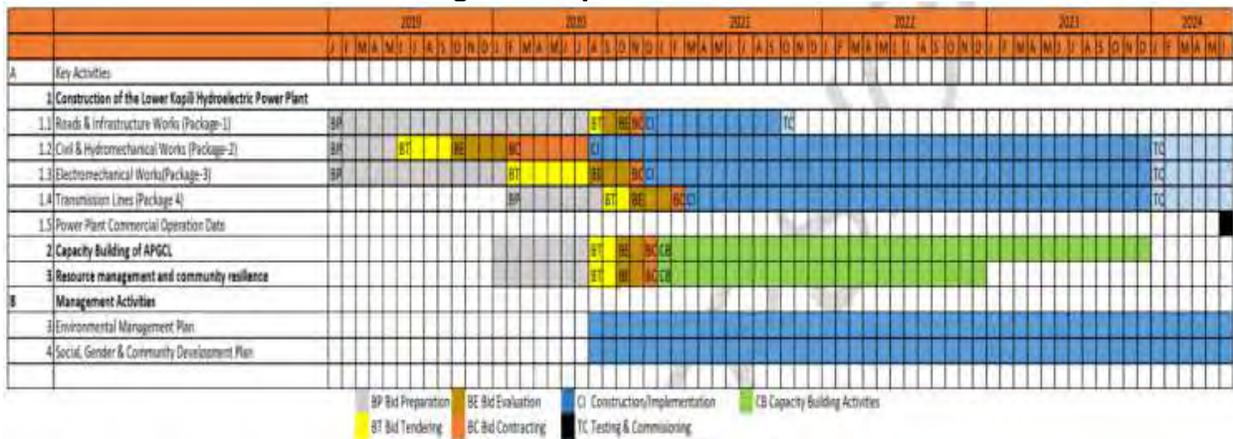
Contractor’s Resource Mobilization :

Number of workers on site – 899 for the month of June 2022 and 32 key personnel for the Contractor.

Month	Number of workers
Jan’22	662
Feb’22	752
Mar’22	781
Apr’22	841
May’22	806
June’22	899

Implementation schedule is shown in the figure 6.

Figure 6 Implementation schedule



(As per PAM)



(As per QPR April to June 2022)

2.0 Compliance to National Regulations and International Agreements

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

Status of international agreement compliance are given below.

Table 3.1: International Treaties and Agreement Signed and Ratified by India

S. No.	International Agreements and Commitments	Applicability	Date of Signing / Ratifying	Status of Compliance
Nature Conservation				
1	Convention on International Trade in Endangered Species of Fauna and Flora (CITES)	Yes	Signed by India in 1976	Being Complied
2	The Wildlife Trade Monitoring Network (TRAFFIC)	Yes	-	
3	Convention on Migratory Species (CMS)	Yes	-	
4	Coalition Against Wildlife Trafficking (CAWT)	Yes	-	
5	Convention on Biological Diversity (CBD)		Ratified February 1994 and September 2003 by Protocol.	
6	International Tropical Timber Organization (ITTO)	Yes	-	
7	United Nations Forum on Forests (UNFF)	Yes	-	
8	International conventions such as the International Union for Conservation of Nature and Natural Resources (IUCN)	Yes	-	
Hazardous Material				
9	Strategic Approach to International Chemicals Management (SAICM)	Yes	-	Being Complied
10	Basel Convention on the Control of Trans-boundary Movement of Hazardous Waste and Their Disposal	Yes	Adopted on 22 March 1989	
11	Rotterdam Convention on Prior Informed Consent (PIC) for certain Hazardous Chemicals and Pesticides in International Trade	Yes	Adopted in 1998	
Atmospheric Emissions				
12	United Nations Framework Convention on Climate Change (UNFCCC)	Yes		Being Complied
13	Kyoto Protocol	Yes	Signed by India in August 2002 and ratified in February 2005.	
14	Paris Agreement	Yes	Ratified by India on 2 October 2016. The agreement entered into force on 4 November 2016.	
15	Montreal Protocol (on Ozone Depleting Substances)	Yes	India signed on 17-9- 1992 and also ratified on 3rd March, 2003	

Source: MoEF&CC, India.

Status of the statutory clearances are shown in the table 3.2.

Table 3.2 : Statutory Clearances

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
1	Environment Clearance	Environment Protection Act 1986	MoEF&CC, GOI	Accorded	EC No. J-12011/26/2012-IA-I dated 04th September, 2019 Few EC conditions are in process for compliance.
2	Forest Clearance	Forest Conservation Act, 1980	MoEF&CC, GOI	Accorded	<ul style="list-style-type: none"> • Stage 1 F.No.8-53/2018-FC dated 5th February, 2019 • Stage 2 File No. 8-53/2018FC dated 4th December, 2020 • Certificate of possession of Forest Land Dima Hasao vide letter No. FRS/D/10/LKHEP/ APGCL/2021/404 date 10.06.2021. • Certificate of possession of Forest Land Karbi Anglong vide letter No. A/HRN/LKHEP/20 20-21/490 dated 03.07.2021. <p style="text-align: center;">Annexure 1</p> <p>FC conditions complied.</p>
3	Quarry				
A	Permission of the State Government for extraction of boulders from quarry. Location: Longku, Dima Hasao	1.NOC from North Sachar Hills Autonomous Council commencement Concession Rules, 2013	Stage-1. North Cachar hills Autonomous Council	Approval Awaited from North Cachar Hill Autonomous council (NCHAC).	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
		2. Mining Plan approval from department of geology and mining, Assam. Assam Minor Minerals commencement Concession Rules, 2013	Stage-2. Department of geology and mining, govt. of Assam	Mining Plan Approval received on dtd. 11th May'22 vide reference no: 31:33GM/MM/86-B (40)/Pt. VI/667-73.D31	
		3. Approval from Divisional Forest Officer, Haflong	DFO, Dima Hasao West, Haflong	Application submitted for approval from DFO, Haflong on 23.5.22.	
Note: FC clearance not required for quarry at Kala Nala and other quarry site. Forest Department has accorded permission for deposition of Forest Royalty and given permission for extraction. Separate EC required before extraction.					
B	Permission for crushing of boulders from excavated materials	1. Permission for crushing 80,000 cum of boulders from excavated materials	DFO, Dima Hasao West, Haflong	Permission received from DFO, Dima Hasao West, Haflong on 20th Dec'21 vide letter no. refer letter no: FRS/G/101(a) Stone-Chips/L&T/2020-21/Pt-IV/2853-56	
		2. Permission for crushing 2,00,000 cum of boulders from excavated materials	DFO, Dima Hasao West, Haflong	Permission received from Principal Secretary (N), NCHAC on 8th Mar'22 vide letter No. letter no: FRS/Sectt/SP/15 5/2010-21/L/2/278	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
C	Permission of the State Government for extraction of Fine aggregate from quarry. Location: Up Stream and Downstream of Dam, Dima Hasao. (2 quarries)	1.NOC from North Sachar Hills Autonomous Council 2. Mining Plan approval from department of geology and mining, Assam. Assam Minor Minerals commencement Concession Rules, 2013	Stage-1. North Cachar hills Autonomous Council Stage-2. Department of geology and mining, govt. of Assam	After receipt of the approval Mining plans will be submitted for approval. Meanwhile Trial Mix programme with crushed sand is in progress.	
4	Batching Plant (Near Power House)				
A	Permission of Village Panchayats (Gaon burah) for installation of batching plant. Location: Totelangso, Dima Hasao	Permission from Village Panchayats.	Applied to Village Panchayats for installation of Crushers on 30-06-2021	Approval Received on 30.06.2021	NOC Received from Village Panchayats for setting up Batching Plant near Totelangso, Dima Hasao.
B	Permission of the State Government	NOC from North Cachar Hills Autonomous Council	North Cachar Hills Autonomous Council	NOC received from NC Hills Autonomous Council vide letter no. FRS.Sectt./S. Crusher/45/2018-19-20/L/2 dated 19th Oct, 2021.	
C	Clearance of Pollution Control Board for setting up Batching Plant. Consent to Establish – (CTE) Location: Powerhouse, Totelangso, Dima Hasao	CTE from State Pollution Control Board, Assam	Pollution control board, Assam for installation of Batching Plant.	CTE obtained from PCBA vide Ref. No. WB/SLC/T-1191/21-22/7/1076 dated 11th November, 2021	
D	Clearance of Pollution Control Board for setting up Batching Plant. Consent to Operate – (CTO) Location:	CTO from State Pollution Control Board, Assam	State Pollution Control Board, Assam	CTO Received vide order No. WB/SLC/T-1191/21-22/17 dated 27th December 2021.	CTO application submitted on 838921 dated November 2021

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
	Powerhouse, Totelangso, Dima Hasao			Valid till 31.03.2025	
5	Batching Plant (Near Dam)				
A	Batching Plan (Dam), CTE, CTO	CTE	State Pollution Control Board, Assam	CTE obtained on 23rd June 2022 vide No. WB/SLC/T-1191/21-22/24.	Annexure 12
B		CTO	State Pollution Control Board, Assam	Application submitted	
5	Crusher				
A	Permission of Village Panchayats (Gaon burah) for installation of crushers. Location: Totelangso, Dima Hasao.	Permission from Village Panchayats. The Assam Stone Crusher Establishment and regulation rule 2013 (Crusher)	Applied to Village Panchayats for installation of Crushers on 30-06-2021	Approval received.	NOC Received from Village Panchayats for setting up Crusher
B	Permission of Pollution Control Board for installation of crushers. Consent to establish-(CTE)	Permission from Pollution Control Board, Assam	Applied to Pollution Control Board for installation of Crushers.	CTE obtained from PCBA vide Ref. No. WB/SLC/T-1184/21-22/06/1065 dated 22nd October, 2021	CTO application submitted on 5 th November 2021. CTO Application number 810264.
C	Permission of Pollution Control Board for installation of crushers. Consent to Operate -(CTO)	Permission from Pollution Control Board, Assam	Pollution Control Board Assam	CTO received from PCBA on 7/12.2021 vide Ref no. WB/SLC/T-1184/21-22/09/1152.	
6	Fuel dispensing Unit				
A	(NOC) from Deputy Commissioner Govt of Assam, for setting up Fuel dispensing Unit at Project location.	Deputy Commissioner Govt of Assam / Petroleum Act, 1934 and Rules 2002	The Deputy Commissioner, Dima Hasao, Haflong; Government of Assam.	NOC received from The Deputy Commissioner, Dima Hasao, Haflong; Govt. of Assam	
B				NOC Received from PESO.	Valid till 31/12/2021

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
				P/EG/AS/14/1630 (P502141) dated 6/12/21	
C				Jt. Chief Controller of Explosives, Guwahati	Permission of storage of 20 kl. Valid till 31/12/2021
7	Magzine				
A	No Objection Certificate Obtained from "PESO" for establishment of Explosive magazine.	Petroleum and Explosives Safety Organization / Explosive Rules, 2008 (under act of 1884)	Petroleum and Explosives Safety Organization, Kolkata.	NOC obtained from Employer, further NOC from PESO is under progress.	NOC applied to PESO for establishment of Explosive magazine. Storage approval pending from PESO.
B	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. / Explosive Rules, 2008 (under act of 1884)	The Superintendent of Police, Dima Hasao District, Haflong.	Permission Received vide letter No. HFG/DSB/80/2021/1122dated 02.06.2021	Permission Received from Superintendent of Police, Dima Hasao District, Haflong.
C	No objection Certificate for third party handling of explosives and its blasting operation which will be carried out by M/s. R.L. Poddar and North East Associates, Shillong		District Magistrate, Dima Hasao, Haflong	NOC received on 22 nd October 2021 vide letter no. NCH/M-8/2021/6378-83	
D	No objection Certificate for grant of Explosive license and Magazine construction in favour of M/S R.L. Poddar for L&T.		District Magistrate, Dima Hasao, Haflong	NOC received on 27 th October 2021 vide letter no. NCH/M-3/20-21/L/2-A	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
E	Fire NOC / Fire License	As per NOC of District Magistrate, Dima Hasao, a fire tendering facility is essential for storage of explosives in the Magazine	Sr. Station Officer, Fires and Emergency Service Station, Halfong, Dima Hasao	Application submitted on 19 th November 2021 vide letter no LKHEP-PKG2/LNT/155/G L/085.	NOC pending
		NOC	Office of the Director , Fire and Emergency Services, Assam, Guwahati. Application for Fire Safety NOC submitted vide Letter No: LKHEP-PKG2/LNT/153/GL /102 dtd. 23th Dec'21.	NOC obtained vide letter no. F&ES/FPW/3995/1531/22 dated 17.03.2022	
8	Blasting				
	Non Objection Certificate for blasting operations for construction of 120 MW Lowe Kopili Hydrel Electric Project at Longku Dim Hasao	Deputy Commissioner, Dima Hasao District, Halfong. / Explosive Rules,2008 (under act of 1884)	Deputy Commissioner, Dima Hasao District, Halfong.	Approval Obtained. Letter no. NCH/M-8/2021 dated 14th Jul'21	Application submitted vide Letter No.: LKHEP-PKG2 /LNT /153 /GL/21 dtd. 31st May'21
The Superintendent of Police, Dima Hasao District, Halfong, Assam			Permission received vide letter No. HFG/DSB/80/202 1/1122	Permission Received from Hon'ble Superintendent of Police, Dima Hasao District, Halfong.	
Sr. Station Officer, Fire & Emergency Service Station, Dima Hasao, Halfong, Assam			Permission received.	Application for Granting No objection for blasting operation vide Letter No: LKHEP-PKG2/LNT/153/G L/26 dtd. 2nd July'21	
			The District Magistrate, Dima	Permission received.	Application for Granting No objection for

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
			Hasao, Haflong, Assam		blasting operation vide Letter No: LKHEP-PKG2/LNT/153/G/LNIL dtd. 13th July'21
			ASI L Bishuk Singha In-Charge, Longku out post.		Intimated vide letter No. LKHEP-PKG2/LNT/153/LL/33 dtd. 15th July'21
			Gaon Burah, Village- SAPRU	Intimated Blasting Timing 07 am to 8 am 1 pm to 2 pm 4 pm to 5 pm	Intimated vide letter No. LKHEP-PKG2/LNT/153/LL/34 dtd. 15th July'21
			Office-in-Charge Umransu Police Station	Intimated Blasting Timing 07 am to 8 am 1 pm to 2 pm 4 pm to 5 pm	-Intimated vide letter No. LKHEP-PKG2/LNT/153/LL/35 dtd. 15th July'21
		Request for issuing No Objection Certificate for explosive supply chain management & blasting operation	The Hon'ble Deputy Commissioner, Dima Hasao District, Haflong, Assam	Permission Received vide letter No. NCHM/M-8/2021/6378-83 dtd. 22nd Oct'21	
	Blasting permission at Hamren Division, Karbi Anglong [Left Bank of Dam]			Permission received from DC Office, West Karbi Anglong, Hamren. Valid till 30th June 2022. Blasting time 10:00 to 16:00. Order No. HCA.26/2009-16/498 dated 12th January, 2022.	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
	Night Shift Blasting Permission inside tunnels [Panimur range]		DC Office, Haflong, Dima Hasao.	Permission received from DC Office, Haflong, Dima Hasao. Permission given upto 21st July 2021 and revoked back on 22nd July 2021.	
9	Labour License				
A	Permission of Labor commission for labour license	Labour Laws / Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner Assam Gopinath Nagar, Guwahati 781016	S.No.327 2 License No. CLL (Assam) 06/2020/3 272 dt. 9.12.20	Valid till 9/12/2022 Covered 1000 workers. Annexure 2 Copy of the Labour License
B	Building and other construction works	Building and other construction works (Regulation of Employment & Conditions of Service) Act, 1996 and the Rules made thereof.	Government of Assam Office of the Labour Officer, Dima Hasao, Haflong	Sl No. 133 License No. B&OCW-133 Dated 21st September 2021	Validity 1/11/2021 to 31/09/2024 For 1000 workers / day. Annexure 3
C				Amendment for 1000 workmen received on 05th Apr'22.	
10	Tree Cutting				
	NOC for tree cutting	Indian Forest Act, 1927	Forest Department Assam		Tree cutting in progress with assistance/ presence of officials of Forest Department, Panimur Range, Dima Hasao (West) Division and APGCL. All the trees are marked and felled by the respective Forest Department.
11	Ground water extraction				

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 th June 2022	Remarks
	Permission of the State Government for drawing water from river.	Water (Prevention & Control of Pollution) Act, 1974; and Amendments (1988)	Central Ground water Board or District Administration	Application for Permission of ground water extraction submitted vide Letter No: LKHEP-PKG2/LNT/153/G L/78 dtd. 09th Nov'21	
12	NOC for surface Water use for construction				Yet to obtain NOC from Water Resource Department and instruction given to the contractor to comply.
13	Permission from grid power				
	Permission for Temporary grid power connection at Site Infrastructure facility			Available. Contractor's Letter LKHEP-PKG2/LNT/153/G L/009 dtd. 28th Dec'20	
14	PUC of the vehicles				PUC status of 18 vehicles given in the Table 7A. Compliance to Environmental Management Plan
15	The following permissions or Clearances are pending as on 30.06.2022.				
		a. CTO for Batching Plant at Dam site. b. Permission of the DFO, Hamren for extraction of boulders from quarry. c. Clearance from Central Ground Water Board for abstraction of ground water.			
16	Insurance Policies				

Package 2		
Policy Name	Policy Number	Coverage Period
Group Personal Accident Policy for staff	4005/101781287/07/000	01-04-22 to 31-03-23
Group Personal Accident Policy for workers	4005/102843874/07/000	31-03-22 to 30-03-23
Contractor's Plant and Machinery	5011/R/150019780/04/000	01-04-22 to 31-03-23
CAR Insurance	12070044200300000015	28-10-20 to 31-08-24
Package 4		
Policy Name	Policy Number	Coverage Period
Workman Compensation Insurance (10 skilled, 30 Semi skilled, 10 unskilled)	4010/252569944/00/000	12.7.22 to 11.07.2023

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	Response
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. Package 2 Contract awarded in 2020. Subsequently other packages 3, 4 were awarded.	
	ii)The EA has incorporated the relevant provisions form the EMP into the Works contract	Complied		
	iii)The EIA is updated to reflect the turnkey contractor's detail design and up to date baseline.	All the designs of the components of the project were not finalised by package 2 EPC contractor and approved by	EIA addendum under revision	

Schedule #, Para. #	Covenant	Compliance Status	Remarks	Response
		PMC, APGCL and Independent Dam Safety Expert of External Monitor it was not possible to update the EIA before the initiation of the package. But as a corrective action EIA is being updated by an addendum. Package 1 – Being complied		
	iv) such updated EIA is cleared by ADB	Not complied	Ongoing	
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	Contract awarded on 24 th December 2021. External Monitor validated the environmental monitoring report for the period July to December 2021 and the report was submitted to ADB. External Monitor has visited the site in the month of February and May, 2022 and. The six monthly Environment Monitoring Report January to June	

Schedule #, Para. #	Covenant	Compliance Status	Remarks	Response
			2022 validated by them.	
	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 January to June 2022 as reported in the table 22 will be complied within the timeline. EA will facilitate wherever necessary to obtain the required clearances / CTE / CTO, 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.	Being complied for the period January to June 2022. Few non compliance reported during January to June 2022 in the Table 22 (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	Being complied		

Schedule #, Para. #	Covenant	Compliance Status	Remarks	Response
	resources to fully implement the EMP, and the RIPP as required, are made available on a timely basis.			
Schedule 5, Para 10	<p>Safeguard related provisions in Bidding Documents and Works Contracts.</p> <p>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 :</p> <p>(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.</p>	Complied.	<p>For <u>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.</p> <p><u>Other packages</u> Similarly for Package 1 (Building), Package 3 (Electro Mechanical) and Package 4 (Transmission Line) tender documents prepared incorporating the measures suggested in EIA, EMP and the CRIPP.</p> <p>(Annexure 10) Package 3 and Package 4 were already awarded.</p>	
	(b) make available a budget for all such environmental and social measures.	Complied	EMP budget is part of EIA Report. Contractor incorporated the budget for E&S in their Bid as it is a EPC contract.	
	(c) provide the EA with a written notice of any unanticipated environmental or resettlement risks or impacts that arise during	Being complied		

Schedule #, Para. #	Covenant	Compliance Status	Remarks	Response
	construction, implementation or operation of the Project that were not considered in the EIA, EMP, RIPP, RF or the IPPF.			
	(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.	Being complied	NA as the project is in construction phase. Land compensation paid.	
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 complied.	Third report compiled for the period January to June 2022.	
	(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 #, Para. #	Covenant	Compliance Status	Remarks	Response
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.			
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	Not complied during Jan June 2022	During the health camps and AIDS awareness camps conducted earlier, workers were given instructions related to communicable diseases including HIV and its preventive measures.	Contractors were instructed to carry out AIDS awareness camps
	(b) follow and implement all statutory provisions on labour (including not employing or using children as labour, equal pay for equal work) health, safety welfare, sanitation, and working conditions.	Being complied		Health camps organised. AIDS awareness camp was not organised during Jan to June, 2022.
	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, Morigaon and Hojai			Will be formed after the receipt of the Grant.
Implementing Agency	Assam Power Generation supported by PMC Corporation Limited (APGCL)	(i) Conduct overall coordination, preparation, planning, and implementation of all field level activities; (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;	Complied Being complied Being complied	Adhered

Organization		Tasks	Compliance Status	Remarks
		<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>Being complied</p> <p>Complied and ongoing</p> <p>Complied through APGCL and ongoing</p> <p>Complied through MPR Ongoing Ongoing</p> <p>Complied and ongoing</p> <p>Being complied</p>	<p>Since the EIA was based on environmental surveys completed in 2015, given the passage of time, APGCL undertook an up-to-date suite of surveys (including flora and fauna surveys following previous methodologies) in 2021 to confirm if there have been any significant changes to the environmental</p>

Organization		Tasks	Compliance Status	Remarks
				<p>baseline in the past 5 years and the impact assessment remains valid. These surveys also provide an up-to-date baseline for the purposes of monitoring the project's environmental impacts during construction and operation. The EIA is being updated to reflect the detailed designs and survey results for review and clearance of ADB, including any temporary enabling works.</p> <p>The CEMP of the Package 2 contractor are being updated by APGCL to include the environmental clearance and forest clearance conditions and, in response to the ongoing COVID- 19 pandemic.</p>
		<p>The designated dedicated social and environmental safeguards cell (SESC) with a full-time environmental specialist and a full-time social specialist. The SESC will implement EMP and RIPP and be responsible for safeguards monitoring.</p>	<p>Social and environmental safeguards cell (SESC) formed within PMU</p>	<p>Dr Deepak Kumar Baruah as Environment Expert and Mr Pankaj Kumar Hazarika as Social Expert</p>

Organization		Tasks	Compliance Status	Remarks
				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 so far.
Para 53.		a) training and capacity building b) Dam safety expert	a) Ongoing b) Internal Dam Safety Expert of the External Monitor will act as the Independent Dam Safety Expert for the project.	TOR for training and capacity building are being prepared. Independent Dam Safety Expert of External Monitor will review and designs of the dam components and implementation of the provisions of Dam Safety. As per the provision of the Dam Safety Act 2021, APGCL has proposed to the Government of Assam to constitute a interdisciplinary team of experts for the state level committee on

Organization		Tasks	Compliance Status	Remarks
				dam safety. State Dam Safety Committee has been constituted by Government of Assam. Training and capacity building will be carried out under Dam Safety organization as soon as it is formed under the same Act.
		a) External monitor appointment	External monitor engaged.	External Monitor was engaged in the month do December, 2021 and the kick-off meeting was on 28th December, 2021. Subsequent visits were carried out in the month of February and May, 2022. Inception report and Validation report of six monthly Semi Annual Report for July to December, 2021 submitted to ADB.
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.	Project layout changed for the compliance of FAC, MoEF&CC. Addendum for	

Organization		Tasks	Compliance Status	Remarks
		For any non-compliance with the EMP APGCL will take necessary corrective actions to bring the project back into compliance.	EIA update is under process.	
Para 62. HIV/AIDS		NGO will carry out HIV/AIDS awareness for their laborers at work sites	Being complied and ongoing	AIDS awareness were done by the package 2 contractor.
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 provide appropriate facilities for women and children in construction campsites; contractors do not differentiate wages between men and women for work of equal value.	Being complied	
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	Being complied.	

Organization		Tasks	Compliance Status	Remarks
		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.	External monitor engaged and prepared and will continue to prepare the validation reports every six months.	

Sample field visit report of 28th to 30th June, 2022 is given in [Annexure -4](#)

5.0 Compliance to Contract

The table 6 shows the compliance to the contract provision during the period January to June 2022.

Table 6 : Compliance to Contract provisions

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
Package 1			(Building and internal roads) Yet to be awarded
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>	<p>Complied</p> <p>Complied</p> <p>Being complied</p> <p>Complied</p>	<p>L&T appointed Mr Manoj Yadav as Environment Expert.</p> <p>Submission of monthly Environment Report started from November 2020. The 20th MER was submitted for the month of June 2022. Annexure 5 App based safety monitoring system of L&T</p> <p>Package 2 CEMP and H&S Plans submitted by the contractor and it has been approved by APGCL and PMC. Package 3 CEMP and H&S Plans are being prepared.</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<ul style="list-style-type: none"> The Contractor will be responsible for the security, safety & health and Group insurance of his Employees. <u>Clause 6.1.10.1.c.</u> Provide and maintain at his own cost, fencing, warning signs and watch & ward. <u>Clause 6.1.10.1.d.</u> Take all reasonable steps to protect the environment. <u>Clause 6.1.10.1.e.</u> The contractor will protect the environment following the principles of Approved Environment Management Plan. <u>Clause 6.1.10.1.f.</u> The Officer-in-Charge of Safety will submit monthly safety report <u>Clause 6.26.3</u> Environmental obligations 	<p>Being complied</p> <p>Being complied</p> <p>Being complied</p> <p>Being complied</p> <p>Being complied</p>	<p>After reviewing all the monthly safety and Monthly Environment reports PMC and APGCL observations are made and communicated to the contractor for compliance. All the observations are also mentioned in the PMC's MPRs. Those which are not complied are flagged in the Six monthly monitoring reports.</p> <p>Non compliance with corrective actions are reported in Table 22.</p> <p>Although L&T has online safety reporting system, Monthly Safety Report submitted regularly. Sample copy for the month of June 2022 is annexes in Annexure 6</p>
Package 3			ADB approved Tender Document. Contract awarded.
Package 4			ADB approved Tender Document. Contract awarded.

6.0 Compliance to Environmental Management Plan

Right now only package 2 contractor is in place, so it is now a combined one. From the next Six monthly reports all the contract packages compliance will be dealt separately.

Table 7. Compliance to Environmental Management Plan

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
DESIGN AND PRE-CONSTRUCTION PHASE				
1	Impact on air, water, noise, soil	Location and design of power house,	<ul style="list-style-type: none"> Siting of colony away from construction areas 	Planned and is in tender doc and in contract EMP.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
	Exposure to safety related risks	office, substation and colony	<p>including plantation all around colony.</p> <ul style="list-style-type: none"> • 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. • 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. 	 <p>Plantation all around colony.</p>
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 tender doc

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
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 use of agricultural and cultivable land. Package 1, 2 & 3 facilities are concentrated in three patches in revenue land and in 4 patches of Forest land. 
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 GoI and ADB SPS 2009 requirements. 	Compensation done as per entitlement matrix of CRDTP. Mostly completed. Land compensation completed 100 %. and other R&R assistance also initiated from April 2022.
6	Loss of precious Ecological values/impacts on precious species due to	Encroachment into precious ecological areas.	<ul style="list-style-type: none"> • Minimize acquisition of forest areas. • Avoid encroachment by careful site and alignment 	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

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
	acquisition of 523 ha of forest land		<p>selection of access roads, and transmission lines.</p> <ul style="list-style-type: none"> 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). 	<p>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. If CAT plan plantation areas are included it comes around 1:3. (Annexure 17)</p> <p>Compensatory Afforestation plan is planned to be included in the Annual Operation Plan of the Forest Department, Govt. of Assam for the year 2022-2023.</p> <p>Biodiversity Conservation plan is yet to be initiated.</p> <p>Trees are marked and cut by the Forest Department only.</p>
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. 	<p>Quarterly test are being carried out in March 2022 and found within the CPCB norms.</p>
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 	<p>Followed</p> <p>Dam Break Analysis and Disaster Management Plan already done in EIA</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			plan has been prepared (Annex 30).	consultant. The plan is available in the EIA Annexure 30.
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 impermeable concrete floor. Powerhouses/substations to include drainage and sewage disposal systems (septic tanks, sewage treatment plant) to avoid offsite land and water pollution. 	<p>Designed and implemented for the construction power substation. Bermed constructed in substation.</p>  <p>Fence constructed.</p>  
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 for construction power and will be implemented for evacuation substation.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
				
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. All the measures were taken into consideration during the pre construction and design.
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 times of cutting. • Compensatory afforestation plan prepared. 	<p>Planned and under implementation.</p> <p>Bare minimum trees were removed when it was absolutely necessary. Tree cutting were done under the supervision of Forest Department of both the divisions.</p> 

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
				Compensatory afforestation plan prepared by the Forest Department and the cost for implementation was deposited to CAMPA account by APGCL.
14	Removal of vegetative covers (dust, pollution)		<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		<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. 	Shifting of utility is not required so far.
16	Religious places	Work site	<ul style="list-style-type: none"> • Suitable mitigation measures have been incorporated in social impact assessment report. 	Reported in SSMR.
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. 	<p>Office site plan approved by PMC and APGCL. Site EMP submitted by Package 2 contractor and approved by APGCL after review of Environment cell of APGCL & PMC. Additional Plans like Muck Management Plan, Influx management plan, revised Solid waste Management Plan etc to be incorporated by Package 2 contractor. Construction EMP approved by APGCL.</p> <p>Solid waste Management Plan submitted to APGCL by Package 2 contractor and final design of the landfill site under preparation.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
				<p>All the toilets have the septic tanks and potable water are connected to all the toilets.</p>   <p>Drinking water was supplied from the RO Plant.</p>   <p>Waste segregation at source</p>
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 from forest departments Include EMP in the contract documents. 	Obtained EC and FC. EMP included in the Contract document.
CONSTRUCTION PHASE				
1.	Impact and air, water, noise, soil	Civil construction work for power	<p>Air Pollution:</p> <ul style="list-style-type: none"> All the vehicles must have valid PUC 	<p>PUC monitored for vehicles time to time.</p> <p>Annexure 7 sample PUC.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022																																																																																																																		
		house, tunnel, office, substation, access roads, colony etc.	certificates at all the time during construction phase of the project.																																																																																																																			
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			<ul style="list-style-type: none"> 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. <p>Control of Emission</p> <ul style="list-style-type: none"> The contractor will be responsible for maintaining properly functioning construction equipment to minimize exhaust. Construction equipment and vehicles will be turned off when not used for extended periods of 	<p>Water sprinkling -Being mostly complied.</p>  <p>CTO for DG sets attached in Annexure 13, 21.</p> <p>Complied. Log books maintained by contractor.</p> <p>Complied Stack height of DG sets are maintained as per norms i.e, 15 ft for 250 KVA.</p> <p>Complied</p>																																																																																																																		

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<p>time.</p> <ul style="list-style-type: none"> • Unnecessary idling of construction vehicles to be prohibited. • Effective traffic management to be undertaken to avoid significant delays in and around the project area. • Road damage caused by sub-project activities will be promptly attended to with proper road repair and maintenance work. <p>DG sets :</p> <ul style="list-style-type: none"> • Location of DG sets and other emission generating equipment should be decided to keep in view the predominant wind direction so that emissions do not effect nearby residential areas. • Stack height of DG sets to be kept in accordance with CPCB norms. <p>Dust Control :</p> <ul style="list-style-type: none"> • Identification of construction limits (minimal area required for construction activities). • When practical, excavated spoils will be removed as the contractor proceeds along the length of the activity. • When necessary, 	<p>Complied</p> <p>Mostly complied. For internal road 100 % complied.</p> <p>Complied</p> <p>Complied</p>  <p>Complied</p> <p>Complied</p> <p>Stockpiled</p> <p>Not initiated</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<p>stockpiling of excavated material will be covered or stacked at offsite location with muck being delivered as needed during the course of construction.</p> <ul style="list-style-type: none"> • Excessive soil on paved areas will be sprayed (wet) and/or swept and unpaved areas will be sprayed and/or mulched. • Contractors will be required to cover stockpiled soils and trucks hauling soil, sand, and other loose materials. • Clean the wheels of vehicles leaving the site to control the mud spread onto the public road. • Contractor shall ensure that there is effective traffic management at site. • Dust Suppression – The roads, construction area and vicinity (access roads, and working areas) shall be swept, sprinkled with water on daily basis to suppress dust. 	<p>Not initiated</p> <p>Complied</p> <p>Complied</p> <p>Complied</p> <p>Partially Complied</p>  
			Noise Pollution:	<ul style="list-style-type: none"> • DG sets has acoustic enclosures to prevent

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<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 	<p>noise. Workers are using ear plug at drilling and blast sites along with other safety equipment.</p>  <ul style="list-style-type: none"> PPE- mostly complied. PPE kits are used 95 %. Use of hand gloves 100 %. Use of proper ear muffler/ plug - 50%. Use oh Jackets, helmet and safety shoes-100 %.   
			<p>Water Quality:</p> <ul style="list-style-type: none"> Quality of water (river and wastewater discharged 	<p>Waste water generation from the construction site to be monitored.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<p>from the construction site) shall be analyzed monthly during construction, for its compliance to the disposal standards of pollution control authority.</p> <ul style="list-style-type: none"> Refer to Annex 26: Measures for Water Pollution Control 	<p>Waste water from labour camp are kept in a stabilization pond adjacent to the colony and the overflow is chlorinated before reaching the receiving body. Grey water from the camp do not go through the septic tank But all the toilets are connected with Septic Tank.</p> <p>Monitoring of water quality after treatment and that of the receiving water body shall be monitored regularly</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. 	<p>Plantation initiated as per green belt development plan in some areas.</p>   <p>Transplantation of 6 nos of trees</p> <p>Drainage provided in the substation and camp area but outlet and desilting chambers to be constructed.</p>  

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<ul style="list-style-type: none"> <li>• Solid waste storage bin system will be provided at required location. Refer to Annex 22: Solid Waste Management Plan <li>• All buildings designed constructed as per seismic zone provision. <li>• Safety system will be provided at required location. Refer to Annex 18, Annex 28, Annex 29 for 	 <p>Solid waste storage bin kept at different sites</p> <p>Waste are segregated designated bins at source and then biodegradable waste are taken to composting area and recyclable wastes are sent to vendors partially. A secured land fill site is being constructed as per rules and following the IFC Health and Safety guidelines.</p>  <p>All the building designs are constructed as per seismic zone provision.</p>  <p>Safety systems are provided at site.</p>  <p>Magazine</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			Occupational, Health and Safety Plans.	  <p>Firefighting arrangement at Explosive Magazine</p>  <p>Electric panel covered</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. 	

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<ul style="list-style-type: none"> 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 Refer to Annex 29: Safety Practices during Construction 	 <p>Housekeeping and Hygiene at workers camps and bathrooms/toilets to be improved. Accommodation facilities have proper ceiling to control heat.</p> <p>Ceiling were placed in all accommodations to reduce heat.</p>  <p>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>Facilities provided to sub contractors.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
				 <p>Sub contractors kitchens</p>
	Fire Protection in Labor Camp and Staff Colonies	<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 	<p>Fire extinguishers are placed at vulnerable sites.</p> <p>Status of Fire Extinguisher at Project sites (Table 15).</p>
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.</p> <p>Due to lack of authorised land fill sites and municipalities nearby the site, inhouse facilities to be developed as per municipal waste management rules, 2016. Which is being implemented now.</p> <p>After development of Captive landfill site all the already dumped or stored materials will be collected and processed in the Solid waste Management Site. Design of the landfill site is under preparation.</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>4 muck dumping sites identified and currently all the 4 are being used.</p> <p>Muck disposal plan approved by APGCL.</p> <p>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>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
				 <p>For levelling of the road 60% of the materials were used and the usable stones were taken to crusher plant. Rest are at site. Contractor will collect the remaining materials to the dumping yard and left over materials after compaction will be revegetated.</p> <p>Quantity of muck generated, reuse and disposed at muck dumping site and slope achieved are being maintained by the contractor.</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 prepared and submitted for each activities.
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.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
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 day-to-day activity 	Being complied and monitored.
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 	<p>Being mostly complied. Water sprinkling to reduce dust.</p> <p>Laying of bitumen on internal roads not yet initiated till 30th June 2022.</p> 
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. <p>Refer to Annex 20: Road Construction Management Plan</p>	Being complied. Permanent and temporary roads are constructed as per plan approved. As per EMP roads under EIA 2018.
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>Being complied. Tree cutting are done in presence of Forest Department only after enumeration and recording.</p> <p>Tree marking & cutting at Power house area in presence of Panimure Forest Department Team</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 	Will be complied.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			the conductor as per the regulations.	
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.
	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 	Fire wood collection not allowed. LPG are used for cooking. In few cases induction stoves are used.
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 road kills. 	<ul style="list-style-type: none"> Not yet initiated by the Forest Department. Letter given to Nodal Officer to initiate the CA works. Annexure 8 Not yet initiated. Signages placed in the forest area to reduce the speed limit.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<ul style="list-style-type: none"> • Poaching activities should be monitored in workers areas and well as community areas (as per Annex 9). • 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 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. • Construction of check posts / watch towers in key locations • Conservation actions as proposed by IUCN (during construction and during the initial project operation) such as conducting a 	<ul style="list-style-type: none"> • Poaching activities monitored and awareness carried out among the workers. • BMP not yet initiated. Plantation initiated and discussion with forest department going on for the implementation for BMP. • NABL clearance not taken as there is no WLS in 10 km radius. • CEA guideline will be complied during construction of transmission line. • Wild fruit plantation initiated. • Annual Bird count not initiated. Annual bird count will be initiated in the winter months with support of forest department. • 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 30 th June 2022
			<p>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. Discussion with forest department going on for the implementation for BMP.
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. • Material has been stocked as backfilling will be required in the Power House.
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. • Construction activities involving significant ground disturbance (i.e., substation land forming) not undertaken during the monsoon season. 	<ul style="list-style-type: none"> • Does not arise. • Followed during construction of construction power substation.
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. 	<p>Mostly followed for fuel. Fuel dispensing unit approval received.</p> <p>All Hazardous chemicals are stored on concrete floor with tarpaulin cover shade.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
			<ul style="list-style-type: none"> Refer to Annex 18: Project Personnel Health Plan 	<p>20KL petrol pump station is established.</p> <p>For hazardous chemical materials stores to be constructed.</p>
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.	<p>Construction scheduled for day only in the revenue land near villages. Construction during night are done in the areas away from the human habitation.</p> <p>Local people were informed about the daily construction schedule and the blasting timings. Sign boards were also installed with the blasting timings.</p>
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. Drainage facilities to be constructed/completed at camps and facilities. Sedimentation tanks to be constructed.</p> <p>Municipal Solid Waste Management facility to be developed as per rule.</p> <p>Mentioned in SI no. 3 under Construction Phase EMP of Table 7A.</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 condition. Protect/Preserve topsoil and reinstate after construction completed. Repair/reinstate damaged bunds, etc. after construction completed 	<ul style="list-style-type: none"> Followed. Does not arise so far. Top soil preservation not initiated. Instructed to contractor to adhere. Will be followed if bunds are damaged.
23	Social inequities	Encroachment into agricultural land	Compensation for temporary loss in agricultural production as per provisions of Resettlement and Tribal Development Plan	Followed

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
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. - Bund prepared for construction of culverts.
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. • Productive land will be reinstated following completion of construction. 	<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.
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. <p>Refer to Annex 30: Dam Break Analysis And Disaster Management Plan</p>	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 initiated. Aggregates are used from the excavated materials. For use of existing quarries fresh permissions are required. Permission taken from NCHAC for aggregate quarry. Coarse aggregate quarry is existing quarry. Fine aggregates are

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
				collected from Govt. approved suppliers.
30	Injury and sickness 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 implementation is ongoing. • Primary health centre constructed with trained health staff. • Health camps are being organised by the contractor for the community people. • Anti malarial measures taken by the contractor for the labours. • Health Facilities at Construction sites and labor camp established • For implementation of Public Health Delivery system discussion with respective departments will be initiated soon.  <ul style="list-style-type: none"> • Health and safety training conducted by L&T • Training were also given to the subcontractor personals. • PMC and PMU will also arrange Health and Safety trainings. • Sample First Aid Box  <p>Environment Management</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 th June 2022
				 <p>Fire Safety and Demonstration @ Dam Site</p>  <p>Fire Safety and Demonstration @ Fabrication Yard</p>  <p>Fire Safety and Demonstration @ Valve House Site</p>
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. • Appropriate contact clauses to ensure satisfactory implementation of contractual environmental mitigation measures. 	<ul style="list-style-type: none"> • Informal Trainings are conducted by the PMC and PIU regularly. • PMC and PIU carried out formal training on EHS and implementation of EMP on 28.6.22. • Check list prepared and implementation monitored. • Letters issued to the 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>



Display of pictorial safety sign board with local language

MEDICAL EMERGENCY CONTACT NUMBER				
S.NO	NAME	DESIGNATION	CONTACT NUMBER	SHIFT
1	S. Bhasanatory	First Aider	8857021551/80209233	NIGHT
2	M. Jyoti	do	84214475/80204198	DAY
3	Wilson Teron	Enabler Cover	9864855442	NIGHT
4	Bhasanot Tisco	do	788698297	DAY
5	Jaydeep Acharya	Admin Incharge	8854215313	

Tunnel Illumination and Gas Monitoring				
Location: ADIT to HRT				
Date of Testing:				
Description	Day U/S	Night U/S	Day D/S	Night D/S
Illumination at face				
Gas				
Oxygen and Illumination		21.0%	21.3%	
CO level (PPM)		0	0	
H ₂ s (PPM)		0	0	
LEL Level (vol %)		0	0	

Display of emergency contact number and tunnel gas monitoring at the portal of ADIT

6.1 Action Taken on the corrective actions on compliances to EMP are shown in Table 8, and Table 9.

Table 8 : Corrective Actions taken till 30th June, 2022

Action taken on ADB Aide Memoire for the ADB Mission May 2022

	Actions Required	Respon sibility	Mission Feedback, May 2022	Status as on 30th June 2022
1	Finalization of EIA Addendum, reviewed and cleared for disclosure on the ADB's website	APGCL	Overdue; as agreed final draft to now be submitted to ADB no later than 30 May 2022 for ADB review and disclosure within Q2 2022, until the EIA addendum is cleared for disclosure by ADB the project will continue to be rated at risk. No works where additional impacts may arise because of changes in the design should commence until after the EIA addendum is cleared.	As discussed during the interactive meeting with Ms. Emma, Senior Environment Specialist, ADB, APGCL has shared all the required information to ADB along with ADB consultant before 30th May, 2022 and subsequently all the updates were prepared upto 30th June, 2022 to ADB consultant.
2	Mobilization of External Environmental Monitor per loan covenants and issuing of first external EMR validating monitoring results from project commencement to Q4 2021	APGCL	External monitor to submit validation report by 30 May 2022 covering the period from project commencement to end of Q4 2021. This will then become an ongoing action that the external monitor submits their validation report in parallel with the EMR of APGCL.	Validation report matrix submitted by External Monitor for the period July to December, 2021.
3	Ensured that all dam design revisions continue to be reviewed by an independent engineer to the designer, independent engineer to also supervise and monitor construction of the dam	APGCL	Ongoing – the Mission agreed 3-layer dam design review process to be followed during detailed dam design process (contractor –PMC – external monitor) as well as oversight by the Government of Assam dam safety committee.	APGCL will follow 3 layer dam design review as agreed in the meeting.
4	Clarify area and quality of forest habitat impacted, including outside forest land defined as “highland crops” by the resettlement plan. Resolve how to achieve “no net loss” of biodiversity considering the amount and quality of forest habitat that is being lost.	APGCL	Resolved, it will be disclosed as part of the EIA addendum	Closed
5	Collection of daily flow variation and other hydrological data by APGCL at dam site area to inform downstream impact study	APGCL	Ongoing to inform study	Ongoing
6	Completion of downstream impact study and peaking power operation, confirmation of operational protocol that will ensure	APGCL	Ongoing -- since it relates to hydropower operations, the deadline for completing this study extended to the end of Q4 2022 due to issues with the upstream hydropower projects.	As suggested APGCL will carryout the study within Q4 2022, provided both the upstream HE projects become operational.

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30 th June 2022
	"not net loss" of downstream biodiversity		These events highlight the need for APGCL to give adequate attention to dam safety and emergency response preparedness during both construction and operation of the project.	
7	Ensure GRC contacts are being well disseminated to the local community and that all grievances no matter how minor and easily resolved be recorded. Placing of GRC complaint box and display board with contact details at site entrances, APGCL site office at Longku, and in adjacent villages for registering/submitted of complaints.	APGCL	Immediately. Ongoing throughout project implementation	Ongoing throughout project implementation
8	Onsite EHS training for the Contractor's safeguard team on the implementation of EMP including updates as a result of the EIA Addendum. For existing contract award contractor to be instructed to follow updates as a result of the EIA Addendum, draft until finalized	PMC	Ongoing – continue biodiversity training with further training to be given on clearance of EIA addendum by ADB	Agreed and will continue.
9	Incorporate latest EMP including updates as a result of the EIA Addendum in the contract documents for Packages 1, 3 and 4 which have not yet been awarded	APGCL	Ongoing – copies of EMP in signed contract and written documentation demonstrating EMP updates have been instructed to and agreed by the contractors to be included in the next SEMR.	Agreed. Additional measures as suggested in the EIA addendum will be incorporated in the CEMP of package 1,2,3 and 4 after disclosure.
10	Establish multidisciplinary committee to oversee environment safeguards implementation per national environment clearance	APGCL	Ongoing – copies of minutes for meetings held during the period to be included in EMR.	Agreed and the copies of the minutes is incorporated in the EMR Jan to June, 2022. Annexure 14
11	Review and approve contractor's updated CEMP covering all subplans (i.e., worker camp, muck disposal, solid waste, biomedical waste, hazardous waste, hazardous chemicals, batching plants, crusher units, labor influx management, etc.)	APGCL	Ongoing – whilst the overall CEMP for package 2 is already approved, the remaining sub-plans need to be approved by 30 June 2022 and attached to the next SEMR for the project to be on track. Ensure package 3 CEMP is submitted and approved before they are allowed access to the site for works. APGCL must also ensure that all applicable sub-plans covering the	Agreed as suggested. Package 3 contractor has submitted a CEMP on 22 nd July, 2022, but as it was not as per ADB's approved EMP hence was returned back to the contractor with comments and observations from APGCL and PMC.

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30th June 2022
	CEMP to cover all EMP and EMoP provisions per the latest EMP including additional mitigation and monitoring measures as a result of the EIA Addendum, refer to draft until finalized.		related works are in place (approved) before commencement.	
12	Ensure EMP mitigation and monitoring measures being implemented in full, pay particular attention to those flagged for attention during ADB Staff Consultant's site visit and/or as not yet initiated per APGCL presentation to the ADB Mission with particular attention to the biodiversity related measures.	APGCL	Ongoing -- APGCL must ensure that all applicable mitigation and monitoring measures covering the related works have been actioned before commencement, and where there have been lapses immediately agree and implement a corrective action plan. There have been lapses in the preconstruction EMoP with camera trapping for example not being completed before the package 2 contractor started works. Corrective action for lapses to date must be actioned by 30 June 2022 for the project to be on track.	As per TOR camera trapping was within the TOR of External Monitor. All other corrective actions either completed or initiated.
For Contractor under Supervision/Monitoring of APGCL/PMC				
13	Before commencing operations CTO for batching plant unit at power house to be obtained from PCBA	Contract or	Closed	Closed
	Obtain CTE for batching plant at dam site from PCBA and subsequently obtain CTO	Contract or	Ongoing – ensure CTE and CTO secured prior to establishing/operating the batching plant at the dam site	Agreed. CTE for the Batching Plant (Dam) received on dtd.23rd Jun'22. APGCL instructed to obtain the CTO before the start of the batching plant (Dam site).
14	Obtain outstanding permissions for quarrying and aggregate extraction		Ongoing – ensure all permissions in place prior to commencing related operations. APGCL to also confirm the status of national environmental clearance for the quarry sites and attach copy of approvals/clearances granted to the next SEMR.	Agreed . Mining plan approved by Director Geology & Mining department on dtd.16th May'22. Permission to operate quarry received from NCHAC will be obtained soon. EC pending as per Approved Mining Plan.
15	Obtain outstanding permissions for the use of explosives – explosives storage and fire licenses		Ongoing – ensure all permissions in place prior to commencing related operations. APGCL to attach copies of fire NOC and blasting permissions granted to the next SEMR.	All the permissions are in place and attached. (Annexure 15)
16	Obtain outstanding permissions for vehicle registration, ensure that all vehicles and plant		Ongoing -- action by 30 June 2022 for the project to be on track.	Registration number of 4 vehicles done, others in progress. The delay of PUC is due to non-

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30 th June 2022
	including DG sets being used have requisite pollution consent in place.			availability of local registration number. (Annexure 15) 8 DG sets accorded CTO from PCBA.
17	Obtain outstanding permissions for groundwater abstraction		Ongoing -- action by 30 June 2022 for the project to be on track.	Contractor applied CGWB on 9 th November, 2021. Clearance yet to be obtained.
18	CEMP to be updated as required to reflect any changes in mitigation measures as a result of the final EIA Addendum		Ongoing	Will be done after disclosure of the EIA addendum.
19	Development of storage facilities for hazardous fuels, oils, chemicals, and waste with impermeable surface and bunded to 110% of capacity, display of hazard warning signs, MSDS etc. No fuel or empty fuel, oils, chemicals to be left lying around project site; they are to be kept in storage facilities or temporarily on drip trays and adequately labelled with their contents		Ongoing – complete by 30 June 2022 for the project to be on track.	Preparation of shade for hazardous chemicals completed. Other facilities inside the store are under process.      Storage of hazardous chemicals
20	Development of solid waste management		Ongoing – for full compliance by 30 June 2022 for the project to be on track.	

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30 th June 2022
	systems including disposal and storage facilities with transport and disposal to suitably licensed waste management facilities		It is noted that the contractor is proposing to install their own landfill and/or composting facilities at the project site; any such solid waste management facilities will need to be engineered per GoI requirements, the IFC EHS Guidelines on Waste Management Facilities,1 and Annex 22 of the June 2018 EIA and be licensed by the SPCB before use. On completion of the works APGCL will need to assume responsibility for maintaining and monitoring any such landfill including leachate treatment to the more stringent of GoI or IFC EHS standards. Until such solid waste management facilities are available no solid waste must be disposed of on-site. All solid waste that has already been disposed of in open pits must be removed immediately since that waste is a source of pollution. If the SCPB licensed, engineered landfill is not available in the immediate project area, and the waste cannot be taken by SCPB reuse or recycling vendors in Assam then the waste must be transported by the contractor to the nearest SPCB licensed, engineered solid waste management facility which is understood to be found in West Bengal. Per Annex 22 of the June 2018 EIA non-biodegradable but recyclable wastes like plastic, paper or glass are not to be landfilled but recycled. Biodegradable wastes are to be composted following the waste management hierarchy. All hazardous wastes must be removed offsite to SCPB licensed, engineered hazardous waste management facilities for disposal.	For Solid waste management contractor has agreed to a. segregate at source, b. Stored, c. treat d. process the bio degradable waste by composting / vermicomposting e. recoverable wastes like (bottle, can) etc will be sold to vendors. f. Other non bio degradable wastes, inert wastes, and other waste not suitable for biological processing or recycling will kept at designated landfill site developed by the contractor.
	No waste to be disposed of onsite; all of the waste disposed of to date in a pit is to be removed from project site for transport and disposal to suitably licensed waste management facilities			<p>The design of the landfill site for solid waste management is furnished below.</p> <p>Design of landfill site</p>  <p>Profile of landfill site</p>  <p>The progress of the constructions in photographs will be shared with ADB as soon as APGCL receives them from the package 2 contractor which is under construction.</p> <p>Hazardous wastes as generated by the contractor is being stored properly and will</p>

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30 th June 2022
				be sold to the approved authorised recycler.
21	Regular housekeeping and cleaning at workers camps including toilets and washing facilities; toilets and washing facilities need to be cleaned regularly minimum of twice per day		Ongoing	<p>Ongoing</p>   <p>Toilet</p>   <p>Workers camp</p>   <p>Workers camp</p>   

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30th June 2022
				<p>Dining Room</p>  <p>Staff Accomodation</p>  <p>Housekeeping in the central store</p>
22	<p>All sanitation and welfare facilities including toilets and canteen to be connected to minimum of septic tank with soak away for sewage treatment. Ensure discharged wastewater is being monitored per the EMoP to ensure discharge standards being met. No untreated sewage is to be disposed to surface water or ground.</p>		<p>Ongoing – canteen wastewater needs to be connected to the septic tank. Complete by 30 June 2022 with discharge monitoring reported in next SEMR for the project to be on track.</p>	<p>Completed for the Canteen. Monitoring of the discharge to ensure the standard limit and will be reported in the next SEMR. All sanitation connected with septic tank.</p>
23	<p>All worker accommodation, sanitation, and welfare facilities to meet national and International Labor Organization (ILO) standards Ensure clear and safe are walkways provided to access these facilities Drinking water provided must be in accordance with Indian drinking water standards and the water tested after as well as prior to treatment</p>		<p>Ongoing – action by 30 June 2022 for existing worker accommodation for the project to be on track. Report drinking water monitoring in SEMR.</p>	<p>Ongoing.</p> <p>Test Reports of drinking water monitoring was reported in the in SEMR. As suggested reporting of the water quality prior to treatment will also be reported in the next SEMR.</p>
24	<p>Worker accommodation facilities to have proper ceilings to control heat</p>		<p>Ongoing</p>	<p>Ceilings completed in the completed Worker accommodation, rest under construction.</p>
25	<p>Drainage facilities of adequate design and capacity such that there is no standing water on-site to be constructed/ completed at the worker camps and other construction facilities</p>		<p>Under construction. Not all the drains are yet connected in labour camp and in the APGCL/PMC colony. Before the monsoon drains will be completed.</p> <p>Ongoing – complete action by 30 May 2022 (start of monsoon) for the project to be on track.</p>	<p>Due to torrential rain and flood in the area it was not possible to adhere the timeline. APGCL instructed to complete the drains immediately.</p>
26	<p>Complete initial AIDS / HIV awareness training</p>		<p>One training completed, refresher trainings will be carried out.</p>	<p>Refresher</p>

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30 th June 2022
	for all workers on site and then undertake regular refreshers		Ongoing	<p>trainings will be carried out in September, 2022.</p>  <p>AIDS awareness</p>  <p>COVID management</p>
27	Complete initial biodiversity awareness training for all workers on site and then undertake regular refreshers		Ongoing – training to be given to remaining 40% of workers by 30 June 2022 for the project to be on track.	Agreed and ongoing as new workers are inducted time to time.
28	Installation of effectively designed and operated sedimentation tanks for sediment laden runoff from concrete batching and exposed soils across the construction site. Ensure discharged water from sedimentation tanks being monitored to demonstrate sediment load being adequately reduced. Ensure that soils exposed on slopes are immediately vegetated or temporarily covered with geotextile to help stabilize them and prevent sediment laden surface water runoff.		<p>Sedimentation tank is under construction and yet to be completed. The action was discussed in all the monthly meeting on implementation of EMP during January, February, March and April 2022 at site and with APGCL. Discharge to be monitored after construction of sedimentation tank. Instruction has been given to contractor to initiate to cover the soils exposed on slopes.</p> <p>Ongoing – complete by 30 May 2022 (start of monsoon) with discharge monitoring reported in next SEMR for the project to be on track.</p>	After completion of sedimentation tank the test reports of the discharge will be reported in the SEMR.
29	Shifting of all overburdens after utilization to muck storage or disposal sites; the muck currently stacked along the road in the forest area contrary to the EMP to be utilized or shifted to the muck storage or disposal sites		Ongoing – removal of all muck that was stacked along the road by 30 May 2022 (start of monsoon) to either the muck storage or muck disposal area. If the muck is to be used during construction rather than being disposed, then it must be temporarily shifted to the muck storage site; it must not be left on the roadside until it is required for utilization.	Partially complied.
30	Surfacing of the permanent and temporary access roads to reduce dust emissions. Sprinkling of water to be undertaken regularly on all access roads to and within the project site, minimum of twice per day but more		Ongoing - action by 30 June 2022 for existing access roads for the project to be on track.	During the rainy season it is not required. Otherwise complied.

	Actions Required	Responsibility	Mission Feedback, May 2022	Status as on 30 th June 2022
	frequently on dry or windy days			
31	Ensure H&S of tunnel works with all persons entering tunnels to have training in confined spaces, a tag-in-tag-out system implemented, adequate ventilation, lighting levels, and oxygen monitoring etc.		Training given on this aspect. A tag-in-tagout system is being implemented and cameras already installed. Ongoing.	Continuous process  Training on Tag in and Tag out system
32	Ensure H&S of all excavations which are to be adequately shored up and barricaded		Ongoing – please note that safety tapes provide a warning but are not solid enough to prevent a fall, thus solid barricading must be provided by 30 June 2022 where the risk of falling into excavations is present for the project to be on track.	Agreed and intimated to the contractor for compliance.  
33	Ensure all trip and fall hazards are removed, good housekeeping to remove debris lying around project site, covering of openings in floors etc.		Ongoing	Ongoing
34	Ensure traffic controls in place with flagmen at all site entrances off the public highway		Ongoing – ensure that the contractor is deploying flagmen for traffic control as instructed by 30 June 2022 for the project to be on track.	Partially complied
35	Ensure valid labor license maintained for number of workers that are on site (current license for 250 workers expires during December 2021)		Closed, but ongoing action to ensure license continually kept up to date reflecting the number of labor on site; copies of current labor license to be attached to EMR	Closed. Labour license covers 1000 workers and is valid till 9 th December, 2022.
36	Ensure that polychlorinated biphenols and asbestos containing materials are not being used in construction works		Not yet used and the condition will be adhered. Ongoing	Not yet used and the condition will be adhered.

Table 9 : Action Taken report on the Corrective Actions Plan (CAP) suggested by External Monitor during May, 2022.

	PRIMARY FINDINGS AT INCEPTION STAGE (Feb and May, 2022)	Response on the findings
1	<p>Obtain Wildlife Clearance as a condition to Environment Clearance:</p> <p>As pointed out during the second site visit, the applicability of wildlife clearance as stipulated under specific condition of Environment Clearance accorded to the project needs to be discussed and closed with MoEF&CC.</p>	<p>a. As per stipulation of MoEF&CC it is clearly mentioned that “The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.”</p> <p>b. While applying for Environment Clearance and Forest Clearance it was mentioned that there is no Wildlife Sanctuary or National Park within 10 km radius of the project.</p> <p>c. DFO and Conservator of Dima Hasao and Karbi Anglong ; Nodal Officer FC Act, Govt of Assam and the CCF of Regional Office of MoEF &CC, Shilong had also put forward their views in this regard.</p> <p>d. As per requirement APGCL had submitted kml file to ministry to ascertain the situation and verify the facts in their DMS (Decision Management System).</p> <p>e. The ministry said that prior wildlife clearance will be required by projects located within 10 km of national park/wildlife sanctuary which need environmental clearance.</p> <p>f. Based on the aforesaid facts Ministry has accorded both EC and FC for LKHEP.</p> <p><i>In such circumstance it will not be wise to ask Ministry to modify the stipulation and asked for.</i></p>
2	<p>Issues related with Archaeological Site:</p> <p>1. A cultural/religious site of archaeological importance was discovered during the survey. The site is located within the submergence area of the Project.</p> <p>2. APGCL reported that the site is not listed under Archaeological Survey of India (ASI).</p> <p>3. However, the consultant team recommended that APGCL should prepare a note after discussing with local authorities and the State Archaeological Department to resolve the issue as soon as possible</p>	<p>a. As per the list of protected Archaeological sites and monuments Directorate of Archaeology, Department of Cultural Affairs, Government of Assam, the site at Longku, Dima Hasao is not enlisted.</p> <p>b. This was again verified by personal visit and discussion with Mr Girish Baishys, of Directorate of Archaeology, Ambari, Guwahati.</p> <p>c. As it is not a recognised protected Archaeological site or monument there is no specified display boards highlighting the historical and archaeological significance.</p> <p>d. After discussion with the officer at Directorate of Archaeology, Govt. of Assam, this is suggested that <i>APGCL may consult with the Local authority if required.</i></p>

	PRIMARY FINDINGS AT INCEPTION STAGE (Feb and May, 2022)	Response on the findings
3	A sewage treatment plant of 0.1 MLD (100 KLD) also needs to be installed to treat the sewage generated from the labour camps along with supporting collection drains/networks, the same will be implemented soon. Sewage should be reused for non-drinking purpose.	<p>a. Already informed Package 2 contractor to take steps for installation of STP as suggested.</p> <p>b. However it is not clear what is meant by “Sewage should be reused for non-drinking purpose.”</p>
4	The remedial measures suggested in Supplementary EIA (Vol-4) like Anoxic Limestone Drains (ALD) and Oxidic Limestone Drains (OLD) may also be considered based upon further assessment of water quality in coming seasons from Kopili River and accessibility opportunity to various AMD sources located in Meghalaya.	<p>The entire matter related to illegal/unauthorized mining takes place in Meghalaya and combat plan and mining mishap plan illegal/unauthorized mining takes place in Meghalaya and combat plan and mining mishap plan ready to avoid any kind of eventualities and MoEF&CC had taken up proposals for rejuvenation under the directive of NGT. Moreover, as part of rejuvenation of polluted river stretches in the country, CPCB has also selected river stretches in Meghalaya which are mainly polluted with Acid Mine Drainage (AMD) from the coal mines.</p> <p>Currently, under the aegis of the minister, the Forest and Environment Department has collaborated with Delhi-based Trinity Impex International for treatment of acid mined water in selected rivers in Meghalaya for restoration. Detail technology adopted is not shared.</p> <p>So, in this context</p> <ul style="list-style-type: none"> - regular monitoring of water quality of the river stretch of Kopili within the project area as per EMP is going on and - the protection measures towards safeguarding electro-mechanical equipment and dam structure and other components of the HEP from the acidic water as per approved designs by the competent authorities are taken up and are being implemented. <p><i>In such a situation overlapping of efforts of similar task will not be acceptable by the authority.</i></p>
5	Control of Air Pollution: Regular maintenance of vehicles and machinery needs to be conducted to ensure less possible emissions.	<p>Instructed to the Package 2 contractor to ensure PUC for all vehicles and submit the copies.</p> <p>At site monitoring of the emission from the vehicles are not possible, as only valid PUCs are checked at site. It is difficult / not possible to ascertain the high or less possible emission of vehicles and machinery and as well as correlate with the regular maintenance of vehicles and machinery.</p>
6	Catchment Area Treatment (CAT) Implementation Plan:	The required budget for its implementation has already been deposited in the CAMPA fund.

	PRIMARY FINDINGS AT INCEPTION STAGE (Feb and May, 2022)	Response on the findings
	<p>1. It was reported that Catchment Area Treatment (CAT) Implementation Plan for the Project has already been shared with the respective Forest Department.</p> <p>2. Consultant team recommends that APGCL should have a regular follow up with the concerned agency for the concurrence of the CAT plan and closely monitor the implementation.</p>	<p>As informed budget for implementation of CAT plan will be included in the AOP of 2022-23. APGCL is in constant touch with the Forest Department and as soon as it is implemented APGCL will monitor and report accordingly.</p>
7	<p>Excavated Soil: Excavated soil from the construction could easily be washed away and pollute local water bodies. Therefore, excavated soil should be graded according to soil type and stored separately. Heaps of soil should be covered with geotextile or and grass and vegetation.</p>	<p>Already informed to the package 2 contractor.</p>
8	<p>Biodiversity Management: 1. After reviewing the biodiversity management activities, the consultant team recommends APGCL to form a Biodiversity Monitoring Committee as stipulated in the EIA to monitor the Biodiversity Management activities at the Project site. Also, a Biodiversity Management Awareness Program may be developed having a detailed schedule to provide biodiversity awareness training to the Local community, school, and other institutions at local levels. 2. Consultant team further recommends that Self-help groups may be formed for implementing and monitoring the Biodiversity Management activities at local level. If possible</p>	<ul style="list-style-type: none"> - A committee comprising with the experts from different sectors as mentioned in the EC is being constituted and nomination from the concerned departments and organisations will be sought within next week. After receipt of the nominations the committee will be notified. - There is no role of NGO in monitoring the implementation of the Biodiversity Conservation and Management Plan as stipulated in the EC. - Biodiversity Conservation and Management Plan will be implemented in association with the Forest Department as per existing Government norms.

	PRIMARY FINDINGS AT INCEPTION STAGE (Feb and May, 2022)	Response on the findings
	and available women may be motivated to participate in self-help groups.	
9	<p>Compensatory Afforestation:</p> <p>1. In relation to Compensatory Afforestation, it is understood that the Forest Department has identified eight (08) areas within Dima Hasao for Compensatory Afforestation; the consultant team has sought detailed information on identified Compensatory Afforestation areas.</p> <p>2. Further, the consultant team has asked PMC to update on the status of the plantation with the total number species planted L&T at the project site, around the camp area and project vicinity preferably in Google Map.</p>	<p>Already in touch with Forest Department.</p> <p>Package 2 contractor was already intimated to record the plantation in Google map.</p>
10	<p>Impact of Transmission Line on Birds:</p> <p>In relation to anti-climbing devices and bird deflectors for the Transmission line, the consultant team suggested APGCL to undertake in-house study for ascertaining its necessity to take prudent decisions.</p>	<ul style="list-style-type: none"> - As discussed in the meeting and as it was part of the contract Pkg 4, so it will be implemented as per contract provisions. - Hence additional studies are not required as of now.
11	<p>Dam Safety :</p> <p>Detailed design drawings of the dam and foundations are missing, only the list of drawings has been delivered, as well as dam monitoring plan and dam risk assessment.</p> <p>The actualized project implementation schedule should also be always available, in order to identify the priorities for activities to develop taking into account the safety aspects of the dam.</p>	<p>As soon as the detailed design drawings of the dam and foundations along with actualized project implementation schedule will be available it will be shared with Dam Safety Expert.</p>

	PRIMARY FINDINGS AT INCEPTION STAGE (Feb and May, 2022)	Response on the findings
12	<p>Emergency Contact Numbers of First Aider and Medical register: APGCL needs to ensure that EHS protocols are strictly followed by construction contractor and all workers, Emergency Contact numbers should be reachable to all and may to be updated as and when needed, First Aid Boxes needs to be handled and maintained properly at site, timely trainings to First Aider and other site staff should be provided and all Logs/Records to be maintained properly.</p> <p>It is also suggested to undertake mock drilling exercises for emergency preparedness on regular basis to aware crew members. The emergency mock drilling exercises may be designed for but not limited to; emergency evacuation, fire, flooding, earthquake etc.</p>	Already intimated to the package 2 contractor.
13	<p>Oil and Chemical handling: APGCL to ensure that EHS protocols for handling, storing, and transporting hazardous material/chemicals are strictly followed at site as oil and chemical drums kept at the Project site were not stored properly.</p>	Already intimated to the package 2 contractor.
14	<p>Medical test for Drivers: Construction contractor is required to organised Eyesight and Randomized drug testing (drug and alcohol test) for all Commercial Truck Drivers as per safety protocol for the safety of site staff and locals.</p>	Already intimated to the package 2 contractor.

	PRIMARY FINDINGS AT INCEPTION STAGE (Feb and May, 2022)	Response on the findings
15	PUC of the Project vehicles: The PUC details of the Project vehicles submitted by the contractor does not include the PUC of vehicle with Bhutanese registration number which includes an ambulance, staff buss and water sprinkling vehicles. All such vehicles with registered in Bhutan must be registered with Indian numbers.	Already intimated to the package 2 contractor.
16	Safety Signages: The safety signages and other instruction displayed at the Project site needs to be updated/replaced with multilingual signs mainly with the local language which Local residents can read and understand. Multilingual signages are important for the safety of workers and the public for whom English is a second language.	Already intimated to the package 2 contractor.
17	Site specific trainings: All trainings related to EHS, fire safety, electrical safety and Mock Drills etc. undertaken by Construction Contractor for their worker should also be extended to APGCL and PMC staff working at project site.	Already intimated to the package 2 contractor.

7.0 Environmental Supervision and Monitoring Results

7.1 Environmental Supervision

Site inspections and audits completed during the reporting period January to June 2022 in table 10.

7.2 Quantitative Environmental Monitoring

Monitoring : Test of ambient environment of Air, Water, Noise in all the 8 locations were carried out in the month of March 2022. Test results are within the CPCB standards except for Kopili river water quality (Table 10, 11, 12, 13, 14). All test reports are in [Annexure 9](#).

Table 10. Noise Monitoring Results

CPCB Standard Limit [dB (A) Leq]				WHO standard limit [dB (A) Leq]		Monitoring Dates	Power Inlet / Dam site	Crusher site	Adit to HRT	Batching Plant	Surge Shaft Site	Labour and Staff Camp	Power House	Primary School near APGCL
Day 6AM-10 PM	Night 10AM-6PM	Day 6AM-10 PM	Night 10AM-6PM	Day 6AM-10 PM	Night 10AM-6PM									
Industrial Area	75	70	70	70		Jul-21	48.1	51.2	50	45.2	44.6	51.2	47.2	55.2
Commercial Area	65	55				Oct-21	52.1	51.4	47.6	46.4	59.0	50.0	47.5	59.2
Residential Area	55	45	55	45		Dec-21	48.1	51.2	48.6	45.2	44.6	51.2	47.2	55.2
Silence Zone	50	40	CPCB more stringent			Mar-22	48.3	55.3	51.2	50.3	47.2	51.2	55.2	56.1

(Noise Monitoring Sampling Dates 22nd to 29th March, 2022)

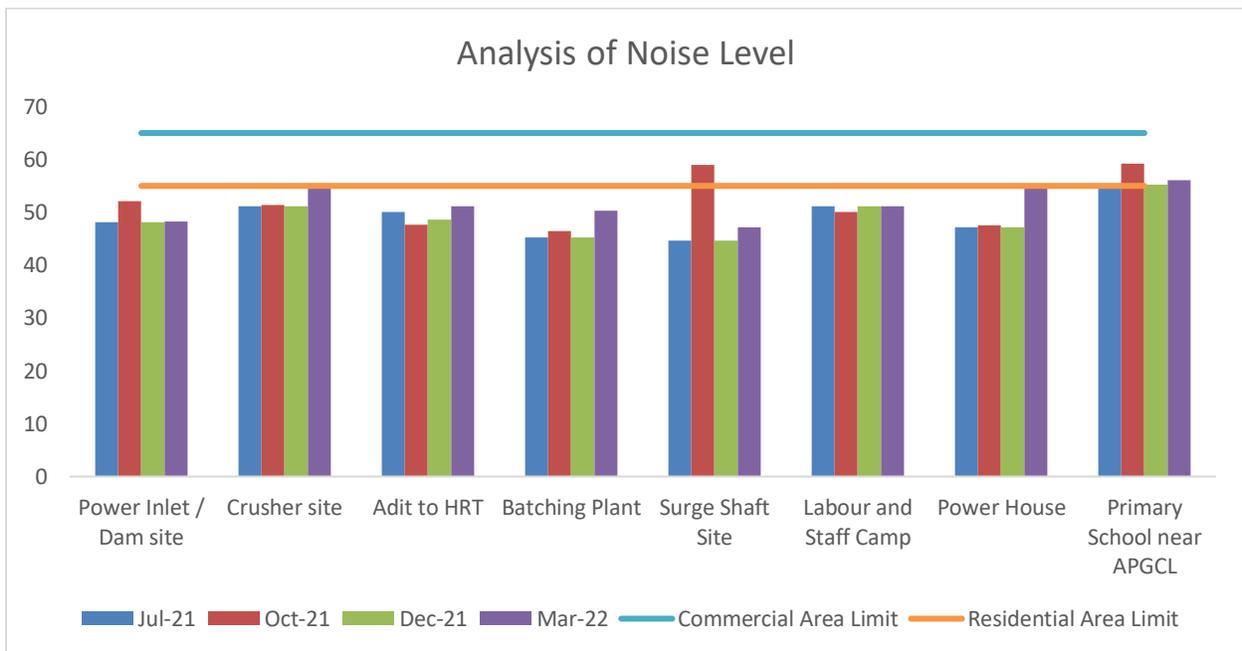


Table 11. Air Quality Monitoring Results

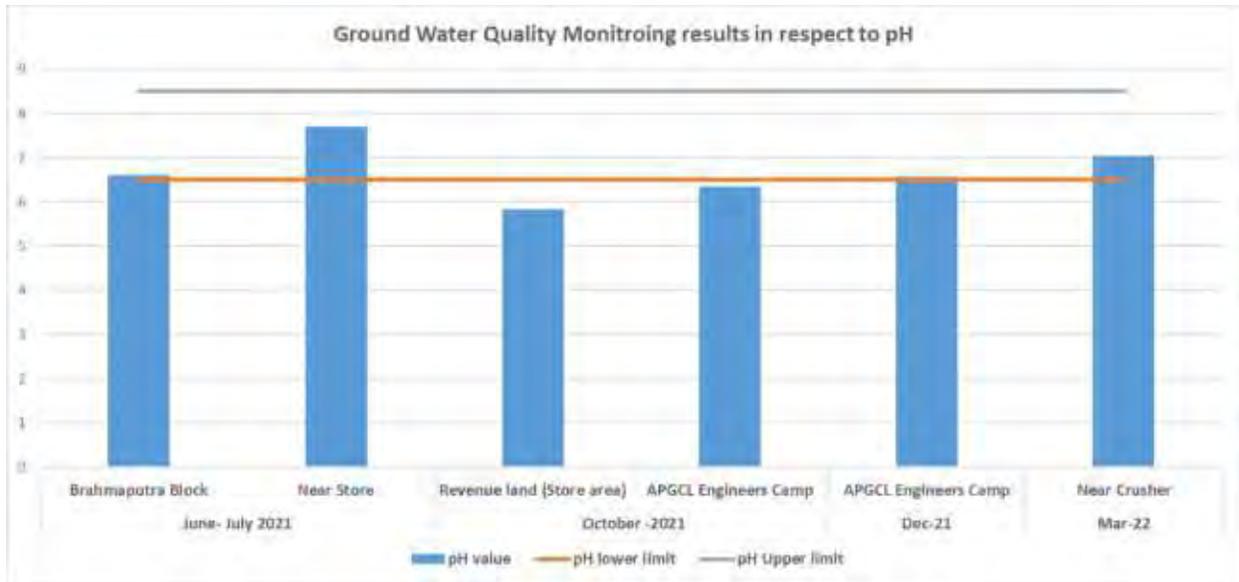
Parameters	Unit	CPCB Standard Limit	WHO/WB/ IFC standard	Monitoring Dates	Dam site	Crusher site	HRT Adit	Batching Plant	Surge Shaft Site	Labour and Staff Camp	Swi th yard / Valve House	APGCL near Hospital/ High Way	Power House	Quarry site
PM 10	(µg/m ³)	100		Jul-21					34.3	27.6		33.1		
PM 2.5	(µg/m ³)	60							17.5	17.1		19.1		
NO2	(µg/m ³)	80							10.1	10.2		9.2		
CO	(mg/m ³)	2							BDL	BDL		0.03		
HC	(mg/m ³)	1							BDL	BDL		0.01		
PM 10	(µg/m ³)	100		Oct-21	30.6	38	34.7		35.8	28.9	34.9	34.2	36.5	39.4
PM 2.5	(µg/m ³)	60			18.9	20.5	19		19.3	17.7	18	18.8	19.2	21.6
NO2	(µg/m ³)	80			10.6	12.7	11.4		11.9	10.2	8.6	10.9	10.8	12
CO	(mg/m ³)	2			BDL	BDL	BDL		BDL	BDL	BDL	0.04	BDL	BDL
HC	(mg/m ³)	1			BDL	BDL	BDL		BDL	BDL	BDL	0.03	BDL	BDL
PM 10	(µg/m ³)	100		Dec-21	31.3	37	39.3	32.3	36.7	29.8	36.1	35.6		
PM 2.5	(µg/m ³)	60			17.1	21.3	19.4	18.6	19.5	16.3	19.2	19.2		
NO2	(µg/m ³)	80			11.2	13.2	12.5	12.3	12.8	11.4	8.7	11.6		
CO	(mg/m ³)	2			BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.03		
HC	(mg/m ³)	1			BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02		
PM 10	(µg/m ³)	100	50	Mar-22	33.1	38.1	39.1	35.6	37.3	30.2	37.1	34.2		
PM 2.5	(µg/m ³)	60	25		17.1	21.3	19.4	18.6	19.5	16.3	19.2	19.2		
NO2	(µg/m ³)	80	NA		11.2	13.2	12.5	12.3	12.8	11.4	8.7	11.6		
CO	(mg/m ³)	2			BDL	0.04	BDL	BDL	BDL	BDL	BDL	BDL		
HC	(mg/m ³)					0.03	BDL	BDL	BDL	BDL	BDL	BDL		

(Air Quality Monitoring Sampling Dates 21st to 28th March, 2022)



Table 12. Ground Water Quality Monitoring Results
 Sampling Date for 29th March 2022.

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	October -2021		June- July 2021		Dec-21	Mar-22
		Requirement (Acceptable limit)		Revenue land (Store area)	APGCL Engineers Camp	Brahmaputra Block	Near Store	APGCL Engineers Camp	Near Crusher
pH value		6.5-8.5	6.5-8.5	5.83	6.35	6.61	7.71	6.57	7.04
Turbidity	NTU, Max	1	1	0.84	1.6	1.26	5.9	1.92	11.2
TDS	mg/l	No health-based guideline value is proposed	500	226.2		210	186.1		145.2
Total Hardness as CaCO ₃	mg/l		200		64.3			83.3	29.6
Calcium as Ca	mg/l		75						11.5
Magnesium as Mg	mg/l		30						7.1
Total Alkalinity as CaCO ₃	mg/l		200		88.9				305.5
Chloride as Cl	mg/l	200-300	250						13.5
Phosphate as PO ₄	mg/l								<0.02
Sulphate as SO ₄	mg/l	No health-based guideline value has been derived	200						11.7
Nitrates as NO ₃	mg/l	50	45						3.3
Conductivity	µs/cm								230.6
Arsenic as As	mg/l	0.01	0.01						<0.001
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3						0.13
Fluoride as F	mg/l	1.5	1						0.68
TSS	mg/l								42.8
Oil & Grease	mg/l		0.5						<5
Salinity	mg/l								0.2
Copper as Cu	mg/l	2	0.05						0.13
Cadmium as Cd	mg/l	0.003	0.003						<0.001
Lead as Pb	mg/l	0.01	0.01						0.002
Zinc as Zn	mg/l	No health-based guideline value is proposed	5						0.06
Total Chromium	mg/l	0.05							<0.001
Manganese	mg/l	0.4	0.1						0.03
Fecal Coliform	MPN/100 ml		Shall not be detectable						Nil
Total Coliforms Organisms MPN/100 ml	MPN/100 ml		Shall not be detectable	2	Nil	3	3	Nil	Nil
			CPCB standard						
DO	mg/l	No health-based guideline value is recommended	5	4.9		5.4	5.1		
BOD (5 days 20 ^o C)	mg/l		2-3	4.5		10	8.5		<2
COD	mg/l								<5



Acceptable limits for pH are between 6.5 to 8.5

Photographs of test of ambient environment



Note : Contractor and the monitoring agency was informed to maintain the water sampling protocol as prescribed.



Note : Contractor and the monitoring agency was informed to maintain the water sampling protocol as prescribed.



Table 13 : Surface Water Quality Monitoring Results
Sampling Date for 29th March 2022.

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	1 km U/S of Dam, Kopili River	Dam site	1 km D/S of Dam, Kopili River	3 km D/S of Dam, Kopili River	8 km D/S of Dam, Kopili River
pH value		6.5-8.5	6.5-8.5	7.39	7.41	7.28	7.17	7.11
Turbidity	NTU, Max	1	1	2.28	1.72	1.95	1.86	8.83
TDS	mg/l	No health-based guideline value is proposed	500	31.4	38.4	27.7	32.9	35.6
TSS	mg/l			65.3	26.7	86.2	82.4	28.8
Oil & Grease	mg/l		0.5	<5	<5	<5	<5	<5
Total Hardness as	mg/l		200	75.9	69.2	72.4	68.7	79.5
Calcium as Ca	mg/l		75	33.6	35.8	35.6	34.3	40.7
Magnesium as Mg	mg/l		30	16.5	17.5	18.5	16.9	18.2
Total Alkalinity as	mg/l		200	32.7	85.3	44.6	38.5	112.8
Chloride as Cl	mg/l	200-300	250	14.3	17.6	13.8	18.5	15.2
Sulphate as SO ₄	mg/l	No health-based guideline value has been derived	200	10.6	9.6	11.2	17.2	16.4
Nitrates as NO ₃	mg/l	50	45	2.9	5.1	2.6	12.3	5.1
Phosphate as PO ₄	mg/l			<0.02	<0.02	<0.02	<0.02	BDL
Salinity	mg/l			0.3	0.6	0.5	0.5	0.3
Conductivity	µs/cm			82.5	93.4	83.1	84.7	85.7
Arsenic as As	mg/l	0.01	0.01	BDL	<0.001	BDL	BDL	<0.001
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.65	0.86	0.91	1.2	1.8
Fecal Coliform	MPN/100 ml		Shall not be detectable	Nil	Nil	Nil	Nil	Nil
Total Coliforms Organisms MPN/100 ml	MPN/100 ml		Shall not be detectable	5	5	2	5	3
			CPCB standard					
DO	mg/l	No health-based guideline value is recommended	5	7.3	7.3	6.9	7.5	6.4
BOD (5 days 20 ^o C)	mg/l		2-3	3	<2	4	5	5
COD	mg/l			19	<5	22	43	54

Type of Test	Sample Collection Location at Site	Date of Collection	pH	TDS	EC
Drinking Water	Crusher	29.03.2022	6.9	145	230
	RO Water	29.03.2022	7	86	220

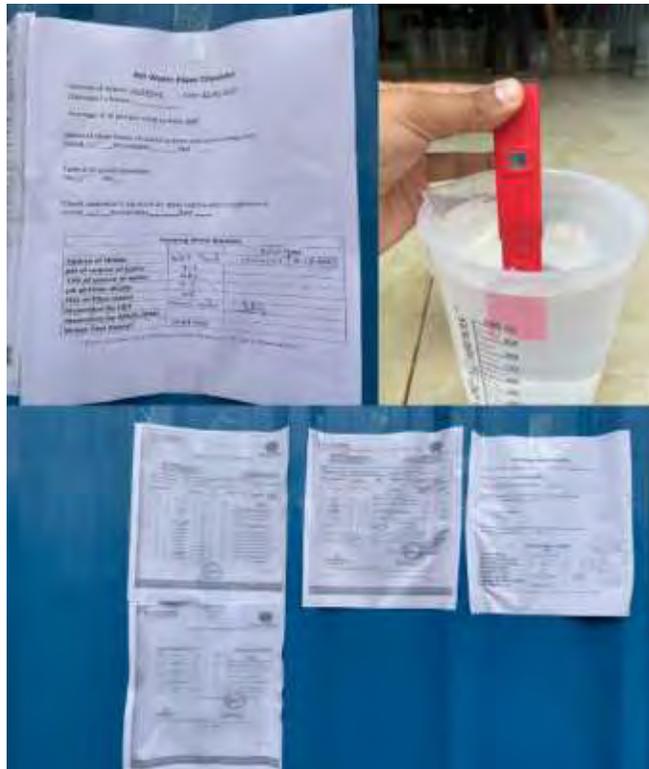
Note : RO reject water not yet tested but will be tested and reported in next SEMR.

Table 14 : Analysis of the all test results.

Ambient Environment condition		Explanatory comments
	Good	Construction phase monitoring for LKHEP performed in the month of July, 2021; October, 2021; December , 2021 and March, 2022.
		Air qualities are within prescribed limits of CPCB and IFC norms
		Noise levels are within the levels of Residential area limits in the month of March 22 except in the primary school near APGCL, which is on the NH 627.
		Ground water quality results are within the permissible limits in the month of December 21 and March 22..
		The surface water quality of various sampling stations were found within the standard limits. As such the water quality may be considered as suitable for various uses after obtaining necessary permissions from the concerned authorities.



Joint meeting conducted with APGCL, L&T & M/S Envision Enviro in APGCL office



Water Test Report and RO water Checklist daily update and display in RO plant shed.



Kopili River water weekly test Apr'22

Site visits by the top officials of APGCL



Review meetings



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



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 2022 is given in the [Annexure 4](#).

List of fire extinguishers installed at site in table 15.

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. Compliance to COVID 19 SOP are also reported along with the Monthly Environment Report. Summary of HSE at site is shown in the table 16.

Table 15 : Fire extinguishers installed at site

sl	Location	Type	Capacity (kg)	nos
1.	Surge Shaft Container	CO2	6.5	2
		DCP	1.0	4
2.	Valve 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.	Bhuender Singh Container	DCP	1.0	1
18.	Diesel Browser	DCP	1.0	2
19.	Kolong Block	DCP	2.0	4
20.	Kamang Block	DCP	2.0	4

sl	Location	Type	Capacity (kg)	nos
21.	Subansiri Block	DCP	2.0	3
22.	Brahmapurta Block	DCP	2.0	4
23.	DT Outlet Fire Stand	DCP	2.0	2
		CO2	6.0	1
		Fire sand Bucket	5.0	1
24.	Dam Site Office	DCP	2.0	2
		Fire sand Bucket	5.0	2
25.	Dame Site DG	CO2	6.5	1
26.	Digaru Block	DCP	1.0	4
27.	Dhansiri Block	DCP	1.1	4
28.	Explosive Magazine	DCP	2.0	4
		Fire Sand Bucket	5.0	4
29.	Fuel Substation	DCP	5.0	2
		Foam	9.0	2
		Fire Sand Bucket	5.0	2
30.	PMC Blocks	DCP	1.0	14

Table 16 : Summary of HSE at site

Month	No. of Fatalities	No. of Reportable Injuries Lost Time	No. of Man days Lost	Dangerous Occurrences	Reportable Sick Cases	Major Environment Incidents	Non-Work-Related Incident (not included in statistics)	First Aid Cases	Near Miss Reports	Minor Environment Incidents	Frequency Rate - No. of RLTI	Severity Rate - No. of Man days lost per million Man hours worked
Jan 22								4	2			
Feb 22								3				
Mar 22		1	8					2	2		3.81	30.4
Apr 22								2	4			
May 22				1				3	3			
June 22								2	1			
Jan-June Total	0	1	8	1	0	0	0	16	12	0		



Standard Cylinder Store



Erection of Safety Signs



Display of Pictorial Safety Sign board display with Local Language



Convex mirror installed for blind corner of the site road

8. Training

Details of the Trainings are given in Table 17.

Table 17: Training conducted by package 2 contractor

(Here workers means Labour, Supervisors engaged by Contractor and sub contractors under package 2 and staff means engineers, and skilled workers engaged directly under L&T pay roll)

	EHS Training	Number of Workers attended this Month						Number of staff completed in this Month					
		Jan22	Feb22	Mar22	Apr22	May22	June22	Jan22	Feb22	Mar22	Apr22	May22	June22
1	Pre-Deployment Induction Training	242	450	173	1082	284	254	7	2	4	3	10	4
2	Environment Management	42						6					
3	Waste Management	64											
4	Fire Safety and Demonstration	256											
5	AID/HIV Awareness Training	60											
6	Covid-19 Awareness Training	50											
7	Welding and Gas Cutting Training	31											
8	Training on Near Miss case Reporting	44											

	EHS Training	Number of Workers attended this Month						Number of staff completed in this Month					
9	Online EHS Module on Crane & Lifting Safety								12				
10	Online EHS Module on Environmental Management Awareness								7				
11	Online EHS Technical Module on Safety in Excavation								17				
12	Constriction safety Training for DETs								5				
13	Safety in Excavation									4			
14	Defensive driving /Blind Spot Training				4	5	20			6			
15	EHS certification course on ATL									7			
16	P&M Safety			14			10						
17	Incident investigation										9		
18	Front line supervisor training for EHS supervisors				5						1		
19	Safe use of Ladder					11							
20	Onsite Electrical Safety Training					16							
21	Training for Scaffolding Erector					6	14						3
22	Work at Heigh						13						
23	Underground Safety						17						
24	Inspection of Fire Extinguisher and Full Body Harness						6						



Induction training for PMC



On the job training on Ladder safety



Onsite Electrical Safety Training

9. EMP Expenditure :

EMP Expenditure table (Table 18, 19) 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 originally EMP Budget (as per disclosed EIA, 2018) was US\$12.90 m and now it is US\$16.76 million incorporating the revised compensatory afforestation cost, biodiversity conservation cost, cost for external monitor, LAD, etc.

Table 18 : EMP Expenditure

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		
6	Restoration and Landscaping of construction sites	10.000		
7	Environmental management in road construction	16.952		* details in table 11 B
8	Greenbelt development	2.000		
9	Solid Waste Management	23.484		* details in table 11 B
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		* details in table 11 B

S. No.	Item Cost	Revised	Remarks	Expenditure so far
		(₹ Million)		(₹ Million)
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.
3. BMP will be implemented by APGCL and Forest Department jointly but CAT Plan will be implemented by Forest Department alone. The required amount for implementation of CAT Plan has been deposited to CAPMA, MoEF&CC, Govt. of India.

Table 19 : Details of the *EMP Expenditure till June 2022.

S.I	Item	Amount (Rs. lakh)
1	Expenditure for Environmental Monitoring (Air, Water & Noise)	5.01
2	Expenditure for DG Stake Monitoring	1.03
3	Portable bio toilet , (4 no.)	2.8
4	Portable prefab toilet , (2 no.)	2.8
5	Making road for local village.	0.25
6	Cement bag Provided for community toilet construction	0.15
7	DRDO Bio tank 4000 litre (2 no.)	3.37
8	Prefab container toilet (2 no.)	7.71

S.I	Item	Amount (Rs. lakh)
9	Plantation on spoil tips (plain area) including bio-fertilizer cost & tree guard cost	1.0
10	Fencing cost for 5000 sqm	15.41
11	Cost of two portable water pumps, (flow 20 cum/hr, 20m head, along with 200 m pipe, 100 mm dia, HDPE)	51.86
12	Watch & Ward for tree plantation	3.84
13	Safety Supervisor	6.29
14	Regular water sprinkling through water tanker on entire roads and NH (water tank capacity 20000 Litter & 12000 litter)	14.04
15	Fire extinguisher DCP 1KG 50 no./ 2KG 50 no./6KG 30 no./ 9 KG 20 no./BUCKET 20no.	1.3 +0.41
a)	Fire extinguisher CO2 6.5 KG 20 no.	2.56
16	PPE for staff & workmen (Jacket, Helmet, Shoe, Hand gloves, mask, face shield, ear muffs, ear plugs, safety google, face shield, rain coat, face mask, gum boot, umbrella)	60.56
17	First Aid medicine	1.99
18	Two First aider	6.06
	TOTAL	187.14

10. Meaningful Consultation and Grievance Redress

Few consultations were carried out during the reporting period January 2022 to June 2022 (Table 20).

Table 20 : Consultation carried out during the reporting period

Date	Format/Venue	Participants (Occupation, M/F)	Main Issues Raised
25.05.2022	Conference Hall APGCL, Longku	villagers, gaon buras and the representatives of PAPA, APGCL, PMC	R&R assistance, Rehabilitation site, Environmental issues, Shifting of the project components. Dust suppression was raised. APGCL responded that reducing dust on the National Highway is will be done through contractor in the way of sprinkles water in sensitive areas i.e., settlement areas, school, hospital and market.

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. There is no bar to take grievances and complaints to national courts for arbitration.

Details of the GRM given in the last EMR.

Land related grievances (402 nos) were forwarded to second tier by the first tier. No cases registered so far on environment issues.

GRM is open to the communities only and the workers grievances are addressed by the contractor. Site Register is maintained in the contractor's camp and in APGCL office. All the complaints are recorded. A format has been developed by Social Expert to record the grievances. Grievance Box was placed at APGCL site office. GRM training given by APGCL Social Expert and R&R NGO to all the affected villages. All the complaints lodged by the workers/labour are addressed by admin department of the contractor. Registers are maintained at site.

11.0 Observation of External Monitor on SEMR Jan-June 2022

Table 21. REVIEW SUMMARY OF SEMI-ANNUAL ENVIRONMENT MONITORING

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
I.	EIA addendum is updated with the current layouts and additional mitigation measures and submitted to ADB consultant for finalization.		When was it submitted and when is it expected from ADB to finalize it. Please provide timeline.	APGCL	Precise date can be given after ADB's review.	Comment Matrix was submitted to ADB.
			Update Figure 2 of the report "changed layout of the project" as it is unclear to interpretate any change.			Annexure 19: Old and new layout presented
			Also Update Figure 3 (Layout of Transmission line) as legends are blurry and not clear, legends need to be updated.			Annexure 20 : Layout of Transmission Line
II.	CEMP to be updated as required to reflect any changes in mitigation measures as a result of the final EIA Addendum	Will be done after disclosure of the EIA addendum.	Anticipated date of disclosure for it	PMU & APGCL & ADB	15th Nov, 2022	Package 2 contractor has submitted the Updated CEMP incorporating the additional measures suggested by ADB during EIA addendum. Package 1, 3 and 4 not yet submitted the CEMP but will submit soon.
III.	Application submitted for ground water abstraction	Contractor applied CGWB on Nov.9, 2021. Clearance yet to be obtained.	Anticipated date of receiving the approval/permission. It is substantially delayed. If there is no need for ground	Contractor, APGCL		Ground water is not abstracted by package 2 contractor. Hence the application was not

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
		Contractor is not extracting any ground water presently.	water abstraction, it is suggested to drop the ground water abstraction activity.			processed as reported.
IV.	Obtain permission for batching plant 60 cum/hr Capacity at Powerhouse		NOC's and CTO received for the Batching plant as detailed in section 4 of table 3.2 need to be annexed with the report.			Annexure 21 : CTO of Batching Plant at power house.
V.	Obtain CTE for batching plant at dam site from PCBA and subsequently obtain CTO	CTE received on June 23, 2022. APGCL instructed to obtain the CTO before the start of the batching plant.	The evidence provided in Annexure-13. Anticipated timeline to obtain the CTO timely to ensure meeting the construction schedule duly meeting the E&S requirements such as preparation of Site-specific environment management plan (SS-EMP) and also reinstatement plan before the operation of the batching plant. Annexed CTE obtained to the report	Both the documents should be submitted to the PMC for approval. APGCL to coordinate with the responsible authorities for obtaining the CTO	15 th Nov, 2022 or before start of batching plant operation.	Annexure 22 : CTE obtained for the batching plant at Dam. CTE and CTO are contractor's responsibility. Whenever contractor approached APGCL for coordination APGCL extended all possible help for coordination.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
VI.	Obtain outstanding permissions for quarrying and aggregate extraction	Mining plan approved by Director Geology & Mining department on May 16, 2022. Quarry permission pending from DFO, Haflong, Assam.	Anticipated date of obtaining the quarry permission	Contractor & APGCL		Quarry royalty realization order by DFO received on 11.07.2022 As it is in the month of July it was not mentioned in the Jan to June Report 2022.
VII.	Permission of the State Government for extraction of boulders from quarry. Location: Longku, Dima Hasao	Approval Awaited from North Cachar Hill Autonomous council (NCHAC). Application submitted for approval from DFO, Haflong on 23.5.22.	Timeline to be provided	PMU, APGCL		Approval to operate quarry received from NCHAC on 8th July, 2022. As it is in the month of July it was not mentioned in the Jan to June Report 2022.
VIII.	Permission of the State Government for extraction of Fine aggregate from quarry. Location: Up Stream and Downstream of Dam, Dima Hasao. (2 quarries)	“After receipt of the approval Mining plans will be submitted for approval” “Meanwhile Trial Mix programme with crushed sand is in progress”	Clarification required on the status as the statements “After receipt of the approval Mining plans will be submitted for approval” and “Meanwhile Trial Mix programme with crushed sand is in progress” are not properly put. Which approval? Submit to whom? Anticipated dates for obtaining the permission? What is meant by trail mix programme?			As per the approved Mixed Design crusher dust is mostly used in the concrete and natural sand required is met from the procurement from the third party. Sand quarries are not taken by the contractor for operation so far and hence mining plan were also not prepared. Permission from the forest department is available for the use of the excavated minor minerals (360000 cum) from the project area.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
			<p>Can trail be proceeded without required permission?</p> <p>Further, it is believed that NOC from North Cachar Hill Autonomous council is still awaited for quarry function.</p> <p>Moreover, is permission from forest department not triggered for this activity.</p>			
IX.	Permission for crushing of boulders from excavated materials	<p>DFO, Dima Hasao West, Halflong on 20th Dec'21 vide letter no. refer letter no: FRS/G/101(a) Stone-Chips/L&T/2020-21/Pt-IV/2853-56 Principal Secretary (N), NCHAC on 8th Mar'22 vide letter No. letter no: FRS/Sectt/SP/155/2010-21/L/2/278</p>	Annex letter of permission received to the report			<p>Permission given from competent authority for the use of suitable boulders from excavation within the project area.</p> <p>Annexure 23: Permission for extraction / collection of Mask boulder.</p> <p>Annexure 24 : Permission for extraction / collection of Mask boulder (200000 cum).</p>
X.	Permission of Pollution Control Board for installation of crushers (Near Powerhouse). Consent to establish- (CTE)	<p>CTO received from PCBA on 7/12.2021 vide Ref no. WB/SLC/T-1184/21-22/09/1152.</p>	It is delayed substantially need to be expedited. Need to provide time for obtaining CTO	PMU, APGCL		CTO received from PCBA on 7/12.2021.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XI.	Development of solid waste management systems including disposal and storage facilities with transport and disposal to suitably licensed waste management facilities	<p>For Solid waste management contractor has agreed to</p> <ol style="list-style-type: none"> a. segregate at source, b. Stored, c. treat d. process the biodegradable waste by composting / vermicomposting e. Recoverable wastes like (bottle, can) etc. will be sold to vendors. f. Other non-biodegradable wastes, inert wastes, and other waste not suitable for biological processing or recycling will kept at designated landfill site developed by the contractor. <p>Hazardous wastes as generated by the contractor are being stored properly and will be sold to the</p>	What is the current status and when it will be initiated need to be provided.	PMC & APGCL		<p>Solid Waste Management Plan already submitted by the Package 2 Contractor.</p> <p>As sought by ADB contractor has to submit captive landfill design which is being prepared by the contractor and after approval from ADB the captive landfill site will be prepared.</p>

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
		approved authorised recycler.				
XII.	Implementation of Grievances Redress Mechanism	GRC was constituted to address grievances arising due to Social and Environmental related adverse impacts. Out of the total grievances received majority is related to non-receipt of compensation for loss of land and other structures. As these issues are related and comes under the purview of the revenue department of the council the grievances were forwarded to Council for their comments and resolution.	Status of grievance received if any and their status need to benotified.	PMU, District Council, NGO		Please Note that so far 402 complaints were registered on land related aspect. On 29th August 2022 in the Tier II GRC meeting 243 complains were resolved / closed. Regarding remaining 159 nos grievances, Revenue Department Dima Hasao agreed to verify those complaints very shortly and submit the report within 15 days i.e., by 15th September 2022. There were no Environment related complaints registered so far.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XIII.	Review and approve contractor's updated CEMP covering all sub plans (i.e., worker camp, muck disposal, solid waste, biomedical waste, hazardous waste, hazardous chemicals, batching plants, crusher Unit, Labor influx management, etc.) CEMP to cover all EMP and EMoP provisions per the latest EMP including additional mitigation and monitoring measures as a result of the EIA Addendum, refer to draft until finalized.	Agreed as suggested. Package-3 & Package-4 contractors were intimated to submit CEMP.	Timeline to be provided	PMC, PMU	By 15th November, 2022	Several letters were given for submission of CEMP. To apprise them one training on Environment Safeguards were also carried out.
XIV.	(NOC) from Deputy Commissioner Govt of Assam, for setting up Fuel dispensing Unit at Project location.		Validity of Permission of storage of 20 kl. Fuel has expired and need to be renewed.	Contractor, PMU		Annexure 25 :Renewed license valid till 31.12.22

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XV.	No Objection Certificate Obtained from "PESO" for establishment of Explosive magazine.	NOC obtained from Employer, Further NOC from PESO is under progress.	<p>The status of NOC is not clear. As understood, is NOC from "PESO" for establishment of Explosive magazine and storage of explosive still pending?</p> <p>An Explosive magazine has already been established for the project to store explosive for blasting.</p> <p>Elaboration/clarification is required.</p> <p>When was NOC submitted and what is anticipated date of obtaining the NOC etc.</p> <p>All correspondence as detailed in section 7 of table3.2 relating NOC's and permission received for Magazine need to be annexed with the report.</p>	PMU, APGCL		<p>Storage approval received from PESO. on 26th Nov'21 (Licence No.); E/EG/AS/22/63(E134742) from PESO, Guwahati.</p> <p>Annexure 26 :Magazine NOC from District Magistrate, Dima Hasao dated 27th Oct, 2021.</p>
XVI.	Fire NOC / Fire License	Application submitted on 19 th November 2021 vide letter no LKHEP-PKG2/LNT/155/GL/085.	<p>It is understood that NOC has been awarded vide letter no. F&ES/FPW/3995/1531/22 dated 17.03.2022</p> <p>NOC needs to be annexedwith the report.</p>	PMU, APGCL		Annexure 27 : Fire NOC

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
			(as discussed during site visit 10-14th May 2022). The progress towards this including hiring of vendor may be reported from next MPR			
XIX.	CEMP and H&S Plans	Package 3 (Electromechanical Works) CEMP and H&S Plans are being prepared.	Anticipated timeline for submitting the documents	PMC, APGCL	By 15th November, 2022	Several letters were given for submission of CEMP. To apprise them one training on Environment Safeguards were also carried out.
XX.	Loss of precious Ecological values/impacts on precious species due to acquisition of 523 ha offorest land	Compensatory Afforestation plan is planned to be included in the Annual Operation Plan of the Forest Department, Govt. of Assam for the year 2022-2023. It is also reported cost for implementation was deposited to CAMPA account by APGCL. Biodiversity Conservation plan is yet to be initiated. BMP will be	Status to be shared. It has already been delayed since we missed the rainy season of 2022. Please be noted that compensatory afforestation works are seasonal activities and need to be carried out during wet season ensuring optimum survival rate. To undertake the activity during onset of monsoon, the necessary planning and works to be initiated from January. When cost for implementation deposited to CAMPA and what is the progress to date need to be shared with elaboration. The reason for delay	PMU, APGCL, Forest Department		APGCL will monitor the activities as per norms. Forest Department, Govt of Assam informed that they have incorporated the CAT Plan and Compensatory Afforestation implementation in their APO 2022-23 in both the districts of LKHEP. Six monthly status report on implementation of Compensatory Afforestation and CAT Plan will be taken from the Forest Department as it will also be required for six monthly EC compliance report and will be incorporated in the next SEMR.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
		implemented by APGCL and Forest Department jointly, but CAT Plan will be implemented by Forest Department alone. The required amount for implementation of CAT Plan has been deposited to CAPMA, MoEF & CC, and Govt. of India.	needsto be explained.			
XXI.	<ul style="list-style-type: none"> Excessive soil on paved areas will be sprayed (wet) and/or swept and unpaved areas will be sprayed and/or mulched. <p>Contractors will be required to cover stockpiled soils and trucks hauling soil, sand, and other loose materials.</p>	Not initiated	Why is it not initiated as this is directly cause soil erosion, elaborate the reason and how this can be mitigated	Contractor, PMC, PMU		<p>Water sprinkling were done on the unpaved soil also during dry spells.</p> <p>Contractor was instructed to cover the stockpiled soil and other loose materials.</p>

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XII.	Loss of Biodiversity, Disturbance / accidents/injury, to wildlife and avian fauna	Not yet initiated by the Forest Department. Letter given to Nodal Officer to initiate the CA works.	<p>Where is the update on the points suggested by External Monitor Agency in their previous six-monthly review (June 2021 to Jan 2021)</p> <p>“To avoid road killing subways/culvert should be constructed for road crossing for wildlife”</p> <p>As suggested in six-monthly review (June 2021 to Jan 2021) this issue was targeted to be achieved by 20th August 2022 in EIA addendum. Therefore, latest updates need to be shared on initiation of the activities. As this is a seasonal activity and only can be carried out during wet season. Hence, require proper planning, one season missed means one year lapsed and need to wait for another year.</p>			<p>External Monitor Agency did six monthly review of the report July to December 2021.</p> <p>ADB after their review of the EIA addendum given several new observations on 10th August and 25th August 2022.</p> <p>APGCL will take up the issue during the Biodiversity Monitoring Committee meeting and explore the feasibility. Based on the Biodiversity Assessment carried out during February 2021, the Critical habitat assessment was updated by ADB, and additional measures were suggested by the ADB experts. This will be part of the EIA addendum.</p> <p>Annexure 28: Biodiversity Committee notification</p>

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XIII.	Impact of Transmission line on birds		<p>In relation to anti-climbing devices and bird deflectors for the Transmission line, the consultant team suggested APGCL to undertake in-house study for ascertaining its necessity to take prudent decisions during site assessment undertaken in the month of May 2022.</p> <p>Status of the same needs to be mentioned in the report.</p>	APGCL	31st December, 2022	After finalization of the transmission line APGCL will take up the matter.
XIV.	Biodiversity Management Plan		<p>Where is the update on the points suggested by External Monitor Agency in their previous six-monthly review (June 2021 to Jan 2021) as below:</p> <p>It needs to be initiated and planned for coming rainy season being a seasonal activity. One season missed means one year lost. The following activities inclose coordination with the Department of Forest to be initiated:</p> <p>1). Formulation of Biodiversity Monitoring</p>	APGCL, PMC		<p>External Monitor Agency did six monthly review of the report July to December 2021.</p> <p>After constitution of the Biodiversity Monitoring Committee all the activities under the BMC including awareness will be planned and implemented. The committee will decide on the formation of SHGs under BMP. However, there is no provision for formation of SHGs for monitoring the biodiversity. Proposal for construction of water holes inside the forest will be discussed with the committee and</p>

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
			<p>Committee to monitor the BMP activities at project site.</p> <p>2). Biodiversity Monitoring awareness program to be developed with timeline to provide awareness of biodiversity to local community, school and other institutions actively engaged at local levels (if any).</p> <p>3). Self-help groups to be formed for implementing and monitoring the Biodiversity Monitoring activities at local level. If possible and available women may be motivated to participate in self-help groups etc.</p> <p>4). It is also suggested to construct water holes, wherever possible and applicable inside the forest for quenching wild animal thirst, which may also greatly avoid human animal encounter and conflicts.</p> <p>As suggested in six-monthly review (June 2021</p>			<p>finalize the implementation plan.</p> <p>MoM of Biodiversity Monitoring Committee meeting will be shared in the SEMR.</p>

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
			<p>to Jan 2021) above points issue were targeted to be achieved by 30th July 2022 and 20th August 2022 in EIA addendum. Therefore, latest updates need to be shared in the current six-month report</p> <p>MoM of Biodiversity Monitoring Committee meeting to be shared in the report as suggested in last six-month report.</p>			
XVI.	Annexure 4: Sample Field Visit Report 28th to 30th June 2022.		<ul style="list-style-type: none"> • Burning of solid waste under open sky should be completely prohibited. • Camps should have proper air circulation • Housekeeping to be improved in and around the camp area. • Protection measures to prevent the river water contamination should be in place. 	Contractor, PMC, PMU and APGCL	<p>Immediate</p> <p>30th Nov, 2022</p> <p>Immediate</p> <p>30th October, 2022</p>	All the noncompliance were intimated to the contractor for compliance.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XVII.	Catchment Area Treatment (CAT) Plan implementation	The CAT Plan implementation authority is the Forest Department. APGCL has deposited the amount for implementation in the CAMPA fund of MoEF & CC. As intimated by the Forest department CAT Plan implementation will start this year and it approved in the AOP of 2022-2023 (Latest by October 2020). APGCL will monitor during implementation.	Regular follow up with the concerned agency for the concurrence of the CAT plan and closely monitor the implementation.	APGCL, PMC, Forest Department		Agreed
XVIII.	Water Quality Restoration plan budget		Total budget allocated is Rs 65 million. No expenditure incurred yet. The activities undertaken and expenditure incurred may be reported from NEXTMPR/SEMR.	Contractor		Water Quality Restoration plan is not being implemented as the matter has been taken up by NGT.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XIX.	Provision of protection of Civil and Hydro-Mechanical structures from acidic water (Item A14 and B2-(i))	Physical progress of safeguard measures taken up by contractor to protect the plant equipment's (mechanical and electrical) and dam from the acidic water will be reported in the next Six-monthly report.	Total budget allocated is Rs 38.44 Cr. No expenditure incurred yet as reported in MPRs of Jan, Feb, March, Apr, May, and June 2022. Most of the important civil and HM structures are expected completion between May 23 to August/Sept 24. Therefore prior to that the protection measures as per Item A14 and B2 (i) need to be implemented.	Contractor	Prior to March 23.	Agreed
XX.	Drinking water quality test reports to be submitted	Weekly pH data not reported as it is not mentioned in the EMoP. But daily pH data were collected for the RO water.	In the previous SEMR (July –De 21) the drinking water quality at various locations like APGCL Engineer camp, APGCL colony, Labor and Staff Colony were provided , while in the current SEMR only data of RO plant shed is provided. A confirmation is needed that water only from the RO plant is supplied to the staff and labor camps. The drinking water test data may be annexed in the SEMR.	Contractor/PM C/APGCL		Water is collected from adit pond, langku nala and after RO treatment drinking water is supplied to all camps and work stations. Surface water quality of Langku nala is tested and water quality of RO Plant also tested. Annexure 29 : Drinking water quality analysis of RO plant

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XXI.	Water Quality of river Kopili		The water quality data presented in the current SEMR shows remarkable improvement of water quality when compared to data reports in July-December 2021. The pH data provided is everywhere between 7-7.2. May be action taken of NGT towards closure of illegal mines in Meghalaya has resulted in improving the water quality. Monitoring results of upcoming months like July, September and December 2022 will be checked further which is expected to be reported in next SEMR.	APGCL		Agreed
XII.	Obtain outstanding permissions for vehicle registration. All vehicles registered in Bhutan must be registered with Indian numbers and PUC to be obtained.	Contactors will be complied by the end of July 22. Letter has been issued to Contractor to obtain Indian registration of the vehicles along with PUC	As per External monitoring agency observation and due mention of it in the site visit and last six-month report this point is still not closed in MPR from March 2022 to June 2022 and in six-month Jan 2022 to June 2022 wherein information of 18 vehicles provided does not contain any information on vehicles registered in Bhutan Please note that the picture			5 vehicles with Bhutan Registration number changed and rest are under process. PUC of the above 5 vehicles will be submitted soon as informed. Annexure 30 :Application submitted for registration change of the vehicles with Bhutan Registration Numbers.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
			of Water sprinkling truck provided in page 63 of the report is registered in Bhutan. Update/ status need to be provided			
XIII.	Direction of Honorable NGT to Government of Meghalaya to implement afforestation program and rejuvenation of all the polluted river stretches in Meghalaya along with regular monitoring of the water quality of river (pH).	The entire work is under the supervision of NGT and accordingly they have constituted a committee for proper implementation. So APGCL cannot enter in this matter.	1) As per the direction of NGT, afforestation with Conventional method needs to be taken up for plantation in 224.26 Ha of land across 8 districts of Meghalaya. 2). Rejuvenation of degraded coal mines through soil amendment and microbial technology to be taken up in Meghalaya, 3). The River Rejuvenation Committee (RCC) of Govt.of Meghalaya has recommended the proposal of M/s Trinity Impex International for a Pilot Project of Phytoremediation through Micro Algae treatment of the acidic water for Kyrhuhkhla River. APGCL may help in obtaining progress of above points from Govt of Meghalaya through PCBA/	APGCL through PCBA or Department of Power to get the information from Meghalaya Govt.		NGT has constituted a high powered committee for implementation of the task as mentioned. As the entire matter is monitored by NGT, PCB Meghalaya declined to provide any status at this stage. Still APGCL is trying to get information from government on implementation of the correction measures for improvement of river water quality.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
			Power Department Govt of Assam.			
XIV.	Muck Management Plan, Biomedical waste plan and Influx management plan pending from Package 2 contractor.	<p>Additional Plans like Muck Management Plan, Influx management plan, Solid waste Management Plan etc. were incorporated by Package 2 contractor.</p> <p>Muck management plan submitted, reviewed by PMC and APGCL and returned to contractor to incorporate the observations and submit it for approval.</p> <p>Biomedical waste plan and Influx management plan is under preparation.</p>	Status to be provided	Contractor/PMC/PMU	15th November, 2022	Biomedical waste plan and Influx management plan are still under preparation.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency Remarks	Responsibility	Timeline	APGCL Response
XV.	The rooms at camp site should be provided with proper illumination, smoke detector, proper insulation of electrical system. Labor should be provided with provision of clean water, adequate toilet facilities with respect of number of Labor ratio and clean bedding facilities with proper space between two beds.	Installation of smoke detector in the rooms will be intimated to the contractor. Contractor will be requested to install the smoke detector in the rooms by 20 th June 2022. PMC and APGCL will monitor the implementation.	The status is not given in MPR for June 2022 and six-month Jan 2022 to June 2022	Contractor, PMC, PIU, APGCL	Implementation Dates to be finalized after discussion with the contractor and after verification of the contract specifications.	Smoke detectors are yet to be installed in the camps.
XVI.	Karbi Anglong District due to certain unavoidable circumstances- of which restrictions on inter district movement due to COVID situation is the major one.		Perhaps the COVID-19 related restriction is eased and this the factor limiting to cover the issue			Yes. There is no COVID-19 related restriction in Dima Hasao and West Karbi Anglong districts of Assam and rest of Assam.

12.0 Corrective Actions

Corrective actions are listed in the table 22 for compliance.

Table 22 : Corrective Actions Plan (CAP)

	Actions Required	Status as on 30th June 2022	Timeline
	Responsibility of package 2 contractor		
1	CTO for Batching plant at Dam site	CTE received on dtd. 23 rd Jun'22.	CTO before the start of the batching plant.
2	Obtain outstanding permissions for quarrying and aggregate extraction	Mining plan approved by Director Geology & Mining department on dtd.16th May'22	Quarry permission pending from DFO, Haflong, Assam. EC to be obtained before extraction of boulder.
3	Obtain outstanding permissions for vehicle registration, ensure that all vehicles and plant including DG sets being used have requisite pollution consent in place.	Contractor has already applied for local registration from competent authority. Further APGCL instructed to complete the process within a short period. The delay of PUC is due to non-availability of local registration number. 8 DG sets accorded CTO from PCBA. Rest DG sets needs CTO from PCBA	By 30 th September, 2022 By 30 th September, 2022
4	Obtain outstanding permissions for groundwater abstraction	Contractor applied CGWB on 9 th November, 2021. Clearance yet to be obtained. Contractor is not extracting any ground water presently.	If extracted in future prior permission from CGWB is required.
5	CEMP to be updated as required to reflect any changes in mitigation measures as a result of the final EIA Addendum		Will be done after disclosure of the EIA addendum.
6	Development of solid waste management systems including disposal and storage facilities with transport and disposal to suitably licensed waste management facilities	For Solid waste management contractor has agreed to a. segregate at source, b. Stored, c. treat	To be completed by 31 st August, 22.

	Actions Required	Status as on 30 th June 2022	Timeline
		<p>d. process the bio degradable waste by composting / vermicomposting</p> <p>e. recoverable wastes like (bottle, can) etc will be sold to vendors.</p> <p>f. Other non bio degradable wastes, inert wastes, and other waste not suitable for biological processing or recycling will kept at designated landfill site developed by the contractor.</p> <p>Solid waste management facility will include temporary captive landfill site following all the IFC and GOI guidelines after sending most of the materials to the authorised recyclers.</p> <p>Hazardous wastes as generated by the contractor is being stored properly and will be sold to the approved authorised recycler.</p>	
7	No waste to be disposed of onsite; all of the waste disposed of to date in a pit is to be removed from project site for transport and disposal to suitably licensed waste management facilities		With immediate effect
8	Regular housekeeping and cleaning at workers camps including toilets and washing facilities; toilets and washing facilities need to be cleaned regularly minimum of twice per day		Immediately

	Actions Required	Status as on 30th June 2022	Timeline
9	All sanitation and welfare facilities including toilets and canteen to be connected to minimum of septic tank with soak away for sewage treatment. Ensure discharged wastewater is being monitored per the EMoP to ensure discharge standards being met. No untreated sewage is to be disposed to surface water or ground.	Under construction. Due to torrential rain in the project site from May 2022 it was not possible to complete the works but contractor will try to adhere the timeline and monitoring of the discharge to ensure the standard limit and will be reported in the next SEMR. All sanitation connected with septic tank.	By 30 th September, 2022
10	All worker accommodation, sanitation, and welfare facilities to meet national and International Labor Organization (ILO) standards Ensure clear and safe are walkways provided to access these facilities Drinking water provided must be in accordance with Indian drinking water standards and the water tested after as well as prior to treatment	Ongoing. As suggested reporting of the water quality prior to treatment will also be reported in the next Report.	Results to be reflected in the July 22 Monthly Environment Report.
11	Worker accommodation facilities to have proper ceilings to control heat	Ongoing	To be completed immediately
12	Drainage facilities of adequate design and capacity such that there is no standing water on-site to be constructed/ completed at the worker camps and other construction facilities	Due to torrential rain and flood in the area it was not possible to adhere the timeline. APGCL instructed to complete the drains immediately.	By 30 th September, 2022
13	Complete initial AIDS / HIV awareness training for all workers on site and then undertake regular refreshers	Refresher trainings to be carried out.	By 31 st August, 2022
14	Installation of effectively designed and operated sedimentation tanks for sediment laden runoff from concrete batching and exposed soils across the construction site. Ensure discharged water from sedimentation tanks being monitored to demonstrate sediment load being adequately	After completion of sedimentation tank the test reports of the discharge will be reported in the SEMR.	By 31 st August, 2022

	Actions Required	Status as on 30th June 2022	Timeline
	reduced. Ensure that soils exposed on slopes are immediately vegetated or temporarily covered with geotextile to help stabilize them and prevent sediment laden surface water runoff.		
15	Shifting of all overburdens after utilization to muck storage or disposal sites; the muck currently stacked along the road in the forest area contrary to the EMP to be utilized or shifted to the muck storage or disposal sites	Partially complied.	By 30 th September, 2022 all the overburdens to be shifted to the designated dumping yard. Back filling materials may be kept with proper protection measures.
16	Surfacing of the permanent and temporary access roads to reduce dust emissions. Sprinkling of water to be undertaken regularly on all access roads to and within the project site, minimum of twice per day but more frequently on dry or windy days	During the rainy season it is not required. Otherwise to be complied. Regular dust suppression were not carried out.	Immediately
17	Ensure H&S of tunnel works with all persons entering tunnels to have training in confined spaces, a tag-in-tag-out system implemented, adequate ventilation, lighting levels, and oxygen monitoring etc.	Continuous process	To be adhered and annexure 29 of EMP to be followed.
18	Ensure H&S of all excavations which are to be adequately stored up and barricaded.	Agreed and intimated to the contractor.	Immediately
19	Ensure all trip and fall hazards are removed, good housekeeping to remove debris lying around project site, covering of openings in floors etc.	Ongoing and to be improved.	Immediately
20	Ensure traffic controls in place with flagmen at all site entrances off the public highway	Partially complied	Immediately
21	Ensure that polychlorinated biphenols and asbestos containing materials are not being used in construction works	Not yet used but to be adhered in future	
22	Regular monitoring of the water quality is not performed at RO plant. Water quality not monitored		Immediately

	Actions Required	Status as on 30th June 2022	Timeline
	between 21.6.2022 to 29.6.2022. Which need to be monitored every time filling the water tank before RO treatment.		
23	Drains are not cleared (debris) regularly, and some have stagnant waters which are sites of mosquito breeding.		Immediately
24	Burning of firewood were observed in the camps which is not allowed as per EMP.		Immediately stop the activities
25	Burning of solid wastes is not allowed as per Solid Waste Management Rule (SWMR) 2016 and which is a violation of the rule.		Immediately stop the activities
26	Protection measures to prevent contamination of river water not yet initiated		Immediately take necessary steps
27	Proper circulation / ventilation of air in the rooms of the camps to be ensured during the summer		Immediately
28	Biomedical waste plan and Influx management plan pending from Package 2 contractor.		To be submitted by 31 st August, 2022
29	Water Quality of riverKopili	The water quality data presented in the current SEMR shows remarkable improvement of water quality when compared to data reports in July-December 2021. The pH data provided is everywhere between 7-7.2. May be action taken of NGT towards closure of illegal mines in Meghalaya has resulted in improving the water quality. Monitoring results of upcoming months like July, September and December 2022 will be checked further which is expected to be reported in next SEMR.	Agreed
30	Medical test for Drivers: Construction contractor is		Immediately

	Actions Required	Status as on 30th June 2022	Timeline
	required to organised Eyesight and Randomized drug testing (drug and alcohol test) for all Commercial Truck Drivers as per safety protocol for the safety of site staff and locals.		
	Responsibility of Package 3 & 4 Contractors		
31	Labour License and Insurance (Package 3)	Copy of the labour license and insurance yet to be submitted.	Immediately the contractor has to submit the copies.
32	Labour License (Package 4)	Copy of the labour license yet to be submitted.	Immediately the contractor has to submit the copy.
	Responsibility of APGCL		
33	NOC for the Archaeological Site.		To be obtained by APGCL before submergence.
34	<p>Dam Safety : Detailed design drawings of the dam and foundations are missing, only the list of drawings has been delivered, as well as dam monitoring plan and dam risk assessment.</p> <p>The actualized project implementation schedule should also be always available, in order to identify the priorities for activities to develop taking into account the safety aspects of the dam.</p>		As soon as the Final design is available it will be shared with the independent Dam Safety Expert of External Monitor for review.
35	<p>Biodiversity Management Plan : It needs to be initiated and planned for coming rainy season being a seasonal activity. The following activities in close coordination with the Department of Forest to be initiated:</p> <p>1). Formulation of Biodiversity Monitoring Committee to monitor the BMP activities at project site.</p> <p>2). Biodiversity Monitoring awareness program to be developed with timeline to</p>	<p>After constitution of the Biodiversity Monitoring Committee all the activities under the BMC including awareness will be planned and implemented.</p> <p>The committee will decide on the formation of SHGs under BMP. However, there is no provision for formation of SHGs for monitoring the biodiversity.</p>	In the Biodiversity Committee meeting to be held by 30 th September 2022.

	Actions Required	Status as on 30th June 2022	Timeline
	<p>provide awareness of biodiversity to local community, school and other institutions actively engaged at local levels (if any).</p> <p>3). Self-help groups to be formed for implementing and monitoring the Biodiversity Monitoring activities at local level. If possible and available women may be motivated to participate in self-help group etc.</p> <p>4). It is also suggested to construct water holes, wherever possible and applicable inside the forest for quenching wild animal thirst, which may also greatly avoid human animal encounter and conflicts.</p>	<p>Proposal for construction of water holes inside the forest will be discussed with the committee and finalize the implementation plan.</p>	

13.0 Conclusions and Recommendations

This is the third six monthly Environment Monitoring Report for the period January to June 2022. During this period few noncompliance on the environment safeguard issues were observed and are listed in Table 8 and 9. Results of the test of ambient air, noise and water also found within the permissible limit except the water quality of the Kopili river during March 2022. Regarding safety there is no casualty reported during this reporting period. Contractor followed COVID 19 SOP and reported monthly on the compliance, vaccination status, etc. During this reporting period 19 COVID 4 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 were held. Critical habitat assessment is under way and it will be reflected in the EIA addendum which is finalised. 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. Package 3 contractor is preparing the CEMP.

Annexure 2 - Renewed Labour License

FORM VI
[See rule 25 (1)]



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



Sl. No.: 3272

Licence No. CLL/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
Longrav, District- Dima Hasao - 788931 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 indicate) works for 120 MW Lower Kopile 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]
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.	<u>18/11/2021</u>	<u>Rs 2100/-</u>	<u>7/12/2022</u>	<u>[Signature]</u> Licensing Officer, Assam Guwahati - 16
2.				
3.				
4.				
5.				
6.				
7.				

ANNEXURE

The licence is subject to the following conditions

1. The licence shall be non-transferable *Electron, Assam
Gumdhari - 10*
2. The number of workmen employed as contract labour in the establishment shall not on any day exceed *250 (Two hundred fifty) Nos + 150 = 400*
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 *400 + 100 = 500 (Five hundred) + 500 (Five hundred) [Four hundred]*
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 *Amended on 12/11/2021
Approved on 21/03/2022
Licensing Officer, Assam
Gumdhari*
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 fifteen days 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

**Annexure 3 : Building and Other Construction Workers Registration
(Ammended to cover 1000 workers)**

FORM-II
[See Rule 24(1)]
GOVERNMENT OF ASSAM
OFFICE OF THE LABOUR OFFICER
DIMA HASAO : HAFLONG

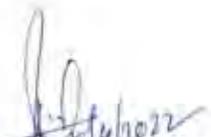
Sl No. 133

License No. B&OCW- 133

Dated Haflong the 5th April, 2022.

A Certificate of Registration is hereby granted under sub – section (3) of Section 7 of the Building & Other Construction Works (Regulation of Employment & Conditions of Service) Act, 1996 and the Rules made thereunder to Larsen & Toubro Ltd – L&T Construction, C/O - Assam Power Generation Corporation Ltd, Lonku, Dima Hasao having the following particulars subject to the conditions laid down in the Annexure.

- | | |
|---|--|
| 1. Postal Address/ location where building or Other constructions work is to be carried on by the employer. | : C/O- Assam Power Generation Corporation Ltd, Lonku, Dima Hasao, 788931 |
| 2. Name & Address of the employer including location of building & other construction work. | : Larsen & Toubro Ltd – Construction, C/O Assam Power Generation, Lonku, Dima Hasao, Assam, 788931 |
| 3. Name & permanent address of the establishment | -do- |
| 4. Nature of work in which building workers are employed Or are to be employed. | : Civil & Hydro Mechanical Works for 120 MW Lower Kopili Hydroelectric Project |
| 5. Maximum number of building workers to be employed on any day by the employer. | : 1000 (Amended) |
| 6. Probable date of commencement and completion of work. | : 01/11/2020 to 31/08/2024 |
| 7. Other particulars relevant to the employment of building workers. | : Rs.1000/- paid as fees |


Signature of the Registering
Officer with Seal
Registering Officer, Dima Hasao
Office of the Labour Officer, Dimasao, Haflong, Assam
1996

ANNEXURE

The Registration granted herein above subject to the following conditions, namely :-

- a. The Certificate of Registration shall be non-transferable.
- b. The number of workmen employed or building workers in the establishment shall not on any day exceed the maximum number specified in the Certificate of Registration.
- c. Save of provided in these Rules, the fees paid for the grant of Registration Certificate shall be non-refundable.
- d. The rates of wages payable to building workers by the employer shall not be less than the rates prescribed by the Minimum Wages Act, 1948 (II of 1948) for such employment where applicable, and where the rates have been fixed by agreement, settlement or award, not less than the rates so fixed ; and
- e. The Employer shall comply with the provisions of the Act and the Rules made thereunder.

Annexure 4: Sample Field Visit Report 28th to 30th June 2022.

Date : 11.07.2022

To
The Project Director,
LKHEP, APGCL,
3rd Floor, Bijulee Bhawan,
Paltan Bazar, Guwahati-781001.

Sub : Status of the Labour camp, facilities therein along with compliance of Environment Management Plan (EMP).

Sir,

This is to inform you that following non compliances were observed in the labour camp, and PMC colony during the site visit from 28th to 30th June, 2022.

1. Regular monitoring of the water quality is not performed at RO plant. Water quality not monitored between 21.6.2022 to 29.6.2022. Which need to be monitored every time filling the water tank before RO treatment. (Photograph 1)
2. Changing of the registration numbers of the vehicles of other countries has not yet been completed. (Photograph 1)
3. Drains are not cleared (debris) regularly, and some have stagnant waters which are sites of mosquito breeding.
4. Solid Waste Management of the camps are very poor. Solid Waste management site under preparation. (Photograph 3,6,10)
5. Construction of Camp is not yet completed (as in Photograph No 4) but vide email dated 22.6.22 Package 2 contractor confirmed that camp construction and construction of side drains were completed.
6. Construction site management are not maintained. (Photograph 7)
7. Housekeeping to be improved in the labour colony (photograph 9).
8. Burning of firewood were observed in the camps which is not allowed as per EMP. (Photograph 11)
9. Burning of solid wastes is not allowed as per Solid Waste Management Rule (SWMR) 2016 and which is a violation of the rule.
10. Protection measures to prevent contamination of river water not yet initiated (Photograph 13).
11. Proper circulation / ventilation of air in the rooms of the camps to be ensured during the summer (Photograph 14).



	Water quality not monitored between 21.6.2022 to 29.6.2022.	Vehicles with Bhutan Registration numbers
2		
	Drains are not cleared regularly	Stagnant waters are sites of mosquito breeding
3		
	Solid wastes are thrown near TR5 road	
4		
	Construction of camps are not yet completed	



Side drains are not completed in the camps



Except preparation of site no work progress on solid waste Management



Construction sites are untidy

8		
Disposal of grey water without treatment		
		
Disposal of grey water without treatment		
9		
House keeping to be improved		
10		

11	<p>Solid waste management is not at par.</p> 	
Burning of firewood		
12		
Burning of solid wastes		
13		
Protection measures to prevent contamination of river water not initiated		



Some good initiatives were taken by the Package 2 contractor which are shown below.

1. Installation of fire fighting devises in the magazine with 50000 litres capacity of water tank.
2. Installation of guard post in front of magazine.



Kindly request the package 2 contractor for immediate compliance of the noncompliance mentioned above.

With kind regards,

Yours faithfully,

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

Annexure 5 : Monthly Environment Report of Package 2 Contractor – June 2022

	HEAVY CIVIL INFRASTRUCTURE INDEPENDENT COMPANY LARSEN & TOUBRO LIMITED 120 MW- LOWER KOPILI HEP	Monthly Environment Report
		Month: Jun-22 [Report No.20]
		Contract Reference: APGCL/CGM (PP&I)/ ADB/LKHEP/Pkg-2/02 of 2020-21 Date: 21.08.2020
Monthly Environment Report (Jun'22) 120MW LOWER KOPILI HYDROELECTRIC PROJECT, (PACKAGE-2)		
	Reference: IM 27 A	
PAGE 1 37		

Sensitivity: LNT Construction Internal Use.



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

Monthly Environment Report
Month: Jun-22 [Report No.20]
Contract Reference: APGCL/CGM
(PP&I)/ ADB/LKHEP/Pkq-2/02 of
2020-21 Date: 21.08.2020

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3	Status use of natural resources	12
4	Status of Aggregate Crusher/Concrete Batching plant setting up application	13
5	Environmental Initiative, Energy Consumption, Water, Wastewater and Waste management status	14-16
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**HEAVY CIVIL INFRASTRUCTURE
INDEPENDENT COMPANY
LARSEN & TOUBRO LIMITED**
120 MW- LOWER KOPILI HEP

Monthly Environment Report

Month: Jun-22 [Report No.20]

**Contract Reference: APCC/CGM
(PP&I)/ ADB/LKHEP/Pko-2/02 of
2020-21 Date: 21.08.2020**

1. Status on Statutory Clearances:

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 Cachar Hills Autonomous Council 2. Mining Plan approval from department of geology and mining, Assam	Lingkh, Dima Hasao (45 km from Lankā Railway Station)	Assam Minor Minerals commencement Concession Rules, 2015	Stage-1: North Cachar Hills Autonomous Council (NCHAC) Stage-2: Department of geology and mining, govt. of Assam Stage-3: Divisional Forest Office (DFO) Hallong	Stage-1: Received Stage-2: Received Stage-3: Pending			<ul style="list-style-type: none"> - Date: 05th Jul'21: L&T Request to DFO issue a consent letter for operation of Quarry to extract minor minerals from the identified / approved Quarry for the project. - Date: 20th Oct'21: L&T Request to DFO issue a consent letter for operation of Quarry to extract minor minerals from the identified / approved Quarry for the project. - Date: 19th Oct'21: Follow-up letter to DFO for Letter S/ No 4 above. -Date: 18th Nov'21: APCC/CGM request to DFO permit L&T to reuse the muck extracted from LKHEP site for construction purposes and make necessary arrangements to charge Royalty for the same from L&T. -Date: 18th Nov'21: Follow-up letter TO DFO against letter S/ NO: 3, 4, 5 & 6 mentioned above. -Dated: 27th Nov'21: NCHAC given permission to L&T for reuse of 80,000 Cum muck boulder. - Dated: 08th Mar'22: hChAC given permission to L&T for reuse of 2,00,000 Cum muck boulder. -Dated: 22nd Apr'22: NOC received from NCHAC/DFO - Dated: 25th Apr'22: Mining Plan submitted to Directorate of Geology and Mining -Dated: 16th May'22: Mining Plan approved from Government of Assam -Directorate of Geology & Mining Department, Gauhati -Date: 20th May: Mining Plan submitted through mail to DFO.

 HEAVY CIVIL INFRASTRUCTURE INDEPENDENT COMPANY LARSEN & TOUBRO LIMITED 120 MW- LOWER KOPILI HEF		Monthly Environment Report							
		Month: Jun-22 [Report No.20]							
		Contract Reference: APOCL/CGM (PP&I)/ ADB/LKHEP/Pkg-2/02 of 2020-21 Date: 21.08.2020							
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
2	Permission of Village Panchayats (Gaon Burah) for installation of crushers & batching plant.	Permission from Village Panchayats.	Longlu, Dima Hasao (45 km from Lanka Railway Station)		Applied to Village Panchayats for: Installation of Crushers on 30-06-2021	Received	-	-	- NOC Received from Village Panchayats for setting up Crusher plant and Batching Plant near Totalingso, Dima Hasao.
3	Permission of Pollution Control Board for installation of crusher.	Permission from Pollution Control Board, Assam	Longlu, Dima Hasao (45 km from Lanka Railway Station)		Applied to Pollution Control Board for: Installation of Crushers.	CTE & CTO Permission received.	-	-	- CTE – Crusher Permission received from PCB Refer. No. WB/SCL/T-1184/21-22/06/1085 dtd. 22 nd OCT'21 - CTO – Crusher Permission received from PCB Refer. No. WB/SCL/T-1184/21-22/06/1152 dtd. 07 th Dec'21
4	Clearance of Pollution Control Board for setting up Batching plant. (Powerhouse)	State Pollution Control Board, Assam	Longlu, 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.	CTE & CTO Permission received.	-	-	- CTE –Batching Plant Permission received from PCB Refer. No. WB/SCL/T-1191/21-22/7/1076 dtd. 11 th Nov'21 - CTO –Batching Plant Permission received from PCB Refer. No. WB/SCL/T-1191/21-22/17-A/1947 dtd. 27 th Dec'21



**HEAVY CIVIL INFRASTRUCTURE
INDEPENDENT COMPANY
LARSEN & TOUBRO LIMITED**
320 MW- LOWER KOPIL HEP

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Month: Jun-22 | Report No.20

Contract Reference: APGCL/CGM
(PP&I)/ ADB/LKHEP/Pko-2/02 of
2020-21 Date: 21-06-2020

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
3	Clearance of Pollution Control Board for setting up Batching Plant (DAM)	State Pollution Control Board, Assam	Longlu, Dima Hasao (45 km from Lankla Railway Station)	The Assam Stone Crusher Establishment and regulation rule 2015 (Crusher)	Stage-1. North Cachar hills Autonomous Council Stage-2. Pollution control board for installation of crusher.	Stage-1. Permission received. Stage-2. Approval Awaited	NOC obtained from NCHAC CTE applied		- CTE -Batching Plant Permission received from PCB Refer. No. W5/SLE/T-1191/21-22/24-A-816 dtd. 23 rd Jun'22
6	Permission of the State Government for drawing water from river.	Central Ground water Board or District Administration		Water (Prevention & Control of Pollution) Act, 1974, and Amendments (1988)					



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

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Month: Jun-22 | Report No.20

Contract Reference: APGCL/CGM
[PP&I]/ ADB/LKHEP/Pkg-2/02 of
2020-21 Date: 21.06.2020

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
7	Permission of Labor Commission for labour license	Labour Laws	Longju, Dima Hasao (45 km from Laisa Railway Station)	Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner, Assam Gopinath Nagar, Guwahati, 781019	Received	S.No.3272 License No. CLL (Assam)08 /2020/3272	-	Received
8	HOC for tree cutting	Forest Department		Indian Forest Act, 1927	Forest Department Assam	Received	-	-	Tree operation permission received vide Letter No. 8/HRN/LKHEP/2021-22/11
9	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		Petroleum Act, 1934 and Rules 2002	The Deputy Commissioner, Government of Assam, Hailong	Received	CTO Received	31-11-2022	Fuel storage license accorded from Chief controller of Explosives Petroleum & Explosives Safety Organization License No. P/EC/AS/14/1630 (P502141).



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120 MW- LOWER KOPRI HEP

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Month: Jun-22 | Report No.20

Contract Reference: APGCL/CGM
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2020-21 Date: 21.08.2020

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
10	No Objection Certificate Obtained from "PESO" for establishment of Explosive magazine	-	Longlu, Dima Hasao (45 km from Lanka Railway Station)	Explosive Rules, 2008 (under act of 1884)	Petroleum and Explosives Safety Organization, Kolkata.	Received			<ul style="list-style-type: none">- NOC obtained from APGCL.-NOC obtained from Hon'ble Deputy Commissioner.- Storage approval obtained from PESO- Construction of Explosive magazine completed.- Fire NOC received
11	Request for permission for blasting during night in tunnel of 120 MW Lower Kopri HE Project.		Longlu, Dima Hasao (45 km from Lanka Railway Station)		The Hon'ble Deputy Commissioner, Dima Hasao District, Hailong, Assam- 788818	Received	Letter No. NCH/M-3/2022/1745 dt. 4 th		Permission received from office of District Magistrate Dima Hasao vide letter no. NCH/M-3/2022/1745 dt. 22 nd Mar'22
12	Submission of Photocopy of Vehicle Document for changing registration no.	-	Longlu, Dima Hasao (45 km from Lanka Railway Station)		The District Transport Officer, Hailong	Received			letter No. LKHEP-PKG2/LN7/153/LL/41 dtd. 31 st July'21 (3 no. vehicle registration no. changed so far)



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120 MW- LOWER KODILI HEP

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Month: Jun-22 [Report No.20]

Contract Reference: APGCL/CGM
(PP&I)/ ADB/LKHEP/Pkg-2/02 of
2020-21 Date: 21.08.2020

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
13	Requesting to issue NDC from NCHAC for explosive license and magazine construction approval		Longlu, Dima Hasao (45 km from Lanka Railway Station)		The District Magistrate, Dima Hasao, Jhalong, Assam	Received	Permission Received vide letter No. NCH/M-3/2021/65 30-83 dttd 27 th Oct'21		
14	Building and Other Construction Works (BOCW)	Labour Laws	Longlu, Dima Hasao (45 km from Lanka Railway Station)	(Regulation of Employment & Conditions of Service)	Labour Commissioner, Guwahati, Assam	Received	S.No. 133 License No. B&OCW-133 dttd 21 st Sep'21	The validity of the above License is from 01.11.21 to 31.08.24	



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120 MW- LOWER KOPILI HEP

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Contract Reference: APGCL/CGM
(PP&I)/ ADB/LKHEP/Phg 2/02 of
2020-21 Date: 21.08.2020

15	Request for issuing No Objection Certificate for Blasting Operation (Left Bank)		West Karbi Anglong Side	Hon'ble Deputy Commissioner West Karbi Anglong District, Hamren, Assam	Received		Permission received vide letter No. HCA-26/2009-16/498
16	Request for issuing No Objection Certificate for blasting operation (Right Bank)		Lunglu, Dima Hasao (45 km from Lanka Railway Station)	The Hon'ble Deputy Commissioner, Dima Hasao District, Hailong, Assam	Received		Permission Received vide letter No. NCHM/M8/2021/6379-83 dtd. 22 nd Oct'21
17	Application for Fire NOC in respect of Fire Safety measures in the storage and handling of explosives at 120-MW Lower Kopili HE Project.		Lunglu, Dima Hasao (45 km from Lanka Railway Station)	To The Fire station officer, Fire & Emergency Service Station, Dima Hasao District, Umranglo, Assam	Received	Permission No. P&ES/P PW/3995/1531/22	NOC received vide letter No. P&ES/PW/3995/1531/22 dtd. 17 th Mar'22



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120 MW- LOWER KOPILI HEP

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**Contract Reference: APGCL/CGM
(PP&I)/ ADB/LKHEP/Pkq-2/02 of
2020-21 Date: 21.08.2020**

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	Clearance awaited from DFO Hafiong , Assam
Validity till	Clearance awaited from DFO Hafiong, Assam
Status	Clearance awaited from DFO Hafiong, Assam

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	Contractor achieved the trail mix strength with Crushed sand. Requirement of river sand quarry under review.

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120 MW- LOWER KOPILI HEP

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2020-21 Date: 21.08.2020**

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°42'49" N; Long: 92°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	Contractor achieved the trail mix strength with Crushed sand. Requirement of river sand quarry under review.



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3. Status use of natural resource:

Natural Resources	Sources	Cumulative Purchase Qty (MT)	Own Crushing till date	Quantity used in the reporting month (MT)	Cumulative Consumption Qty (MT)	Royalty Paid
Aggregate (10 mm Size)	M/s D.H Stone Crusher and L&T Crusher	1,231	9,307	3,746	8,915	PAID
Aggregate (20 mm Size)	M/s D.H Stone Crusher and L&T Crusher	2,076	8,456	2,740	8,335	PAID
Aggregate (40 mm Size)	M/s D.H Stone Crusher and L&T Crusher	409	4,757	256	1,241	PAID
Aggregate (75 mm Size)	L&T Crusher	-	1,620	1,081	1,081	PAID
River Sand	M/s Bhanujit Sand supply and L&T	6,700	-	1,764	5,503	PAID
Crusher sand	Crusher	1,472	17,586	1,618	5,919	PAID



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2020-21 Date: 21.08.2020**

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	- Approved (CTE & CTO Received)

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	- Approved (CTE & CTO Received)



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

Environment	For the Month of Jun'22	Cumulative 2022-23	Total
Environmental Initiative			
No of trees cut	15	33	253
No of trees planted	65	124	1,420
No of community clean-up activity organised	-	-	1
No of awareness campaign organised for school children /slum dwellers/local community/vendors	-	-	17
Any other Environmental initiative (Road Show/ Animal Rescue/Award/Critical species awareness etc.)	-	-	8
Energy Consumption			
Electricity Consumption for the Project (Grid Source) Kwh	2,53,800	6,72,720	12,35,399
Non-Renewable Source of Energy Produced and used at Project - (Solar Heater, Solar Lighting etc.) Kwh	-	-	-
Diesel Consumption for Generators & Construction Equipment's (Litre)	1,08,370	4,77,747	18,09,955
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)	10,32,900	25,04,130	58,64,130
Waste Management			
General C&D Waste Sent for Land Disposal/Dumping- m ³	-	-	
Segregated Waste Concrete Sent for Disposal - m ³	-	-	
QA/QC Waste concrete Cube used in making base of	2.5	7.5	16



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curing tank - m ³			
E-waste for Recycling- m ³	-	-	
Metal Scrap for Recycling (Steel + Aluminium + Copper)- kg	-	500	11,669
Used Lubricating Oil for Recycling- Litres	-	-	800
Other Hazardous Waste (Paint, Construction Chemicals etc. Sent for Treatment/Disposal- m ³)	-	-	-
Bio-Medical Waste for Disposal- Kg	.8	1.3	5.2
Food Waste for Disposal- m ³	9	15.4	38.65
Training and Awareness			
Environmental Management System (Training Hours)	-	1	16
Waste Management (Training Hours)	2	4	23
General Environmental Awareness (Training Hours)	2	4	37
Environmental Sustainability Skills for Managers (Training Hours)	-	1	4
Environmental Inspection			
Environmental Inspection Conducted	4	13	39
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	-	-	42
Total number of noise monitoring conducted	-	-	42
Total number of water quality monitoring conducted	-	-	48



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(Surface Water, Ground water & Drinking water)			
Total number of water related disease	-	-	5
DG Stake Emission	-	-	3

6. Kopili River data Jun'22:

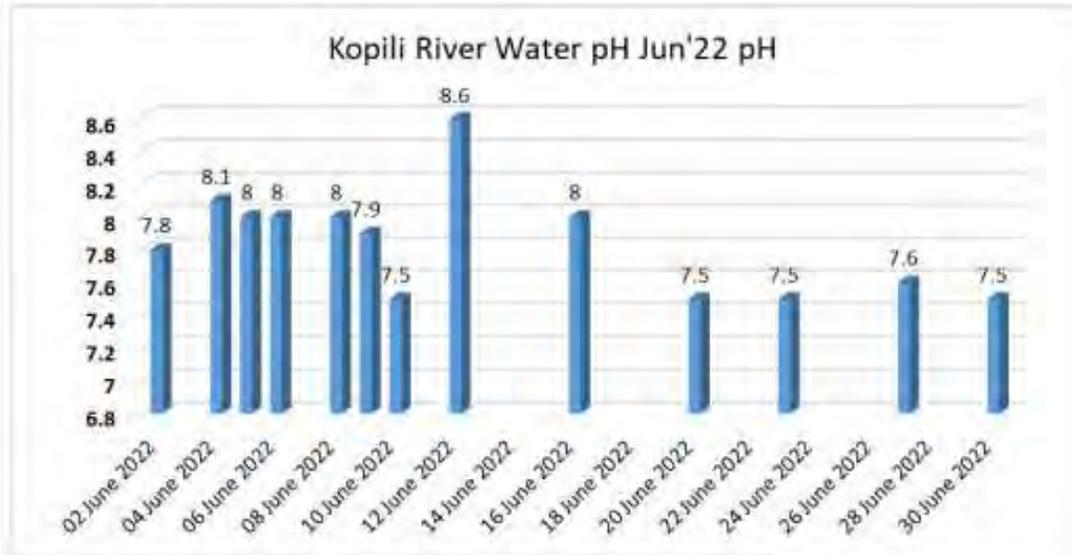


Fig: After flood pH 7.5 to 8

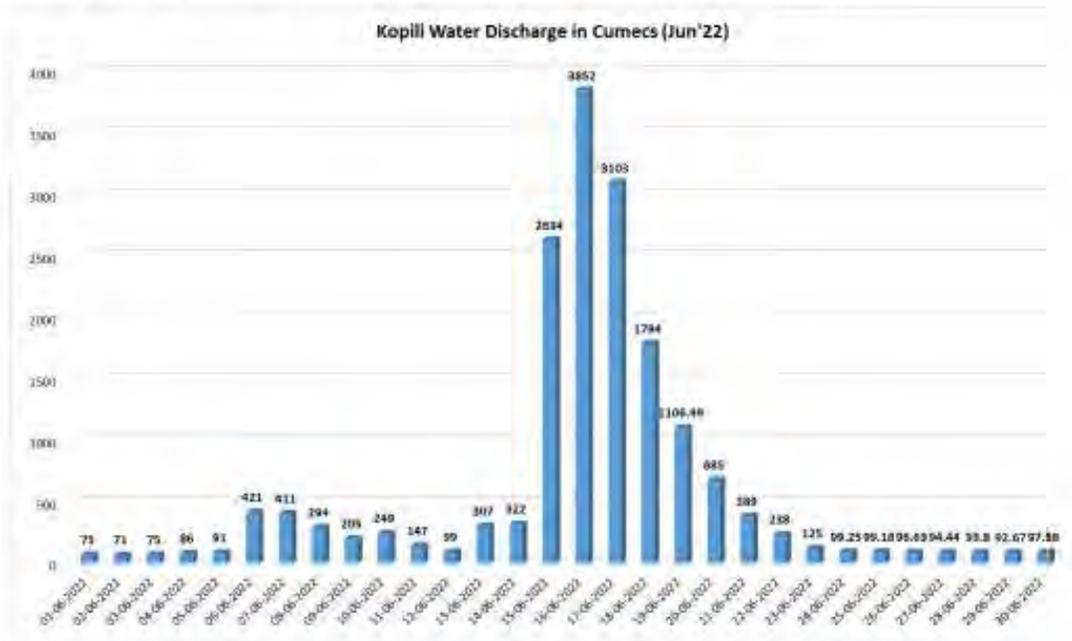




Kopili River pH data month of Jun'22



Water Discharge data from upstream Kopili dam Jun'22 (data source NEEPCO)





7. **Tree Plantation Record:** Mass plantation drive organized on the occasion of World Environment Day at 120 MW Lower Kopili Project site. sapling distributed to each staff and workmen in this event.





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Fig: All tree Planted during APGCL officials visit in APGCL camp.



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Fig: Tree Plantation during Safety month celebration in crusher area.

9. EMP Expenditure till Jun'22

S.I	Item	Amount (Rs. lakh)
1	Expenditure for Environmental Monitoring (Air, Water & Noise)	5.01
2	Expenditure for DG Stake Monitoring	1.03
3	Portable bio toilet, (4 no.)	2.8
4	Portable prefab toilet, (2 no.)	2.8
5	Making road for local village.	0.25
6	Cement bag Provided for community toilet construction	0.15
7	DRDO Bio tank 4000 litre (2 no.)	3.37
8	Prefab container toilet (2 no.)	7.71
9	Plantation on spoil tips (plain area) including bio-fertilizer cost & tree guard cost	1
10	Fencing cost for 5000 sqm	15.41
11	Cost of two portable water pumps, (flow 20 cum/hr, 20m head, along with 200 m pipe, 100 mm dia, HDPE)	51.86
12	Watch & Ward for tree plantation	3.84
13	Safety Supervisor	6.29



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14	Regular water sprinkling through water tanker on entire roads and NH (water tank capacity 20000 Litter & 12000 litter)	14.04
15	Fire extinguisher DCP 1KG 50 no./ 2KG 50 no./6KG 30 no./ 9 KG 20 no./BUCKET 20no.	0.41
a)	Fire extinguisher CO2 6.5 KG 20 no.	2.56
16	PPE for staff & workmen (Jacket, Helmet, Shoe, Hand gloves, mask, face shield, ear muffs, ear plugs, safety google, face shield, rain coat, face mask, gum boot, umbrella)	60.56
17	First Aid medicine	1.99
18	Four First aider	6.06
TOTAL		187.14

10. Contractor's Equipment available at Project Site:

List of Equipment available at site				
Sl No	Major Equipment	Specification	Nos	Received on
1	Excavator	45T - PC 450 Komatsu	1	24-Feb-21
		20T - PC 210 Komatsu	1	29-Dec-20
		20T - CAT 320	1	18-Jan-21
		20T - CAT 320	1	04-Feb-21
		20T - CAT 320	1	04-Feb-21
		20T - CAT 320	1	07-Jul-21
		20T - PC 210 Komatsu	1	05-Aug-21
		20T - PC 210 Komatsu	1	12-Feb-22
		20T - PC 210	1	12-Feb-22
		20T - PC 210 Komatsu	2	24-Sep-21
		20T - KOBELCO SK220	1	18-Jan-22
		20T - TATA Hitachi	1	02-Jun-22
		20T - Hyundai Excavator	1	27-Jan-22
		13T - SANY SY140C-95	2	21-Jun-22
14T - SANY SY140	2	15-Dec-21		
2	Rock Breaker	20T	1	19-Feb-21
		20T	1	27-Jan-21
3	Dumpers	18 cum	1	13-Jan-21
		18 cum	3	23-Jan-21
		18 cum	3	30-Jan-21
		18 cum	1	03-Jul-21
		18 cum	2	29-Sep-21
		12 cum	1	29-Sep-21
		12 cum	4	18-Jan-22



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		12 cum	4	07-Feb-22
		10 cum	2	16-Jul-21
		10 cum	1	06-Sep-21
		10 cum	3	03-Feb-22
		10 cum	1	10-Feb-22
		25 T - 18 cum	10	24-Feb-22
4	Truck	10 T	1	13-Mar-21
		7.5 T	1	04-Jun-22
5	DG	180 kva	1	17-Nov-20
		250 kva	1	26-Nov-20
		40 kva	1	01-Dec-20
		15 kva	1	02-Jan-21
		15 kva	1	16-Jun-21
		125 kva	2	01-Mar-21
		1000 kva	1	07-Aug-21
		500 kva	1	19-Apr-22
		500 kva	1	08-Aug-21
		500 kva	1	15-Dec-21
6	Air Compressor	Diesel - 1000 cfm	1	27-Jan-21
		Electric - 500 cfm (17.1 cum /min)	1	27-Nov-20
		Electric - 500 cfm (17.1 cum /min)	1	09-Dec-21
		Electric - 500 cfm (17.1 cum /min)	1	07-Dec-21
		Atlas Copco Screw Compressor - 600 cfm	1	01-Apr-22
		Atlas Copco Screw Compressor - 650 cfm	1	16-Mar-22
		Atlas Copco Screw Compressor - 650 cfm	1	03-Mar-22
		Atlas Copco Screw Compressor - 650 cfm	2	15-Feb-22
		Tractor Mounted - 450 cfm	1	01-Jul-21
		Diesel - 600 cfm	1	07-Jul-21
		Diesel - 600 cfm	1	05-Oct-21
		Electric - 500 cfm	1	29-Sep-21
		Diesel - 550 cfm	2	27-Jan-22
7	Rock Crawler Machine	ROC 203	1	06-Mar-21
		ROC 203	1	31-May-21
		ROC 203	2	17-Dec-21
		ROC T25	4	09-Feb-22
		D35	1	04-Jul-21
		D35	1	27-Jan-21
		D35	2	23-Sep-21
8	Dozer	Bull Dozer - 230 HP	1	11-Jan-22
		Tyre mounted Dozer - 2 cum	1	09-Feb-21
		Crawler Dozer - 230 HP	1	11-Nov-21
9	Crusher	Primary - 200 TPH (Wheeler Mounted)	1	14-May-21
		Tertiary - 200 TPH (Wheeler Mounted)	1	14-May-21
		Secondary - 200 TPH (Wheeler Mounted)	1	20-Apr-21
		Wet Classifier - 100 TPH	1	16-Mar-21

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			Contract Reference: APGCL/CGM (PP&I)/ ADB/LKHEP/Pkq-2/02 of 2020-21 Date: 21.08.2020	
10	WMM Plant	WMM Plant - 200 TPH	1	23-Feb-22
11	Water Tanker	10 KL	1	02-Sep-21
		15 KL	1	11-Dec-21
12	Diesel Tanker	5 KL	1	16-Jan-21
		9 KL	1	26-Mar-21
		9 KL	1	14-Apr-22
13	Loader	Wheel Loader - 2 m3	1	20-Mar-22
		Wheel Loader - 1.7 m3	1	09-Mar-21
		Backhoe Loader JCB 3DX - 1 cum / 0.25 cum	1	12-Oct-21
14		Gantry Crane for Surge shaft-25T	1	04-Aug-21
		Hydra Crane - 15T	1	16-Oct-21
		ACE Crawler Mounted Crane- 75 MT	1	05-Jun-22
		Tyre Mounted Crane - 75 MT	1	25-May-22
15	Welding Machine	Electrical - 400 Amps (Inverter)	8	17-Mar-21
		Electrical - 400 Amps (Inverter)	40	09-May-22
		Electrical - 400 Amps (Inverter)	2	08-Aug-21
		ESAB Welding Generator - 400 Amps	1	27-Mar-21
16	Survey Equipments	Total Station LC 5 Sec	2	27-Apr-21
		Total Station	1	12-Feb-22
		Tunnel Profiler TCRA1201+R400	1	20-Aug-21
		Tunnel Profiler (TS16) LC 1 sec	1	03-Aug-21
		Auto Level LC 5mm	2	08-Aug-21
17	Hydraulic Drill Jumbo	2 Boom Drill Jumbo - 158 kw	1	09-May-21
		2 Boom Drill Jumbo - 158 kw	1	08-Oct-21
		2 Boom Drill Jumbo - 158 kw	1	25-Apr-22
		2 Boom Drill Jumbo - 158 kw	1	02-Dec-21
18	Shotcrete Machine	Truck Mounted Robo Arm - 30 cum/hr	1	14-May-21
		Truck Mounted Robo Arm - 30 cum/hr	1	24-Jun-22
		Truck Mounted Robo Arm - 30 cum/hr	1	13-Jan-22
		Truck Mounted Robo Arm - 30 cum/hr	1	27-Jan-22
		Truck Mounted Robo Arm - 30 cum/hr	1	15-May-22
		Portable Wet Shotcrete Machine- 10 HP	1	16-Jan-22
19	Concrete Boom Placer	36m	1	14-Jan-22
20	Dewatering Pump	60 HP	2	01-May-22
		30 HP	4	24-May-22
21	Low Bed Trailer	60'	1	11-Dec-21
22	Motor Grader	-	1	21-Mar-22
		-	1	27-Dec-21
23	Batching Plant	60 cum / hr	1	25-Aug-21
24	Transit Mixer	6 cum capacity	3	19-Oct-21
			2	14-May-22
			1	12-Jan-22
25	Weigh Bridge	50T	1	01-May-22
		80T	1	04-Mar-21
26	Vibratory Roller	10T	1	06-Jan-21

Note on 12 : Storage of fuel capacity is 20 kl. The capacity of the mobile tanker for transporting of fuel to different site is 23 kl. But the storage is only 20 kl.



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27	Bar Bending Machine	B-42	2	30-Jan-21
28	Bar Cutting Machine	C-42	2	30-Jan-21
29	Telehandler	11 Meter	1	05-Jun-21
			1	09-Feb-22
30	Cement Feeding Pump	30 TPH	1	27-Nov-20
31	Portable Mixer Machine	0.25 cum	3	09-Dec-20
32	Putzmeister Concrete Pump	60 m3/hr	1	19-Jul-21
			1	01-Apr-22
			1	04-May-22
33	Fuel Dispenser Unit	55-65 LP	1	26-Mar-21
			1	14-Apr-22
34	Light mast	3.5 KW	2	23-Mar-21
35	Ventilation Fan	55KW	3	10-Feb-21
36	Mahindra Scorpio	S10	1	13-Mar-21
		S10	1	27-Aug-21
37	Ambulance	-	1	27-Aug-21
		-	1	28-Jan-00
38	Bolero Camper	4+1 Seater	1	02-Sep-21
		4+1 Seater	2	15-Oct-21
		4+1 Seater	1	06-May-22
		4+1 Seater	1	01-Nov-20
		4+1 Seater	1	01-Dec-20
		4+1 Seater	1	01-Oct-20
		4+1 Seater	1	04-Jun-22
39	Bus	32 Seater	1	02-Sep-21
40	Bus	32 Seater	1	01-Dec-21
41	Bus	57 Seater	1	01-Dec-21
42	Explosive Van	1.1 T	2	26-Jul-21

11. Status of the labour camp:

Contractor's Worker Camp Accommodation Status:

- Labour Block No.1 (Manas Block): Completed.
- Labour Block No.2 (Lohit Block): Completed.
- Labour Block No.3 (Digaru Block): Completed.
- Labour Block No.4: Completed.
- Labour Block No.5: Completed.
- Labour Block No.6 (Mess cum 6 units of accommodation): Completed.
- Labour Block No.7: Completed.
- Labour Block No.8: Completed.
- Labour Block No.9: Completed.
- Labour Block No.10 (Toilet Block): Completed.
- Labour Block No.11 (Shower Block): Completed.



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- Labour Block No.12 (Toilet Cum Shower Block): Completed.
- Labour Block No.13 (Toilet Block): Completed.
- Labour Block No.14 (Shower Block): Completed.
- Labour Block No.15 (Toilet Cum Shower Block): Completed.
- Labour Block No.16 (Mess Block-1 & 2): Completed.
- Labour Block No.17 (Mess Block-3): Completed.
- Labour Block No.18 (Mess Block-4): Completed.

12. PUC of the vehicles:

No	Registration No	Certificate No	S/c Name	PUC Date	PUC Expired date
1	NL 01 AE 5223	AS012500370001796	ECO Green	07.07.2021	06.07.2022
2	NL 01 AE 5206	AS012500370001795	ECO Green	07.07.2021	06.07.2022
3	RJ14GJ6353	D4RJ41104521	ECO Green	09.01.2022	08.07.2022
4	RJ4EA4813	D4RJ41104522	ECO Green	09.01.2022	08.07.2022
5	RJ14GG1308	D4RJ41104467	ECO Green	25.12.2021	24.06.2022
6	RJ14GH9976	D4RJ41104526	ECO Green	09.01.2022	08.07.2022
7	RJ14GJ0194	DRJ41104519	ECO Green	09.01.2022	08.07.2022
8	RJ14GH9975	DRR41104525	ECO Green	09.01.2022	08.07.2022
9	RJ14GH9427	D4RJ41104517	ECO Green	09.01.2022	08.07.2022
10	RJ14GH9425	D4RJ41104525	ECO Green	09.01.2022	08.07.2022
11	RJ14GH9426	D4RJ41104523	ECO Green	09.01.2022	08.07.2022
12	RJ14GH9405	D4RJ41104520	ECO Green	09.01.2022	08.07.2022
13	RJ14GH6357	D4RJ41104527	ECO Green	09.01.2022	08.07.2022
14	AS 01 DC 6771	D68RJ23104353	Shree Balaji Construction	27.06.2021	26.06.2022
15	AS 01 LC 9682	AS00100540002516	DN Shama	11.08.2021	10.08.2022
16	AS 01 LC 9684	AS00100540002518	DN Shama	11.08.2021	10.08.2022
17	AS 01 MC 3159	AS03100010001368	Kartik Biswas	09.07.2021	08.07.2022
18	AS 02 CC 6159	AS03100010001367	Kartik Biswas	09.07.2021	08.07.2022

13. Drinking/domestic water facility at work site:

S.J	Location	Boring Depth	Per day extraction	Test Report	Remarks / present condition
1	Near Store	213m	-	Q4 Monitoring, result submitted.	Stopped
2	Kala Nala	-	-		Stopped
3	Longku Nala	-	-		Stopped
4	Brahmaputra Block	140m	-		Stopped
5	Kopili Block	200m	-		Stopped
6	Pit near PMC Colony	-	10,000		Working
7	Adit pond	-	3,50,000		Working



14. Training & Awareness:

S No	EHS Training	No. of People attended till Jun'22	No of staff attended in this month	Total
1	Environment Inspection Attendance	5	5	39
2	Waste Mangment	5	5	75
3	General Environmental Awareness	10	10	46
4	AIDS/HIV Awareness Training	-	-	61
5	Fire & Safety Training	-	-	30
6	Critical Endangered Species Awareness	5	5	35

15. Site Activities: Vaccination camp organized at site. booster dose provided to eligible staff and workmen and malaria testing also conducted.





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Fig: Malaria test conducted of staff and workmen.



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Fig: Regular Interaction between L&T staff and Security Guard.



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16. Site Visit:





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Fig: Random inspection of magazine area and checked explosive register and firegiderent.



Fig: Weekly Joint Environment & Safety site visits conducted by APGCL, PMC & L&T at various components of projects.

17. 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 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)	State Disaster Management Authority, Assam, hereby issues the revised and consolidated directives as follows

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	strength of 50%)	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 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 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	District Disaster Management Authority (DDMA), Dima Hasao, hereby directs that Vehicle with



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	control of COVID-19 with effect from 05:00 AM of 13 th May 2021 and remain in force until further orders. (Restriction in regard to plying of private/personal vehicles have been made from 5:00 AM to 2:00 PM)	odd number will be allowed to ply on odd dates. Vehicle with even number will be 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 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.	State Disaster Management Authority, Assam, hereby issue the following directive which will be applicable across the state and shall come into force with



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	(All offices both Government & Private shall open till 12 PM on all days)	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)	
17	Govt. of Assam Office Order No. ASDMA.28/2021/148 Dated 6th July,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 July 7, 2021, until further order (All offices both Government & Private shall open till 4 PM on all days)	
18	Govt. of Assam Office Order No. ASDMA.28/2021/179 Dated 19th July,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 July 20, 2021, until further order. (All offices both Government & Private shall open till 4 PM on all days)	
19	Govt. of Assam Office Order No. ASDMA.28/2021/199 Dated 27th July,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 July 28, 2021 until further order. (All offices both Government & Private shall open till 4 PM on all days)	
20	Govt. of Assam Office Order No. ASDMA.28/2021/203 Dated 2nd August,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 August 3 rd , 2021 until further order. (All offices both Government & Private shall open till 4 PM on all days)	
21	Govt. of Assam Office Order No. ASDMA.28/2021/207 Dated 9th August,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 August 10,2021 until further order. (All offices both Government & Private shall open till 5 PM on all days)	
22	Govt. of Assam Office Order No. ASDMA.28/2021/219 Dated 17th August,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 August 18,2021 until further order. (All offices both Government & Private shall open till 6 PM on all days)	



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23	Govt. of Assam Office Order No. ASDMA.28/2021/228 Dated 1st September,2021 regarding issue of new directives for containment of COVID 19 cases across the state and shall come into force w.e.f 11 AM of 2 nd September,2021 until further order. (All offices both Government & Private shall open till 8 PM on all days)	
24	Govt. of Assam Office Order No. ASDMA.28/2021/247 Dated 01 st October,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 2 nd October,2021 until further order. (curfew time 10 PM – 5 AM)	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
25	Govt. of Assam Office Order No. ASDMA.28/2021/273 Dated 25 th October,2021 regarding issue of new directives for containment of COVID 19 cases across the state and shall come into force w.e.f of 26 th October,2021 until further order. (curfew time 11 PM – 5 AM)	
26	Govt. of Assam Office Order No. ASDMA.28/2021/304 Dated 27 th October,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 28 th October,2021 until further order. (curfew time 11 PM – 5 AM)	
27	Govt. of Assam Office Order No. ASDMA.28/2021/321 Dated 9th November,2021 regarding issue of new directives for containment of COVID 19 cases across the state during the upcoming Chath Puja and Rass festival until further order.	
28	Govt. of Assam Office Order No. ASDMA.28/2021/326 Dated 12th November, 2021 regarding COVID-19 SOP for withdrawing the relaxation given to the pregnant woman employee and woman employees with children below 3 yrs to work from home.	
29	Govt. of Assam Office Order No. ASDMA.28/2021/334 Dated 25th December,2021 regarding issue of new directives for containment of COVID 19 cases across the state and shall come into force w.e.f 6 AM of 26th December,2021 until further order.	
30	Govt. of Assam Office Order No. ASDMA.28/2021/347 Dated 7th January,2022 regarding issue of new directives for containment of COVID 19 cases across the state and shall come into force w.e.f 6 AM of 8th January,2022 until further order.	
31	Govt. of Assam Office Order No. ASDMA-29/5/2022/2 Dated 24th January,2022 regarding issue of new directives for containment of COVID 19 cases across the state and shall come into force w.e.f 6 AM of 25th January,2022 until	



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further order.

Annexure – 6 : Monthly safety Report June 2022 of Package 2 Contractor

	Environment, Health and Safety	
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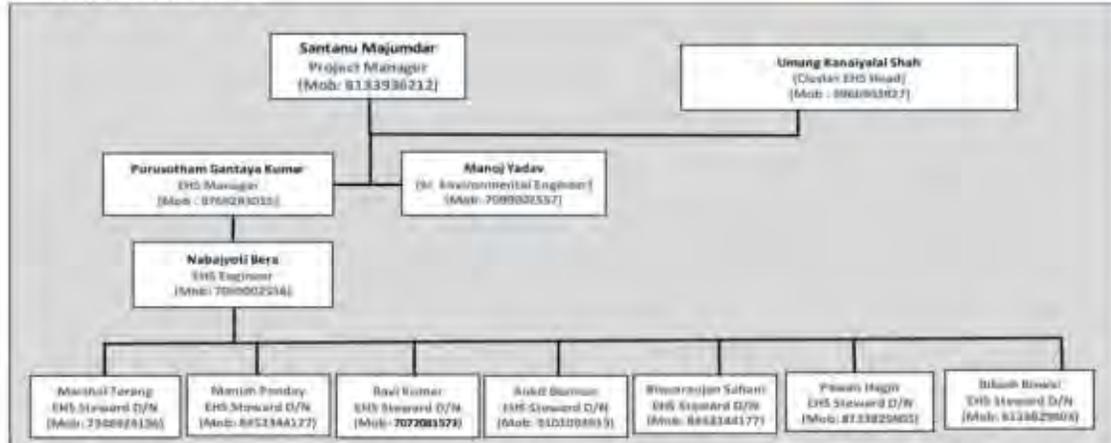
Monthly Safety Report (June' 22)
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Sensitivity: LNT Construction Internal Use

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1. Organization Chart



2. Project EHS Statistics Details:

S.N.	Total Man hours	Jun 22	FY 2022-23	Remark
1	No. of workforce (including staff and workmen)	899		
2	Total Man hours worked (man-hours)	2,61,336	7,65,336	Cumulative: 28,88,587
3	Safe man hours from last reportable lost time injury (man-hours)	2,61,334	7,65,336	Cumulative: 8,44,200
Incident details				
4	No. of fatalities	-	-	
5	No. of reportable lost time injuries	-	-	Last RLTI 23.03.22
6	No. of man days lost	-	-	
7	Dangerous occurrences	-	1	Last DA 20.06.22
8	Reportable sick cases	-	-	
9	Major environment incidents	-	+	
10	Non-work-related incident (not included in statistics)	0	0	

11	First aid cases	2	7	
12	Near miss reports	1	8	
13	Minor environment incidents	-	-	
14	Frequency rate - no. of RLTI	0	0	
15	Severity rate - no. of man days lost per million-man hours worked	0	0	

3. Training Updates:

S No.	EHS Training	No. of People attended this month	No of staff completed in This Month
1.	P& M Safety	10	0
2.	Defensive Driving	20	0
3.	Work at Height	13	0
4.	Underground Safety	17	0
5.	Inspection of Fire Extinguisher and Full Body Harness	6	0
6.	Scaffolding erecting Training	14	3
7.	Pre-deployment induction training	254	4



Fig -1. P&M Safety



Fig -2. Defensive Driving.



Fig -3. Training on Work at height



Fig -4. Underground Safety



Fig -5. Inspection of Fire Extinguisher and Full Body Harness



Fig -6. Scaffolding erecting Training



Fig -7. Pre-deployment induction training

4. Hazard identification and risk assessment (HIRA) /safe working method (SWM) details:

Total no. of Risk Assessment (RA) & SWM available	New SWM checklist developed & implemented	Reason for updating/development (New activity/General revision/ revised after incident / change in work activity method)
15	15	-

5. Unsafe act / unsafe condition - EHS observations:

Unsafe Acts observed	Unsafe Acts complied	% of compliance	FY 2022-23 months	Unsafe conditions observed	Unsafe conditions complied	Compliance	Total EHS observations
160	160	100%	June 22	104	104	100%	264

6. EHS initiatives / good EHS practices:



Fig -8. Warning sign board for Narrow Road.

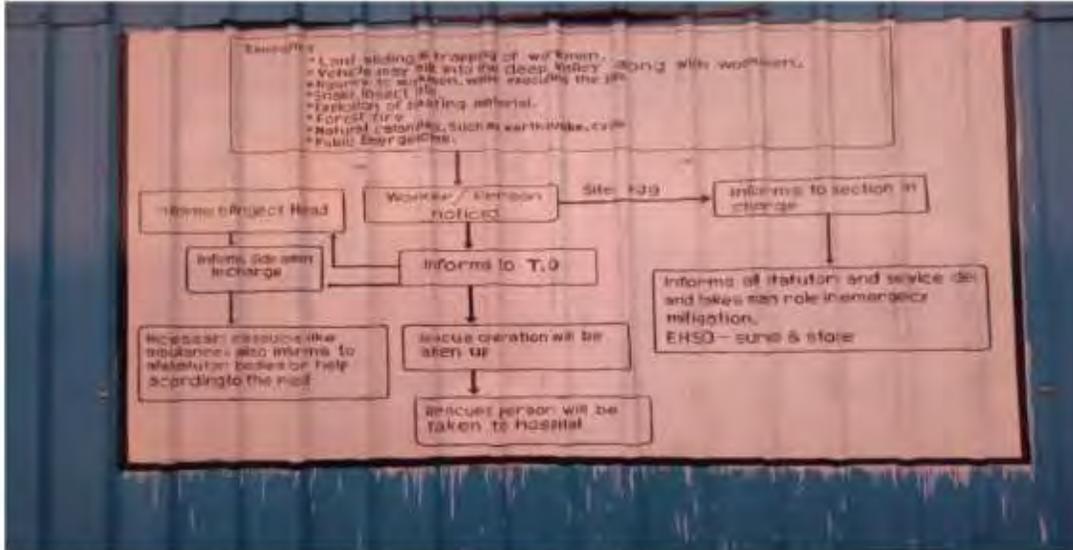


Fig -9. Display of Emergency Response Flow chart



Fig -10. Display of pictorial safety sign board with local language



Fig -11. Cautionary Signe board for Tunnel.



Fig -10. Scaffolding inspection Green Tag implemented



Fig -11. Display of emergency contact number and tunnel gas monitoring at the portal of ADIT



Fig -12. Color Coding for Tunnel air / Water pipeline.

7. HARD BARRICADE AND EDGE PROTECTION



Fig -13. Barricading by Cautionary Tape



Fig -14. Hard edge protection for Surge Shaft deep excavation



Fig -15. Goal post for overhead electrical line



Fig -16.

8. Daily Prestart Briefing various locations both shift



Fig -17. Daily Prestart Briefing before start of work.



Fig -18. Daily Prestart Briefing before start of work.



Fig -19. Daily Prestart Briefing before start of work.



Fig -20. Daily Prestart Briefing before start of work

9. Safety Measures:



Fig -21. Pre-deployment Alcohol Monitoring



Fig -22. Daily Thermal Screening

10. Emergency Properness

Status of Fire Extinguisher at Project sites

sl	Location	Type	Capacity (kg)	nos
1.	Surge Shaft Container	CO2	6.5	2
		DCP	1.0	4

sl	Location	Type	Capacity (kg)	nos
2.	Valve 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.	Bhuoender Singh Container	DCP	1.0	1
18.	Diesel Browser	DCP	1.0	2
19.	Kolong Block	DCP	2.0	4
20.	Kamang Block	DCP	2.0	4

sl	Location	Type	Capacity (kg)	nos
21.	Subansiri Block	DCP	2.0	3
22.	Brahmapurta Block	DCP	2.0	4
23.	DT Outlet Fire Stand	DCP	2.0	2
		CO ₂	6.0	1
		Fire sand Bucket	5.0	1
24.	Dam Site Office	DCP	2.0	2
		Fire sand Bucket	5.0	2
25.	Dame Site DG	CO ₂	6.5	1
26.	Digaru Block	DCP	1.0	4
27.	Dhansiri Block	DCP	1.1	4
28.	Explosive Magazine	DCP	2.0	4
		Fire Sand Bucket	5.0	4
29.	Fuel Substation	DCP	5.0	2
		Foam	9.0	2
		Fire Sand Bucket	5.0	2
30.	PMC Blocks	DCP	1.0	14

11. ELCB/RCCB Testing records

ELCB/RCCB No.	Location	Brief Details of equipment connected	Date of Testing	Sensitivity of RCCB/ELCB	Test Remarks
1.	P&M Workshop 01	Electrical Equipment and Light	06.06.2022	0.0175Sec @ 30mA	Fit
2.	P&M Workshop 02	Welding Machine/Grinding Machine	06.06.2022	0.045Sec @ 35mA	Fit
3.	Cement Go down	Area Lighting	06.06.2022	0.0355Sec @ 30mA	Fit
4.	QA/QC Lab inside	Lab equipment's and lighting	06.06.2022	0.0155Sec @ 30mA	Fit
5.	Store Container	Container and Store lighting	06.06.2022	0.0215Sec @ 30mA	Fit

ELCB/RCCB No.	Location	Brief Details of equipment connected	Date of Testing	Sensitivity of RCCB/ELCB	Test Remarks
6.	Brahmaputra Block outside.	Area Lighting	06.06.2022	0.021Sec @ 30mA	Fit
7.	Brahmaputra Block inside ISD room after UPS	All Computers	06.06.2022	0.009Sec @ 30mA	Fit
8.	Brahmaputra Block inside Main gate	All office lighting and Fans	06.06.2022	0.027Sec @ 30mA	Fit
9.	Dhansiri Block	Mess Lighting / equipment	06.06.2022	0.027Sec @ 30mA	Fit
10.	New camp construction area	Area lighting / hand grinding making / pipe cutting machine	06.06.2022	0.005Sec @ 30mA	Fit
11.	Manas Block	Room Lighting and Fans	06.06.2022	0.023Sec @ 30mA	Fit
12.	Manas Block Back side	Room Lighting and Fans	06.06.2022	0.025Sec @ 30mA	Fit
13.	Sub-contractor Mess	Eco Green Mess Water purifier, Lighting and Fans	06.06.2022	0.024Sec @ 30mA	Fit
14.	Digaru Block	Room Lighting and Fans	06.06.2022	0.044Sec @ 30mA	Fit
15.	Digaru Block Back side	Room Lighting and Fans	06.06.2022	0.014Sec @ 30mA	Fit
16.	DT Inlet	Tunnel lighting, Welding Machine	06.06.2022	0.021Sec @ 30mA	Fit
17.	DT Outlet	Tunnel lighting, Welding Machine	06.06.2022	0.009Sec @ 30mA	Fit
18.	DT Outlet	Area lighting	06.06.2022	0.044Sec @ 30mA	Fit
19.	Dam Top	Area lighting	06.06.2022	0.022Sec @ 30mA	Fit
20.	Adit HRT	Area lighting	06.06.2022	0.024Sec @ 30mA	Fit
21.	Adit HRT	Area lighting and Welding machine	06.06.2022	0.012Sec @ 30mA	Fit
22.	Fabrication Yard	Welding Machine, Grinding Machine	06.06.2022	0.024Sec @ 30mA	Fit
23.	Valve House	Welding Machine, Grinding Machine	06.06.2022	0.042Sec @ 30mA	Fit
24.	Surge Shaft	Welding Machine, Area Lighting	06.06.2022	0.024Sec @ 30mA	Fit
25.	Batching Plant	Area Lighting	06.06.2022	0.008Sec @ 30mA	Fit



12. COVID Positive case under LKHEP

Sl No	Name	Designation	COVID Positive (date)	SRF NO.	Treatment (Home Isolation/ Hospital)	Name of Hospital/Consultation with Doctor	Joined service (Date)
1.	Nil						

13. Status of COVID positive cases and recovery

Number of New COVID cases in the Reporting Month	Cumulative COVID Positive cases at LKHEP	Number of patients recovered in the Reporting Month	Cumulative recovered at LKHEP	Number of Migrated cases (if any)
0	0	0	0	-

14. Records of Monthly status of COVID vaccination Staff and Workmen

a. Vaccination details for staff

SL NO	NAME	DESIGNATION	NO OF VACCINATION DOSE	1ST DOSE	2ND DOSE
1.	SANTANU MAJUMDAR	PROJECT MANAGER	2	13.06.2021	11.06.2021
2.	ASHWANI KUMAR DIWAN	DGM - CIVIL	2	12.04.2021	06.07.2021
3.	DINESH SHARMA	DGM - CIVIL	2	08.04.2021	09.06.2021
4.	ANJASH LUKKA	DGM - MINING	2	09.03.2021	17.04.2021
5.	ZAKIR HUSSAIN HAZARIKA	DGM - CIVIL	2	08.04.2021	18.07.2021
6.	SANJAY SINGH	CM - CIVIL	2	26.04.021	26.07.2021
7.	AADEEP KUMAR	SENIOR MANAGER	2	02.04.2021	26.06.2021
8.	ACHARYA JAYDIP BHIKHALAL	MANAGER (ACCOUNTS)	2	29.06.2021	27.07.2021
9.	ASHOK KUMAR SINGH	MANAGER - GEOLOGY	2	05.04.2021	06.06.2021
10.	MONIKANTA GOSWAMI	MANAGER-QUARRY	2	22.04.2021	15.07.2021
11.	RITUPAM BARTHAKUR	MANAGER (MECH)	2	13.06.2021	26.09.2021
12.	K C MAHARANA	CM - (CIVIL)	2	18.06.2021	10.11.2021
13.	PRATIK KUMAR BHUNIA	MANAGER (P&M)	2	08.04.2021	09.06.2021
14.	SUDIP KUMAR DAS	ASST. MANAGER (P&M)	2	08.04.2021	09.06.2021
15.	ABHIJIT MAJUMDER	MANAGER (SYSTEMS)	2	08.04.2021	09.06.2021
16.	S. MURUGAN	MANAGER (ELECTRICAL) - P&M	2	09.03.2021	08.06.2021
17.	BAPAN DEB BARMAN	CM - TUNNEL	2	05.07.2021	05.10.2021
18.	V. V. RAMARAO	MANAGER (ACCOUNTS)	2	30.04.2021	29.06.2021
19.	ANUBHAV MUKHERJEE	ASST. MANAGER - FORMWORK	2	04.06.2021	27.07.2021
20.	MANOJ YADAV	ASST. MANAGER (CIVIL)	2	13.06.2021	16.06.2021
21.	KUMAR ROHIT	ASST. MANAGER (ELECTRICAL)	2	21.06.2021	14.09.2021
22.	S. SHYAMSON SINGH	LNT/SG/395296	2	03.06.2021	06.09.2021
23.	NABAJYOTI BERA	ASST. MANAGER (EHS)	2	15.04.2021	06.09.2021
24.	KANAGARAJ A	ASST. MANAGER (PLANNING)	2	07.09.2021	03.12.2021
25.	SANTANU BORAH	ASST. MANAGER IR	2	21.04.2021	25.06.2021
26.	PRANJIT SAVAPANDIT	ASST. MANAGER (ACCOUNTS)	2	08.04.2021	09.06.2021

SL NO	NAME	DESIGNATION	NO OF VACCINATION DOSE	1ST DOSE	2ND DOSE
27.	GAGAN KUMAR	SR. ENGINEER - ELECTRICAL	2	06.06.2021	30.09.2021
28.	ASHISH RAJ	SR. ENGINEER - BILLING	2	29.03.2021	02.09.2021
29.	NITYA SUNDAR PARAMANIK	SR. ENGINEER - QA/QC	2	15.06.2021	13.08.2021
30.	SATYAM TIWARI	GRADUATE ENGINEER TRAINEE	2	15.06.2021	12.08.2021
31.	LAXMI KANT TAGORE	PGET	2	15.04.2021	9.08.2021
32.	RAJU PANIGRAHI	ENGINEER (QUARRY)	2	11.06.2021	06.07.2021
33.	NARENDER KUMAR	SR. ENGINEER (CIVIL)	2	18.06.2021	17.06.2021
34.	JITHIN B A	SR. ENGINEER (PROCUREMENT)	2	17.06.2021	04.09.2021
35.	MD MUBARAQ ANSARI	ENGINEER (CIVIL)	2	30.06.2021	10.11.2021
36.	AYON CHOWDHURY	ENGINEER (CIVIL)	2	07.06.2021	16.08.2021
37.	DIP PAUL CHOWDHURY	ENGINEER - SURVEY	2	24.06.2021	30.08.2021
38.	SUMIT KUMAR	ENGINEER (MECH)	2	15.04.2021	09.08.2021
39.	MANAS MAJUMDAR	ASST. FOREMAN (P&M)	2	08.04.2021	11.06.2021
40.	TANIA MODO	SR. CHARGEHAND (CIVIL)	2	03.06.2021	09.08.2021
41.	ALIP KUMAR TALUKDER	ASST. SUPERVISOR (MINES)	2	07.06.2021	30.08.2021
42.	SHATRUDHAN PANDEY	ENGINEER - SURVEY	2	18.06.2021	18.08.2021
43.	GIRIDHARI SEN	SR. MANAGER - TUNNEL	2	11.04.2021	05.07.2021
44.	DEVRAJ SINGH CHAUHAN	MANAGER - GEOLOGIST	2	09.06.2021	09.08.2021
45.	JOHNS K JOSE	GCT	2	18.06.2021	17.08.2021
46.	JOSEPH SEBASTIAN	GCT	2	18.06.2021	23.08.2021
47.	RAJESH KUMAR ROUT	POST GRADUATE TRAINEE - IR	2	15.06.2021	3.09.2021
48.	NITESH PATHAK	DIPLOMA ENGINEER TRAINEE	2	02.06.2021	01.09.2021
49.	SUBHANKAR CHAKRABORTY	DIPLOMA ENGINEER TRAINEE	2	26.07.2021	19.10.2021
50.	DIPTA PRADHAN	DIPLOMA ENGINEER TRAINEE	2	13.09.2021	11.12.2021
51.	RAHUL MAN	DIPLOMA ENGINEER TRAINEE	2	27.08.2021	12.12.2021
52.	KUMAR ADARSH	GET	2	10.06.2021	2.09.2021
53.	MONU KUMAR MANDAL	GET	2	10.06.2021	24.09.2021
54.	BALASANI NIKHIL KUMAR	PGET	2	21.09.2021	22.12.2021
55.	DOKULU KR. PATRA MANOJ	DGM - ACCOUNT & ADMIN.	2	03.04.2021	30.07.2021
56.	MUJAFAR AHMD DAR	ASST MANAGER - TUNNEL	2	06.07.2021	29.12.2021
57.	SOURAV BHATTACHATYA	CM - TUNNEL	2	31.06.2021	26.08.2021
58.	MAHAMMAD JAMSHED	ASST. MANAGER - ELECTRICAL	2	04.06.2021	02.07.2021
59.	BIDHAN PATI	ASST. MANAGER - STORE	2	28.03.2021	22.07.2021
60.	SAJID HUSSAIN	ASST. CM - QUARRY	2	17.06.2021	17.08.2021
61.	P.G. KUMAR	MANAGER-EHS	2	24.08.2021	16.11.2021
62.	K. JAYAPRAKASH	SR. CM - (MECH)	2	28.03.2021	10.06.2021
63.	Chiranjib Bose	Asst Manager Survey	2	12.05.2022	23.07.2021
64.	Ayush Dixit	ENGINEER (Mech)	2	12.05.2021	28.09.2021
65.	Kamle Rahul	Forman Civil	3	13.05.2021	06.08.2021
66.	Atul Kumar Ray	Asst Chargehand Civil	2	31.05.2021	01.09.2021
67.	Rajat Kumar Sharma	Asst Manager Civil	2	25.05.2021	22.06.2021

Sl. NO	NAME	DESIGNATION	NO OF VACCINATION DOSE	1ST DOSE	2ND DOSE
68.	Bijay Roy	Asst. charge Hand	2	09.05.2021	25.06.2022
69.	Karikalan Sawondarajan	Sr. Engineer QA/QC	2	05.07.2021	09.10.2021

b. Vaccination details for Workmen

Sl. No.	NAME OF WORKMEN	No of Vaccination Dose	1st DOSE	2nd DOSE
1.	BHOLE MUNDA	2	Done	Done
2.	DUKHI RAM KAYRI	2	Done	Done
3.	GANESH GOWALA	2	Done	Done
4.	SAJIB DAS	2	Done	Done
5.	BIPUL RAJKHOWA	2	Done	Done
6.	KHAGENDRA BARMAN	2	Done	Done
7.	ANANDA BISWAS	2	Done	Done
8.	UJJALL SARKAR	2	Done	Done
9.	JAKI	2	Done	Done
10.	VIJAY BHARTI	2	Done	Done
11.	KISNA BAHADUR RANA	2	Done	Done
12.	JITEN DERA	2	Done	Done
13.	JITEN RONGHANG	2	Done	Done
14.	GONESH BASUMATARY	2	Done	Done
15.	CHIRANJIT DAS	1	Done	Done
16.	BITTU KUMAR SAH	2	Done	Done
17.	SHADIK	2	Done	Done
18.	BISHNU DARJEE	2	Done	Done
19.	PRAVAL BORDOLOI	1	Done	Done
20.	KAMAL BORDOLOI	1	Done	Done
21.	SUDEV DAS	2	Done	Done
22.	TILAK DORGI	2	Done	Done
23.	NAROTTAM BISHWAS	2	Done	Done
24.	MAHIBUR RAHMAN	2	Done	Done
25.	RAJEN DAS	2	Done	Done
26.	MADHAB BORDOLOI	2	Done	Done
27.	NAYAN JYOTI BARDOLOI	2	Done	Done
28.	PHANIDHAR NATH	2	Done	Done
29.	RABI MELANG	2	Done	Done
30.	RAMEN NATH	2	Done	Done
31.	LALIT NATH	2	Done	Done
32.	RUPAM BORDOLOI	1	Done	Done
33.	DEPAK BORDOLOI	2	Done	Done
34.	FAZAL PARAMANIK	2	Done	Done
35.	ANDREAS ENGTI	2	Done	Done
36.	AMINUL ISLAM	2	Done	Done
37.	MOHIDUL ISLAM	1	Done	Done

Sl. No.	NAME OF WORKMEN	No of Vaccination Dose	1st DOSE	2nd DOSE
38.	MD INNAS ALI	1	Done	Done
39.	MOHUR UDDIN	2	Done	Done
40.	RAKIBUL ISLAM	2	Done	Done
41.	ROBERTH MOMIN	2	Done	Done
42.	MONDIRASH HASNU	2	Done	Done
43.	RAMEN BORDOLOI	2	Done	Done
44.	LUTBUR RAHMAN	2	Done	Done
45.	RAZIB ALI	2	Done	Done
46.	INDRAJIT HAZARIKA	2	Done	Done
47.	CHANDRA LANGTHASA	2	Done	Done
48.	NUR HOSSAIN	2	Done	Done
49.	MOSARF KHAN	2	Done	Done
50.	RAUSHAN KUMAR	2	Done	Done
51.	BHIM SUBHA	2	Done	Done
52.	DIPAK GURUNG	2	Done	Done
53.	JAYANTA DAS	2	Done	Done
54.	MUNU RABHA	2	Done	Done
55.	KALYAN BARMAN	1	Done	Done
56.	SUREN RABHA	1	Done	Done
57.	SONJOY BODOSA	2	Done	Done
58.	BIKASH SINGHA BABULOOK SINGHA	2	Done	Done
59.	ARJUN SINGH	2	Done	Done
60.	MOBARAK ANSARI	1	Done	Done
61.	RUBUL ALI	2	Done	Done
62.	SANIDUL ISLAM	2	Done	Done
63.	WAHAB ALI KHANDAKAR	2	Done	Done
64.	LAXMAN REGMI	2	Done	Done
65.	SUKUMAR DAS	2	Done	Done
66.	RAJAB ALI	2	Done	Done
67.	MD BABUL ALI	2	Done	Done
68.	AMARJIT SINGHA	2	Done	Done
69.	MD JAHURUDDIN	2	Done	Done
70.	AJGAR ALI	2	Done	Done
71.	AMINUL ISLAM	2	Done	Done
72.	MALEK ALI	2	Done	Done
73.	ROHIT TIRKEY	2	Done	Done
74.	SARJON KRAMSA	1	Done	Done
75.	NELIPSON KRAMSA	2	Done	Done
76.	BABU TERON	2	Done	Done
77.	ROBINSON RONGHANG	2	Done	Done
78.	ROBINSON PHANGCHO	2	Done	Done
79.	BOSCO EKKA	2	Done	Done

Sl. No.	NAME OF WORKMEN	No of Vaccination Dose	1st DOSE	2nd DOSE
80.	GOPAL DAS	2	Done	Done
81.	JULASH TOPPO	1	Done	Done
82.	UTTAM SINGH	1	Done	Done
83.	AJIT SINGHA	2	Done	Done
84.	MANOJ TIRKI	2	Done	Done
85.	AJAY CHAUHAN	2	Done	Done
86.	SAKHI LAKRA	1	Done	Done
87.	IJWEL TOPPO	1	Done	Done
88.	BINUJ SANGMA	2	Done	Done
89.	SHANKAR RONGHANG	2	Done	Done
90.	LEMBO MURMU	2	Done	Done
91.	GANESH BHUMIJ	1	Done	Done
92.	BISHNU KUMAR ROIKA	2	Done	Done
93.	RAM BAHADUR MIZAR	2	Done	Done
94.	GOBINDA ROIKA	1	Done	Done
95.	DYANON HOJAI	2	Done	Done
96.	BISHNU MIJAR	2	Done	Done
97.	ISHWAR KUMAR	2	Done	Done
98.	SOURAV BAPARY	2	Done	Done
99.	RAMDAS MURMU	1	Done	Done
100.	VADDE KATAMAIAH	2	Done	Done
101.	TIKA BISWAKARMA	2	Done	Done
102.	MOHAMMAD AMJAD	1	Done	Done
103.	KRISHAN KUMAR	2	Done	Done
104.	SANJAY SINGH RANA	1	Done	Done
105.	ROSHAN KUMAR	2	Done	Done
106.	TARLOK SINGH	2	Done	Done
107.	HAMJA ALI	1	Done	Done
108.	MANISH KUMAR	2	Done	Done
109.	PARESH BORAH	1	Done	Done
110.	GOBIN PAYENG	2	Done	Done
111.	RAMSING BEY	1	Done	Done
112.	HARMON ENGTI	1	Done	Done
113.	SANJIT PHURA	1	Done	Done
114.	NABADEEP ROY	2	Done	Done
115.	BASANTA RAY	2	Done	Done
116.	SHYAMAL ROY	2	Done	Done
117.	NIKHIL KUMAR ROY	2	Done	Done
118.	MADHUSUDAN ROY	2	Done	Done
119.	BIDYASING TIMUNG	2	Done	Done
120.	RAMSING TERON	2	Done	Done
121.	KAILASH NAIK	2	Done	Done

Sl. No.	NAME OF WORKMEN	No of Vaccination Dose	1st DOSE	2nd DOSE
122.	DHOBA BEHERA	2	Done	Done
123.	GOURANGA BEHERA	2	Done	Done
124.	SIBA BEHERA	2	Done	Done
125.	PURNNACHANDRA PRADHAN	2	Done	Done
126.	SAMAR PAL	2	Done	Done
127.	KARTIK BISWAS	1	Done	Done
128.	MINKUL LASKAR	2	Done	Done
129.	SOFIQR RAHMEN	1	Done	Done
130.	RAHUL BISWAS	2	Done	Done
131.	ABUL HUSSAIN	2	Done	Done
132.	SELIM MALIK	2	Done	Done
133.	BHABEN DEKA	2	Done	Done
134.	DIPANKAR BORDOLOI	2	Done	Done
135.	BHOLE MUNDA	1	Done	Done
136.	BIKASH CHANDRA BISWAL	2	Done	Done
137.	DILIP SARKAR	2	Done	Done
138.	PULAK NAYAK	2	Done	Done
139.	ANIL BORO	2	Done	Done
140.	BIRENDRA SINGH	2	Done	Done
141.	PRASENJIT MANDAL	1	Done	Done
142.	ABHISHEK KUMAR	2	Done	Done
143.	APON BARMAN	2	Done	Done
144.	PRAKASH SINGH	2	Done	Done
145.	DEPAK NAYAK	2	Done	Done
146.	IMRAN HUSSAIN	2	Done	Done
147.	JOYCHANDRA METTEI	2	Done	Done
148.	BIDYUT DHAR	2	Done	Done
149.	PAWAN KUMAR THAKUR	2	Done	Done
150.	SHIVAM KUMAR	2	Done	Done
151.	PRADIP DAS	2	Done	Done
152.	SARTHE ENGTI	2	Done	Done
153.	SURJYA RAJKHOWA	2	Done	Done
154.	SUNIL DEURY	2	Done	Done

15. Online EHS reporting System and Analysis:



Fig -23. EHS Observation Analysis



Fig -24. Minor Incident analysis



Fig -25. Activity wise work permit System and Pre-Start Briefing Training System



Fig -26. Incident analysis

Annexure – 7: PUC of the vehicles (Sample copies)

Pucc No :	D4R341104467
Vehicle No :	RJ14GG1308
Customer Name :	EEOGREEN IN.PVT
Customer Mobile :	1800000000
Year of Regn :	08-01-2015
Type of Vehicle :	TRUCK
Make :	Tata Motors
Model :	TRUCK
Test Date :	25-12-2021
Time :	03:29:15 PM
Valid Up To :	24-06-2022
Center Name :	Shri Balaji Pollution Center
Center Address :	Indira colony,Chamu,Jaipur
Licence No :	RJ41-0005/0004
Test Result :	Pass

VALID IN ALL INDIA

Photo of Vehicle



Flushing Cycle			
Avg	RPM Min	RPM Max	Temp
	986	2656	26

Sr. No.	RPM Min	RPM Max	Km	HSU%	Temp
1	990	2670	0.05	2.04	26
2	990	2630	0.06	2.49	26
3	1030	2600	0.05	2.15	26
Mean			0.05	2.22	

Prescribed Limit for Diesel vehicle	l/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 D4RJ41	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 : RJ14GG1308
PUC No. : D4R341104467
Valid up to : **24-06-2022**
Scan QR Code to Validate



Veh Reg No : RJ14GG1308
PUC No. : D4R341104467
Valid up to : **24-06-2022**
Scan QR Code to Validate

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 No.: AS02500370001796
 Registration No.: **NL01AE5223**
 Owner Name: M/S GANPATI EARTH
 MOVERS
 Chassis No.: MAT479187K3K*****
 Engine No.: 15DES-92304091K638*****
 Class of Vehicle: Goods Carrier
 Make: TATA MOTORS LTD
 Model: 22079638000R8P90
 Vehicle Category: HEAVY GOODS VEHICLE
 Date of Registration: 28/Apr/2020
 Emission Norms: BHARAT STAGE IV
 Fuel: DIESEL
 Date of Testing: 07/Jul/2021

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: ERINAYAN AUTO EMISSION TESTING STATION
 Centre Address: BIJOYNAGAR, DIST. KAMRUP(RURAL), ASSAM, BIJOYNAGAR, KAMRUP(RURAL), ASSAM, 781122
 Test Conducted By: MR. JAGADISH DEKA



In case of any concern Please write to Transport Commissioner Assam

TEST RESULT FOR DIESEL VEHICLE

	IDLE RPM	MAX RPM	K VALUE	OIL TEMP
TEST 1	730.0	2250.0	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

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.: MAT479167K3K*****
 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

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)

In case of any complain Please write to Transport
 Commissioner Assam

Auto Emission Testing Centre Code:
 AS0250037
 Testing Centre Name: TRINAYAN AUTO
 EMISSION TESTING STATION
 Centre Address: BIDDYANAGAR, DIST.
 KAMRUP(RURAL), ASSAM, BIDDYANAGAR,
 KAMRUP(RURAL), ASSAM, 781122
 Test Conducted By: MR. JAGADISH
 DEKA



TEST RESULT FOR DIESEL VEHICLE

	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

Pucc No :	D68RJ23104353
Vehicle No :	AS01GC6771
Customer Name :	SHREE BALAJEE CONSTRUCTION
Customer Mobile :	9636586936
Year of Regn :	12-01-2016
Type of Vehicle :	L.G.V
Make :	Mahindra & Mahindra
Model :	BOLERO CAMPER
Test Date :	17-06-2021
Time :	10:51:06 AM
Valid UpTo :	26-06-2022
Center Name :	Chhotu Ram Mobile Vahan Pradushan Janch Kendra (RJ18-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	MSU%	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	l/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 D68RJ23	Authorised Signatory
-------------------------	---------------------------------	----------------------

CERTIFICATE IS ONLY VALID IF SMS RECEIVED FROM REGISTRATION 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 : Letter to Nodal Officer on CA status



ASSAM POWER GENERATION CORPORATION LIMITED

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

Mridul Saikia

Project Director(PMU)

LOWER KOPILI HYDRO ELECTRIC PROJECT

E-mail: projectdirector@apgcl.com

No: APGCL/CGM (H)/W/2007/140/Pt-VI/42

Dated: 10/01/2022

To ✓ The Chief Conservator of Forests & Nodal Officer (FC Act),
O/o PCCF & HoFF, Assam
Aranya Bhawan, Panjabari,
Guwahati, Kamrup (Metropolitan)

Sub : Implementation of (Catchment Area Treatment) CAT Plan and Compensatory Afforestation (CA) Programme for Lower Kopili Hydro Electric Project, 120 MW.

Ref : 1. MoEF&CC Forest Clearance Stage 2 vide No. B-53/2018FC dated 4th December, 2020.
2. Environment Clearance issued by MoEF&CC vide No.J-12011/26/2012-IA-I dated 4th September, 2019.

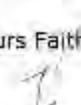
Sir,

With reference to the subject cited above, it is for your kind information that the construction work of the 120 MW LowerKopili Hydro Electric Project has been already initiated. As such the implementation of Catchment Area Treatment Plan, Soil & Moisture Conservation Plan and Compensatory Afforestation programme in 8 patches of Reserved Forests declared by Govt of Assam in Dima Hasao and KarbiAnglong districts shall be implemented in synchronization with the construction of the project as per requirement of MoEF&CC, Govt. of India, New Delhi.

Therefore, you are requested kindly to appraise the status of implementation of the above mentioned plans to APGCL for onward transmission to MoEF & CC along with the six monthly compliance report of the project.

Thanking You,

Yours Faithfully,


Project Director (PMU)

Lower Kopili H.E. Project, APGCL


11/01/2022

Copy to:

1. The Principal Secretary, Department of Power, Govt. of Assam, Secretariat. P.O. Assam Sachivalaya, Block-C, Ground Floor, Dispur, Guwahati-781006, Assam for favour of kind information.
2. The Principal Secretary, Department of Environment and Forest, Govt. of Assam, Secretariat. P.O. Assam Sachivalaya, Block-C, Ground Floor, Dispur, Guwahati-781006, Assam for favour of kind information.
3. Relevant File.



By E. Hald

GOVERNMENT OF ASSAM
FOREST DEPARTMENT
OFFICE OF THE CHIEF EXECUTIVE OFFICER :: STATE CAMPA :: ASSAM
LANKESHWAR :: JALUKBARI :: GUWAHATI : 781014

E-mail statocampaassam@gmail.com

Dated Guwahati, 8th Mar. 2022

No.FG.27/CAMPA/CA/2021-22

To:

The Chief Conservator of Forests
& Nodal Officer (FC Act),
O/o the PCCF & HoFF, Assam,
Aranya Bhawan, Panjabari, Guwahati-37

Sub: Implementation of CAT Plan, SMC Plan and CA Plantation for Lower Kopili Hydro Electric Project, 120 MW⁺ req.

Ref: Your office letter no.FG.27/Nodal/Lower Kopili HE Project/Part-III dated 18.02.2022

With reference to the above, I am to inform you that the activities of Catchment Area Treatment Plan, Soil & Moisture Conservation Plan & the Compensatory Afforestation Plantation drive for Lower Kopili Hydro Electric Project (120 MW) have not been implemented till now as these have not been included in the earlier Annual Plans.

However, the same are likely to be included in the APO of 2022-23 for which SLEC meeting will be held shortly.

(Suman Mohapatra, IFS)
Addl. Principal Chief Conservator of Forests &
Chief Executive Officer, State CAMPA, Assam,
Lankeshwar, Jalukbari, Guwahati - 14

Copy to the Project Director (PMU), Lower Kopili HE Project, APGCL, Bijulee Bhawan, 3rd Floor, Paltanbazar, Guwahati-781001 for kind information.

Addl. Principal Chief Conservator of Forests &
Chief Executive Officer, State CAMPA, Assam,
Lankeshwar, Jalukbari, Guwahati - 14

o/c

GOVERNMENT OF ASSAM
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS AND
HEAD OF FOREST FORCE, ASSAM
ARANYA BHAWAN, PANJABARI, GUWAHATI-37

Email: adilpccf.nodal@gmail.com

Date: 29.3.2022

No. FG.27/Nodal/Lower Kopili HE Project/Part-III

The Project Director,
(PMU) Lower Kopili H.E. Project,
APGCL, Bijuli Bhawan,
3rd Floor, Paltanbazar Guwahati-781001

D. Baruah. ES.
As n/a Acad
The

Implementation of (Catchment area Treatment) CAT Plan and
Compensatory Afforestation (CA) Programme for Lower Kopili Hydro
Electric Project, 120 MW.

Ref: Your letter No. APGCL/CGM (H)/W/2007/140/Pt-VI/42 dated 10.1.2022

Sir,

With reference to the above, I am enclosing herewith a letter No. FG.27/CAMPA/CA/2021-22 dated 8.3.2022 received from the Adml. PCCF & CEO, State CAMPA, Assam, Guwahati regarding Implementation of (Catchment area Treatment) CAT Plan and Compensatory Afforestation (CA) Programme for Lower Kopili Hydro Electric Project, 120 MW.

This is for favour of your kind information.

Encl: As stated above.

Yours faithfully,


(Dr. C Muthukumaravel, IFS)
Chief Conservator of Forests &
Nodal Officer (FC Act), Assam
O/o the Principal Chief Conservator of Forests and
Head of Forest Force, Assam

Annexure – 9 : Test results of Ambient environment during January to June 2022.
Ambient Air Quality monitoring March 2022

en-VISION
Enviro Technologies North East

Recognized by Pollution Control Board, Assam


NABL ACCREDITED

Date: 31/03/2022

TESTREPORT

AMBIENT AIR ANALYSIS REPORT
Rep.No. AAAR_1503163_01_543
Sample ID: EETNE/MAR/17(1)/22
Issued to : M/s. Lower Kopili HEP Project, Lanku, Dist.- Dima Hasao, Assam.

ULR NO.: TC766921000000646P

Sample Drawn By : UTPAL BEZBARUAH
Sampling Plan & Procedure : EETNE/SOP/01
Analysis Duration : 21/03/22 TO 24/03/22, 22/03/22 TO 25/03/22, 23/03/22 TO 26/03/22
24/03/22 TO 27/03/22, 25/03/22 TO 28/03/22
26/03/22 TO 29/03/22, 27/03/22 TO 30/03/22, 28/03/22 TO 31/03/22
Sampling Instrument Used : AMBIENT AIR SAMPLER/RDS
Pollution Control Device, if any : NO

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)	21/03/22	Power Inlet / Dam Site	Clear	33.1	19.3	12.1	BDL	BDL
ii)	22/03/22	Crusher Site		38.1	24.2	14.1	0.03	0.04
iii)	23/03/22	Adit to HRT		39.1	20.1	11.3	BDL	BDL
iv)	24/03/22	Primary Hospital Near APGCL Camp		34.2	20.2	12.4	BDL	BDL
v)	25/03/22	Batching plant		35.6	22.7	15.2	BDL	BDL
vi)	26/03/22	Surge Shaft Site		37.3	20.3	13.6	BDL	BDL
vii)	27/03/22	Labour & Staff Camp		30.2	17.2	10.3	BDL	BDL
viii)	28/03/22	Power house		37.1	20.3	9.1	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
			24 hours	100
2	Particulate Matter (PM _{2.5}), µg/m ³	EETNE/SOP/01/2017	Annual	40
			24 hours	60
3	Nitrogen Dioxide (NO ₂), µg/m ³	IS:5182 Part-VI/ CPCB	Annual	40
			24 hours	80
4	Carbon Monoxide (CO), mg/m ³		8 Hours	2.0

For Enviro Enviro Technologies North East, Guwahati

Utpal Bezbaruah
(Environmental Chemist)


Dr. Pranita Chakaborty
Authorized by (Quality Manager)

Note: i) Tests undertaken twice a week in each location.
ii) The results relate only to the parameters tested.
iii) The test report shall not be reproduced except in full, without written approval of laboratory.

Page 1 of 1

Board No. 1, 1st Floor, Saragarh Road, P.O. Saranki, Chandimal, Guwahati-781009, Assam

Ambient Noise monitoring March 2022

Recognized by Pollution Control Board, Assam

TEST REPORT

AMBIENT NOISE LEVEL MEASUREMENT REPORT

Rep.No. ANLMR_1503163_06A_544
Sample ID: EETNE/MAR/17(1)/22

Date: 31/03/2022
ULR NO.: TC766921000000646P

Issued to : M/s. Lower Kopli HEP Project, Lanku, 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)	Night (10:00 pm to 6:00 am)
i)	22/03/22	Power Inlet / Dam Site	48.3	
ii)	23/03/22	Crusher Site	55.3	
iii)	24/03/22	Adit to HRT	51.2	
iv)	25/03/22	Primary Hospital Near APGCL Camp	56.1	
v)	26/03/22	Batching plant	50.3	
vi)	27/03/22	Surge Shaft Site	47.2	
vii)	28/03/22	Labour & Staff Camp	51.2	
viii)	29/03/22	Power house	55.2	

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

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

Ambient Noise Standards:


Utpal Bezbaruah
(Environmental Chemist)

For Envision Enviro Technologies North East, Guwahati


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.
iii) Monitoring is performed twice a week in each location.

Surface Water Quality Monitoring – March 2022



NABL ACCREDITED

Recognized by Pollution Control Board, Assam

TEST REPORT:

Report No: 220407_1503163_0
 ULR No:TC76692200000072P
 Sample ID No: EETNE/March/21/22/D
 Test Starting Date: 30/03/22

Date of Report: 07/04/22
 Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Surface Water(1 km U/S of dam site)	Source: Kopili River				
Sample collected by	M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars	Date 29/03/2022	Time 3:20 P.M	Temperature 28°C	pH 7.1	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	pH	---	7.39	APHA 23 rd Edition,4500-H',Page:4-95
2	Turbidity	NTU	2.28	APHA 23 rd Edition,2130,Page:2-13
3	TDS	mg/L	31.4	APHA 23 rd Edition,2540-C, Page :2-69
4	TSS	mg/L	85.3	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	7.3	APHA 23 rd Edition,4500-O-C,Page:4-146
7	Total hardness	mg/L	75.9	APHA 23 rd Edition,2340-B,Page:2-48
8	Calcium	mg/L	33.6	APHA 23 rd Edition,3500-Ca-B,Page:3-69
9	Magnesium	mg/L	16.5	APHA 23 rd Edition,3500-Mg-B,Page:3-86
10	Total Alkalinity	mg/L	32.7	APHA 23 rd Edition,2320,Page:2-37
11	Chloride	mg/L	14.3	APHA 23 rd Edition,4500-Cl-B,Page:4-75
12	Sulphate	mg/L	10.6	APHA 23 rd Edition,4500-SO ₄ -E,Page:4-199
13	Nitrates	mg/L	2.9	APHA 23 rd Edition,4500-NO ₃ -B,Page:4-127
14	Phosphate	mg/L	<0.02	APHA 23 rd Edition,4500-P,Page:4-163
15	Salinity	%	0.3	APHA 23 rd Edition,2520B,Page:2-60
16	conductivity	µS/cm	82.5	APHA 23 rd Edition,2520B,Page:2-60



Page 1 of 2

House No. 6, 1st Floor, Sankardev Path, Puli-Sarmaik, Chandmari, Guwahati-781001, Assam.

Phone : +91 8811096201 | e-mail : envisionghy@gmail.com



NABL ACCREDITED

Recognized by Pollution Control Board, Assam

Sample ID No: EETNE/March/21/22/D
 Test Starting Date: 30/03/22

Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Sl No.	Parameters	Unit	Result	Reference Method
17	Arsenic	mg/L	BDL	APHA 23 rd Edition,3114A,Page:3-36
18	Iron(as Fe)	mg/L	0.65	APHA 23 rd Edition,3500-Fe B,Page:3-80
19	Total Coliform	MPN/100ml	5	APHA 23 rd Edition,9222B,Page:9-81
20	Fecal Coliform	MPN/100ml	Nil	APHA 23 rd Edition,9222 D,Page:9-89
21	BOD	mg/L	3	APHA 23 rd Edition,5210B,Page:5-6
22	COD	mg/L	19	APHA 23 rd Edition,5220 b,Page:5-18

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.

End of report



NABL ACCREDITED

Recognized by Pollution Control Board, Assam

TEST REPORT:

Report No: 220407_1503163_0
 ULR No:TC76692200000080P
 Sample ID No: EETNE/March/22/22/D
 Test Starting Date: 30/03/22

Date of Report: 07/04/22
 Date of sample receipt:30/03/22
 Test completion Date: 07/04/22

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Surface Water (1 km D/S of dam site)			Source: Kopili River		
Sample collected by	M/s. En- vision Enviro Technologies North East					
Sample Collection Particulars	Date 29/03/2022	Time 3:50 P.M	Temperature 27°C	p ^H 7.00	Quantity Drawn: 4 Lt	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	p ^H	---	7.28	APHA 23 rd Edition,4500 H ⁺ ,Page:4-95
2	Turbidity	NTU	1.95	APHA 23 rd Edition,2130,Page:2-13
3	TDS	mg/L	27.7	APHA 23 rd Edition,2540 C, Page :2-69
4	TSS	mg/L	86.2	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	6.9	APHA 23 rd Edition,4500-O C,Page:4-146
7	Total hardness	mg/L	72.4	APHA 23 rd Edition,2340 B,Page:2-48
8	Calcium	mg/L	35.6	APHA 23 rd Edition,3500-Ca B,Page:3-69
9	Magnesium	mg/L	18.5	APHA 23 rd Edition,3500-Mg B,Page:3-86
10	Total Alkalinity	mg/L	44.6	APHA 23 rd Edition,2320,Page:2-37
11	Chloride	mg/L	13.8	APHA 23 rd Edition,4500-Cl B,Page:4-75
12	Sulphate	mg/L	11.2	APHA 23 rd Edition,4500-SO ₄ ²⁻ E,Page:4-199
13	Nitrates	mg/L	2.6	APHA 23 rd Edition,4500-NO ₃ ⁻ B,Page:4-127
14	Phosphate	mg/L	<0.02	APHA 23 rd Edition,4500-P,Page:4-163
15	Salinity	‰	0.5	APHA 23 rd Edition,2520B,Page:2-60
16	conductivity	µS/cm	83.1	APHA 23 rd Edition,2520B,Page:2-60



Page 1 of 2



NABL ACCREDITED

Recognized by Pollution Control Board, Assam

Sample ID No: EETNE/March/22/22/D
Test Starting Date: 30/03/22

Date of sample receipt: 30/03/22
Test completion Date: 07/04/22

SI No.	Parameters	Unit	Result	Reference Method
17	Arsenic	mg/L	BDL	APHA 23 rd Edition, 3114A, Page: 3-36
18	Iron(as Fe)	mg/L	0.91	APHA 23 rd Edition, 3500-Fe B, Page: 3-80
19	Total Coliform	MPN/100	2	APHA 23 rd Edition, 9222B, Page: 9-81
20	Fecal Coliform	MPN/100	Nil	APHA 23 rd Edition, 9222 D, Page: 9-89
21	BOD	mg/L	4	APHA 23 rd Edition, 5210B, Page: 5-6
22	COD	mg/L	22	APHA 23 rd Edition, 5220 b, Page: 5-18

For Envision Enviro Technologies North East, Guwahati



Rimpi Sarma
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

End of report



NABL ACCREDITED

Recognized by Pollution Control Board, Assam

TEST REPORT:

Report No: 220407_1503163_0
 ULR No: TC766922000000081P
 Sample ID No: EETNE/March/23/22/D
 Test Starting Date: 30/03/22

Date of Report: 07/04/22
 Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Surface Water (3 km D/S of dam site)			Source: Kopili River		
Sample collected by	M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars	Date 29/03/2022	Time 4:20 P.M	Temperature 27°C	pH 7.2	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	pH	---	7.17	APHA 23 rd Edition,4500-H ⁺ ,Page:4-95
2	Turbidity	NTU	1.86	APHA 23 rd Edition,2130,Page:2-13
3	TDS	mg/L	32.9	APHA 23 rd Edition,2540 C, Page :2-69
4	TSS	mg/L	82.4	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	7.5	APHA 23 rd Edition,4500-O C,Page:4-146
7	Total hardness	mg/L	68.7	APHA 23 rd Edition,2340 B,Page:2-48
8	Calcium	mg/L	34.3	APHA 23 rd Edition,3500-Ca B,Page:3-69
9	Magnesium	mg/L	16.9	APHA 23 rd Edition,3500-Mg B,Page:3-86
10	Total Alkalinity	mg/L	38.5	APHA 23 rd Edition,2320,Page:2-37
11	Sulphate	mg/L	17.2	APHA 23 rd Edition,4500-SO ₄ ²⁻ E,Page:4-199
12	Nitrates	mg/L	12.3	APHA 23 rd Edition,4500-NO ₃ ⁻ B,Page:4-127
13	Phosphate	mg/L	<0.02	APHA 23 rd Edition,4500-P,Page:4-163
14	Salinity	‰	0.5	APHA 23 rd Edition,2520B,Page:2-60
15	Conductivity	µS/cm	84.7	APHA 23 rd Edition,2520B,Page:2-60



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Sample ID No: EETNE/March/23/22/D
Test Starting Date: 20/12/21

Date of sample receipt: 20/12/21
Test completion Date: 29/12/21

Sl No.	Parameters	Unit	Result	Reference Method
16	Chloride	mg/L	18.5	APHA 23 rd Edition, 4500-ClB, Page: 4-75
17	Arsenic	mg/L	BDL	APHA 23 rd Edition, 3114A, Page: 3-36
18	Iron(as Fe)	mg/L	1.2	APHA 23 rd Edition, 3500-Fe B, Page: 3-80
19	Total Coliform	MPN/100	5	APHA 23 rd Edition, 9222B, Page: 9-81
20	Fecal Coliform	MPN/100	Nil	APHA 23 rd Edition, 9222 D, Page: 9-89
21	BOD	mg/L	5	APHA 23 rd Edition, 5210B, Page: 5-6
22	COD	mg/L	43	APHA 23 rd Edition, 5220 b, Page: 5-18

For Envision Enviro Technologies North East, Guwahati




Rimpi Sarma
Environmental Chemist
Test Done By

Dr. Pranita Chakraborty
Quality Manager
Authorized Signatory

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TEST REPORT:

Report No: 220407_1503163_0
 ULR No:TC76692200000082P
 Sample ID No: EETNE/March/24/22/D
 Test Starting Date: 30/03/22

Date of Report: 07/04/22
 Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Surface Water (8 km D/S of dam site)				Source: Kopili River	
Sample collected by	M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars	Date 17/12/2021	Time 5:10 P.M	Temperature 26°C	p ^H 7.00	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	p ^H	---	7.11	APHA 23 rd Edition, 4500-H ⁺ , Page:4-95
2	Turbidity	NTU	3.83	APHA 23 rd Edition, 2130, Page:2-13
3	TDS	mg/L	35.6	APHA 23 rd Edition, 2540 C, Page :2-69
4	TSS	mg/L	28.8	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	6.4	APHA 23 rd Edition, 4500-O.C, Page:4-146
7	Total hardness	mg/L	79.5	APHA 23 rd Edition, 2340 B, Page:2-48
8	Calcium	mg/L	40.7	APHA 23 rd Edition, 3500-Ca B, Page:3-69
9	Magnesium	mg/L	18.2	APHA 23 rd Edition, 3500-Mg B, Page:3-86
10	Total Alkalinity	mg/L	112.8	APHA 23 rd Edition, 2320, Page:2-37
11	Sulphate	mg/L	16.4	APHA 23 rd Edition, 4500-SO ₄ ²⁻ E, Page:4-199
12	Nitrates	mg/L	5.1	APHA 23 rd Edition, 4500-NO ₃ ⁻ B, Page:4-127
13	Phosphate	mg/L	BDL	APHA 23 rd Edition, 4500-P, Page:4-163
14	Salinity	%	0.3	APHA 23 rd Edition, 2520B, Page:2-60
15	Conductivity	µS/cm	85.7	APHA 23 rd Edition, 2520B, Page:2-60



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Sample ID No: EETNE/March/24/22/D
 Test Starting Date: 30/03/22

Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Sl No.	Parameters	Unit	Result	Reference Method
16	Chloride	mg/L	15.2	APHA 23 rd Edition,4500-ClB,Page:4-75
17	Arsenic	mg/L	<0.001	APHA 23 rd Edition,3114A,Page:3-35
18	Iron(as Fe)	mg/L	1.8	APHA 23 rd Edition,3500-Fe B,Page:3-80
19	Total Coliform	MPN/100	3	APHA 23 rd Edition,9222B,Page:9-81
20	Fecal Coliform	MPN/100	Nil	APHA 23 rd Edition,9222 D,Page:9-89
21	BOD	mg/L	5	APHA 23 rd Edition,5210B,Page:5-6
22	COD	mg/L	54	APHA 23 rd Edition,5220 b,Page:5-18

For Envision Enviro Technologies North East, Guwahati




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TEST REPORT:

Report No: 220407_1503163_0
 ULR No: TC76692200000078P
 Sample ID No: EETNE/March/20/22/D
 Test Starting Date: 30/03/22

Date of Report: 07/04/22
 Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Surface Water				Source: Submergence area Dam Site	
Sample collected by	M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars	Date 29/03/2022	Time 2:50 P.M	Temperature 28°C	p ^H 7.00	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	p ^H	---	7.41	APHA 23 rd Edition,4500-H ⁺ ,Page:4-95
2	Turbidity	NTU	1.72	APHA 23 rd Edition,2130,Page:2-13
3	TDS	mg/L	38.4	APHA 23 rd Edition,2540 C, Page :2-69
4	TSS	mg/L	26.7	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	7.3	APHA 23 rd Edition,4500-O C,Page:4-146
7	Total hardness	mg/L	69.2	APHA 23 rd Edition,2340 B,Page:2-48
8	Calcium	mg/L	35.8	APHA 23 rd Edition,3500-Ca B,Page:3-69
9	Magnesium	mg/L	17.5	APHA 23 rd Edition,3500-Mg B,Page:3-86
10	Total Alkalinity	mg/L	85.3	APHA 23 rd Edition,2320,Page:2-37
11	Sulphate	mg/L	9.6	APHA 23 rd Edition,4500-SO ₄ ²⁻ E,Page:4-199
12	Nitrates	mg/L	5.1	APHA 23 rd Edition,4500-NO ₃ ⁻ B,Page:4-127
13	Phosphate	mg/L	<0.02	APHA 23 rd Edition,4500-P,Page:4-163
14	Salinity	%	0.6	APHA 23 rd Edition,2520B,Page:2-60
15	conductivity	µS/cm	93.4	APHA 23 rd Edition,2520B,Page:2-60





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Sample ID No: EETNE/March/20/22/D
Test Starting Date: 30/03/22

Date of sample receipt: 30/03/22
Test completion Date: 07/04/22

Sl No.	Parameters	Unit	Result	Reference Method
16	Chloride	mg/L	17.6	APHA 23 rd Edition, 4500-Cl B, Page: 4-75
17	Arsenic	mg/L	<0.001	APHA 23 rd Edition, 3114A, Page: 3-36
18	Iron(as Fe)	mg/L	0.86	APHA 23 rd Edition, 3500-Fe B, Page: 3-80
19	Total Coliform	MPN/100ml	5	APHA 23 rd Edition, 9222B, Page: 9-81
20	Fecal Coliform	MPN/100ml	Nil	APHA 23 rd Edition, 9222 D, Page: 9-89
21	BOD	mg/L	<2	APHA 23 rd Edition, 5210B, Page: 5-6
22	COD	mg/L	<5	APHA 23 rd Edition, 5220 b, Page: 5-18

For Envision Enviro Technologies North East, Guwahati


Rimpi sarma
Environmental Chemist
Test Done By


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Authorized Signatory

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Page 2 of 2

Test Report of Ground Water - Near Crusher



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TEST REPORT:
 Report No: 220407_1503163_0
 ULR No: TC766922000000074P
 Sample ID No: EETNE/March/18/22/D
 Test Starting Date: 30/03/22

Date of Report: 07/04/22
 Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description	Type: Ground Water			Source: Crusher Borewell		
Sample collected by	M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars	Date	Time	Temperature	p ^H	Quantity Drawn	Sampling Method
	29/03/2022	11:59A.M	28°C	6.9	4L	EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	p ^H	---	7.04	APHA 23 rd Edition, 4500 H ⁺ , Page: 4-95
2	Turbidity	NTU	11.3	APHA 23 rd Edition, 2130, Page: 2-13
3	TDS	mg/L	145.2	APHA 23 rd Edition, 2540 C, Page: 2-69
4	TSS	mg/L	42.8	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	Total hardness	mg/L	29.6	APHA 23 rd Edition, 2340 B, Page: 2-48
7	Calcium	mg/L	11.5	APHA 23 rd Edition, 3500-Ca B, Page: 3-69
8	Magnesium	mg/L	7.1	APHA 23 rd Edition, 3500-Mg B, Page: 3-86
9	Total Alkalinity	mg/L	305.5	APHA 23 rd Edition, 2320, Page: 2-37
10	Chloride	mg/L	13.9	APHA 23 rd Edition, 4500-Cl B, Page: 4-75
11	Phosphate	mg/L	<0.02	APHA 23 rd Edition, 4500-P, Page: 4-163
12	Sulphate	mg/L	11.7	APHA 23 rd Edition, 4500-SO ₄ ²⁻ E, Page: 4-199
13	Nitrates	mg/L	3.3	APHA 23 rd Edition, 4500-NO ₃ ⁻ B, Page: 4-127
14	Conductivity	µS	230.6	APHA 23 rd Edition, 2520B, Page: 2-60
15	Salinity	%	0.2	APHA 23 rd Edition, 2520B, Page: 2-60



Page 1 of 2

House No. 6, 1st Floor, Sankardev Path, Poo-Borjha, Chandmari, Guwahati-781003, Assam

Phone : +91 8811096201 ♦ e-mail : envisionghy@gmail.com



Sample ID No: EETNE/March/18/22/D
 Test Starting Date: 30/03/22

Date of sample receipt: 30 /03/22
 Test completion Date: 07/04/22

Sl No.	Parameters	Unit	Result	Reference Method
16	Arsenic	mg/L	<.001	APHA 23 rd Edition,3114A,Page:3-36
17	Iron(as Fe)	mg/L	0.13	APHA 23 rd Edition,3500-Fe B,Page:3-80
18	Fluoride	mg/L	0.68	APHA 23 rd Edition,4500-F D,Page:4-90
19	Copper	mg/L	0.13	APHA 23 rd Edition,3111 B,Page:3-20
20	Cadmium	mg/L	<.001	APHA 23 rd Edition,3111 B,Page:3-20
21	Lead	mg/L	0.002	APHA 23 rd Edition,3111 B,Page:3-20
22	Zinc	mg/L	0.06	APHA 23 rd Edition,3111 B,Page:3-20
23	Total Chromium	mg/L	<.001	APHA 23 rd Edition,3111 B,Page:3-20
24	Manganese	mg/L	0.03	APHA 23 rd Edition,3111 B,Page:3-20
25	Total Coliform	MPN/100	Nil	APHA 23 rd Edition,9222B,Page:9-81
26	Fecal Coliform	MPN/100	Nil	APHA 23 rd Edition,9222 D,Page:9-89
27	BOD	mg/L	<2	APHA 23 rd Edition,5210B,Page:5-6
28	COD	mg/L	<5	APHA 23 rd Edition,5220 b,Page:5-18

For Envision Enviro Technologies North East


Rimpi Sarma
 Environmental Chemist
 Test Done By


Dr. Pranita Chakraborty
 Quality Manager
 Authorized Signatory

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Test Report of RO Water

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TEST REPORT:
 Report No: 220407_1503163_0
 ULR No: TC76692200000076P
 Sample ID No: EETNE/March/17/22/D
 Test Starting Date: 30/03/22

NABL ACCREDITED
 Date of Report: 07/04/22
 Date of sample receipt: 30/03/22
 Test completion Date: 07/04/22

Name & Address of Client		M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.				
Sample Description		Type: Drinking Water	Source: RO			
Sample collected by		M/s. En-vision Enviro Technologies North East				
Sample Collection Particulars	Date	Time	Temperature	p ^H	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02
	29/03/2022	1:38 P.M	28°C	7.00		

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
2	Turbidity	NTU	<.2	APHA 23 rd Edition,2130,Page:2-13	1.0	5.
3	Total hardness	mg/L	35.7	APHA 23 rd Edition,2340 B,Page:2-48	200	600
4	Total Alkalinity	mg/L	52.2	APHA 23 rd Edition,2320,Page:2-37	200	600
5	Residual Chlorine	mg/L	BDL	APHA 23 rd Edition,4500-Cl B,Page:4-63	0.2	1.0
6	Chloride	mg/L	11.4	APHA 23 rd Edition,4500-Cl B,Page:4-75	250	1000
7	Fluoride	mg/L	0.21	APHA 23 rd Edition,4500-F ⁻ D,Page:4-90	1.0	1.5
8	Iron(as Fe)	mg/L	0.05	APHA 23 rd Edition,3500-Fe B,Page:3-80	0.3	No relaxation
9	Total Coliform	MPN/100	Nil	APHA 23 rd Edition,9222B,Page:9-81	Shall not be detectable in any 100 ml Sample	Shall not be detectable in any 100 ml Sample
10	Fecal Coliform	MPN/100	Nil	APHA 23 rd Edition,9222 D,Page:9-89	Shall not be detectable in any 100 ml Sample	Shall not be detectable in any 100 ml Sample

For Envision Enviro Technologies North East

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Page 1 of 2

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Annexure 10 :Package 4 EMP of the tender document.

Table 1: Environmental Management Plan

Project Stage / Activity	Potential Impact	Proposed Mitigation Measures / Procedures	Parameters to be monitored	Measurement and Frequency	Institutional responsibility	Implementation schedule
A. Pre-construction						
Location of transmission towers and transmission line alignment and design	Exposure to safety related risks	Setback of dwellings to overhead line route designed in accordance with permitted level of power frequency and the regulation of supervision at sites. Design of transmission line and substations will follow CEA standards as well as IFC EHS guidelines for Electric Power Transmission and Distribution.	Tower location and line alignment selection with respect to nearest dwellings	Setback distances to nearest houses - once	Employer	Part of tower setting survey and detailed alignment survey and design
Transmission line design	Exposure to electro-magnetic interference	Transmission line design to comply with the limits of electromagnetic interference from overhead power lines as Given in IFC EHS guidelines for Electric Power Transmission and Distribution.	Electromagnetic field strength for proposed line design	Line design/ compliance with relevant standards - once	Employer	Part of detailed alignment survey and design
Location of transmission towers and transmission line alignment and design	Impact on water bodies and land	Consideration of tower location at where they could be located to avoid water bodies or agricultural land	Tower location and line alignment selection (distance to water and/or agricultural land)	Consultation with local authorities and land owners - once	Employer	Part of tower setting survey and detailed alignment survey and design
	Social inequities	Careful route selection to avoid existing settlements	Tower location and line alignment selection (distance to nearest dwellings or social institutions)	Consultation with local authorities and land owners - once	Employer	Part of detailed tower setting and alignment survey and design
		Minimize need to acquire agricultural land.	Tower location and line alignment selection (distance to agricultural land)	Consultation with local authorities and land owners - once	Employer	Part of detailed tower setting and alignment survey and design

Encroachment into precious ecological areas	Loss of precious ecological values/wildlife corridor/ damage to precious species	Avoid encroachment by careful site and alignment selection	Tower location and line alignment selection (distance to nearest designated ecological protection area)	Consultation with local forest authorities	Contractor, Employer	Part of detailed setting and alignment survey /design
Transmission line through forest land	De-forestation and loss of biodiversity	Avoid encroachment by careful site and alignment selection	Tower location and line alignment selection (distance to nearest protected or reserved forest)	Consultation with local authorities	Contractor, Employer	Part of detailed setting and alignment survey/ design
		Obtain statutory clearances from the Government	Statutory approvals from Government	Compliance with regulations – once	Contractor, Employer	Before the construction work
Encroachment into farmland	Loss of agricultural productivity	Use existing tower footings/towers wherever possible	Tower location and line alignment selection	Consultation with local authorities and design engineers	Contractor, Employer	Part of detailed alignment survey and design
		Avoid setting new towers on farmland wherever feasible	Tower location and line alignment selection	Consultation with local authorities and design engineers - once	Contractor, Employer	Part of detailed setting and alignment survey /design
		Farmers compensated for any permanent loss of productive land within ROW. All land compensations are paid fully as per Entitlement Matrix of Combined Resettlement and Indigenous Peoples Plan (CRIPP).	Design of Implementation of Crop Compensation (based on affected area)	Consultation with affected parties – once	Contractor, Employer	Prior to construction phase.
		Farmers/landowners compensated for significant trees that need to be trimmed/ removed along ROW.	Design of Implementation of Tree compensation (estimated area to be trimmed/ removed)	Consultation with affected parties – once in a quarter	Contractor	Prior to construction phase
			Statutory approvals for tree trimming /removal	Compliance with regulations – once for each subproject	Contractor	Part of detailed setting and alignment survey/ design

Noise related	Nuisance to neighboring properties	Substations sited and designed to ensure noise will not be a nuisance	Noise levels	Noise levels to be as per standards	Contractor	Part of detailed equipment design
Interference with drainage patterns/ irrigation channels/ rivers	Flooding hazards/loss of agricultural production	Appropriate setting of towers to avoid channel interference/low laying areas	Tower location and line alignment selection (distance to nearest flood zone)	Consultation with local authorities and design engineers	Contractor, Employer	Part of detailed alignment survey and design
B. Construction						
Equipment layout and installation	Noise and vibrations	Construction techniques and machinery selection seeking to minimize ground disturbance	Construction techniques and machinery	Construction techniques and machinery creating minimal ground disturbance - once at the start of each construction phase	Employer (Contractor through contract provisions)	Construction period
Physical construction	Disturbed farming activity	Construction activities on cropping land timed to avoid disturbance of field crops (within one month of harvest wherever possible)	Timing of start of construction	Crop disturbance –Post harvest as soon as possible but before next crop - once per site	Employer (Contractor through contract provisions)	Construction period
Mechanized construction	Noise, vibration and operator safety, efficient operation	Construction equipment to be well maintained.	Construction equipment – estimated noise emissions	Complaints received by local authorities – every 2 weeks	Employer (Contractor through contract provisions)	Construction period
	Noise, vibration, equipment wear and fear	Turning off plant not in use	Construction equipment – estimated noise emissions and operating schedules	Complaints received by local authorities – every 2 weeks	Employer (Contractor through contract provisions)	Construction period
Construction of roads for accessibility	Increase in airborne dust particles	Existing roads and tracks used for construction and maintenance access to the line wherever possible	Access roads, routes (length and width of new access roads to be constructed)	Use of established roads wherever possible – every 2 weeks	(Contractor through contract provisions)	Construction period
	Increased land requirement for temporary accessibility	New access ways restricted to a single carriageway width within the ROW	Access width (meters)	Access restricted to single carriageway width within ROW – every 2 weeks	(Contractor through contract provisions)	Construction period

Temporary blockage of utilities	Overflows, reduced discharge	Temporary placement of fill in drains/canals not permitted.	Temporary fill placement (m3)	Absence of fill in sensitive drainage areas - every 4 weeks	(Contractor through contract provisions)	Construction period
Site clearance	Vegetation	Marking of vegetation to be removed prior to clearance and strict control on clearing activities to ensure minimal clearance	Vegetation marking and clearance control (area in m2)	Clearance strictly limited to target vegetation - every 2 weeks	(Contractor through contract provisions)	Construction period
Trimming/cutting of trees within ROW	Fire hazards	Trees allowed growing up to a height within the ROW by maintaining adequate clearance between the top of tree and the conductor as per the regulations.	Species-specific tree retention as approved by statutory authorities (average and maximum tree height at maturity, in meters)	Presence of target species in ROW following vegetation clearance - once per site	(Contractor through contract provisions)	Construction period
	Loss of vegetation and deforestation	Trees that can survive pruning to comply should be pruned instead of cleared.	Species-specific tree retention as approved by statutory authorities	Presence of target species in ROW following vegetation clearance - once per site	(Contractor through contract provisions)	Construction period
		Felled trees and other cleared or pruned vegetation to be disposed of as authorized by the statutory bodies	Disposal of cleared vegetation as approved by the statutory authorities (area cleared in m2)	Use or intended use of vegetation as approved by the statutory authorities - once per site	(Contractor through contract provisions)	Construction period
Wood/vegetation harvesting	Loss of vegetation and deforestation	Construction workers prohibited from harvesting wood in the project area during their employment, (apart from locally employed staff continuing current legal activities)	Illegal wood/vegetation harvesting (area in m2, number of incidents reported)	Complaints by local people or other evidence of illegal harvesting - every 2 weeks	(Contractor through contract provisions)	Construction period
Surplus earthwork/soil	Runoff to cause water pollution, solid waste disposal	Soil excavated from tower footings disposed of by placement along roadsides, or at nearby house blocks if requested by landowners.	Soil disposal locations and volume (m3)	Acceptable soil disposal sites - every 2 weeks	(Contractor through contract provisions)	Construction period

Site clearance	Vegetation	Tree clearances for easement establishment to only involve cutting trees off at ground level or pruning as appropriate, with tree stumps and roots left in place and ground cover left undisturbed.	Ground disturbance during vegetation clearance (area, m2)	Amount of ground disturbance - every 4 weeks	(Contractor through contract provisions)	Construction period
			Statutory approvals	Statutory approvals for tree clearances - once for each site	(Contractor through contract provisions)	Construction period
Tower construction - disposal of surplus earthwork/ fill	Waste disposal	Excess fill from tower foundation excavation disposed of next to roads or around houses, in agreement with the local community or landowners.	Location and amount (m3) of fill disposal	Appropriate fill disposal locations - every 2 weeks	(Contractor through contract provisions)	Construction period
Tower construction - Biodiversity Conservation	Loss of avifauna and primates and civets, etc.	Anti Climbing Device, Bird Guards, Bird flappers / diverters.	Monitoring during bird migration and movement of primate or civet groups.	Seasonal monitoring	(Contractor through contract provisions)	Construction period
Storage of chemicals and materials	Contamination of receptors (land, water, air)	Fuel and other hazardous materials securely stored above high flood level	Location of hazardous material storage, spill reports (type of material spilled, amount (kg or m3) and action taken to control and clean up spill)	Fuel storage in appropriate locations and receptacles - every 2 weeks	(Contractor through contract provisions)	Construction period
Construction schedules	Noise nuisance to neighboring properties.	Construction activities only undertaken during the day and local communities informed of the construction schedule.	Timing of construction (noise emissions, (dB(A)))	Daytime construction only - every 2 weeks	(Contractor through contract provisions)	Construction period
Provision of facilities for construction workers	Contamination of receptors (land, water, air)	Construction workforce facilities to include proper sanitation, water supply and waste disposal facilities.	Amenities for Workforce facilities	Presence of proper sanitation, water supply and waste disposal facilities - once each new facility	(Contractor through contract provisions)	Construction period

Encroachment into farmland	Loss of agricultural productivity	Use existing access roads wherever possible	Usage of existing utilities	-	(Contractor through contract provisions)	Construction period
		Ensure existing irrigation facilities are maintained in working condition	Status of existing facilities	Complaints received by local people/authorities – every 4 weeks	(Contractor through contract provisions)	Construction period
		Protect/preserve topsoil and reinstate after construction completed	Status of facilities (earthwork in m3)	-	(Contractor through contract provisions)	Construction period
		Repair/reinstate damaged bunds etc. after construction completed	Status of facilities (earthwork in m3)	-	(Contractor through contract provisions)	Construction period
	Social inequities	Compensation for temporary loss in agricultural production	Implementation of Crop compensation (amount paid, dates, etc.)	Consultation with affected parties – once in a quarter	Contractor, Employer	Construction period
Uncontrolled erosion/silt runoff	Soil loss, downstream siltation	Need for access tracks minimised, use of existing roads.	Design basis and construction procedures (suspended solids in receiving waters: area re-vegetated in m2; amount of bunds constructed (length in meter, area in m2, or volume in m3))	Incorporating good design and construction management practices – once for each site	(Contractor through contract provisions)	Construction period
		Limit site clearing to work areas	-	-	(Contractor through contract provisions)	Construction period
		Regeneration of vegetation to stabilise works areas on completion (where applicable)	-	-	(Contractor through contract provisions)	Construction period
		Avoidance of excavation in wet season	-	-	(Contractor through contract provisions)	Construction period

		Water courses protected from siltation through use of bunds and sediment ponds	-	-	(Contractor through contract provisions)	Construction period
Nuisance to nearby properties	Losses to neighboring land uses/ values	Contract clauses specifying careful construction practices.	Contract clauses	Incorporating good construction management practices – once for each site	(Contractor through contract provisions)	Construction period
		As much as possible existing access ways will be used.	Design basis and layout	Incorporating good design engineering practices – once for each site	(Contractor through contract provisions)	Construction period
		Productive land will be reinstated following completion of construction	Reinstatement of land status (area affected, m2)	Consultation with affected parties – twice – immediately after completion of construction and after the first harvest	(Contractor through contract provisions)	Construction period
	Social inequities	Compensation will be paid for loss of production, if any.	Implementation of Tree/Crop compensation (amount paid)	Consultation with affected parties – once in a quarter	(Contractor through contract provisions)	Prior to construction
Inadequate setting of borrow areas	Loss of land values	Existing borrow sites will be used to source aggregates, therefore, no need to develop new sources of aggregates.	Contract clauses	Incorporating good construction management practices – once for each site	(Contractor through contract provisions)	Construction period
Health and safety	Injury and sickness of workers and members of the public	Contract provisions specifying minimum requirements for construction camps will all facilities for construction workers (specially cooking, living & sanitary facility, first Aid)	Contract clauses (number of incidents and total lost-work days caused by injuries and sickness)	Contract clauses compliance – once every quarter	(Contractor through contract provisions)	Construction period

		Contractor to prepare and implement a health and safety plan, COVID SOP to be prepared & after approval from Employer to be implemented & reported.	Monitor as per Government guidelines	Quarterly	(Contractor through contract provisions)	Construction period
		Contractor to arrange for health and safety training sessions. Monthly health check up for workers. AIDS/HIV awareness for the staff & workers.	Reports	Quarterly	(Contractor through contract provisions)	Construction period
Inadequate construction stage monitoring	Likely to Maximize damages	Training by EMPLOYER environmental monitoring personnel	Training schedules	Number of programs attended by each person – once a year	Contractor, Employer	Routinely throughout construction period
		Implementation of effective environmental monitoring and reporting system using checklist of all contractual environmental requirements Appropriate contract clauses to ensure satisfactory implementation of contractual environmental mitigation measures.	Respective contract checklists and remedial actions taken thereof. Compliance report related to environmental aspects for the contract	Submission of duly completed checklists of all contracts for each site Submission of duly completed compliance report for each contract	(Contractor through contract provisions) (Contractor through contract provisions)	Construction period Construction period
C. Operation and Maintenance						
Location of transmission towers and transmission line alignment and design	Exposure to safety related risks	Setback of dwellings to overhead line route designed in accordance with permitted level of power frequency and the regulation of supervision at sites.	Compliance with setback distances (‘as-built’ diagrams)	Setback distances to nearest houses – once in quarter	Employer	During operations

Inadequate provision of staff/workers health and safety during operations	Injury and sickness of staff /workers	Careful design using appropriate technologies to 124minimize hazards	Usage of appropriate technologies (lost work days due to illness and injuries)	Preparedness level for using these technologies in crisis – once each year	(Contractor through contract provisions), Employer	Design and operation
		Safety awareness raising for staff	Training/awareness programs and mock drills	Number of programs and percent of staff /workers covered – once each year	(Contractor through contract provisions), Employer	Operation
		Preparation of fire emergency action plan and training given to staff on implementing emergency action plan.	Training/awareness programs and mock drills	Number of programs and percent of staff /workers covered – once each year	(Contractor through contract provisions), Employer	Operation
Electric Shock Hazards	Injury/ mortality to staff and public	Provide adequate sanitation and water supply facilities	Provision of facilities	Complaints received from staff /workers every 2 weeks	(Contractor through contract provisions), Employer	Operation
		Careful design using appropriate technologies to 124minimize hazards	Usage of appropriate technologies (number of injury incidents, lost work days)	Preparedness level for using these technologies in crisis – once a month	(Contractor through contract provisions), Employer	Design and operation
		Security fences around substations	Maintenance of fences	Report on maintenance – every 2 weeks	Employer	Operation
		Barriers to prevent climbing on/ dismantling of transmission towers	Maintenance of barriers		(Contractor through contract provisions), Employer	Operation
		Appropriate warning signs on facilities	Maintenance of warning signs	Report on maintenance – every 2 weeks	(Contractor through contract provisions),	Operation

		Electricity safety awareness raising in project areas	Training /awareness programs and mock drills for all concerned parties	Number of programs and percent of total persons covered – once each year	(Contractor through contract provisions), Employer	Operation
Operations and maintenance staff skills less than acceptable	Unnecessary environmental losses of various types	Adequate training in O&M to all relevant staff of substations and transmission line maintenance crews	Training/awareness programs and mock drills for all relevant staff	Number of programs and percent of staff covered – once each year	Employer	Operation
		Preparation and training in the use of O&M manuals and standard operating practices.	-	-	(Contractor through contract provisions), Employer	Operation
Periodic environmental monitoring	Diminished ecological and social values	Power Grid staff to receive training in environmental monitoring of project operations and maintenance activities	Training/awareness programs and mock drills for all relevant staff	Number of programs and percent of staff covered – once each year	Employer	Operation
Equipment specifications and design parameters	Release of chemicals and gases in receptors (air, water, land)	Processes, equipment and systems using Chlorofluorocarbons (CFCs) including halon, should be phased out and to be disposed of in a manner consistent with the requirements of the Government.	Process, equipment and system design	Phase out schedule to be prepared in case still in use – once in a quarter	Employer	Operation
Transmission line maintenance	Exposure to electromagnetic interference	Transmission line design to comply with the limits of electromagnetic interference from overhead power lines Follow IFC EHS guidelines and International Commission on Non-ionizing Radiation Protection Guidelines for Electric Power Transmission and Distribution.	Required ground clearance (meters)	Ground clearance – once	(Contractor through contract provisions for O.P.), Employer	Operation

Noise related	Nuisance to Neighboring properties	Substations sited and designed to ensure noise will not be a nuisance	Noise levels (dB(A))	Noise levels at boundary nearest to properties and consultation with affected parties if any	Employer	Operation
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- Reporting - 1) Contractor to submit Quarterly, Environment Report prepared by Environment officer of the Contractor to the Employer.
2) Contractor to submit Quarterly health & safety report prepared by Safety Officer of the Contractor to the Employer.
3) Minor Minerals to be procured from the authorized agencies / suppliers (Govt approved) having all the necessary statutory clearances.

Table 2: Environmental Monitoring Plan

Environmental Features / Stage	Parameters and Standards	Location	Frequency	Duration	Action Plan in case criteria exceeds the standards	Responsible party	
						Implementation	Supervision
Air Quality and Noise Levels							
Pre-construction Stage	<ul style="list-style-type: none"> PM₁₀, PM_{2.5}, SO₂, NOx, CO, HC Leq - Noise levels day time and noise time on dB (A) scale (GoI and IFC Standards) 	<ul style="list-style-type: none"> At major construction sites as suggested by Employer for regular monitoring At sensitive receptor locations One sampling site per 10 km 	Once prior to start of construction	Continuous 24 hours/ or for 1 full working day twice in a week.	Review adequacy of measures proposed in EMP.	Contractor	Employer
Construction Stage	<ul style="list-style-type: none"> PM₁₀, PM_{2.5}, SO₂, NOx, CO, HC Leq - Noise levels on dB (A) scale (GoI and IFC Standards) 	<ul style="list-style-type: none"> At major construction sites as suggested by Employer for regular monitoring At sensitive receptor locations suggested by Employer One sampling site per 10 km 	Once in a season excluding monsoon for entire duration of construction	Continuous 24 hours/ or for 1 full working day - twice in a week.	Provide additional noise barriers if required	Contractor	Employer
Operational Stage	<ul style="list-style-type: none"> PM₁₀, PM_{2.5}, SO₂, NOx, CO, HC Leq - Noise levels on dB (A) scale (GoI and IFC Standards) 	<ul style="list-style-type: none"> At sensitive receptor locations suggested by Employer 	Quarterly for 2 years	Continuous 24 hours/ or for 1 full working day - Once in a week	Check and provide suitable measures	Contractor (During DLP)	Employer
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)	<ul style="list-style-type: none"> At identified water bodies locations At identified water bodies locations (wells and other ground water sources in project area) suggested by Employer 	Once prior to start of construction	-	Check and modify petrol interceptors, Silt fencing devices.	Contractor	Employer

Environmental Features / Stage	Parameters and Standards	Location	Frequency	Duration	Action Plan in case criteria exceeds the standards	Responsible party	
						Implementation	Supervision
		<ul style="list-style-type: none"> 6 sites 					
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)	<ul style="list-style-type: none"> At identified water bodies locations 6 sites 	Once in a season		Check and modify petrol interceptors, Silt fencing devices.	Contractor	Employer
	pH, Temperature, Conductivity, TSS, TDS, Alkalinity, Total Hardness, Calcium, Magnesium Chloride, Phosphate, Sulphate, Nitrate, Iron, heavy metals, (Ground Quality Standards by CPSB)	<ul style="list-style-type: none"> At identified water bodies locations (wells and other ground water sources in project area) 6 sites 	Once in a season		Check and modify petrol interceptors, Silt fencing devices.	Contractor	Employer
	pH, BOD, COD, TSS, TDS (Effluent Quality Standards by CPSB)	AT STP locations (Before and after treatment from each STP) to the Lagoon Camp	Monthly		Check and modify petrol interceptors, Silt fencing devices, adjust STP mechanism.	Contractor	Employer
Operation Stage	pH, Temperature, DO, Oil & Grease, Conductivity, TSS, TDS, Alkalinity, Total Hardness, Calcium, Magnesium Chloride, Phosphate, Sulphate, Nitrate, COD, BOD, Iron, Total Coliform, Faecal Coliform, Salinity (Surface Quality Standards by CPSB)	<ul style="list-style-type: none"> At identified water bodies locations 6 sites 	Once in a season Excluding monsoon for 2 years		Check and modify petrol interceptors, Silt fencing devices. Check and repair STW if required.	Contractor (during DLP)	Employer
	pH, Temperature, Conductivity, TSS, TDS, Alkalinity, Total Hardness, Calcium, Magnesium Chloride, Phosphate, Sulphate, Nitrate, Iron, (Ground Quality Standards by CPSB)	<ul style="list-style-type: none"> At identified water bodies locations 6 sites 	Once in a season Excluding monsoon for 2 years		Check and modify petrol interceptors, Silt fencing devices.	Contractor (during DLP)	Employer
	pH, BOD, COD, TSS, TDS (Effluent Quality Standards by CPSB)	AT STP locations (Before and after treatment from each	Monthly		Check and modify petrol interceptors, Silt fencing	Contractor (during DLP)	Employer

Environmental Features / Stage	Parameters and Standards	Location	Frequency	Duration	Action Plan in case criteria exceeds the standards	Responsible party	
						Implementation	Supervision
		STP)			devices; adjust STP mechanisms		
Health and Safety							
Construction	Monitor and report health and safety incidents	All construction sites	Continuous	-	Follow LMP provisions and take actions as per IFC EHS Guidelines	Contractor	Employer
Operation	Monitor and report health and safety incidents	All project facilities	Continuous	-	Follow and take actions as per IFC EHS Guidelines	Employer	Employer

Annexure 11 : Compliances of the conditions of the permits and clearances

Compliance of CTE / CTO from PCBA

Compliance of CTE of Crusher Plant		
	No. WB/SLC/T-1184/21-22/06/1165 dated 22/10/21	Remarks
1	Gaseous pollution due to burning of fuel to run engine, boiler, etc should be controlled by adopting preventive measures adequately.	Electrically operated engine is used.
2	Solid waste that arises during the operation should be properly segregated and disposed of scientifically without causing nuisance.	Complied
3	Fire warning (Alarm, Siren) is to be installed by the unit to guard against accidental pollution / mishap together with fire fighting devises.	Complied
4	All pipe connections joints, fittings etc in the factory and plant are to be frequently checked and shall be leak proof all the time.	Complied
5	All unwanted Toxic Chemical/ Fluid / Gases are to be neutralized before releasing to the ambient air / flaring up as required.	Complied
6	Production process is to be monitored and in the event of danger immediate shut down is to be ensured by the industry.	Complied
7	Healthy working environment for the worker must be maintained and there should not be health Hazard to the workers for inadequate arrangement for ventilation, dust removal to arrangements should be adequate and full proof for the health of the workers. Their health should be regularly monitored.	Complied
8	The CTE does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse except of the works specially instructed herein.	Complied
9	All steps are to taken by the industry to control the dust so that the dust so that it does not go outside the factory.	Being Complied
10	The industry is to fully enclose the screening machine dust extraction from close to unit.	Being Complied
11	The industry is to provide dust extraction arrangement at all transfer points.	Complied
12	The industry is to make water spraying arrangement for the finer product.	Complied
13	The industry will always keep it wet the finer product.	Complied
14	Necessary steps are to be made to minimize noise.	Complied
15	The screening unit should strictly follow the following standards for suspended particulates matter.	Complied

	<p>The following pollution control measures are to be implemented.</p> <ol style="list-style-type: none"> Dust containment cum suppression system for the equipment's. Construction of wind breaking walls. Construction of metalled roads within the premises. Regular cleaning and wetting of ground within the premises. Growing of green belt along the periphery. 	
Compliance of CTO of Crusher Plant		
No. WB/SLC/T-1184/21-22/09/1152 dated 7/12/21		
1	.. The CTO will automatically become invalid if there is any changes, modifications, alteration, expansion or deviation is made in actual practice.	Agreed
2	The CTO is Valid for a period up to 31.03.2025 unless otherwise suspended or revoked.	Agreed
3	<p>The CTO may be modified, suspended or revoked by the Borad in whole or in part during its term for cause including, but not limited to the following :-</p> <ol style="list-style-type: none"> Violation of the Terms and Conditions of this CTO; Obtaining the CTO by misinterpretation or failure to disclose fully all relevant facts; A change in any condition that require temporary or permanent reduction or elimination of the authorised discharge / emission. 	Agreed
4	The CTO does not authorize any addition, alteration, modification, modernization of processor products without prior permission of the Board.	Agreed
5	Proper housekeeping shall be maintained within unit premises.	Complied
6	The project proponent must develop a green belt / plantation area with native trees covering atleast 33% of the total plot area to develop Green Belt and Carbon sink.	Complied (Existing area of 33% Green cover around the Plat is maintained)
7	The project authority should install a Display Board as per the Boards notification no PCBA/LGL-95/2021/Notification/01 dated 11.11.2021. (Copy enclosed as Appendix -A).	Complied
8	As per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 as amended and Air Prevention and Control of Pollution) Act, 1981 as amended that any Officer empowered by the Board on its behalf shall have without interruption, the right and any time to enter the unit premises for inspection, collection of sample for analysis and may call for any information as deemed necessary.	Agreed

	Denial of this right will cause withdrawal if the Consent order.																					
9	The unit shall apply for renewal atleast ninety (90) Days before expiry of this CTO.	Agreed																				
	Specific Conditions :																					
10	DG sets The unit shall comply with the standards and guidelines for control of noise pollution from stationary Diesel Generator (DG) set as attached in Appendix-B.	Complied																				
11	The industry shall take adequate measures for control of noise from its own source so as to comply with the Standards below : <table border="0" style="margin-left: 40px;"> <tr> <td>Category of Area</td> <td>Limit in dB(A) Leq.</td> </tr> <tr> <td></td> <td>Day time (6:00 AM to 9:00 PM)</td> </tr> <tr> <td></td> <td>Night Time (9:00 PM to 6:00 AM)</td> </tr> <tr> <td>Industrial area</td> <td>75 70</td> </tr> </table>	Category of Area	Limit in dB(A) Leq.		Day time (6:00 AM to 9:00 PM)		Night Time (9:00 PM to 6:00 AM)	Industrial area	75 70	Complied												
Category of Area	Limit in dB(A) Leq.																					
	Day time (6:00 AM to 9:00 PM)																					
	Night Time (9:00 PM to 6:00 AM)																					
Industrial area	75 70																					
12	The Industry must comply with the National Ambient Air Quality Standards as prescribed vide Notification No. B-29016/20/90/PCI-I dtd. 18.11.2009 especially with reference to PM _{2.5} & PM ₁₀ as follows : <table border="0" style="margin-left: 40px;"> <tr> <td>Sl. No.</td> <td>Pollutant</td> <td>Time Weighted Average</td> <td colspan="2">Concentration in Ambient Air Industrial, Residential, Rural and Other area Ecologically sensitive area (Notified by Central Government)</td> </tr> <tr> <td>1</td> <td>Particulate matter (size less than 10 µg)</td> <td>Annual 24 hours</td> <td>60 100</td> <td>60 100</td> </tr> <tr> <td></td> <td>or PM₁₀µg/m³</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>Particulate matter (size less than 2.5 µg) or PM_{2.5}µg/m³</td> <td>Annual 24 hours</td> <td>40 60</td> <td>40 60</td> </tr> </table>	Sl. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air Industrial, Residential, Rural and Other area Ecologically sensitive area (Notified by Central Government)		1	Particulate matter (size less than 10 µg)	Annual 24 hours	60 100	60 100		or PM ₁₀ µg/m ³				2	Particulate matter (size less than 2.5 µg) or PM _{2.5} µg/m ³	Annual 24 hours	40 60	40 60	Complied
Sl. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air Industrial, Residential, Rural and Other area Ecologically sensitive area (Notified by Central Government)																			
1	Particulate matter (size less than 10 µg)	Annual 24 hours	60 100	60 100																		
	or PM ₁₀ µg/m ³																					
2	Particulate matter (size less than 2.5 µg) or PM _{2.5} µg/m ³	Annual 24 hours	40 60	40 60																		
13	The unit shall comply with the air quality standard of Stone crusher as follows : <table border="0" style="margin-left: 40px;"> <tr> <td>SL No</td> <td>Pollutant</td> <td>Standards</td> </tr> <tr> <td>1</td> <td>Suspended Particulate Matter</td> <td>The suspended particulate matter measured between 3 meters and 10 meters from any process equipment of a stone crushing unit shall not</td> </tr> </table>	SL No	Pollutant	Standards	1	Suspended Particulate Matter	The suspended particulate matter measured between 3 meters and 10 meters from any process equipment of a stone crushing unit shall not	Complied														
SL No	Pollutant	Standards																				
1	Suspended Particulate Matter	The suspended particulate matter measured between 3 meters and 10 meters from any process equipment of a stone crushing unit shall not																				

	exceed 600 micrograms per cubic meter.	
	Hazardous waste aspect	
1	The unit shall apply for authorization under the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016.	Agreed and complied
2	Appropriate facility should be created for handling, storage, treatment & disposal of Hazardous waste generated from the industry such as spent oil, waste oil etc. in accordance with the provisions of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 including Notifications, Guidelines issued there under;	Complied
3	The unit should submit the annual return under the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 in the Form IV within 30 th June every year., E Waste Management Rules, 2016 in the Form - III within 30 th June every year and Plastic Waste Management Rules, 2016 within 30 th June every year.	Agreed
	The unit shall submit compliance report of the mandated conditions by April 15 of every year to Member Secretary, PCBA as well as to concerned Regional Office of the Board. The Board will have the liberty to withdraw the CTO if adequate pollution control and safety measures are not taken.	Agreed



Environmental Monitoring Report

PUBLIC

Semestral Report: January 2022 – June 2022
February 2024

India: Assam Power Sector Investment Program - Tranche 3

Part 2 of 2: Annexure 11 (continued) and Annexures 12 – 30 and Validation report

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

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. Your attention is directed to the “terms of use” section of ADB's website.

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Asian Development Bank

Annexure 12 : Copy of the CTE for Batching Plan (Dam)



Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
(Department of Environment & Forests :: Government of Assam)
Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
Website: www.pcbassam.org



No. WB/SLC/T-1191/21-22/24

Dated Guwahati, the 27th June, 2022

"CONSENT TO ESTABLISH"

"CONSENT TO ESTABLISH" (CTE) under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 as amended and Rules Framed thereunder is granted to:

- i) Name of Industry : M/s Larsen & Toubro Ltd. (Batching Plant)
- ii) Name of the Occupier / Applicant and Designation : Santanu Majumder, Project Manager
- iii) Address of the unit : Lower Kopili Hydro Electric Power Project, Vill: Longku, P.O. Umrangso, Dist. Dima Hasao, Assam-788931.
- iv) Cost of the project : Rs. 744.69 Lakhs.
- v) Details of the project & category : Batching Plant (Green Category)

Sl. No.	Product	Capacity
1.	Cement Concrete	200000 m ³ annum

General Conditions:

1. The Consent to Establish (CTE) has been accorded based on the particulars furnished by the applicant vide **Application ID: 1278389** and subject to addition of further or more conditions if so warranted by subsequent developments. The CTE will automatically become invalid, if there is any changes, modification, alteration, expansion or deviation made in actual practice.
2. "CONSENT TO ESTABLISH" will be valid till the date of commissioning of the unit or seven (7) years whichever is earlier.
3. The CTE may be modified, suspended in whole or in part or withdrawn by the Board during its term for cause including, but not limited to the following:-
 - a) Violation of any Terms and Conditions of this CTE;
 - b) Obtaining the CTE by misrepresentation or failure to disclose fully all relevant facts;
 - c) If any genuine complaint received;
4. The unit shall obtain prior 'Consent to Establish' from the Board for any expansion, alteration, modification of the project.
5. **The project proponent must develop a greenbelt/plantation area with native trees covering atleast 33% of the total plot area.**
6. **The project authority should install a Display Board as per the Boards notification No. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021 (Annexure-A).**
7. As per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 as amended and the Air (Prevention and Control of Pollution) Act, 1981, as amended, any Officer, empowered by the Board on its behalf shall have without interruption, the right at any reasonable time to enter the unit for inspection, collection of sample for analysis and may call for any information as deemed necessary. Denial of this right will cause withdrawal of the Consent Order.

(Signature)

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8. Proper housekeeping shall be maintained. Burning of any waste inside the unit premises is strictly prohibited.
9. The project authority shall not operate the unit before obtaining "Consent to Operate" from the Board.

Specific Conditions:

A) Air Aspects:

1. The industry shall install the screening machine, with proper enclosure and dust extraction and treatment mechanism.
2. The following air pollution control measures shall be implemented by the project authority to control source emission and fugitive emission;
 - a. Dust containment cum suppression system at Raw Material Feed Hopper, all material transfer & dropping points.
 - b. Construction of the metallic roads within the premises.
 - c. Regular cleaning and wetting of ground within the premises.
3. The industry shall comply with the Noise Level Standard notified by MoEF&CC, Govt. of India, vide GSR.7: dtd: 22/12/1998 as mentioned below;

Limit in dB (A) Leq	
Day Time (6:00AM-10:00PM)	Night Time (10:00PM-6:00AM)
75	70

4. The Ambient Air Quality within the Plant premises shall be maintained within the National Ambient Air Quality Standards as notified by MoEF&CC, Govt. of India, vide G.S.R.826(E) dtd.18.11.2009, especially w.r.t. PM_{2.5} & PM₁₀ as mentioned herein under:

Sl. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area (notified by Central Government)
1.	Particulate Matter (size less than 10µg) or PM ₁₀ (µg/m ³)	Annual*	60	60
		24 hours**	100	100
2.	Particulate Matter (size less than 2.5µg) or PM _{2.5} (µg/m ³)	Annual*	40	40
		24 hours**	60	60

B) Water Aspects:

1. Source of Water : Surface water
2. i) Water consumption : 200.0 KLD
- ii) Effluent generation : Nil KLD
- iii) Effluent recycled : Nil
- iv) NOC from CGWA : Not obtained
- v) Capacity of ETP : No ETP
3. Exemption NOC/Permission of the Central Ground Water Authority shall be obtained for extraction of Ground Water, if applicable.
4. Storm Water Aspect:
 - a) Storm water shall not be allowed to mix with effluent and/or floor washings.
 - b) Storm water within the battery limits of the unit shall be channelized through separate drain/pipe passing through an Oil & Grease Trap cum Sedimentation Tank.

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- c) Storm water discharge shall meet with general effluent discharge parameters standard notified by MoEF & CC, GOI vide G.S.R.422 (E); dated 31.12.1993 (Appendix - B).
5. Rain water harvesting facility shall be installed and maintained.

C) Solid Waste Aspects:

1. Adequate facility should be created for collection, storage, transportation, treatment & disposal of non-hazardous industrial solid waste generated from the Industry.
2. Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste materials.
3. The unit shall strictly comply with all the provisions of the **Solid Waste Management Rules, 2016**.

D) Plastic Waste Aspects:

1. Plastic waste generated in the unit shall be disposed of scientifically as per the provisions of the Plastic Waste Management Rules, 2016.
2. The unit shall submit a report on generation and disposal of Plastic Wastes within June every year.

E) E-Waste Aspects:

1. Electronic wastes generated in the unit shall be disposed of as per the provisions of **E-Waste Management Rules, 2016**.
2. The unit shall submit the Annual Report in the Form-III within 30th June every year.

F) Hazardous Waste Aspects:

1. Authorization under Hazardous & Other Wastes (Management & Trans-boundary Movement) Rules, 2016 shall be obtained from the Pollution Control Board, Assam.
2. The project authorities shall comply with the provisions of the said Rules.
3. Adequate facility shall be provided for collection and storage of used/spent oil, which shall be sent to registered recyclers for recycling.
4. The unit shall dispose of any other Hazardous Waste generated by the unit as per the provisions of the Rules.
5. The unit shall identify and quantify all streams of Hazardous Waste generation as per Schedule-I and maintain proper record in Form-III of the said Rules.
6. The unit should submit annual return in Form-IV under the said rules on or before 30th June every year.

The unit shall submit compliance report of the mandated conditions of this CTE by April 15, every year to the Member Secretary, PCBA as well as to Regional Office, Sibschar. The Board will have the liberty to withdraw the CTE if adequate pollution control and safety measures are not taken.

Sd/-
(Shantanu Kr. Dutta)
Member Secretary

Dated Guwahati, the 25th June, 2022

Memo No. WB/SIC/T-1191/21-22/24 -A
Copy to: *SLC*

- ✓ 1. M/s Larsen & Toubro Ltd. (Batching Plant), Lower Kopili Hydro Electric Power Project, Vill: Longku, P.O. Umrangso, Dist. Dima Hasao, Assam-788931 - for information & compliance of conditions.

SLC
(Shantanu Kr. Dutta)
Member Secretary



Annexure - 'A'



**Pollution Control Board, Assam
Bamunimaidam, Guwahati-21**

NOTIFICATION

No. PCBA/LGL-95/2021/Notification/01

Dated Guwahati, the 11th Nov, 2021

In exercise of the powers conferred under Section-5 of the Environment (Protection) Act, 1986 as amended till date and keeping in view the need of public interest towards dissemination of vital information regarding Consent/Authorization of this Board, all industries are hereby directed to install a Display Board of minimum size 5'x4', near the main entrance gate.

The format of the display board is given below:

Name and Address of the Unit : M/s.	
Type of Consent/Authorization	
Details	
Consent to Establish (CTE)	No.: Date of issue:
Consent to Operate (CTO)	No.: Date of validity:
Authorization under Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016 (if applicable)	No.: Date of Issue: Date of validity:

Member Secretary

Memo No. PCBA/LGL-95/2021/Notification/01-A

Dated Guwahati, the 11th Nov, 2021

Copy to:

1. The Commissioner & Secretary to the Govt. of Assam, Department of Environment & Forest, Dispur for kind information.
2. P.A. to the Chairman, PCBA for kind appraisal of the Hon'ble Chairman.
3. The All Regional Heads, PCBA for information & necessary action.
4. M/S APS Advertising Pvt. Ltd, Guwahati-1. They are requested to publish the "NOTICE" in "the Assam Tribune" and "Dainandini Barta" on 12.11.2021.
5. Notice Board, Head Office / Website (www.pcbassam.org), PCBA.

Member Secretary

Annexure 13. CTO for Crusher and 4 DG sets



Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
 (Department of Environment & Forests :: Government of Assam)
 Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
 Website: www.pcbassam.org



No. WB/SLC/T-1184/21-22/09

Dated Guwahati, the 07/12/2021

“CONSENT TO OPERATE”

“CONSENT TO OPERATE” (CTO) under Section 21 of Air (Prevention and Control of Pollution) Act, 1981 as amended is granted to:-

- | | |
|--------------------------|--|
| i) Name of Industry | :M/s Larsen & Toubro Ltd |
| ii) Name of the Occupier | :Shri SANTANU MAJUMDAR, PROJECT MANAGER |
| iii) Address of Industry | :Vill-Totelangso, P.O.: Umrangso, Dist: Dima Hasao, PIN: 788931, Assam |
| iv) Project cost | 47.0 (In Lakhs) |
| v) Validity | 31-03-2025 |

Sl No.	Number / Type of Crusher	Capacity
1	Jaw Crusher-Primary	200 TPH
2	Jaw Crusher-Secondary	200 TPH

Sl No.	Product	Quantity/ Capacity
1	Stone Aggregate	33378 MT/Month
2	<u>By product:</u>	
	1.Quarry Wastage	5006 MT/Month
	2. Micro Fines	3337 MT/Month.

- | | |
|------------|---|
| vi) DG Set | 4 nos. of capacity – 40 KVA, 125 KVA, 180 KVA & 250 KVA |
|------------|---|

TERMS AND CONDITIONS:

- This CTO has been accorded based on the particulars furnished by the applicant vide Application ID 810264 and subject to addition of further more conditions if so warranted by subsequent developments. The CTO will automatically become invalid if there is any changes, modification, alteration, expansion or deviation is made in actual practice.
- The CTO is valid for a period up to 31.03.2025 unless otherwise suspended or revoked.
- The CTO may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to the following:-
 - Violation of any Terms and Conditions of this CTO;
 - Obtaining the CTO by misrepresentation or failure to disclose fully all relevant facts;
 - A change in any condition that require temporary or permanent reduction or elimination of the authorized discharge/emission;
- The CTO does not authorize any addition, alteration, modification, modernization of processor products without prior permission of the Board.
- Proper housekeeping shall be maintained within unit premises.
- The project proponent must develop a greenbelt/plantation area with native trees covering atleast 33% of the total plot area to develop Green Belt and Carbon Sink.

Contd...p/2

Shri.



7. The project authority should install a Display Board as per the Board's notification no. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021. (Copy enclosed as **Appendix-A**).
As per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 as amended and Air Prevention and Control of Pollution) Act, 1981 as amended that any Officer empowered by the Board on its behalf shall have without interruption, the right at any time to enter the unit premises for inspection, collection of sample for analysis and may call for any information as deemed necessary. Denial of this right will cause withdrawal of the Consent Order.
9. The unit shall apply for renewal atleast ninety (90) before expiry of this CTO.

Specific Conditions:

10. **DG Set**

The unit shall comply with the standards and guidelines for control of noise pollution from stationary Diesel Generator (DG) set as attached in Appendix-B.

11. The industry shall take adequate measures for control of noise from its own source so as to comply with the Standards below:

Category of Area	Limit in dB(A) Leq.	
	Day Time (6:00am-9:00pm)	Night Time (9:00pm-6:00am)
Industrial area	75	70

12. The industry must comply with the National Ambient Air Quality Standards as prescribed vide Notification No. B-29016/20/90/PCI-I dtd. 18.11.2009 especially with reference to PM_{2.5} & PM₁₀ as follows:

Sl. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area (notified by Central Government)
1.	Particulate Matter (size less than 10µg) or PM ₁₀ µg/m ³	Annual*	60	60
		24 hours**	100	100
2.	Particulate Matter (size less than 2.5µg) or PM _{2.5} µg/m ³	Annual*	40	40
		24 hours**	60	60

13. The unit shall comply with the air quality standard of Stone crusher as follows:

Sl. No.	Pollutant	Standards
1.	Suspended particulate matter	The suspended particulate matter measured between 3 meters and 10 meters from any process equipment of a stone crushing unit shall not exceed 600 micrograms per cubic meter.

Hazardous Waste Aspect:

1. The unit shall apply for authorization under the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016.
2. Appropriate facility should be created for handling, storage, treatment & disposal of Hazardous waste generated from the industry such as spent oil, waste oil etc. in accordance to the provisions of the Hazardous & Other Wastes (Management & Trans Boundary Movement) Rules, 2016 including Notification, Guidelines issued there under;
3. The unit should submit the annual return under the Hazardous & Other Wastes (Management & Trans Boundary Movement) Rules, 2016 in the Form-IV within 30th June every year, E-Waste Management Rules, 2016 in the Form-III within 30th June every year and Plastic Waste Management Rules, 2016 within 30th June every year.

The unit shall submit compliance report of the mandated conditions by April 15 of every year to Member Secretary, PCBA as well as to concerned Regional Office of the Board. The Board will have the liberty to withdraw the CTO if adequate pollution control and safety measures are not taken.

//
(Shantanu Kr. Dutta)
Member Secretary

Memo No. WB/SLC/T-1184/21-22/09-A, 1/15/21
Copy to:

Dated Guwahati, the 07/12/ 2021

- ✓ 1. M/s Larsen & Toubro Ltd, Vill-Totelangso, P.O.: Umrangso, Dist: Dima Hasao, PIN: 788931, Assam for information & necessary action.
2. The General Manager, DI & CC, Dima Hasao District, Assam, for information.
3. The Executive Engineer; Regional Lab cum Office, Silchar; Pollution Control Board, Assam for information & necessary action.

शुभ
(Shantanu Kr. Dutta)
Member Secretary

Annexure 14. Minutes of 1st MDC

Minutes of the Meeting of 1st Multi Disciplinary Committee (MDC) in respect of 120 MW Lower Kopili Hydro Electric Project (LKHEP) in the districts of Dima Hasao and Karbi Anglong, Assam held on 6th May, 2022 at Conference Hall (3rd Floor), Bijulee Bhawan, Assam Power Generation Corporation Limited, Guwahati.

1. The Meeting of MDC of LKHEP was chaired by Shri. Mridul Saikia, Chief General Manager (PP&I), APGCL cum Project Director LKHEP. At the onset Chairman welcomed all the members present and briefed about the project and described the roles and responsibilities of the sectoral experts.
2. MoEF&CC has accorded Environmental Clearance vide No.J-12011/26/2012-IA-1. Dated 4th September, 2019 for the 120 MW Lower Kopili Hydro Electric Project (LKHEP).
3. After a brief power point presentation, it was highlighted that Environment Clearance stipulations and the compliance adhered so far. Details of the project components and the salient features of the project along with the possible impact and the mitigation plan suggested in the EMP of EIA were explained.
4. Dr. Pranab Bujarbaruah, raised query on direct forest dependency of the communities and the loss of forest cover. In reply to that APGCL explained the following.

The land acquisition for revenue land has been done through the RFCTLARR Act 2013 and ADB's safeguard policy SPS 2009. It covers all the possible social impacts and has been compensated accordingly. Over and above, APGCL has agreed to provide various components in local area development like (i) Educational facilities (ii) Healthcare facilities (iii) Construction of community toilets and (iv) Development of training/educational institute.

Against the loss of forest cover Compensatory Afforestation, Green Belt Development, Soil and Moisture conservation, Catchment Area Treatment and during the implementation Biodiversity Conservation Plan along with other conservation activities will be taken up to compensate the forest loss. As per Government norms the ratio is 1:1 but considering all the components of plantation it will come around 1:3 which is above the ADB's requirement 1:2 to achieve No net Loss on Biodiversity.

5. Dr. (Sri) C. Muthukumarvel, IFS, Chief Conservator of Forests & Nodal Officer (FC Act) enquired about the Status of the tree felling in the project impacted area and the status of Compensatory Afforestation. APGCL responded that all the trees felling are done through the respective Forest Divisions. Tree felling is not completed in the Karbi Anglong West division and felling of the trees in the reservoir area is remaining. Regarding Compensatory Afforestation, Addl. Principal Chief Conservator of Forest & Chief Executive Officer, CAMPA, Assam informed that initiation of plantation will be taken up in this financial year in both the divisions.
6. Mr. C. J. Saikia asked about the green belt development and requested to share the EIA report. APGCL explained about the plan for plantation and agreed to share the EIA report with all the experts through email.
7. The meeting ended with a vote of thanks from the chair.
8. The list of the participants is attached as ANNEXURE- 1.

LOWER KOPILI HYDRO ELECTRIC PROJECT 120 MW

1st Multi Disciplinary Committee Meeting

Date : 06.06.2022 Venue : APOCL, Guwahati-781001

	Name	Organization	Contact Number	Email	Signature
1	Y. SAHAI	CAITM APGCL	98640-17180	111/apm@johar.com	
2	Dr. Sanku Mohan Singh	EN (P) APGCL	9864102918	sanku.mha@gmail.com	
3	AKSHAY TALVADAR	DGM(PRES) APGCL	9435139416	akshayt13@gmail.com	
4	Dr. Anandika Singh	DGM(PTRT) O APGCL	9365339072	anandikasinghanna@gmail.com	
5	Dr. Pranshu Bhusarwar	Asst. Professor Dept. of Biology Himachal Pradesh College	9435710557	pranshubhusar@gmail.com	
6	C. Z. SAHIA	State Conservation Deptt Forest Division, Lakhimpur Assam, Assam	9435221052	cszsaia@gmail.com	
7	Deepank Kr. Boruah	Environment- Expert. APGCL	9435711352	deepankboruah007@gmail.com	

	Name	Organization	Contact Number	Email	Signature
8	Sangram Singh	APRY India Pvt Ltd	9990632704	longman.singh@apry.com	
9	Goutam L Naha	APGCL	7879924917	goutamnaha@gmail.com	
10	Haimony Jyoti Pandit	APGCL	78641-50357	haimony.pandit@gmail.com	
11	Kaushik Kr. Hazarika	APGCL	8658651918	kaushik022@gmail.com	
12	Milind Das	APGCL	9869209477	dasmilind11@gmail.com	
13	Dr. Jayanta Das	PHC, APRY	9435406466	jayanta.das@apry.com	
14	Dr. (Sri) G. Mulhankarvel, IFS	Chief Conservator of Forests & Nodal Officer (FC Act)	9435500123	gs@pccr.nodal@gmail.com	Attended virtually



Annexure 15. Changed registration numbers of the vehicle.

CERTIFICATE OF REGISTRATION
GOVERNMENT OF ASSAM

AS08A2540
Chassis No. MA1TA45JXF2E36470
No. SJF4E14265

Model SCORPIO 4WD BSIII
Mfg by MAHINDRA & MAHINDRA
Year Mfg 01/2015

Reg. Dt. 10-08-2015
No of Cyl 04
Unladen wt 001810
Seating Cap 007
Standing Cap 00
Wheelbase 000000
Body Type HARD TOP

Class Motor Car
Transf. Date
Colour BLACK
Fuel Used DIESEL
CC 002175
Vehd Upto 17-08-2030
Tax Upto 18-08-2031

Name LARSEN AND TOUBRO LTD
S/D/W of NA
120 MW LOWER KOPILI HYDRO ELECTRIC PROJECT LONGKU
PO & PS UMRANGSO Dima Hasao AS 788931

CH No. M8YBAG153PFA36262
EN No. S1E84224781

DTO
(Anun Kr. Borz)
Dima Hasao, Assam
L.A.A.18183873

CERTIFICATE OF REGISTRATION
GOVERNMENT OF ASSAM

AS08C1778
Chassis No. MA1TA45JXF2E36470
No. SJF4E14265

Model AHW1618 TP W TANKER
Mfg by ASIA BODY BUILDERS & MAF
Year Mfg 01/2015

Reg. Dt. 10-08-2015
No of Cyl 04
Unladen wt 001810
Seating Cap 007
Standing Cap 00
Wheelbase 000000
Body Type WATER TANKER

Class Dumper
Fuel Used DIESEL
Body Type WATER TANKER
Tax Upto 30-09-2023

Name & Add: LARSEN AND TOUBRO LTD,S/D/W of-NA,120
MW LOWER KOPILI HYDRO ELECTRIC PROJECT LONGKU PO &
PS UMRANGSO Dima Hasao AS 788931

CH No. M8YBAG153PFA36262
EN No. S1E84224781

Description of Weights(in kg)		Description of Tyre size	
G.V.W-	016200	Front-	1
U.L.W-	908490	Rear-	1 1
R.L.W-	7800	Other-	1 1
		Tandem	1

DTO
(Anun Kr. Borz)
Dima Hasao, Assam
L.A.A.18183873

CERTIFICATE OF REGISTRATION
GOVERNMENT OF ASSAM

AS08C1769
Chassis No. MA1TA45JXF2E36470
No. SJF4E14265

Model AMBULANCE TRAVELLER
Mfg by FORD INDIA PVT LTD
Year Mfg 02/2009

Reg. Dt. 05-02-2010
No of Cyl 04
Seating Cap 005
Standing Cap 00
CC 002596
Wheelbase 000000
Colour WHITE
Financer

Class Ambulance
Fuel Used DIESEL
Body Type FULLY BUILT AMBU
Tax Upto 30-09-2023

Name & Add: LARSEN AND TOUBRO LTD,S/D/W of-NA,120
MW LOWER KOPILI HYDRO ELECTRIC PROJECT LONGKU PO &
PS UMRANGSO Dima Hasao AS 788931

CH No. MC1E1CKAZAP000550
EN No. D18029621

Description of Weights(in kg)		Description of Tyre size	
G.V.W-	003965	Front-	1
U.L.W-	001825	Rear-	1 1
R.L.W-	2140	Other-	1 1
		Tandem	1

DTO
(Anun Kr. Borz)
Dima Hasao, Assam
L.A.A.18183873

CERTIFICATE OF REGISTRATION
GOVERNMENT OF ASSAM

AS08C1779
Chassis No. MA1TA45JXF2E36470
No. SJF4E14265

Model LP 700 BUS
Mfg by TATA MOTORS LTD
Year Mfg 01/2010

Reg. Dt. 11-07-2010
No of Cyl 04
Seating Cap 031
Standing Cap 00
CC 002395
Wheelbase 000000
Colour WHITE
Financer

Class Bus
Fuel Used DIESEL
Body Type FULLY BUILT BUS
Tax Upto 30-09-2023

Name & Add: LARSEN AND TOUBRO LTD,S/D/W of-NA,120
MW LOWER KOPILI HYDRO ELECTRIC PROJECT LONGKU PO &
PS UMRANGSO Dima Hasao AS 788931

CH No. M78865187C18708
EN No. 487TC8C27814784

Description of Weights(in kg)		Description of Tyre size	
G.V.W-	002490	Front-	1
U.L.W-	001400	Rear-	1 1
R.L.W-	1800	Other-	1 1
		Tandem	1

DTO
(Anun Kr. Borz)
Dima Hasao, Assam
L.A.A.18183873

GOVERNMENT OF NAGALAND
CERTIFICATE OF REGISTRATION

Registration No. : NL02CA0245 Reg. Date : 27/06/2014
Owner : LARSEN AND TOUBRO LTD

Address : AM ROAD NAGALAND MOKOKCHUNG
MOKOKCHUNG 798601

Chassis No. : MA1XX2GPKESC55868
Engine No. : GPE4B8909E
Manufacturer : MAM
Model : BOLERO ZLX
Colour : OTH
Veh Class : LMY
Mfg Date : 03/2014

Customer Copy

Printed On: 13-Aug-2022 08:18:58

GOVERNMENT OF ASSAM

**State Transport Department
DIMA HASAO, Assam**



RECEIPT/APPL No: AS8D220800000009/AS22080822825267
Vehicle Class: Goods Carrier
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 12-Aug-2022
Vehicle No: BP2B5038 Chassis No: MA1RY2GHKF3E29275
Regn Date: 25-Jun-2015
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	300	0	300
RC Paper Document Charge	200	0	200
GRAND TOTAL (in Rs): 500/- (FIVE HUNDRED ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 08-Aug-2022 08:09:40

GOVERNMENT OF ASSAM

**State Transport Department
DIMA HASAO, Assam**



RECEIPT/APPL No: AS8D220800000003/AS22080622701100
Vehicle Class: Goods Carrier
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 06-Aug-2022
Vehicle No: BP2B5038 Chassis No: MA1RY2GHKF3E29275
Regn Date: 25-Jun-2015
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(01-Jul-2022 to 30-Jun-2023)	8900	185	9085
GRAND TOTAL (in Rs): 9085/- (NINE THOUSAND AND EIGHTY FIVE ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 13-Aug-2022 08:21:02

GOVERNMENT OF ASSAM

**State Transport Department
DIMA HASAO, Assam**



RECEIPT/APPL No: AS8022080000010/AS22080852824663
Vehicle Class: Goods Carrier
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 12-Aug-2022
Vehicle No: BP2B5039 Chassis No: MA1RY2GHKF3E29272
Regn Date: 25-Jun-2015
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	300	0	300
RC Paper Document Charge	200	0	200

GRAND TOTAL (in Rs): 500/- (FIVE HUNDRED ONLY)

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 08-Aug-2022 08:10:57

GOVERNMENT OF ASSAM

**State Transport Department
DIMA HASAO, Assam**



RECEIPT/APPL No: AS8022080000004/AS22080652701236
Vehicle Class: Goods Carrier
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 06-Aug-2022
Vehicle No: BP2B5039 Chassis No: MA1RY2GHKF3E29272
Regn Date: 25-Jun-2015
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(01-Jul-2022 to 30-Jun-2023)	8900	185	9085

GRAND TOTAL (in Rs): 9085/- (NINE THOUSAND AND EIGHTY FIVE ONLY)

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 13-Aug-2022 08:22:07

GOVERNMENT OF ASSAM

**State Transport Department
DIMA HASAO, Assam**



RECEIPT/APPL No: AS8D22080000011/AS22080892823177
Vehicle Class: Bus
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 12-Aug-2022
Vehicle No: BP2A5693 Chassis No: MAT412283AR00255
Regn Date: 19-Dec-2011
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	1500	0	1500
RC Paper Document Charge	200	0	200

GRAND TOTAL (in Rs): 1700/- (ONE THOUSAND SEVEN HUNDRED ONLY)

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 08-Aug-2022 08:11:37

GOVERNMENT OF ASSAM

**State Transport Department
DIMA HASAO, Assam**



RECEIPT/APPL No: AS8D220800000005/AS22080622701330
Vehicle Class: Bus
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 06-Aug-2022
Vehicle No: BP2A5693 Chassis No: MAT412283AR00255
Regn Date: 19-Dec-2011
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(06-Dec-2021 to 31-Dec-2022)	18928	1210	20138

GRAND TOTAL (in Rs): 20138/- (TWENTY THOUSAND ONE HUNDRED AND THIRTY EIGHT ONLY)

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Annexures 16: Blasting related permissions

GOVT. OF ASSAM
OFFICE OF THE DISTRICT MAGISTRATE:: DIMA HASAO DISTRICT :: HAFLONG

No. NCH/M-3/2021/

Dated Haflong, the ___ Oct/2021.

NO OBJECTION CERTIFICATE

Seen the letter received from the Superintendent of Police, Dima Hasao, Haflong vide No. HFG/DSB/80/2021/2556 dated 25/10/2021 and it has been observed that nothing adverse was found against the applicant and as such, **recommended for issuing of NOC** for grant of Explosive Licence and Magazine Construction at Longku, Umrangso, District, Dima Hasao.

Also seen the letter received from the Deputy Director (Tech), Fire & Emergency Services, Assam, Guwahati vide No. F&ES/FPW/GG-927/VOL-1/385/21 dated 09/07/2021 wherein is stated the specific measures for construction of Explosive Storage at Longku, Umrangso, District, Dima Hasao.

Further, in response to the fresh application submitted by M/S L & T in favour of NOC for grant of Explosive License and Magazine Construction approval for 120 MW Lower Kopili Hydroelectric Project (Package 2) at Longku, Umrangso, Dima Hasao District vide letter No. LKHEP-PKG2/LNT/153/GL/45A dated 27/10/2021, it is to certify that the District Administration, Dima Hasao District, Haflong has **No Objection** for grant of Explosive Licence and Magazine Construction in favour of **M/S R.L.Poddar** for L&T - 120MW Lower Kopili Hydroelectric Project (Package 2) at Longku, Umrangso, Dima Hasao District subject to compliance of rules and regulations for Storage of Explosive Rules 2008. Further, M/S L&T is directed to communicate to the Fire & Emergency Services, Guwahati after construction and implementation of fire safety measures for grant of NOC from their end as mentioned in the letter No. (mentioned above) in addition to the following conditions that are to be followed for the Construction and Storage Purpose -

1. The Explosive Magazine will be surrounded by brick wall fencing with a minimum height of 9 feet.
2. The surrounding jungles of the Magazine shall be kept clean.
3. There should be strong armed guard on rear and front.
4. There should be an approach road to the explosive Magazine with a provision movement of fire tenders in the event of any contingency situation.
5. Proper COVID protocols are to be maintained at all times on the work and camp sites.

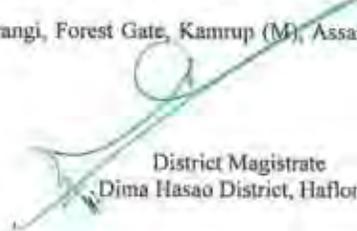

District Magistrate
Dima Hasao District, Haflong

Memo No. NCH/M-3/2021/ 6588 83

Dated, Haflong the 29th Oct/2021.

Copy to:

1. The Superintendent of Police, Dima Hasao, Haflong for favour of kind information.
2. The Officer-in-Charge, Umrangso Police Station for favour of kind information.
3. The Project Manager, Larsen & Toubro Ltd., LKHEP, Longku, Dima Hasao for kind information.
4. The M/S R.L. Poddar, 14, Poddar Complex, Narangi, Forest Gate, Kamrup (M), Assam for kind information.
5. Office Copy.


District Magistrate
Dima Hasao District, Haflong



GOVT. OF ASSAM
OFFICE OF THE DISTRICT MAGISTRATE - DIMA HASAO DISTRICT - HAFLONG

No NCH/M-3/2022/1745

Dated Haflong, the 22nd Mar/2022

NO OBJECTION CERTIFICATE

Seen letter No LKHIEP-PKG2/LNT/153/GL/088 Dated 02/12/2021 submitted by Shri Santanu Majumdar, Project Manager, 120 MW-Lower Kopili HEP (Pkg-2), Larsen & Toubro Limited, Longku, Dima Hasao, Assam wherein request for permission was made for blasting during night in 02 (two) tunnels namely (1) Diversion Tunnel for diversion of river to facilitate Dam work, and (2) Adit Tunnel to Head Race Tunnel of 120 MW Lower Kopili Hydroelectric Project (Pkg 2) at Longku, Dima Hasao district. Also seen the NOC issued by the Office of the Director of Fire & Emergency Services, Guwahati vide Letter No F&ES/FPW/3995/1531/22 dtd 17/03/2022 in respect of inbuilt fire fighting/ fire prevention measures for storage of explosive magazine for construction of the said Hydroelectric project.

The office of the undersigned reviewed the petition and the documents received and subject to the fulfilment of the terms and conditions as per prevailing Act, Rules & Regulations, permission for carrying out blasting operations after sunset at the project locations as mentioned in the first paragraph is hereby granted by the undersigned in accordance with powers granted under PESO Rules 2008. This permission is to be treated as a continuation of the earlier NOC bearing Memo No NCH/M-8/2021/6378-83 dated 22/10/2021 and accordingly, the third parties namely M/S R.L. Poddar, Narangi, Kamrup (M), Assam & North East Associates, Shillong, who are working under the name of the applicant, shall be jointly responsible along with the applicant for undertaking safety measures at the project locations as well as ensuring safe transit and storage of explosives and shall be jointly liable for any mishaps attributable to explosives handling and storage. The following operational conditions shall also be strictly adhered to:

1. Adequate security personnel are to be stationed at the magazine storage site
2. Adequate security personnel are to provide security during the conveyance of explosives from magazine storage site to the blasting locations
3. The Officer-in-Charge of the local police station is to be intimated about blasting activities at least 24 hours in advance
4. Village authorities of villages adjacent to the blasting sites are to be intimated about blasting activities at least 24 hours in advance
5. Adequate lights must be installed at the blasting locations for carrying out blasting operations

This NOC shall be valid up to 31st March 2023 but District Authority shall conduct periodic inspections of project sites and any adverse observations may result in the revoking of this NOC. Request for renewal of this NOC should be made at least 30 days before its expiry.

dl
District Magistrate
Dima Hasao District, Haflong

Memo No NCH/M-3/2022/1745-A

Dated Haflong, the 22nd Mar/2022

Copy to:

1. The Superintendent of Police, Dima Hasao, Haflong for kind information.
2. The Director, Fire & Emergency Services, Assam, Guwahati for kind information.
3. The Officer-in-Charge, Umrangso P.S. for kind information.
4. The Project Manager, Larsen & Toubro Ltd., LKHIEP, Longku, Dima Hasao for kind information.
5. M/S R.L. Poddar, 14, Poddar Complex, Narangi, Forest Gate, Kamrup (M), Assam for kind information.
6. The M/S North East Associates, Shillong for kind information.
7. Office copy.

dl
District Magistrate
Dima Hasao District, Haflong



GOVERNMENT OF ASSAM

OFFICE OF THE DEPUTY COMMISSIONER :: WEST KARBI ANGLONG::HAMREN.

e-mail: dc.westkarbianglong@gov.in

No.HCA.26/2009-16/498

January 12th, 2022

27th Puh, 1428 Bhaskarabda

ORDER

Seen the report of the Superintendent of Police, West Karbi Anglong vide letter No. HRN/DSB/60/2021/1388 dated 24th December, 2021 and Divisional Forest Officer, Hamren Vide letter No. B/HRN/Lower Kopili HEP/Blasting/2021-22/2053-54 dated 10/01/2022 permission is hereby accorded to Sri Santanu Majumdar, Project manager, 120 MV Kopili Hydro Electric Project (Package-2), Larsen & Toubro Limited for blasting at project site of the 120 MW-Lower Kopili Hydro Electric Project of the Main dam and coffer Dams and its appurtenants work fall at the left bank of Kopili river on behalf M/S R.L. Poddar under Kheroni PS under Donka Revenue Circle. The permit holder should strictly follow the terms and condition as follows:

1. The area for blasting must be demarcated by Assistant Revenue Officer, Donka Revenue Circle.
2. Blasting must be carried out in presence of authorized Explosive Expert.
3. The agency should do proper awareness amongst the villagers with local Police/VDP/Village headman/Lat Mondol etc. in advance.
4. The blasting must be carried out during day time i.e. 1000 hrs to 1600 hrs and blasting time should be displayed well before the blasting.
5. Prior to blasting information shall be given by the licensee to the following authorities about the date, location and time of blasting:
 - a) A.R.O. Donka Revenue Circle, Donkamokam.
 - b) Concerned Police Station.
 - c) Divisional Forest Officer, Hamren.
6. Licensee will be responsible for safe carriage of blasting materials to the sites for carrying out the blasting.
7. Proper Watch and Ward of the explosives materials should be ensured.
8. Sufficient warning like display of red flag, blow of whistle should be given to the public before blasting.
9. Blasting should not be carried out during thunderstorms.
10. Blasting schedule should be arranged in such a manner that all holes charged with explosives are immediately blasted on the same day and in case for any reason such charged holes cannot be blasted on the same day, these sleeping holes should be properly guarded from a suitable safe distance till the same are blasted.
11. The blasting area does not fall within the radius of 900 meters from any Army Ammunition Depot.
12. All safety measures should be taken as required under explosive Act /Rules /Guidelines before and during blasting.
13. The Police shall get the area vacated if the blasting is to be carried out near habitation to ensure the safety of inhabitants.
14. The licensee shall be responsible in case of any mis-happening/eventuality during blasting operation and shall pay the compensation for loss of property/lives, if any.
15. The blasting should not be carried out in a manner which is dangerous for human lives, domestic & wild life animal and property.

16. An announcement regarding the blasting must be done before the execution of blasting in surrounding area by the applicant.
17. The applicant shall be responsible in case of any mis-happening/eventually during blasting operation and shall pay the compensation for loss of property/live if any.
18. The blasting operation in forest area will be confined only to the area which has been diverted for the construction of 120 MW Lower Kopili Hydro Electric Project(Package- West Karbi Anglong.
19. No trees shall be uprooted, cut or damaged in the Reserve Forest due to the blasting operation.
20. The blasting must be executed in presence of authorized Explosive Expert.
21. The details of carrying and blasting of explosive must be communicated to the district administration.
22. The applicant shall not do any mining operation in the area falling within West Karbi Anglong without approved mining plan and environment clearance from the competent authority.
23. Any forest royalty payable to the Karbi Anglong Autonomous Council and Govt. of Assam by the applicant for the use of stone/boulders extracted through blasting operation shall be paid to exchequer of Karbi Anglong Autonomous Council and Govt. of Assam.
24. Intimation to the district Administration from time to time about the progress.
25. In case of any untoward incident, the applicant must inform the district administration immediately.

All instructions/guidelines in force required for such blasting must be strictly followed by the licensee and this N.O.C. is not in supersession or contradiction to such instructions and guidelines.

This permission is valid up to 30th June, 2022.

SD/-
District Magistrate
West Karbi Anglong, Hamren.
January 12th, 2022
27th Puh, 1428 Bhaskarabda

Memo. No.HCA.26/2009-16/498-A

Copy to:-

1. The Principal Secretary, KAAC, Diphu for favour of information.
2. The Secretary to the Govt. of Assam, General Administration Department, Dispur, Guwahati-6 for favour of information.
3. The Superintendent of Police, West Karbi Anglong, Hamren for information and necessary action.
4. The Deputy Controller of Explosive, Govt. of India of Explosive, Guwahati for favour of information and necessary action.
5. The Assistant Revenue Officer, Donka Revenue Circle, Donkamokam for information and necessary action.
6. Sri Santanu Majumdar, Project manager, 120 MV Kopili Hydro Electric Project (Package-2), Larsen & Toubro Limited for information and necessary action.

K/Boa
M. 1. 2. 2
District Magistrate
West Karbi Anglong Hamren. 10

फॉर्म नम्बर ई -10 / Form E-10
 शूट फायरर्स सर्टिफिकेट / Shot Fire's Certificate
 (अनुसूची IV के अन्तर्गत) (अनुसूची IV में) See article 10 of Part I of Schedule IV
 [Schedule IV, 2008 or Rule 10(15) of the Explosives Rules, 2008]

(गिरा अधिनियम, 1952 के अन्तर्गत अथवा अन्य कानून द्वारा प्रदत्त विभागीय क्षेत्र के अन्तर्गत प्रमाणित)
 (Certificate of competency to carry out blasting of explosives in area not coming under the Mines Act)

नम्बर / No.: ECA/UP/30/276(E126449)



यह सर्टिफिकेट श्री/श्रीमती **Abhishek Kumar Gupta**,
 जन्म दिनांक: 12/11/1994 को जारी किया गया है। **Bhimapur, GAZIPUR, Uttar Pradesh - 233307** के निवासी हैं। इसका प्रमाण परीक्षा का आयोजन **06/01/2020** को किया गया था।
 इसका प्रमाण परीक्षा का आयोजन **06/01/2020** को किया गया था। इसका प्रमाण परीक्षा का आयोजन **06/01/2020** को किया गया था।

This is to certify that **Shri Abhishek Kumar Gupta**,
 born on 12/11/1994 resident of **Bhimapur, GAZIPUR, Uttar Pradesh - 233307** passed the shotfiring's examination held on 06/01/2020 conducted by
Deputy Chief Controller of Explosives, Allahabad and is authorized to conduct blasting operations as mentioned below using explosives in areas other
 than mines coming under the purview of the Mines Act, 1952, subject to the provisions of the Explosives Act, 1884 and the rules framed thereunder.

इसका अर्थ है कि यह सर्टिफिकेट, **श्री/श्रीमती**
श्री/श्रीमती, **श्री/श्रीमती** **अभिशेक कुमार गुप्ता** को जारी किया गया है।

Authorized class, category and type of blasting
Class - (C), Category - General underground, All phases of underground blasting operation

[See 107 or sub-rule (5) or sub-rule (6) See explanation of sub-rule (5) of rule 107]

यह प्रमाणित **06/01/2025** (पाँच वर्षों के लिए) तक वैध रहेगा।
This certificate shall remain valid till 06/01/2025 (five years from the date of issue)

यह सर्टिफिकेट तब तक वैध रहेगा जब तक कि इसका प्रमाण परीक्षा का आयोजन **06/01/2020** को किया गया था।
 This certificate is liable to be suspended or revoked for any violation of the Act or rules framed thereunder or the conditions of this certificate or if
 there is any discrepancy or deviation in the information or suppression of facts furnished by the applicant in his application form.

जारी स्थान: **अलाहाबाद** / Allahabad
 जारी तिथि: **06/01/2020**

श्री/श्रीमती **अभिशेक कुमार गुप्ता** / **Dy. Chief Controller of Explosives**
अलाहाबाद / **Allahabad**
Dy. Chief Controller of Explosives, Allahabad

पुनर्विभाजन के लिए प्रमाणित
 Endorsement for revalidation

पुनर्विभाजन की तिथि Date of Revalidation	वैधता की तिथि Date of Expiry	अनुमोदित करने वाले का हस्ताक्षर Signature of licensing authority
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Statutory Warning : Misleading and misuse of explosives shall constitute serious criminal offence under the law.

अनुसूची प्रकृत धारा 10 - 10 | Form JE-10
शॉट फ़ायर करने प्रमाण-पत्र | Shot Fierer's Certificate
(अनुसूची IV के भाग 1 का अनुच्छेद 10 को) See article 10 of Part 1 of Schedule IV
(विस्फोटक विनियम, 2008 का नियम 107(5) को) see rule 107(5) of Explosives Rules, 2008

(खान अधिनियम, 1952 के अधीन न आने वाले क्षेत्र में विस्फोट करने के लिए सक्षमता प्रमाणपत्र)
(Certificate of competency to carry out blasting of explosives in area not coming under the Mines Act, 1952)

संख्या | No.: E/CA/UP/30/412(E134603)



प्रमाणित किया जाता है कि श्री **ABHISHEK KUMAR SINGH**,
जन्म तिथि: 23/08/1999 को हुआ था, जो **VILL & POST- SARAI GOKUL THANA- SHADIABAD, GAZIPUR, Uttar Pradesh - 233001** के निवासी है ने उप मुख्य विस्फोटक नियंत्रक, अलहाबाद द्वारा तारीख 14/07/2021 को आयोजित शॉट फ़ायर की परीक्षा तारीख को 14/07/2021 उत्तीर्ण कर ली है और वह विस्फोटक अधिनियम, 1884 और उसके अधीन विहित विनियमों के उपबंधों के अन्तर्गत खाने से अन्यथा अन्य क्षेत्र में शॉट फ़ायर करने के लिए विस्फोटक प्रचालन करने के लिए अधिकृत है।

This is to certify that **Shri ABHISHEK KUMAR SINGH**,
born on 23/08/1999, resident of **VILL & POST- SARAI GOKUL THANA- SHADIABAD, GAZIPUR, Uttar Pradesh - 233001** passed the **shotfirer's** examination held on 14/07/2021 conducted by **Deputy Chief Controller of Explosives, Allahabad** and is authorised to conduct blasting operations as mentioned below using explosives in areas other than mines coming under the purview of the Mines Act 1952, subject to the provisions of the Explosives Act, 1884 and the rules framed thereunder.

विस्फोट करने के अधिकृत वर्ग, प्रकार और प्रकार :
वर्ग (C), श्रेणी: भूमिगत साधारण, भूमिगत खनन स्टिंग ऑपरेशन के सभी चरण

Authorised class, category and type of blasting :
Class : (C), Category : General underground, All phases of underground blasting operation
] नियम 107 का उप-नियम (5) का स्पष्टीकरण देखें | See explanation of sub-rule (5) of rule 107]

यह प्रमाणपत्र 14/07/2026 (जारी करने की तारीख से पांच वर्ष) तक विधिवान्ध होगा |
This certificate shall remain valid till 14/07/2026 (five years from the date of issue)

यह प्रमाण-पत्र, अधिनियम या उसके अधीन विहित विनियमों अथवा इस प्रमाण-पत्र की शर्तों का कोई अधिकरण करने का या बर्तन आदि का अनादेन प्रकृत में ही नहीं सुचना में कोई त्रुटि या विचलन होता है तो विलम्बित वा अधिस्तित कर दिया जाएगा।

This certificate is liable to be suspended or revoked for any violation of the Act or rules framed thereunder or the conditions of this certificate or if there is any discrepancy or deviation in the information or suppression of facts furnished by the applicant in his application form.

स्थान | Place : अलहाबाद | Allahabad
दिनांक | Date: 14/07/2021

उप मुख्य विस्फोटक नियंत्रक | Dy. Chief Controller of Explosives
अलहाबाद | Allahabad
उप मुख्य विस्फोटक नियंत्रक, अलहाबाद
Dy. Chief Controller of Explosives

पूर्तिप्रमाणपत्र के लिए पुनःकरण | Endorsement for revalidation

पूर्तिप्रमाणपत्र की तारीख Date of Revalidation	व्यवधि की तिथि Date of Expiry	अनुमति प्राधिकारी के हस्ताक्षर Signature of licensing authority
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कानूनी चेतावनी : विस्फोटकों को गलत ढंग से चलाने का उन्का दुरुपयोग बिधि के अधीन गंभीर दण्डित अपराध होगा।

Statutory Warning : Mishandling and misuse of explosives shall constitute serious criminal offence under the law.

Note :- This is system generated document does not require physical signature. Applicant may take printout for their

अनुमति प्रारूप एन.ई.-10 | Form LE-10
शॉट फायरर कर्ता प्रमाणपत्र | Shot Firing Certificate
(अनुसूची IV के भाग 1 के अनुच्छेद 10 देखें | Schedule 10 of Part 1 of Schedule IV)
(विस्फोटक नियम, 2006 का नियम 107(5) देखें | See rule 107(5) of Explosives Rules, 2006)

(यहां अधिनियम, 1952 के अधीन न आने वाले क्षेत्र में विस्फोट करने के लिए संक्षमता प्रमाणपत्र)
(Certificate of competency to carry out blasting of explosives in area not coming under the
Mines Act, 1952)

संख्या (No.: E/CD/UC/30/145/E136714)



प्रमाणित किया जाता है कि श्री. *Sujeet Kumar Son Shri Shri Dajal Singh*,
जिनका जन्म 15/11/1973 को हुआ था, जो 251, Ward No. 7, Mewad Bhawan, Amarkunj, Sringar, PAURI
GARHWAL, Uttarakhand - 246174 के निवासी हैं, ने उप विस्फोटक निबंधक, देहरादून द्वारा तारीख 22/11/2021 को
आयोजित शॉट फायर की परीक्षा तारीख को 22/11/2021 उत्तीर्ण कर ली है और वह विस्फोटक अधिनियम, 1884 और
उसके अधीन विरचित नियमों के उपबंधों के अधीन रहते हुए खनन अधिनियम, 1952 की परिधि के अधीन आनेवाले खानों
में अन्यथा क्षेत्र में नौवे बंधा उल्लिखित विस्फोटकों का उपयोग करते हुए विस्फोटक प्रभावित करने के लिए प्राधिकृत है।
This is to certify that *Shri Sujeeet Kumar Son Shri Shri Dajal Singh*,
born on 15/11/1973, resident of 251, Ward No. 7, Mewad Bhawan, Amarkunj, Sringar, PAURI GARHWAL,
Uttarakhand - 246174 passed the shuffler's examination held on 22/11/2021 conducted by Dy. Controller of
Explosives, Dehradun and is authorized to conduct blasting operations as mentioned below using explosives in areas
other than mines coming under the purview of the Mines Act 1952, subject to the provisions of the Explosives Act, 1884
and the rules framed thereunder.

विस्फोट करने के अधिकृत वर्ग, पर्वी और प्रकार :
वर्ग (A), श्रेणी: भूमिगत सार्वजनिक, भूमिगत वसा सिटिंग आपरेसन के तभी चरण

Authorised class, category and type of blasting :
Class : (CA) Category : General underground, All phases of underground blasting operation
(नियम 107 का उप-नियम (5) का स्पष्टीकरण देखें) | See explanation of subrule (5) of rule 107

यह प्रमाणपत्र 23/11/2026 (जारी करने की तारीख से पांच वर्ष) तक विधिमान्य होगा।
This certificate shall remain valid till 23/11/2026 (five years from the date of issue)

यह प्रमाणपत्र अधिनियम या उसके अधीन विरचित नियमों अथवा इस प्रमाणपत्र की शर्तों का कोई उल्लंघन
करने पर या यदि आवेदक यदा आवेदन प्रारूप में दी गई सूचना में कोई त्रुटि या विचलन होता है तो निरस्त या
अभिहित कर दिया जाएगा।
This certificate is liable to be suspended or revoked for any violation of the Act or rules framed thereunder or the
conditions of this certificate or if there is any discrepancy or deviation in the information or suppression of facts
furnished by the applicant in his application form.

स्थान | Place: देहरादून | Dehradun
दिनांक | Date: 23/11/2021

उप मुख्य विस्फोटक निबंधक | Dy. Chief Controller of Explosives
विस्फोटक निबंधक, देहरादून | Dehradun
Controller of Explosives, Dehradun

पुनर्विधिमन्त्र्यकरण के लिए पृष्ठकन | Endorsement for revalidation

पुनर्विधिमन्त्र्यकरण की
तारीख | समाप्ति की तिथि
Date of Expiry | अनुमति अधिकारी के हस्ताक्षर

Annexure 17. Insurance of package 4.



ICICI Lombard Insurance Company Limited
 100, Park Street, Chennai - 600 005
 Tel: 044-2424 2424 Fax: 044-2424 2424

WORKMAN COMPENSATION INSURANCE

UIN: MBARIC000070120100 - Mumbai

POLICY SCHEDULE

Policy No. 4010/252569944/00/000 (TRUE COPY)	Issued at MUMBAI
1. Name of the Insured:	M/S SALASAR TECHNO ENGINEERING LTD
2. Address of the Insured:	2nd Floor, 205, Anant Enclave, Ganapati Nagar, Lalganeshi Guwahati, Kamrup Kamrup Assam Pin- 781034
3. Intermediary Details:	Agency Code: DB33106 Agency Name: WORLDWIDE INSURANCE BROKERS LTD Agent's mobile no.: 9716640000 Agent's landline no.: 120- Agent's E-mail ID : POLICY@WIBL.IN
4. Total Sum Insured:	Rs.12,000.00
5. Scope of cover:	
Main Coverage:	WC (Liability Cover Table 'A')
Extensions	
Endorsement	
(i) Table A) Coverage provided is indemnity against legal liability for accidents to employees under the Workmen's Compensation Act 1923 and subsequent amendments of the said Act prior to the date of the issue of the policy; The Fatal Accidents Act 1855 and all Common Law only	
Exclusions:	
(i) Any employment compensation in excess of the actual sum insured for workmen compensation ordinance (not to apply in respect of common law awards).	
(ii) Underground and/or underwater mines and/or underground services in connection therewith; However, this exclusion shall only apply where more than 20 people are working at the same location at any one time.	
(iii) Subaqueous work (underwater work).	
(iv) Quarries where explosives are used.	
(v) Contractors engaged exclusively in wrecking or demolition of building and/or scrap metal merchants.	
(vi) Aircraft crews in respect of flight risk. However, this exclusion shall not apply to aircraft which are set aside for non fare paying executive use and which are crewed by six persons or less.	
(vii) Ship crews other than on inland vessels or on vessels operating within territorial waters. However, this exclusion shall not apply to a vessel crewed by six persons or less.	
(viii) Fire bridges other than those formed privately for loss prevention purposes.	
(ix) Service in any kind of armed forces (including, but not limited to military, police, security services).	
(x) Operation of railways, other than sidings.	
(xi) Employees employed on a permanent basis in USA and/or Canada.	
(xii) Professional sports team.	
(xiii) Fire crackers manufacturing activity	
(xiv) Losses suffered in the course of manufacturing and/or supplying and/or producing storing, filling, breaking down, transporting: (a) Fireworks; ammunition, fuses, cartridges; powder, nitro-glycerine, or any explosives; (b) Gases and/or air under pressure in containers; (c) Butane, methane, propane, and other liquefied gases; (d) Celluloid and pyroxylin; (e) Petrochemicals and acid chemicals of a toxic (as defined under India's Public Liability Act 1991), noxious, explosive and/or highly flammable nature; (f) Asbestos and/or asbestos products. (It is understood and agreed, however, that the storage, transport and/or handling of any of the substances above mentioned other than f) which is merely incidental to the operation and/or trade of the insured not otherwise excluded, is covered.)	
(xv) Losses suffered on or in connection with offshore rigs.	
(xvi) Any compensation in medical extension expenses if the insured is hospitalized for more than 12 month due to an accident as per the coverage opted in WC policy.	
(xvii) Pandemics/epidemics as declared by WHO and / or Government of India.	
Conditions:	
(i) Policy for Table A only	
(ii) Electric Cables, Makers and suppliers of incl. Cabling, installation and Erection work; All work away from shop or yard	
(iii) No. of lives: 50	
(iv) Risk Classification code: 135	
(v) Sub Contractors are Covered	
(vi) Policy is issued on unnammed basis.	
(vii) Entry age limit: As per WC Act	
(viii) Risk Location Address: Assam Power Generation Corporation Limited, Bidulee Bhowan, Floor, Pattanbazar, Guwahati, GUWAHATI, 781001, ASSAM, INDIA.	

(ii) Name of the Principal Assam Power Generation Corporation Limited, Guwahati, Nature of Work Construction of 230 KV Double Circuit Transmission Line from Lower Kopli Hydroelectric Project to Sankardev Nagar Grid Substation on Turnkey Basis & various contractors and sub contractors Sub-Contractors of every tier, Consultants and Engineers and / or Associated and / or Subsidiary Companies, for their respective rights & interests

Nature of work/activity
 Policy type UNNAMED
 Entry age limit As per WC Act
 Policy cover table A
 Risk classification code 135, 135, 135
 No. of lives 56

6. Period of Insurance: From 12/07/2022 Time: 00:00 Hours
 To Midnight of 11/07/2023

7. Premium Calculations

Premium Break Up	(Rs.)	Premium (Rs.)
Stamp Duty	(Rs.)	27.00
*Total Premium	(Rs.)	54,746.87

*Premium value mentioned above is inclusive of taxes applicable

8. Details of workmen to be insured

Estimated Number of Employees	Occupation of Employees	Estimated Total Salaries Wages and other money earnings	Estimated Total Earnings for the Policy Duration	Place or Places of Employment	Industry Classification	Sub Industry Classification	Risk Classification Code
10	Skilled Workers	18,000.00	22,32,000.00	ASSAM POWER GENERATION CORPORATION LIMITED, BUJULEE BHAWAN-FLOOR, PALTANBAZAR, GUWAHATI-ASSAM-GUWAHATI-781001	Electric Cables, Makers and suppliers of incl. Cabelaying, installation and Erection work	All work away from shop or yard	130
30	Semi Skilled Workers	15,500.00	65,80,000.00	ASSAM POWER GENERATION CORPORATION LIMITED, BUJULEE BHAWAN-FLOOR, PALTANBAZAR, GUWAHATI-ASSAM-GUWAHATI-781001	Electric Cables, Makers and suppliers of incl. Cabelaying, installation and Erection work	All work away from shop or yard	135
10	Unskilled Workers	15,000.00	18,00,000.00	ASSAM POWER GENERATION CORPORATION LIMITED, BUJULEE BHAWAN-FLOOR, PALTANBAZAR, GUWAHATI-ASSAM-GUWAHATI-781001	Electric Cables, Makers and suppliers of incl. Cabelaying, installation and Erection work	All work away from shop or yard	135
Total: 50			Total: 96,12,000.00				

Subject otherwise to terms and conditions of Workman's Compensation Insurance Policy

Signed for and on behalf of the ICICI Lombard General Insurance Company limited, at Mumbai on this date 15/07/2022.

The Policy shall stand cancelled as soon in the event of non-payment of premium:

Authorized Signatory
 ICICI Lombard General Insurance Company Ltd.

GSTIN Reg. No: 09AAAC7904G1Z1
 II, GIC GSTIN Address : Chamber I Fourth Floor Corporate Gopini Nagar Lucknow Uttar Pradesh 226024
 HSN/SAC code : 897139 - GENERAL INSURANCE SERVICES

The stamp duty of Rs. 27.00 paid in cash or by demand draft or by pay order, vide receipt/cheque no, CSO232202184 dated 06/01/2022.

WC02 TERRORISM EXCLUSION:

Notwithstanding any provision to the contrary within this Notwithstanding any provision to the contrary within this insurance it is agreed that this insurance excludes loss, damage cost or expense of whatsoever nature directly or indirectly caused by, resulting from or in connection with any act of terrorism regardless of any other cause or event contributing concurrently or in any other sequence to the loss.

For the purpose of this warranty an act of terrorism means an act, including but not limited to the use of force or violence and /or the threat thereof, of any person or group(s) of persons whether acting alone or on behalf of or in connection with any organisation(s) or government(s) committed for political, religious, ideological or similar purpose including the intention to influence any government and/or to put the public, or any section of the public in fear.

The warranty also excludes loss, damage, cost or expenses of whatsoever nature directly or indirectly caused by, resulting from or in connection with any action taken in controlling, preventing, suppressing or to in any way relating to action taken in respect of an act of terrorism.

If the Company alleges that by reason of this exclusion, any loss, damage, cost or expenses is not covered by this insurance the burden of proving the contrary shall be upon the Assured

WORKMAN COMPENSATION INSURANCE POLICY

WHEREAS the Insured carrying on the Business described in the Schedule and no other for the purpose of this insurance by a proposal and declaration which shall be the basis of this contract and is deemed to be incorporated herein has applied to the Company for the insurance hereinafter contained and has paid or agreed to pay the Premium as consideration for such insurance.

NOW THIS POLICY WITNESSETH that if at any time during the period of Insurance any employee in the Insured's immediate service shall sustain personal injury by accident or disease arising out of and in the course of his employment by the Insured in the Business and if the Insured shall be liable to pay compensation for such injury either under:

- the Law(s) set out in the Schedule
- or at
- Common Law

then subject to the terms, exceptions and conditions contained herein or endorsed hereon the Company will indemnify the Insured against all sums for which the Insured shall be so liable and will in addition be responsible for all costs and expenses incurred with its consent in defending any claim for such compensation.

PROVIDED ALWAYS that in the event of any change in the Law(s) or the substitution of other legislation therefor this Policy shall remain in force but the liability of the company shall be limited to such sum as the Company would have been liable to pay if the Law(s) had remained unaltered.

EXCEPTIONS

The Company shall not be liable under the Policy in respect of:

- a) any injury by accident or disease directly attributable to war, invasion act of foreign enemy hostilities (whether war be declared or not), civil war, mutiny, insurrection, rebellion, revolution or military or usurped power
- b) the Insured's liability to employees of contractors to the Insured.
- c) any liability of the Insured which attaches to virtue of an agreement but which would not have attached in the absence of such agreement.
- d) any sum which the Insured would have been entitled to recover from any party but for an agreement between the Insured and such party.

CONDITIONS:

1. This Policy and the Schedule shall be read together as one contract and any word or expression to which a specific meaning has been attached in any part of this Policy or of the Schedule shall bear such specific meaning wherever it may appear.
2. Every notice or communication to be given or made under this Policy shall be delivered in writing to the Company.
3. The Insured shall take reasonable precautions to prevent accidents and disease and shall comply with all statutory obligations.
4. In the event of any occurrence which may give rise to a claim under this Policy the Insured shall as soon as possible give notice thereof to the Company with full particulars. Every letter, claim, writ, summons and process shall be notified or forwarded to the Company immediately on receipt. Notice shall also be given to the Company immediately the Insured shall have knowledge of any impending prosecution, inquest or fatal enquiry in connection with any such occurrence as aforesaid.
5. No admission offer, promise or payment shall be made by or on behalf of the Insured without the consent of the Company which shall be entitled if it so desires to take over and conduct in his name the defence or settlement of any claim or to prosecute in his name for its own benefit any claim for indemnity or damages or otherwise and shall have full discretion in the conduct of any proceedings and in the settlement of any claim and the Insured shall give all such information and assistance as the Company may require.
6. The first premium and all renewal premiums that may be accepted are to be regulated by the amount of wages and salaries and other earnings paid by the Insured to employees during each Period of Insurance. The name of every employee together with the amount of wages, salary and other earnings shall be properly recorded and the Insured shall at all times allow the Company to inspect such records and shall supply the Company with a correct account of all such wages, salaries and other earnings paid during any period of Insurance with one month from expiry date of such Period of Insurance. If the amount so paid shall differ from the amount on which premium has been paid the difference in premium shall be met by a further proportionate payment to the Company or by a refund by the Company as the case may be.
7. The Company may cancel this Policy by sending seven days notice by registered letter to the Insured at his last known address and in such event the premium shall be adjusted in accordance with Condition 6.
8. If any dispute or difference shall arise as to the quantum to be paid under this Policy (liability being otherwise admitted), such difference shall independently of all other questions be referred to the decision of a sole arbitrator to be appointed in writing by the parties to or if they cannot agree upon a single arbitrator within 30 days of any party invoking arbitration, the same shall be referred to a panel of three arbitrators, comprising of two arbitrators, one to be appointed by each of the parties to the dispute/difference and the third arbitrator to be appointed by such two arbitrators and arbitration shall be conducted under and in accordance with the provisions of the Arbitration and Conciliation Act, 1996.

It is clearly agreed and understood that no difference or dispute shall be referable to arbitration as herein before provided, if the Company has disputed or not accepted liability under or in respect of this Policy.

It is hereby expressly stipulated and declared that it shall be a condition precedent to any right of action or suit upon this Policy that the award by such arbitrator/ arbitrators of the amount of the loss or damage shall be first obtained.

It is also hereby further expressly agreed and declared that if the Company shall disclaim liability to the Insured for any claim hereunder and such claim shall not within 12 calendar months from the date of such disclaimer have been made the subject matter of a suit in a court of law, then the claim shall for all purposes be deemed to have been abandoned and shall not thereafter be recoverable hereunder.

9. The due observance and fulfilment of the terms, conditions and endorsements of this Policy so far as they relate to anything to be done or not to be done by the Insured and the truth of the statements and answers in the Proposal shall be conditions precedent to any liability of the Company to make any payment under this Policy.

10. **Grievance Clause**

In case you are aggrieved in any way, You should do the following

- i. For resolution of any query or grievance, Insured may contact the respective branch office of The Company or may call us at toll free no. 1800 2666 or email us at customer.support@icicilombard.com or write to us at

Grievance Redressal Officer,
 ICICI Lombard General Insurance Company Ltd.
 ICICI Lombard House, 414, Veer Savarkar Marg,
 Near Siddhi Vinayak Temple, Prabhadevi, Mumbai-400025.

- ii. If you are not satisfied with the resolution provided, you may approach us at the sub section 'Grievance Redressal' on our website www.icicilombard.com (Customer Support section).

- iii. In case your complaint is not fully addressed by the insurer, you may use the Integrated Grievance Management System (IGMS) for escalating the complaint to IRDA. Through IGMS you can register your complaint online and track its status. For registration please visit IRDA website www.irda.gov.in. If the issue still remains unresolved, you may, subject to vested jurisdiction, approach Insurance Ombudsman for the redressal of the grievance.

The details of Insurance Ombudsman are available below:-

Sr. No	Name of office of insurance Ombudsman	Territorial Area of jurisdiction
1	AHMEDABAD: 2nd Floor, Ambika House, near C.U. Shah college, Ashram road, Ahmedabad-380014 Tel No. 079-27546840, 27545441 Fax No., 079-27546412. Email- bimalokpal.ahmedabad@gbic.co.in	State of Gujarat and Union Territories of Dadra & Nagar Haveli and Daman and Diu.
2	BANGALURU: 19/19, Jeevan Souths Building, Ground Floor, 24th Main Road, JP Nagar, 1st Phase, Bengaluru-560 078. Tel:- 080-26652048 / 26652049 Email:- bimalokpal.bengaluru@gbic.co.in	State of Karnataka
3	BHOPAL: Janak Vihar Complex, 2nd Floor, 6, Malviya Nagar, Opp.Airtel Office, Near New Market, Bhopal-462 033. Tel:- 0755-2769200/201/202 Fax:- 0755-2769203 Email:- bimalokpalbhopal@gbic.co.in	States of Madhya Pradesh and Chattisgarh.
4	BHUBANESHWAR: 62, First part, Bhubaneswar-751 009. Tel:- 0674-2596451 / 2596455 Fax:- 0674-2596429 Email:- bimalokpal.bhubaneswar@gbic.co.in	State of Orissa
5	CHANDIGARH: S.C.O. No. 101, 102 & 103, 2nd Floor, Batra Building, Sector 17-D, Chandigarh-160 017. Tel:- 0172-2706196,5961 / 2706468 Fax:- 0172-2706274 Email:- bimalokpal.chandigarh@gbic.co.in	States of Punjab, Haryana, Himachal Pradesh, Jammu & Kashmir and Union territory of Chandigarh.
6	CHENNAI: Fazima Akhtar Court, 4th Floor, 453 (old 312), Anna Salai, Teynampet, CHENNAI-600 018. Tel:- 044-24333668 / 24335294 Fax:- 044-24333664 Email:- bimalokpal.chennai@gbic.co.in	State of Tamil Nadu and Union Territories - Pondicherry Town and Karaikal (which are part of Union Territory of Pondicherry).
	DELHI: 2/2 A, Universal Insurance Building, Asaf Ali Road.	

7	New Delhi-110 002. Tel:- 011-23239611/7539/7532 Fax:- 011-23230858 Email:- bimalokpal.delhi@gbic.co.in	State of Delhi
8	ERNAKULAM: 2nd floor, Pullat Building, Opp. Cochin Shipyard, M.G. Road, Ernakulam - 682 015. Tel:- 0484-2358759/2358338 Fax:- 0484-2358336 Email:- bimalokpal.ernakulam@gbic.co.in	States of Kerala and Union territory of (a) Lakshadweep (b) Make a part of Union territory of Pondicherry
9	GUWAHATI: Jeevan Nivesh, 5th Floor, Nr. Panbazar over bridge, S.S. Road, Guwahati-781001 (ASSAM). Tel:- 0361- 2132204 / 2132205 Fax:- 0361-2732937 Email:- bimalokpal.guwahati@gbic.co.in	States of Assam, Meghalaya, Manipur, Mizoram, Arunachal Pradesh, Nagaland and Tripura.
10	HYDERABAD: 8-2-46, 1st floor, Mohan Court Lane Opp. Saleem Function Palace, A. C. Guards, Lakdi-Ka-Pool, Hyderabad- 500 004. Tel:- 040-65604123/23312122 Fax:- 040-23376599 Email:- bimalokpal.hyderabad@gbic.co.in	States of Andhra Pradesh, Telangana and Union Territory of Yanam- a part of the Union Territory of Pondicherry.
11	JAIPUR: Jeevan Nidhi-II Bldg., Ground Floor, Bhawani Singh Marg, Jaipur - 302005. Tel:- 0141-2740363 Email:- bimalokpal.jaipur@gbic.co.in	State of Rajasthan,
12	KOLKATA: Hindustan Building Annex, 4th floor, 4, CR Avenue, Kolkata - 700 072. Tel:- 033-22124339 / 22124340 Fax:- 033-22174341 Email:- bimalokpal.kolkata@gbic.co.in	States of West Bengal, Bihar, Sikkim and Union Territories of Andaman and Nicobar Islands.
13	LUCKNOW: 5th Floor, Jeevan Bhawan, Phase-II, Nawal Kishore Road, Hazratganj, Lucknow-226 001. Tel:- 0522-2231330 / 2231331 Fax:- 0522-2231310. Email:- bimalokpal.lucknow@gbic.co.in	District of Uttar Pradesh: Lalitpur, Jhansi, Mahoba, Hamirpur, Banda, Chitrakoot, Allahabad, Mirzapur, Sonbhadra, Fatehpur, Pratapgarh, Jaunpur, Varansi, Gaziapur, Jaisi, Kanpur, Lucknow, Unnao, Sitapur, Lakhimpur, Bahraich, Barabanki, Raebareilly, Sravasti, Gonda, Faizabad, Amethi, Kaushambi, Ballia, Bahraich, Basti, Ambedkarnagar, Sultanpur, Maharajganj, Santabinagar, Azamgarh, Kaushinagar, Gorakhpur, Deoria, Mau, Chandauli, Ballia, Siddharthnagar.
14	MUMBAI: 3rd Floor, Jeevan Seva Annex, S. V. Road, Santacruz (W), Mumbai - 400 054. Tel:- 022-26106929/360980 Fax:- 022-26106052. Email:- bimalokpal.mumbai@gbic.co.in	States of Goa, Mumbai Metropolitan Region excluding Navi Mumbai & Thane.
15	NOIDA: Bhagwan Sahai Palace, 4th Floor, Main Road, Naya Bana, Sector-15, Gautam Budh Nagar, Noida Email:- bimalokpal.noida@gbic.co.in	States of Uttaranchal and the following Districts of Uttar Pradesh: Agra, Aligarh, Bagpat, Bareilly, Bijnor, Budaun, Bulandshahar, Etah, Kanauj, Mainpuri, Mathura, Meerut, Moradabad, Muzaffarnagar, Oraiyya, Pilibhit, Etawah, Ferozkhabad, Firozabad, Gazim: Buthi Nagar, Ghaziabad, Hardoi, Shahjahanpur, Hapur, Shamli, Rampur, Kashganj, Sambhal, Amroha, Hathras, Kanthiramnagar, Saharanpur.
16	PATNA: Office of the Insurance Ombudsman, 1st Floor, Kalpana Arcade Building, Bazar Samiti Road, Bahadurpur, Patna - 800 006. Email:- bimalokpal.patna@gbic.co.in	States of Bihar and Jharkhand.
17	PUNE: Office of the Insurance Ombudsman, Jeevan Darshan Building, 3rd Floor, CTS Nos. 195 to 198, NC Kelkar Road, Narayan Petit, Pune - 411 030. Tel: 020-30341320 Email:- bimalokpal.pune@gbic.co.in	States of Maharashtra, Area of Navi Mumbai and Thane excluding Mumbai Metropolitan Region.

Communicable Disease Exclusion (Clause)

1. Notwithstanding any provision, clause or term of this [insurance Contract] to the contrary, this [insurance Contract] excludes any loss, cost, damage, liability, claim, fines, penalty or expense or any other amount of whatsoever nature, whether directly or indirectly and/or in whole or in part, related to, caused by, contributed to by, resulting from, as a result of, as a consequence of, attributable to, arising out of, arising under, in connection with, or in any way involving (this includes all other terms commonly used and/or understood to reflect or describe nexus and/or connection from one thing to another whether direct or indirect):

- 1.1 a Communicable Disease and/or the fear or threat (whether actual or perceived) of a Communicable Disease and/or the actual or alleged transmission of a Communicable Disease regardless of any other cause or event contributing and/ or occurring concurrently or in any sequence thereto; and
- 1.2 a pandemic or epidemic, as declared by the World Health Organisation or any governmental authority.

2. As used herein, Communicable Disease means: any infectious, contagious or communicable substance or agent and/or any infectious, contagious or communicable disease which can be caused and/or transmitted by means of substance or agent where:

- 2.1 the disease includes, but is not limited to illness, sickness, condition or an interruption or disorder of body functions, systems or organs; and
- 2.2 the substance or agent includes, but is not limited to, a virus, bacterium, parasite, other organism or other micro-organism (whether asymptomatic or not); including any variation or mutation thereof, whether deemed living or not; and
- 2.3 the method of transmission, whether direct or indirect, includes but not limited to, airborne transmission, bodily fluid transmission, transmission through contact with human fluids, waste or the like, transmission from or to any surface or object, solid, liquid or gas or between organisms including between humans, animals, or from any animal to any human or from any human to any animal; and
- 2.4 the disease, substance or agent is such:
 - 2.4.1 that causes or threatens damage or can cause or threaten damage to human health or human welfare; or
 - 2.4.2 that causes or threatens damage to (i) can cause or threaten damage to, deterioration to, contamination of, loss of value of, loss of marketability of or loss of use or usefulness of, tangible or intangible property.

For avoidance of doubt, Communicable Disease includes but is not limited to Coronavirus Disease 2019 (Covid - 19) and any variation or mutation thereof.

3. For further avoidance of doubt, any contingent or other business interruption loss, cost, damage, loss of income, loss of use, increased cost of working and/or extra expense arising out of or attributable to:

- 3.1 any partial or complete closure of and/or slowdown in, including but not limited to any closure by or under the advisories of public, military, government or civil authorities, or any denial of access to insured premises, or customer and/or supplier premises (including service / utility providers); or
- 3.2 change in consumer behaviour; or
- 3.3 an absence of infected employees or employees suspected of being infected shall not be covered by this [insurance Contract].

4. For still further avoidance of doubt, loss, cost, damage, liability, claim, fines, penalty or expense or any other amount excluded hereby, includes but is not limited to any cost to identify, clean-up, detoxify, disinfect, decontaminate, mitigate, remove, evacuate, repair, replace, monitor, sanitize or test: (1) for a Communicable Disease or (2) any tangible or intangible property covered by this [insurance Contract] that is affected by such Communicable Disease.

5. It is clarified that (1) no other prior, concurrent or subsequent provision, clause, term or exception of this [insurance Contract] (including (but not limited to) any prior, concurrent or subsequent endorsement and/or any provision, clause, term, buy back or exception that operates, or is intended to operate, to extend the coverage of, or protections provided by, this [insurance Contract] by whatever name called like any coverage extension, additional coverage, global extension, exception to any exclusion); (2) any change in the law, clause or similar provision; (3) any follow the fortunes clause or similar provision; and/or (4) no change in the law or any regulation (to the extent permitted by applicable law), shall operate to provide any insurance, coverage or protection under this [insurance Contract] that would otherwise be excluded through the exclusion set forth in this [Endorsement] Clause.

6. If the [insurer] alleges that by reason of this [Endorsement] Clause any amount is not covered by this [insurance Contract] the burden of proving the contrary shall rest in the [insured].

Annexure 18 : No net loss of Biodiversity

Impact on Tree Cover for the LKHEP

	Forest Area	Ha		Revenue Area	Ha
1	Impacted / Forest area used	117.46	1	Impacted Revenue Area	41.92
2	Submergence	167.2	2	Submergence Area	452.8
		284.66			494.72

A.	Total impacted area under Forest and Revenue	779.38
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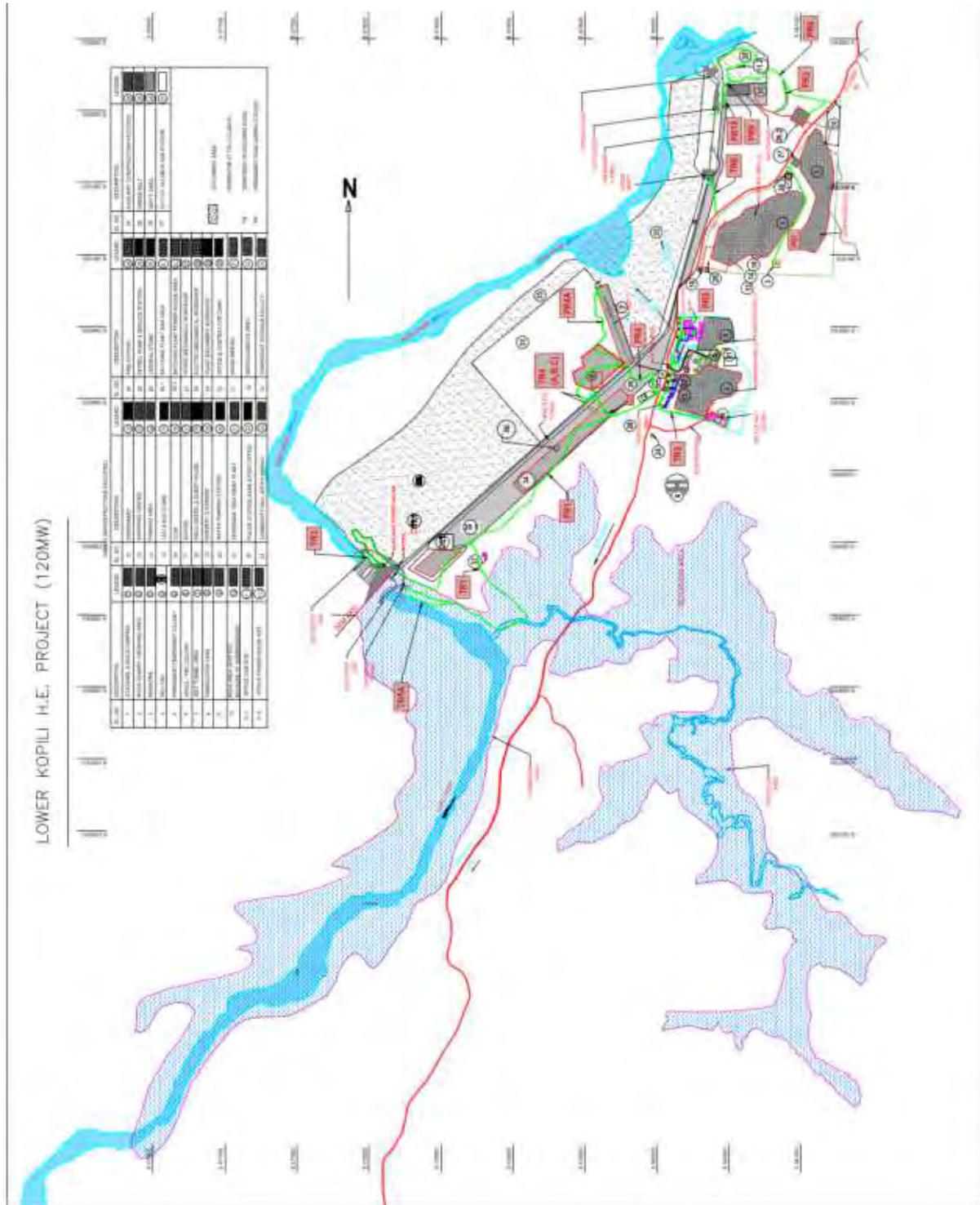
Compensated area

	In Forest area	Ha		In Revenue Land	Ha
1	Green Belt (Protected Forest area)	198.746	1	CA area (Revenue area converted to Reserved Forest)	524
2	Safety area	26.55	2	CAT plan Plantations	
3	HRT	11	2a	Afforestation with 5 years maintenance	683
4	Not in use	1.59	2b	Gap Plantation with 3 years maintenance	281
5	Restoration area	58.95	2c	Pasture development	574
			3	Plantation along the reservoir, roadside, etc	25
		296.836			2087

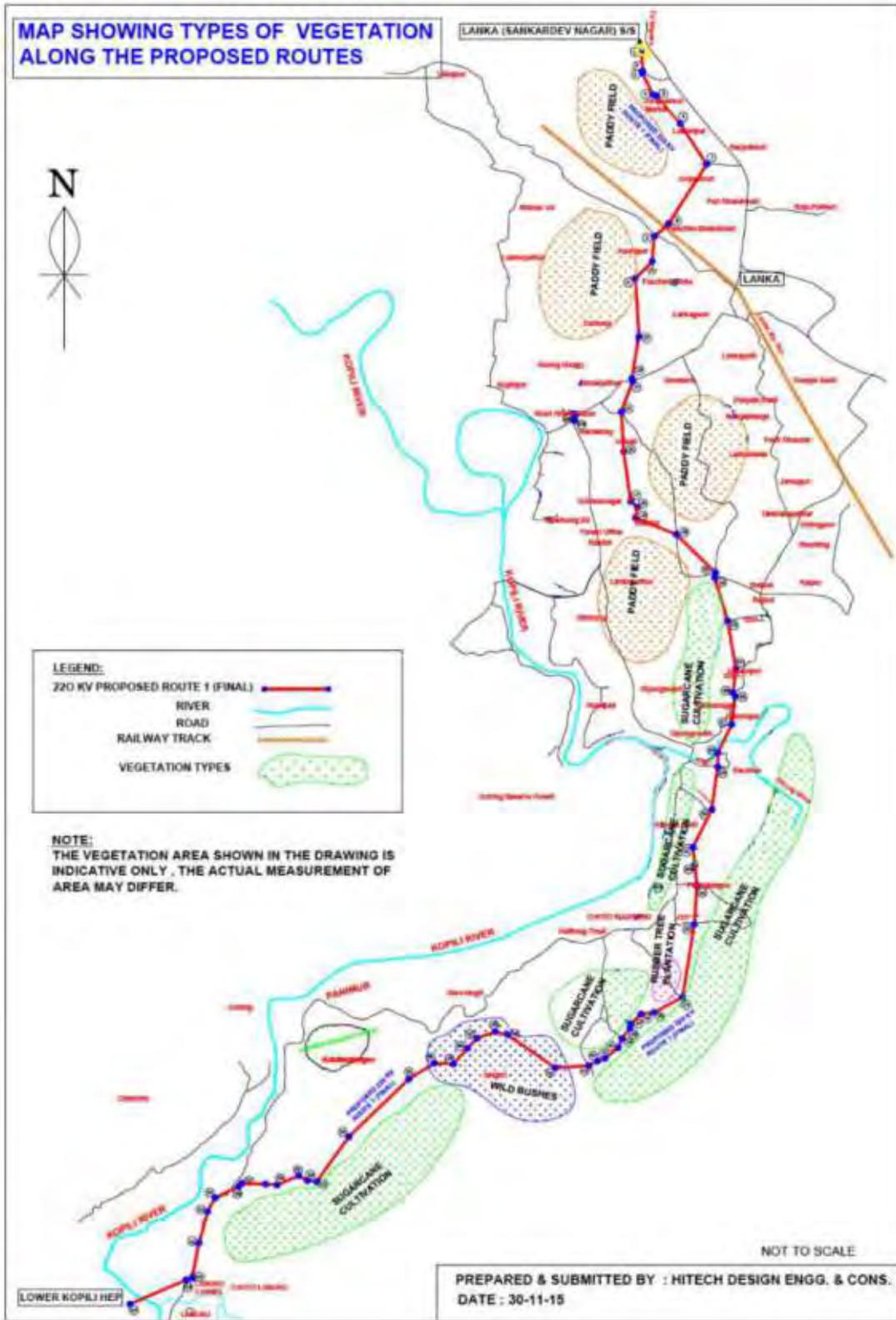
B.	Total compensated are under Forest and Revenue	2383.836
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**Compensatory
Afforestation (A : B)**

1 : 3.06



Annexure 20: Layout of Transmission Line





Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
(Department of Environment & Forests :: Government of Assam)
Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
Website: www.pcbassam.org



No. WB/SLC/T-1191/21-22/17

Dated Guwahati, the 27th December 2021

"CONSENT TO OPERATE"

"CONSENT TO OPERATE" (CTO) under Section 25 of Water (Prevention and Control of Pollution) Act 1974 and Section 21 of Air (Prevention and Control of Pollution) Act, 1981 as amended is granted to-

- i) Name of Industry : M/s Larsen & Toubro Limited.
ii) Name of the Occupier / Applicant and Designation : Sri Santanu Majumdar, Project Manager
iii) Address of Industry : Vill-Totelangso, P.O-Umrangso, Dist-Dima Hasao, Assam
iv) Project cost : Rs. 95.00 Lakhs
v) Details of Products :

Sl No.	Product	Quantity/ Capacity
1	Ready Mix Concrete	5200 M ³ /Month

- vi) DG Sets : 1x250 KVA, 1x180 KVA, 1x140 KVA & 1x125 KVA

TERMS AND CONDITIONS:

1. This CTO has been accorded based on the particulars furnished by the applicant vide Application ID 838921 and subject to addition of further more conditions if so warranted by subsequent developments. The CTO will automatically become invalid if there is any changes, modification, alteration, expansion or deviation is made in actual practice.
2. The CTO is valid for a period up to 31.03.2025 unless otherwise suspended or revoked.
3. The CTO may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to the following -
 - a) Violation of any Terms and Conditions of this CTO;
 - b) Obtaining the CTO by misrepresentation or failure to disclose fully all relevant facts;
 - c) A change in any condition that require temporary or permanent reduction or elimination of the authorized discharge/emission;
4. The project proponent shall develop a greenbelt / Plantation area with native trees covering at-least 33% of total plot area for the development of greenbelt and carbon sink.
5. As per provisions of water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 any officer, employed by this Board in its behalf shall have without any interruption, the right at any time to enter the industry for inspection, to take samples for analysis and may call for any information etc.
6. The project authority should install a Display Board as per the Boards notification no.CBA/LGL-95/2021/Notification/01 dtd.11.11.2021. (Copy enclosed as Appendix-A).
7. Permission shall be obtained from the Central Ground Water Authority (CGWA) for the extraction of ground water, if applicable.

Contd....P/2

7/13/21



-2-

- Measures including water sprinkling shall be provided at all the material in the haul roads to control fugitive emission.

Air Aspects:

- The unit shall comply with the Particulate Matter (PM) emission level at 150 mg/Nm³
- Dust suppression measures are to be taken by the industry to control the dust in the haul roads during movement of vehicles.
- The unit shall comply with the standards and guidelines for control of noise pollution from stationary Diesel Generator (DG) set as notified vide GSR 7, dtd.22.12.1998 as attached in Appendix-B.
- Necessary steps are to be made to bring the noise within the prescribe limit as stipulated below:

Limit in dB(A) Leq.	
Day time	Night time
75	70

- The industry must comply the National Ambient Air Quality Standards as per Schedule – VII under Rule, 3 (3B) of the Environment (Protection) Rules, 1986 as prescribed vide CPCB Notification No. B-29016/20/90/PCI-I dtd. 18.11.2009 (copy enclosed as Appendix -C) especially for PM_{2.5} & PM₁₀.

Sr. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area (notified by Central Government)
1	Particulate Matter (size less than 10µg) or PM10 µg/m ³	Annual* 24 hours**	60 100	60 100
2	Particulate Matter (size less than 2.5µg) or PM2.5 µg/m ³	Annual* 24 hours**	40 60	40 60

Water Aspects:

- The unit must construct effluent treatment system for the treatment of waste water and the parameters should meet with general discharge parameters standard as per G.S.R. 422(E) dated 19.05.1993 (Copy enclosed as Appendix -D).
- The unit shall reuse the treated water at their own processes.

Solid Waste Aspect-

- Adequate facility should be created for collection, storage, transportation, treatment & disposal of solid waste generated from the Industry
- Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste materials.
- Solid waste generated in the unit shall be disposed of as per the provisions of the Solid Waste Management Rules 2016.

Contd....P/3

13/5



D. Hazardous Waste Aspects-

1. The unit shall apply for authorization under the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016 and submit the annual return under Hazardous & Other Waste (Management & Trans Boundary Movement) Rules 2016 in the Form-IV within 30th June every year.
2. Adequate facility shall be provided for collection and storage of spent oil and such hazardous waste generated in the unit shall be sent to registered recyclers for recycling.
3. The unit shall disposed hazardous waste generated in the unit in accordance to the provisions of the Hazardous & Other Waste (Management & Trans Boundary Movement) Rules 2016 including Notification, Guidelines issued there under.

The unit shall submit compliance report of the mandated conditions by April 15 of every year to Member Secretary, PCBA as well as to Regional Office, Silchar, PCBA. The Board will have the liberty to withdraw the CTO if adequate pollution control and safety measures are not taken.

//
(Shantanu Kr. Dutta)
Member Secretary

Memo No. WB/ SLC/T-1191/21-22/17-A, 19/12/21

Dated Guwahati, the 27th December, 2021

Copy to:

1. ✓ M/s Larsen & Toubro Limited, Vill- Totelangso, P.O-Umrangso, Dist- Dima Hasao, Assam A for information & necessary action.
2. The Executive Engineer, RLO, Silchar, Pollution Control Board, Assam for information & necessary action.

19/12/21
(Shantanu Kr. Dutta)
Member Secretary



Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
(Department of Environment & Forests :: Government of Assam)
Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
Website: www.pcbassam.org



No. WB/SLC/T-1191/21-22/24

Dated Guwahati, the 25th June, 2024

"CONSENT TO ESTABLISH"

"CONSENT TO ESTABLISH" (CTE) under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 as amended and Rules Framed thereunder is granted to:

- i) Name of Industry : M/s Larsen & Toubro Ltd. (Batching Plant)
- ii) Name of the Occupier / Applicant and Designation : Santanu Majumder, Project Manager
- iii) Address of the unit : Lower Kopili Hydro Electric Power Project, Vill: Longku, P.O. Umrangso, Dist. Dima Hasao, Assam-788931.
- iv) Cost of the project : Rs. 744,69 Lakhs.
- v) Details of the project & category : Batching Plant (Green Category)

Sl. No.	Product	Capacity
1	Cement Concrete	200000 m ³ annum

General Conditions:

1. The Consent to Establish (CTE) has been accorded based on the particulars furnished by the applicant vide **Application ID: 1278389** and subject to addition of further or more conditions if so warranted by subsequent developments. The CTE will automatically become invalid, if there is any changes, modification, alteration, expansion or deviation made in actual practice.
2. "CONSENT TO ESTABLISH" will be valid till the date of commissioning of the unit or seven (7) years whichever is earlier.
3. The CTE may be modified, suspended in whole or in part or withdrawn by the Board during its term for cause including, but not limited to the following:-
 - a) Violation of any Terms and Conditions of this CTE;
 - b) Obtaining the CTE by misrepresentation or failure to disclose fully all relevant facts;
 - c) If any genuine complaint received;
4. The unit shall obtain prior 'Consent to Establish' from the Board for any expansion, alteration, modification of the project.
5. The project proponent must develop a greenbelt/plantation area with native trees covering atleast 33% of the total plot area.
6. The project authority should install a Display Board as per the Boards notification No. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021 (Annexure-A).
7. As per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 as amended and the Air (Prevention and Control of Pollution) Act, 1981, as amended, any Officer, empowered by the Board on its behalf shall have without interruption, the right at any reasonable time to enter the unit for inspection, collection of sample for analysis and may call for any information as deemed necessary. Denial of this right will cause withdrawal of the Consent Order.

(Signature)

Cont...p/2



8. Proper housekeeping shall be maintained. Burning of any waste inside the unit premises is strictly prohibited.
9. The project authority shall not operate the unit before obtaining "Consent to Operate" from the Board.

Specific Conditions:

A) Air Aspects:

1. The industry shall install the screening machine, with proper enclosure and dust extraction and treatment mechanism.
2. The following air pollution control measures shall be implemented by the project authority to control source emission and fugitive emission:
 - a. Dust containment cum suppression system at Raw Material Feed Hopper, all material transfer & dropping points.
 - b. Construction of the metallic roads within the premises.
 - c. Regular cleaning and wetting of ground within the premises.
3. The industry shall comply with the Noise Level Standard notified by MoEF&CC, Govt. of India, vide GSR.7, dtd: 22/12/1998 as mentioned below:

Limit in dB (A) Leq	
Day Time (6:00AM-10:00PM)	Night Time (10:00PM-6:00AM)
75	70

4. The Ambient Air Quality within the Plant premises shall be maintained within the National Ambient Air Quality Standards as notified by MoEF&CC, Govt. of India, vide G.S.R. 826(F) dtd. 18.11.2009, especially w.r.t. PM_{2.5} & PM₁₀, as mentioned herein under:

Sl. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area (notified by Central Government)
1.	Particulate Matter (size less than 10µg) or PM ₁₀ (µg/m ³)	Annual*	60	60
		24 hours**	100	100
2.	Particulate Matter (size less than 2.5µg) or PM _{2.5} (µg/m ³)	Annual*	40	40
		24 hours**	60	60

B) Water Aspects:

1. Source of Water : Surface water
2. i) Water consumption : 200,0 KLD
- ii) Effluent generation : Nil KLD
- iii) Effluent recycled : Nil
- iv) NOC from CGWA : Not obtained
- v) Capacity of ETP : No ETP
3. Exemption NOC/Permission of the Central Ground Water Authority shall be obtained for extraction of Ground Water, if applicable.
4. Storm Water Aspect:
 - a) Storm water shall not be allowed to mix with effluent and/or floor washings.
 - b) Storm water within the battery limits of the unit shall be channelized through separate drain/pipe passing through an Oil & Grease Trap cum Sedimentation Tank.

15/8/13

Contd...p/3

- c) Storm water discharge shall meet with general effluent discharge parameters standard, notified by MoEF & CC, GOI vide G.S.R.422 (E); dated 31.12.1993 (Appendix - B).
5. Rain water harvesting facility shall be installed and maintained.



C) Solid Waste Aspects:

1. Adequate facility should be created for collection, storage, transportation, treatment & disposal of non-hazardous industrial solid waste generated from the Industry.
2. Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste materials.
3. The unit shall strictly comply with all the provisions of the **Solid Waste Management Rules, 2016.**

D) Plastic Waste Aspects:

1. Plastic waste generated in the unit shall be disposed of scientifically as per the provisions of the Plastic Waste Management Rules, 2016.
2. The unit shall submit a report on generation and disposal of Plastic Wastes within June every year.

E) E-Waste Aspects:

1. Electronic wastes generated in the unit shall be disposed of as per the provisions of **E-Waste Management Rules, 2016.**
2. The unit shall submit the Annual Report in the Form-III within 30th June every year.

F) Hazardous Waste Aspects:

1. **Authorization under Hazardous & Other Wastes (Management & Trans-boundary Movement) Rules, 2016** shall be obtained from the Pollution Control Board, Assam.
2. The project authorities shall comply with the provisions of the said Rules.
3. Adequate facility shall be provided for collection and storage of used/spent oil, which shall be sent to registered recyclers for recycling.
4. The unit shall dispose of any other Hazardous Waste generated by the unit as per the provisions of the Rules.
5. The unit shall identify and quantify all streams of Hazardous Waste generation as per Schedule-I and maintain proper record in Form-III of the said Rules.
6. The unit should submit annual return in Form-IV under the said rules on or before 30th June every year.

The unit shall submit compliance report of the mandated conditions of this CTE by April 15, every year to the Member Secretary, PCBA as well as to Regional Office, Silchar. The Board will have the liberty to withdraw the CTE if adequate pollution control and safety measures are not taken.

Sd/-
(Shantanu Kr. Dutta)
Member Secretary

Dated Guwahati, the 25th June, 2022

Memo No. WB/SLC/T-1191/21-22/24 -A
Copy to: *SLC*

- ✓ 1. M/s Larsen & Toubro Ltd. (Balching Plant), Lower Kopili Hydro Electric Power Project, Vill: Longku, P.O. Umrangso, Dist. Dima Hasao, Assam-788931 – for information & compliance of conditions.

Shantanu Kr. Dutta
(Shantanu Kr. Dutta)
Member Secretary

Annexure 23 : Permission for extraction / collection of Mask boulder (80000 cum).

NORTH CACHAR HILLS AUTONOMOUS COUNCIL..... HAFLONG
DIMA HASAO DISTRICT
DIMA HASAO FOREST DIVISION (WEST)
E.mail westforestdept@gmail.com

No. FRS/G/101(a)/Stone-Chips/2020-21/Pt-IV/_____ Dated, Haflong the _____

To,
The Range Forest Officer,
Panimur Range,
Panimur.

Sub-
Permission for extraction/collection of Mask Boulder 80,000m³ from Panimur Range
USF area under Panimur Range.

Ref- FRS/Sectt/SP/155/2013-20/L/2/9069 dtd. 18-12-2021

You are hereby asked to realise royalty with GST from L & T Ltd. of Lanku for 80,000m³
Mask Boulder which is collected from Panimur Range USF area under Panimur Range with validity
upto to 30-06-2022 as per council order No. under reference.

No extraction and collection shall be allowed 50 mts from the outer periphery of
National Highway and State Highway and major structure like RCC Bridge and Railway line.


Divisional Forest Officer,
Dima Hasao Forest Division (West),
Haflong

No. FRS/G/101(a)/Stone-Chips/2020-21/Pt-IV/2857-56 Dated, Haflong the 25/12/2021

Copy to:

1. The Principal Secretary (N), N.C. Hills Autonomous Council, Haflong for favour of his kind information with to his No.FRS/Sectt/155/2013-20/L/2/9069 dtd. 18-12-2021
2. P.A to Hon'ble Chief Executive Member N.C. Hills Autonomous Council Haflong for appraisal to the Hon'ble Chief Executive Member for favour of his kind information.
3. L & T Ltd. for information and necessary action. He is requested to deposit royalty alongwith GST at the Range Office Panimur Range within the stipulated date. .


Divisional Forest Officer,
Dima Hasao Forest Division (West),
Haflong

Annexure 24 : Permission for extraction / collection of Mask boulder (200000 cum).

THE NORTH CACHAR HILLS AUTONOMOUS COUNCIL ::::: HAFLONG.
No. FRS/sectt/SP/155/2010-21/L/2, Dated 8th March 2022.

Divisional Forest Officer,
Dima Hasao Forest Division (W).

Sub :- Permit for Mask boulder.

Ref :- Your letter No. FRS/G/101(a)/stone chips/L&T/2021-22/
3475-77, dtd. 7/3/2022.

With reference to the above, I am directed to convey the approval of N.C.Hills A/Council to L & T to re use 2,00,000 m³ Mask Boulder under Panimur Range on payment of usual royalty etc.

This is for your information and necessary action.

Principal Secretary (N),
N.C.Hills Autonomous Council,
Haflong.

Memo No. FRS/sectt/SP/155/2010-21/L/2, Dated 8th March 2022.

Copy to :-

1. The Hon'ble Chief Executive Member, N.C.Hills A/Council Haflong for favour of information with reference to approval dtd. nil.
2. L & T Ltd. for information.

Issue No: 278
Dated : 8/3/22



Principal Secretary (N),
N.C.Hills Autonomous Council,
Haflong.

Annexure 25 :Renewed license valid till 31.12.22

प्ररूप XIV
(प्रथम अनुसूची का अनुच्छेद 5 देखिए)
FORM XIV
(see Article 5 of the First Schedule)

मोटर वाहनों में ईंधन डालने के लिए पम्प आउटफिट के संबंध में टैंक या टैंकों में पेट्रोलियम भंडारकरण के लिए अनुज्ञप्ति
LICENCE TO STORE PETROLEUM IN TANK/S IN CONNECTION WITH PUMP OUTFIT FOR FUELING MOTOR
CONVEYANCES

अनुज्ञप्ति सं. (Licence No.) : P/EG/AS/14/1630(P502141)

फीस रूपए (Fee Rs.) 5000/- per year

पेट्रोलियम अधिनियम, 1934 के उपबंधों और उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए 20.00 KL of Petroleum class B को टैंक/टैंकों में भण्डारकरण मात्र के लिए M/s. Larsen & Toubro Limited, Vill- Longku, P.O. Longku BO, P.S. Umrangso, Longku, Longku, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 को नीचे वर्णित अनुज्ञप्त परिसरों में जो कि इससे उपपन्न नक्शा संख्या P/EG/AS/14/1630(P502141) तारीख 11/01/2022 में दिखाया गया है, के लिए विधिमाम्य अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to M/s. Larsen & Toubro Limited, Vill- Longku, P.O. Longku BO, P.S. Umrangso, Longku, Longku, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 valid only for the storage of 20.00 KL of Petroleum class B in tank/s in the licensed premises described below and shown on the plan no: P/EG/AS/14/1630(P502141) dated 11/01/2022 attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति 31st day of December 2022 तक विधिमाम्य रहेगी।

The Licence shall remain in force till the 31st day of December 2022

December 5, 2021

For Jt. Chief Controller of Explosives
EG, Assam

अनुज्ञप्त परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी सीमाएं संलग्न नक्शे में दिखाई गई हैं Plot No: Nil, 120 MW-Lower Kopili HEP(Package-2), Vill- Longku, P.O. Lonhku BO, Longku, Umrangso, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 में स्थित हैं और उसमें निम्नलिखित सम्मिलित हैं:

The licensed premises, the boundaries of which are shown in the attached plan, are situated at Plot No: Nil, 120 MW-Lower Kopili HEP(Package-2), Vill- Longku, P.O. Lonhku BO, Longku, Umrangso, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 and consist of:

क पेट्रोलियम वर्ग क परिसर के लिए NIL किलोलिटर क्षमता के/क्रमशः NIL क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित NIL डिस्पेंसिंग पम्पों से जुड़े हुए हैं।

a NIL number(s) underground gas tight tanks of capacity NIL kilolitres respectively of petroleum Class A connected with NIL number(s) electrically/manually operated dispensing pump(s)

ख पेट्रोलियम वर्ग ख/ग परिसर के लिए 20.00 किलोलिटर क्षमता के/क्रमशः 1 क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित 1 डिस्पेंसिंग पम्पों से जुड़े हुए हैं।

b 1 number(s) underground gas tight tanks of capacity 20.00 kilolitres respectively of petroleum Class B connected with 1 number(s) electrically/manually operated dispensing pump(s).

ग एक विक्रय कक्ष/किगोस्क

c A sales room/kiosk

घ सर्विस सम्बन्धी सुविधाएं जिनमें I No Underground Tank सम्मिलित हैं।

d Servicing facilities consisting of I No Underground Tank As per attached plan

Note:-This is system generated document does not require signature.

Annexure 26 :Magazine NOC from District Magistrate, Dima Hasao

GOVT. OF ASSAM
OFFICE OF THE DISTRICT MAGISTRATE:: DIMA HASAO DISTRICT :: HAFLONG

No. NCH/M-3/2021/

Dated Haflong, the ___ Oct/2021.

NO OBJECTION CERTIFICATE

Seen the letter received from the Superintendent of Police, Dima Hasao, Haflong vide No. HFG/DSB/80/2021/2556 dated 25/10/2021 and it has been observed that nothing adverse was found against the applicant and as such, **recommended for issuing of NOC** for grant of Explosive Licence and Magazine Construction at Longku, Umrangso, District, Dima Hasao.

Also seen the letter received from the Deputy Director (Tech), Fire & Emergency Services, Assam, Guwahati vide No. F&ES/FPW/GG-927/VOL-1/385/21 dated 09/07/2021 wherein is stated the specific measures for construction of Explosive Storage at Longku, Umrangso, District, Dima Hasao.

Further, in response to the fresh application submitted by M/S L & T in favour of NOC for grant of Explosive License and Magazine Construction approval for 120 MW Lower Kopili Hydroelectric Project (Package 2) at Longku, Umrangso, Dima Hasao District vide letter No. LKHEP-PRG2/LNT/153/GL/45A dated 27/10/2021, it is to certify that the District Administration, Dima Hasao District, Haflong has **No Objection** for grant of Explosive Licence and Magazine Construction in favour of **M/S R.L.Poddar** for L&T - 120MW Lower Kopili Hydroelectric Project (Package 2) at Longku, Umrangso, Dima Hasao District subject to compliance of rules and regulations for Storage of Explosive Rules 2008. Further, M/S L&T is directed to communicate to the Fire & Emergency Services, Guwahati after construction and implementation of fire safety measures for grant of NOC from their end as mentioned in the letter No. (mentioned above) in addition to the following conditions that are to be followed for the Construction and Storage Purpose -

1. The Explosive Magazine will be surrounded by brick wall fencing with a minimum height of 9 feet.
2. The surrounding jungles of the Magazine shall be kept clean.
3. There should be strong armed guard on rear and front.
4. There should be an approach road to the explosive Magazine with a provision movement of fire tenders in the event of any contingency situation.
5. Proper COVID protocols are to be maintained at all times on the work and camp sites.


District Magistrate
Dima Hasao District, Haflong

Memo No. NCH/M-3/2021/ *2556-83*
Copy to:

Dated, Haflong the *29* Oct/2021.

1. The Superintendent of Police, Dima Hasao, Haflong for favour of kind information.
2. The Officer-in-Charge, Umrangso Police Station for favour of kind information.
3. The Project Manager, Larsen & Toubro Ltd., LKHEP, Longku, Dima Hasao for kind information.
4. The M/S R.L. Poddar, 14, Poddar Complex, Narangi, Forest Gate, Katrup (M), Assam for kind information.
5. Office Copy.


District Magistrate
Dima Hasao District, Haflong

Part -2 (Schedule V)
 Format of No objection certificate
 (See Rules 102 and 103)
 Subject: No objection certificate under the Explosives Rules, 2008

Date:

No.....

With reference to the application in Form AE-12 dated submitted by **SMTI KANCHAN PODDAR on behalf of M/s R L PODDAR** and in pursuance of rule 102 and 103 of the Explosives Rule, 2008 there is No objection for granting licence under the Explosives Rule, 2008 to, **SMTI KANCHAN PODDAR on behalf of M/s R L PODDAR** of address **Village/Town/City-Guwahati, District-KAMRUP (METRO), State- Assam, Pin Code- 781026, Police Station- Noonmati, Railway Station- Narengi** for the following purpose. kinds and quantities of explosives in the premises at **Survey No: LAND MEASURING 251.25 HECTRES (1884.375 Bighas) at Lower Kopili HEP, Longku, Village- Longku, District- DIMA HASAO, State- Assam, Pin Code- 788832, Police Station- Umrangshu, Railway Station- Lanka** as shown in the site plan duly endorsed and enclosed herewith.

1. Purpose (Note: please write only one purpose corresponding to one Article No. as stated in Table of purposes and authority in part I of schedule IV annexed to the Explosives Rule ,2008):
Possession and use of Explosives

2. Kinds and quantities of explosives:

Name of Explosives	class	Div.	Quantity
(a) Nitrate Mixture	II	NIL	10000 kg.
(b) Electric / Ordinary Detonator	VI	III	44000 nos
(c) Detonating Fuse	VI	II	100000 mtr

Signature of the No objection certificate issuing authority with his office seal



[Handwritten Signature]
 District Magistrate

- Note:** The following particulars have been verified / considered while issuing this No. objection certificate
- The antecedents of the applicant (in case of individual or proprietary firm) / partners (in case of partnership company) or directors (in case of limited company) or office bearers in case of society or association and also occupier of the premises.
 - The lawful possession of the site by the applicant.
 - Interest of public.
 - Requirement of explosives for use in mines or quarries (possessed by the applicant in the area proposed by the licence have been considered
 - Genuineness of purpose.

Note:-

- Genuineness of purpose means relating to manufacture – whether there is manufacture of the explosives for lawful constructive use in the area or state or country or export purpose.
- Verification of antecedents and lawful position of site by applicant as stated in serial Nos. 1 and 2 are not applicable in case of No objection certificate granted by Directorate General of Mines Safety.

OFFICE OF THE DIRECTOR,
FIRE AND EMERGENCY SERVICES, ASSAM, GUWAHATI

Azadi
Amrit Mahotsav

SEE RULE - 18(2) F O R M - (5)

Dated Guwahati the 17/03/2022

No. F&ES/FPW/ 3995/1891/22

To,

Mr. Santanu Majumdar,
For Larsen & Toubro Limited,
Project Manager,
120 MW - Lower Kopili Hydro Electric Project (Package 2),
(Explosive Magazines),
Longku, Dima Hasao, Assam.

NO OBJECTION CERTIFICATE IN RESPECT OF INBUILT FIRE FIGHTING/ FIRE PREVENTION AND MEANS OF ESCAPE MEASURES IN THE 120 MW - LOWER KOPILI HYDRO ELECTRIC PROJECT (PACKAGE 2), LONGKU, DIST. DIMA HASAO, ASSAM.

With reference to your completion report under No. Nil Dated 16.03.2022

and on the basis of the Inspection Report submitted by Station Officer, Kamdhan Senapati, I hereby certify that the building as per description below at Dag No. ---, Patta No. ---, Mouza Longku, (Place Longku, Dima Hasao) has been inspected in respect of implementation of inbuilt Fire Fighting/ Fire Prevention/ Escape means measures and is declared fit in respect of fire safety. The Fire & Emergency Services, Assam has no objection in its occupation/ utilization for the purpose of **EXPLOSIVE MAGAZINE** subject to conditions mentioned below.

DETAILS OF APPROVED OCCUPATION:-

GROUND FLOOR:-

1. Floor area: - 28.2 m²
2. Purpose of utilization:-
For Explosive Magazine.

Details of inbuilt Fire Fighting and Fire Prevention measures:

1. Hose Reel hose system.
2. Water Reservoir.
3. Yard hydrant system.
4. Fire Fighting pump.
5. Fire Extinguishers - 8 nos.

SP cum F&ESA,
for and on behalf of
Director of Fire and Emergency Services,
Assam, Guwahati.
Date: Guwahati the

NO. F&ES/FPW/

Copy to:-

1. The Deputy Commissioner, Dima Hasao, Assam for information.
2. The Superintendent of Police, Dima Hasao, Haflong, Assam for information.
3. The Station Officer, Umrangso F&ES Station for information and necessary action.

SP cum F&ESA,
for and on behalf of
Director of Fire and Emergency Services,
Assam, Guwahati.

CONDITIONS:-

1. The N.O.C. is valid up to: - 31.03.2023.
2. There should not be any change of Trade for which this License has been issued.
3. There should not be any structural change in the building either horizontally or vertically.
There should not also be any change in the existing arrangements.
4. The Fire Fighting equipments should be in serviceable condition at all time.
5. Water reservoir should always be kept full up to brim.
6. The entrance and exit and the water reservoir should always be free from any obstruction/ projection.
7. The N.O.C. is liable to be cancelled if the premises (for which the N.O.C. is granted) when inspected are not found conforming to the description and condition under which this N.O.C. is granted.

SP cum F&ESA
for and on behalf of
Director of Fire and Emergency Services,
Assam, Guwahati.



ASSAM POWER GENERATION CORPORATION LIMITED

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

Mridul saikia
Chief General Manager (PP&I)
Project Director (PMU)
Email:mridul.saikia@apgcl.org

No: APGCL/LKHEP/PD/2022-23/81/02

Dated: 12.10.2022

OFFICE ORDER

A Biodiversity Management Committee is hereby constituted for Lower Kopili Hydro Electric Project for effective implementation, monitoring and evaluation of the Biodiversity Conservation and Wildlife Management Plan with the following members:

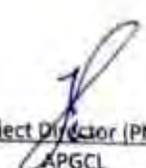
1. Project Director (PMU), APGCL- **Chairman**
2. GM, LKHEP, APGCL- **Convenor**
3. DGM (Civil), LKHEP, Longku, APGCL- **Member**
4. DGM (PP&I), APGCL HQ – **Member**
5. AGM, F&A, APGCL HQ- **Member**
6. Environment Expert, APGCL- **Member**
7. Representative from Department of Environment & Forest, GoA- **Member**
8. Chief Conservator of Forest, Dima Hasao- **Member**
9. DFO, West Karbi Anglong- **Member**
10. Representative from Assam Biodiversity Board- **Member**

The committee will look after the demarcated conservation areas, monitor and enforce regulator provisions and ensure that the structure and functions of the natural ecosystems in the area are not changed or subjected to any threat. The Committee would also propose other approaches for the biodiversity conservation plan, whenever deemed necessary including the proposed measures for conservation of the endangered and critically endangered species of the area.

Memo No: APGCL/LKHEP/PD/2022-23/81/02(a)

Copy to:

- 1) The OSD to the Chairman, APGCL - for kind information of Hon'ble Chairman, APGCL
- 2) The OSD to the MD, APGCL- for kind information of MD, APGCL
- 3) Officers concerned.
- 4) Relevant file.


Project Director (PMU)
APGCL
Dated: 12.10.2022


Project Director (PMU)
APGCL

Annexure 29 : Drinking water quality analysis of RO plant



en-vision
Enviro Technologies North East
Technologies for better tomorrow



Recognized by Pollution Control Board, Assam

NABL ACCREDITED
Date of Report: 07/04/22
Date of sample receipt: 30/03/22
Test completion Date: 07/04/22

TEST REPORT:
Report No: 220407_1503163_0
ULR No: TC766922000000076P
Sample ID No:EETNE/March/17/22/D
Test Starting Date: 30/03/22

Name & Address of Client		M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description		Type: Drinking Water			Source: RO		
Sample collected by		M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars		Date	Time	Temperature	p ^H	Quantity Drawn:4L	Sampling Method:
		29/03/2022	1:38 P.M	28°C	7.00		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
2	Turbidity	NTU	<.2	APHA 23 rd Edition,2130,Page:2-13	1.0	5
3	Total hardness	mg/L	35.7	APHA 23 rd Edition,2340 B,Page:2-48	200	600
4	Total Alkalinity	mg/L	52.2	APHA 23 rd Edition,2320,Page:2-37	200	600
5	Residual Chlorine	mg/L	BDL	APHA 23 rd Edition,4500-Cl B,Page:4-63	0.2	1.0
6	Chloride	mg/L	11.4	APHA 23 rd Edition,4500-Cl B,Page:4-75	250	1000
7	Fluoride	mg/L	0.21	APHA 23 rd Edition,4500-F D,Page:4-90	1.0	1.5
8	Iron(as Fe)	mg/L	0.05	APHA 23 rd Edition,3500-Fe B,Page:3-80	0.3	No relaxation
9	Total Coliform	MPN/100	Nil	APHA 23 rd Edition,9222B,Page:9-81	Shall not be detectable in any 100 ml Sample	Shall not be detectable in any 100 ml Sample
10	Fecal Coliform	MPN/100	Nil	APHA 23 rd Edition,9222 D,Page:9-89	Shall not be detectable in any 100 ml Sample	Shall not be detectable in any 100 ml Sample



Rimpi Sarma
Environmental Chemist
Test Done By



Dr. Pranita Chakraborty
Quality Manager
Authorized Signatory

For Envision Enviro Technologies North East

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.

End of report

Page 1 of 2

House No. 6, 1st Floor, Sankardev Path, Purb-Sarafa, Chandmari, Guwahati-781003, Assam.

Phone : +91 8811096201 * e-mail : envisionghy@gmail.com

Annexure 30 :Application submitted for registration change of the vehicles with Bhutan Registration Numbers.

Customer Copy Printed On: 13-Aug-2022 08:18:58

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam

RECEIPT/APPL No: AS8D22080000009/AS22080022825247
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 12-Aug-2022
 Vehicle No: BP2B5038 Chassis No: MA1RY2GHKF3E20275
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	300	0	300
RC Paper Document Charge	200	0	200
GRAND TOTAL (in Rs): 500/- (FIVE HUNDRED ONLY)			

Note- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy Printed On: 08-Aug-2022 08:08:40

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam

RECEIPT/APPL No: AS8D22080000003/AS22080622701100
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 08-Aug-2022
 Vehicle No: BP2B5038 Chassis No: MA1RY2GHKF3E29275
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(01-Jul-2022 to 30-Jun-2023)	8900	185	9085
GRAND TOTAL (in Rs): 9085/- (NINE THOUSAND AND EIGHTY FIVE ONLY)			

Note- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy Printed On: 13-Aug-2022 08:21:02

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam

RECEIPT/APPL No: AS8D22080000010/AS22080852824603
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 12-Aug-2022
 Vehicle No: BP2B5038 Chassis No: MA1RY2GHKF3E29275
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	300	0	300
RC Paper Document Charge	200	0	200
GRAND TOTAL (in Rs): 500/- (FIVE HUNDRED ONLY)			

Note- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 09-Aug-2022 08:10:57

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D220900000004/AS22080652701236
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 08-Aug-2022
 Vehicle No: BP2B5039 Chassis No: MATRY2GHHF3E29272
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(01-Jul-2022 to 30-Jun-2023)	8900	185	9085

GRAND TOTAL (in Rs): 9085/- (NINE THOUSAND AND EIGHTY FIVE ONLY)
Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>)

ONLINE PAYMENT

Customer Copy

Printed On: 13-Aug-2022 08:22:07

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D220800000011/AS22080882823177
 Vehicle Class: Bus
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 12-Aug-2022
 Vehicle No: BP2A5893 Chassis No: MAT412283AR00255
 Regn Date: 19-Dec-2011
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registrar In No (RMA)	1500	0	1500
RC Paper Document Charge	200	0	200

GRAND TOTAL (in Rs): 1700/- (ONE THOUSAND SEVEN HUNDRED ONLY)
Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>)

ONLINE PAYMENT

Customer Copy

Printed On: 08-Aug-2022 08:11:37

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D220800000005/AS22080622701330
 Vehicle Class: Bus
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 06-Aug-2022
 Vehicle No: BP2A5093 Chassis No: MAT412283AR00255
 Regn Date: 19-Dec-2011
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(08-Dec-2021 to 31-Dec-2022)	18928	1210	20138

GRAND TOTAL (in Rs): 20138/- (TWENTY THOUSAND ONE HUNDRED AND THIRTY EIGHT ONLY)
Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>)

ONLINE PAYMENT

**External Semi-annual Monitoring Validation Report
For Environmental Safeguards Implementation January to June 2022
120 MW Lower Kopili Hydroelectric Project**

**Submitted to
Assam Power Generation Corporation Limited**



**Submitted by
Feedback Infra Private Limited ENERGY DIVISION
AQUALOGUS – Engenharia e Ambiente, Lda
Jade Consult Pvt. Ltd.**



Six-Month External Monitoring Report (Draft)

Action → Category ↓	Description	1	2	3	4	5
A	For Approval	Released For Construction	Clear Approval	Approved With Comments	Approved With Comments but Resubmit with Revision	Disapproved
B	For Reference	X				
C	As Built					
D	Preliminary For Information Only					

Consultancy Services for External Monitoring of 120 MW Lower Kopili Hydroelectric Project

CONTRACT No 01

DATED: 24TH December 2021

PURPOSE:

External Monitoring for implementation of Environment Safeguards for the period January 2022 to June 2022.

3	Submission to Client	15.02.2023	AW, SM, VB	SLN	SLN
	Revision 2	09.03.2023	AW, SM	SLN	SLN
Rev.	Description	Date	Prepared	Checked	Approved
		Assam Power	Generation	Corporation Ltd,	
		Bijulee Bhawan, Paltan Bazar, Guwahati - 781001 Feedback Infra Private Limited			
  		First Floor, Tower East 77A, Sector 18, IFFCO Road, Gurugram 122 015, India. AQUALOGUS – Engenharia e Ambiente, Lda. Rua do Mar da Ch. n.º 1, Office 2.4, 1990-137 Lisbon, Portugal . Jade Consult Pvt. Ltd. 42/34 – Kabil Marg, Thapathali, Kathmandu, Nepal			
Doc. No: FIPL/ED/APGCL/Semi Annual Summary-Jan-Jun-					
22/Feb-23/02			Size : ISO-A4 /A3	No of Pages: 98	REV 0

List of Abbreviations

ADB	Asian Development Bank
AMD	Acid Mine Drainage
APGCL	Assam Power Generation Corporation Limited
APO	Assistant Personnel Officer
APSIP	Assam Power Sector Investment Program
ASTM	American Society for Testing and Materials
CAP	Corrective action plan
CATP	Catchment Area Treatment Plan
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CEMP	Contractor Environmental Management Plan
CGWB	Central Ground Water Board
CIA	Cumulative Impacts Assessment
CTO	Consents to operate
CTE	Consents to establish
EA	Executing Agency
EC	Environment Clearance
EIA	Environment Impact Assessment
EHS	Environment Health and Safety
EMC	External Monitoring Consultant
EMP	Environmental Management plan
EMoP	Environmental Monitoring Plan
EMR	External Monitoring Report
FC	Forest Clearance
FIPL	Feedback Infra Private limited
GIIPS	Good International Industrial Practices
GOI	Government of India
GOA	Government of Assam
GRM	Grievance Redress Mechanism
IWRMP	Integrated Water Resources Management Plan
L&T	Larsen & Toubro
LKHPL	Lower Kopili Hydroelectric Project
MEPF	Meghalaya Environmental Protection Fund
MS	Management of Study
MOC	Memorandum of Change
MoEF & CC	Ministry of environment Forest and Climate Change
MPR	Monthly Progress Reports
NOC	No Objection Certificate

NGT	National Green Tribunal
NGO	Non-Governmental Organisation
PESO	Petroleum and Explosives Safety Organization
PMC	Project Management Contractor
PMU	Project Management Unit
SEMR	Six-Monthly Environment Monitoring report
SESC	Social and Environment Safeguards Cell
SRC	Sulphate Resistant Cement
SPS 2009	Safeguard Policy Statement
WQR	Water Quality Restoration
WQRP	Water Quality Restoration Plan

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1.0 PROJECT BACKGROUND

1. Assam Power Generation Corporation Limited (APGCL) is in the process of building a 120 MW Lower Kopili Hydroelectric Project. The Lower Kopili H. E. Project (LKHEP or "project") involves construction of 120 MW hydroelectric power plants and an associated 50 km long 220 kV transmission line in Karbi Anglong and Dima Hasao Districts in the north-eastern State of Assam, India. The project will use the hydropower potential of the Kopili River, a south bank tributary of the Brahmaputra River, at Longku, utilising the regulated discharge from Kopili HEP, spills from Khandong and Umrong Dams in the upstream, and the discharge from the intermediate catchment. The project is designed to operate as a run-of-river power plant with diurnal storage with a total capacity of 120 megawatts (MW), comprising a main plant rated at 110 MW (2X55 MW) and an auxiliary plant rated at 10 MW (1x5 MW+2x2.5 MW) at the toe of the dam for utilising the mandatory releases for ecological purposes. The scheme has been contemplated to run at full potential in the monsoon season and operate as a peaking station in the non-monsoon season.
2. APGCL through Government of Assam (GoA) and subsequently through Government of India (GOI) has applied for a loan from the Asian Development Bank (ADB) towards the cost of LKHEP under Assam Power Sector Investment Program (APSIP) - Environment Tranche 3.
3. The project has been accorded environmental clearance by MoEF&CC on September 4, 2019, as the project falls under **Category A** of the Environmental Impact Assessment (EIA) Notification, dated September 14, 2006 (and amendments thereafter). The project has also received stage 1 and stage 2 forest clearance from MoEF&CC on February 5, 2019, and December 4, 2020, respectively, as a result of the project's requirement to divert forest land. External Monitoring Consultant (EMC).

1.1 PROJECT SALIENT FEATURES

4. As of June 2022, the Lower Kopili Hydroelectric Project comprises the following salient features:

Project Salient Features

Particulars	Description
Name of the Project	Lower Kopili Hydroelectric Project
State	Assam
District	East of Karbi Anglong and West of Dima Hasao (North Cachar) Hills District (Project Location Map is attached as Annexure-I)
River	Kopili
Catchment area	2,076.62 sq. km
Environmental flow (e-flow)	Minimum 5.345 m ³ /s

DAM		
Dam Type	Concrete Gravity Dam	
Maximum height of the dam	65.50 m	
Overflow spillway for debris removal size (W x H)	4.0 m x 3.0 m	
Sluice spillway No. & size (W x H)	6 Nos., 10 m x 12.50 m	
Sluice spillway capacity	11,030 m ³ /s	
Gate type and Number	Radial gate and 6 No. with hydraulic hoist	
RIVER DIVERSION		
Diversion type	Coffer dams, Diversion Tunnel of 10.5 m diameter at right bank	
Upstream Coffer dam		
Type	Plum Concrete	
Height	17.80 m	
Top Length and Level	167.17 m, EL. 189.80 m	
Downstream Coffer dam		
Type	Earth & Rockfill	
Height	4.50 m	
Top Length and Level	100.58 m, EL.175.50 m	
INTAKE	MAIN POWERHOUSE	AUXILIARY POWERHOUSE
Number of openings	1	1
Nominal discharge	112.71 m ³ /s	24.94 m ³ /s (e-flow of 5.345 m ³ /s within this)
HEAD RACE TUNNEL		
Location	Right bank of Kopili river	
Length	3,641.60 m	
Nominal discharge	112.71 m ³ /s	
ADIT-1 TO HRT		
Shape and Size	D-Shape, 6.0 m	
Length	354.66 m	
Type & Number of Gate	Hinge type, One	
Gate Size (W x H)	2.5 m x 2.5 m	
SURGE SHAFT		
Type	Restricted orifice type	
Diameter	25 m	
VALVE HOUSE		
Type & Number	Surface	
Size (L x W x H)	23 m x 14 m x 27.50 m	
PRESSURE SHAFT	MAIN POWERHOUSE	AUXILIARY POWERHOUSE
Type	Circular steel lined	Circular steel lined
Nominal discharge	112.71 m ³ /s	24.94 m ³ /s
Length of pressure shaft	451.20 m (Dia 6.1m) 152.83 m	64 m
Length of Surface Penstock	(Dia 6.1m) / 87.36 m (Dia 5.2m)	

Number of pressure shaft	1	1
Specification of steel plates	ASTM A537	ASTM A537
Penstock	2	3
Internal diameter	3.70 m	2 Nos.1.65 m & 1 No.2.35 m
Length	17.82 m	26.20 m/ 26.20 m/ 24.20 m
POWERHOUSE	MAIN POWERHOUSE	AUXILIARY POWERHOUSE
Installed capacity	2x55 MW=110 MW	2x2.5 MW+1x5 MW=10 MW
Location	Right side of river Kopili	Right side of river Kopili
Type	Surface powerhouse	Surface powerhouse
Powerhouse dimensions (L x W x H)	76.5 m x 19.1 m x 30 m	50.5 m x 10 m x 27 m
Average gross head	114 m	48.30 m
Type of turbines	Francis, vertical	Francis, horizontal
Number of units	2	3
Installed capacity per unit	55 MW	2.5 MW / 5 MW
TRANSFORMER YARD		
Type	1 phase, ONAF cooled Generator Transformer	3 phase, ONAN/ONAF cooled Generator Transformer
Location	Upstream of powerhouse	Upstream of powerhouse
Number	7 (6+1 spare) nos.	2 nos.
Rated capacity	24 MVA	6.5 MVA
TAIL RACE CHANNEL		
Type	Rectangular Channel	Rectangular Duct
Numbers	1	Three separate ducts merging into one common duct
Size (L x W)	208.4 m x 26 m	43.40m for 5 MW unit 29.65m for 2.5 MW Units
SWITCH YARD		
Type & Size	Outdoor-146 m x 72 m	Outdoor-24 m x 21 m
Voltage level	220 kV	33 kV
CONSTRUCTION PERIOD		
Total construction period	4 Years	

1.2 PROJECT PROGRESS STATUS

5. The project is divided in to 4 packages.

Contract Package 1

Yet to be awarded

Contract Package 2

The contract agreement for Package 2 (Civil and Hydromechanical and Construction) has been awarded to Larsen & Toubro (L&T) contractor, India on August 21st, 2020. L&T started the construction works in September 2020 and has achieved 26% physical progress as per June MPR.

The summary of physical progress for Package 2 works as of June 31st, 2022, against the construction schedule is presented in the below Table:

Activity	Progress till 30 th June 22	Balance Quantity
Excavation of permanent and temporary roads	Completed	Completed
Cross Drainage (Box Culvert + Hume pipe culvert)	Completed	Completed
Road GSB laying	Completed	Completed
Road WMM laying (1st Layer)	5,585m of 11,358m	5,773 m
Road WMM laying (2nd Layer)	1,070 of 11,358m	10,288 m
Adit Tunnel UG Excavation	Completed	Completed
Diversion Tunnel UG Excavation	Completed	Completed
Surge Shaft Open Excavation	Completed	Completed
Switch Yard Excavation	Completed	Completed
Valve House Open Excavation	Completed	Completed
Horizontal Pressure Shaft	Completed	Completed
Intake Structure Open Excavation	Completed	Completed
Right Bank Drift Tunnel Excavation @ EL-190	Completed	Completed
Adit To HRT Excavation Open Excavation	Completed	Completed
DT Outlet & Inlet Excavation	Completed	Completed
HRT UG Excavation Face: II (Adit to Power Intake)	13%	87%
HRT UG Excavation Face: III (Adit to Surge Shaft)	10.5%	89.5%
Surge Shaft UG Excavation	11%	89%
DT Inlet Structure Concrete	25%	75%
U/S Cofferdam Concrete	18%	82%
Right Bank Drift Tunnel Excavation @EL-188	90%	10%
Auxiliary Powerhouse Open Excavation	8%	92%
Left Bank Open Excavation	11%	89%
Right Bank Open Excavation	51%	49%
Tail Race Channel Open Excavation	61%	39%
Pressure Tunnel UG Excavation	63%	37%

Activity	Progress till 30 th June 22	Balance Quantity
Inclined Pressure Shaft Open Excavation	95%	5%
Powerhouse Open Excavation	84%	16%
L&T's site Office	Completed	Completed
APGCL/PMC Office	Completed	Completed
P&M and Fabrication Workshops	Completed	Completed
Staff bachelor and Manager Accommodation	Completed	Completed
Staff Mess	Completed	Completed
Contractor's Worker Camp Accommodation	Completed	Completed
APGCL/PMC Accommodation	Completed	Completed
Main Store and Store No. 2	Completed	Completed
P&M/Store Office	Completed	Completed
Quality Assurance and Quality Control Lab	Completed	Completed
Explosive Magazine	Completed	Completed
Crusher Plant (200 TPH)	Completed	Completed

Source: Monthly Progress Reports Jan-June 2022

Contract Package 3

The contract for Package 3 (Electro- mechanical) has been awarded to Contract awarded to M/s Andritz Hydro Private Limited, India on September 9th, 2021. After award of the contract, the contractor has done reconnaissance survey of the project area starting November 12th 2021.

Contract Package 4

The contract for Package 4 (Transmission Line) has been awarded to M/s. Salasar Techno Engineering Limited JV with M/s. Akelik Group, India on June 30th 2022. After award of the contract, the contractor has done the detail survey of the transmission line route alignment.

1.3 ENVIRONMENTAL CATEGORY AS PER ADB SAFEGUARD POLICY STATEMENT

6. As per ADB's Safeguard Policy Statement (SPS 2009) the Project is classified as Category A "triple A" The following are the Project Categorization based on the ADB SPS (2009) Safeguard Categories:

Environment- **A**

Involuntary Resettlement (IR) - **A**

Indigenous Peoples (IP) – **A**

1.4 SCOPE OF WORK EXTERNAL MONITORING CONSULTANT

7. External Monitoring Consultant has been engaged under the project to provide technical guidance and monitor the implementation and effectiveness of Environmental and Social (E&S) Safeguards activities as per the requirements of national regulatory requirements and ADB's SPS 2009 safeguards requirements w.r.t project construction activities.
 - A. External Monitoring Consultant are required to verify the status of mitigation and monitoring activities for the project, with overall supervision of the implementation of:
 - Compliance conditions stipulated under various clearances, permits, and NOCs obtained for the project.
 - Environmental safeguard requirements as given in ADB SPS 2009.
 - Compliance with loan covenants related to Environment Safeguards.
 - Independent monitoring of implementation of Environmental Management Plan, Biodiversity Conservation and Wildlife Protection Plan prepared under the Project.
 - B. The External Monitoring Consultant to undertake regular visits to the project site and prepare an External Monitoring Report (EMR) to verify that findings reported in Environmental Monitoring Reports are accurate, and to confirm if the project is in compliance with the Environmental Management Plan (EMP), the SPS 2009, and Indian legislated standards.

1.5 MONITORING REQUIREMENT

8. The proposed project is a '**Category A**' project under the ADB Environmental Safeguard Project categorization (ADB SPS, 2009). Accordingly, an Environmental Impact Assessment (EIA) was carried out by the EA. In the EIA report, applicable laws and legislation and the policy framework have been reviewed, and environmental mitigation measures have been recommended for implementation during the construction and operation stages of the project and its associated facilities. Accordingly, a comprehensive Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP) were provided, along with guidelines for a detailed construction method statement to be prepared by the contractor (and subcontractors). Also, a Biodiversity Management Plan (BMP) under the EMP has been formulated and is a part of the package of activities designed to meet the requirements of ADB's Safeguards Policy Statement (SPS) 2009.

2.0 IMPLEMENTATION OF THE ENVIRONMENT AND SOCIAL SAFEGUARDS

2.1 APPROACH AND METHODOLOGY

9. The current report is the second External Semi-annual Monitoring Validation report for Environmental Safeguards Implementation. It describes the implementation of environmental safeguards activities and progress covering the period from Jan. 2022 to June 2022.

The validation of the Environmental Monitoring Report submitted to ADB is based on:

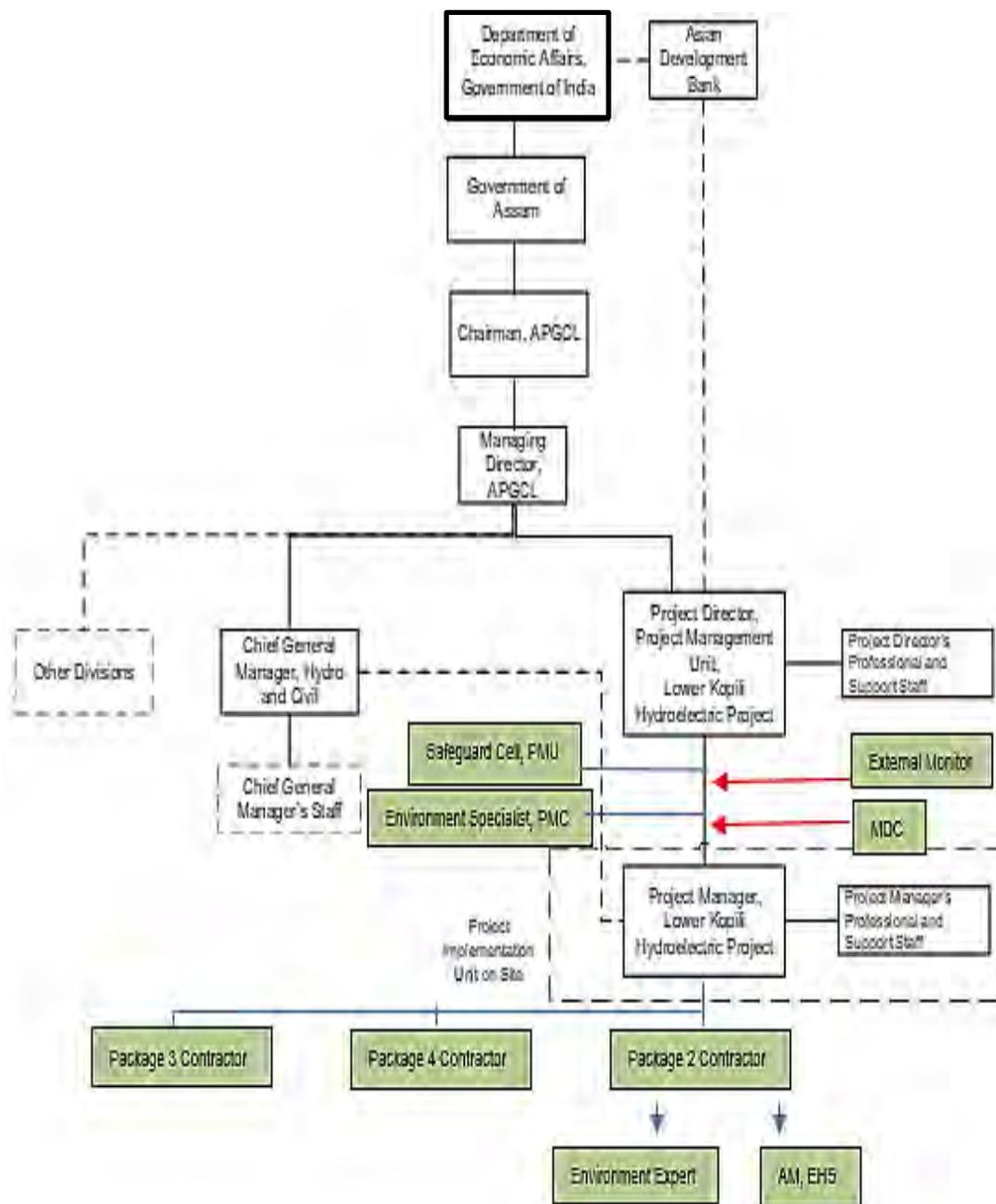
- Desktop-based review of documentation and literature such as previous Monthly and Quarterly Progress reports for project, Six-month Environmental Monitoring Reports, other records, and plans.
- Site inspections of different construction sites, labour camps and the staff accommodation areas, upstream and downstream of the dam in the months of February 2022 and May 2022.
- Interaction with project staff, the contractor's EHS team, the local community, and other stakeholders where needed.

2.2 EMP IMPLEMENTATION ASSESSMENT

10. **Implementation Arrangement:** As the project's Executing Agency (EA), APGCL is in charge of carrying out all environmental protection measures. EA has a fully functional Project Management Unit (PMU) and a dedicated Social and Environmental Safeguards Cell (SESC), both of which are led by a Project Director, who is ultimately in charge of implementing the EMP. The SESC coordinates overall environmental and social safeguards activities for the project, including the implementation of environmental and social safeguards plans and compliance monitoring in the project. The SESC has one qualified environment expert and one qualified social expert, both on a contract basis. It is communicated that there is no qualified Environment, Health, and Safety (EHS) official appointed for the project; however, one site engineer has been designated as having additional responsibility for EHS compliance for the project. SESC lacks a dedicated biodiversity and ecology expert.
11. The EA is being supported by the Project Management Consultant (PMC) awarded to AF Consultant. PMC had a qualified environment and social safeguards specialist; however, there is no dedicated EHS expert appointed for the project.

12. External Monitoring Consultant has only interacted with the package 2 contractor's site staff (L&T) during the assessment period and noted that it has a qualified environment expert, a cluster EHS head followed by an EHS manager, and trained EHS field staff. They are responsible for preparing Monthly Review Report and Monthly Safety Reports and submitting them to EA. The project representatives of package 3 and 4 contractors were not present during the site visits.
13. Further, to oversee environmental safeguard activities, EA has hired an External Monitoring Consultant. This agency will regularly undertake third-party monitoring of environmental safeguard activities and submit to the EA a semi-annual external monitoring report (environment).

14. An organogram showing the relationships and staffing for environmental and social protections between the executing and implementing agency, the project management consultant, contractors, and External Monitoring Consultant is presented below:



15. **Assessment of prerequisite for EMP implementation:** To assess the readiness of EMP implementation, the External Monitoring Consultant first determined if the EA was prepared to proceed with the construction of the proposed project and transmission line. The indicators used for the assessment are listed below:

Table 2.1: EMP Readiness Assessment

Indicator	Assessment Criteria	Compliance	Remarks
EIA approval and disclosure	The EIA was cleared by ADB and disclosed on ADB's project website	Complied	
Mitigation measures described in the EMP adopted during detailed design and construction of the project	Measures defined in EIA and EMP are included in detailed designs for each project component.	Complied	EMP and the EMoP have been included as part of the contract documents with all contractors involved.
EIA/EMP update	Whether the EIA/EMP is updated after detailed design and cleared by ADB.	Being Complied	An update EIA and EMP is needed and is under preparation
Compliance with loan covenants	The borrower complies with loan covenants related to project design and environmental management planning.	Being Complied	Detail provided in section 2.5.
Environmental Monitoring	The monitoring parameters, locations, and methods for the ambient air, noise and surface water defined in the EMoP.	Being Complied	

2.3 COMPLIANCE STATUS

16. The compliance status of the project's implementation has two aspects:

- Compliance status with National/State/Local statutory environmental requirements
- Compliance status with ADB's loan covenants affecting environmental parameters.

17. Checking the status of compliance serves the objective of confirming and validating any deviations from loan covenant conditions and project-specific environmental law requirements. If there are any deviations, the EA must be consulted before proposing any corrective measures.

2.4 COMPLIANCE WITH NATIONAL/LOCAL STATUTORY REQUIREMENT

18. The project does not fall within the core, buffer zone of any eco-sensitive area, important bird area, or legally designated area; however, as confirmed above, the project required the diversion of forest land (523.043 ha) and thus requires forest clearance by MoEF&CC and tree cutting permission before commencement of construction work. All necessary statutory consent, approval, permit, and clearance required in order to implement the project during the period Jan to June and its interventions has been reviewed and verified and the same is presented in Table 2.2.

Table 2.2: Compliance with Statutory Requirements

S.N.	Statutory Permission	Compliance Status	Remarks
1	Environment Clearance under Environment Protection Act 1986	Accorded	Amendment to EC will be taken after Memorandum of Change (MOC) is approved related to detailed design of Project components
2	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).	As communicated a Site-specific Conservation Plan and Wildlife Management Plan was submitted to Chief Wildlife Warden, Assam on 25.6. 19	Wildlife Management Plan and Site-Specific Conservation Plan both are yet to be evaluated. Any findings and the status of the implementation will be updated in the subsequent EMR
3	NOC shall be obtained from National Commission	Obtained	Complied

S.N.	Statutory Permission	Compliance Status	Remarks
	of Seismic Design Parameters (NCSDS) of CWC.		
4	Necessary approval of CEA shall be obtained	Obtained	Complied
5	Forest Clearance under Forest Conservation Act, 1980	<p>Stage 1 and Stage accorded Certificate of possession of Forest Land Dima Hasao Karbi Anglong</p> <p>Tree cutting in progress with assistance/ presence of officials of Forest Department, Panimur Range, Dima Hasao (West) Division and APGCL. All the trees are marked and felled by the respective Forest Department.</p>	Complied
6	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	<p>Package 2 Contractor has obtained the CTE for Crusher, 4 DG set and Batching Plants.</p> <p>CTO for four DG and Crusher NOC Received from Village Panchayats for setting up Batching Plant near powerhouse</p>	Obtaining CTO for Batching Plant at Dam site is in process and its status will be updated in the next validation report.
7	Permission of the State Government for extraction of Fine aggregate from quarry. Location: Up Stream and Downstream of Dam, Dima Hasao. (2 quarries)	<p>a. NOC received from North Sachar Hills Autonomous Council</p> <p>b. Mining Plan approval from department of geology and mining, Assam.</p> <p>c. Approval as per Assam Minor Minerals commencement and Concession Rules, 2013</p>	Being Complied

S.N.	Statutory Permission	Compliance Status	Remarks
8	Permission for extraction of boulders from quarry.	Consent Letter from DFO, Haflong received on 22 nd Apr'22. 5.Mining Plan Approval received dated. 11 th May'22 vide reference no: GM/MM/86-B(40)/Pt. VI/667-73.	Further approval from DFO, Haflong in process.
9	Permission for crushing 2,80,000 cum of boulders from excavated materials	Permission received from NCHAC.	Complied
10	Clearance from Central Ground Water Board (CGWB) for abstraction of ground water	Application submitted to CGWB in November 2021.	Under process
11	NOC for surface water use for construction	Yet to obtain NOC from Water Resource Department and instruction given to the contractor to comply.	Not complied
12	NOC from Deputy Commissioner Govt. of Assam, for setting up Fuel dispensing Unit at Project location	NOC received from The Deputy Commissioner, Dima Hasao, Haflong; Govt. of Assam NOC Received from PESO on 6 th dec. 2021 is valid till 31/12/2022	Complied
13	NOC from District magistrate for grant of Explosive license, Magazine construction and third-party handling of explosives and its blasting operation.	NOC received on 27 th October 2021 vide letter no. NCH/M-3/20- 21/L/2-A NOC for third party handling of explosives and its blasting operation received on 22 nd October 2021 for M/s. R.L. Poddar and North East Associates, Shillong	Complied

S.N.	Statutory Permission	Compliance Status	Remarks
14	Permission for storage of Explosives (Explosive Van) at Longku police station for blasting operation	Permission Received from Superintendent of Police, Dima Hasao District, Haflong	Complied
15	NOC Obtained from Petroleum and Explosives Safety Organization (PESO) for establishment of Explosive magazine	The Monthly Progress Report June 2022 states that "Storage approval licence Received on 26 th Nov. 21 E/EG/AS/22/63(E134742) from PESO, Guwahati" While, Table 3.2 Point 7 (a) of Six-Monthly Environment Monitoring report (SEMR) Jan to June 2022 states that "NOC applied to for establishment of Explosive magazine. Storage approval pending from PESO".	Storage approval licence Received on 26 th Nov. 21 E/EG/AS/22/63(E134742) from PESO, Guwahati. For EMC evaluation, EA is requested to include the letter in the upcoming Monthly Progress Report.
16	Fire NOC / Fire License for Magazine	Fire Safety NOC from Office of the Director, Fire and Emergency Services, Assam, Guwahati received 17 th Mar'22 NOC from Sr. Station Officer, Fires and Emergency Service Station, Haflong, Dima Hasao	Complied Under Process
17	NOC for blasting operations at Dima Hasao Division (Right Bank of Dam).	NOC received on 14 th July'21 vide NCH/M-8/2021/1639(A) & NCH/M-8/2021/6378-89 dtd. 22 nd Oct'21 Valid till 14th Jun'22.	Request of extension validity period for permitting Explosives handling & its operations submitted to District Magistrate Dima Hasao District, Haflong. For EMC evaluation, EA is requested to include the letter in the upcoming Monthly Progress Report.

S.N.	Statutory Permission	Compliance Status	Remarks
18	NOC for blasting operations at Hamren Division, Karbi Anglong (Left Bank of Dam)	Permission Received on 12th January 2022 from DC Office, Karbi Anglong	Complied
19	NOC for Night Shift Blasting Permission inside tunnels (Panimur range)	NOC received on 22nd Mar'22	Complied

2.5 COMPLIANCE STATUS WITH ENVIRONMENT LOAN COVENANTS

19. The loan agreement between ADB and Govt. of India was signed for the Assam Power Sector Investment Program (Project 3) on 30th December 2020. The Environmental loan covenants are mostly described in Schedule 4 and Schedule 5 of the loan agreement. The schedule 4 of the agreement provides details of "Procurement of Goods, Works and Consulting services". Under this schedule the para 6 and para 8 pertains to compliance. Para 6 specifies that no work shall commence until and unless the EIA for the scheme is approved and para 8 mentions selection of External Monitoring Consultant and validation of Environmental Monitoring reports by APGCL. The schedule 5 on the other hand is related to "Execution of Projects", its implementation arrangements, safeguarding environment and social, safeguard related provisions in the bidding documents and works contract and safeguard monitoring and reporting.

Table 2.3: Compliance with Loan Covenants

S. N.	Reference	Specific covenant/condition	Compliance as on Jan-June 2022	Remark
1	Schedule 4, Para 6 related to clearance of updated EIA by ADB	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 the ADB;	Being complied.	The main EIA along with three supplementary EIA was cleared by ADB in 2018 and Environmental clearance granted by MoEF&CC vide EC letter dated September 4 th , 2019. The amendment of EC is required pertaining to any modification in project scope, design and change in submergence area etc. The updated EIA is submitted to ADB for approval.
		(ii) EA has incorporated the relevant provisions from the EMP into the works contract;	Complied	
		(iii) the EIA is updated to reflect the turnkey contractors' detailed design and up to date baseline and	Being Complied.	
		(iv) such updated EIA is cleared by ADB		
2	Schedule 4, Para8 related to engagement of EM and submission of	The borrower shall ensure or cause the EA to ensure to recruit a consulting firm for external validation of the Environmental Monitoring report produced by APGCL.	Complied	APGCL has appointed M/S Feedback Infra Private Limited (JV) with Jade Consult P. Ltd. and Aqualogus-Engenharia Ambiente as EMC. Contract awarded on 24 th December 2021.

S. N.	Reference	Specific covenant/condition	Compliance as on Jan-June 2022	Remark
	various reports to ADB	The Borrower shall ensure or cause the EA to apply individual consultant selection for Consulting Services.	Being complied by APGCL	
3	Schedule 5, Para 5, related to Health and Safety measures and its inclusion in Contractor's design	The borrower shall ensure or cause the EA to ensure that the preparation, design, construction, implementation, operation and decommissioning of the project and all the project facilities comply with (a) all applicable laws and regulations of the borrower and the state relating to Environment, Health and Safety (b) The Environmental Safeguards, (c) the EARF (d) all the measures and requirements set forth in the EIA and EMP and any corrective or preventive action set forth in a Safeguard Monitoring Report.	Partially complied.	Amended EIA as submitted to ADB is under approval process. Necessary application for EC amendment to be made.
4	Schedule 5, Para 9, budgetary provision, and human resource provision related to full implementation of EMP	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 The implementation arrangement for environmental safeguards is discussed in Section 2.2.	It is suggested that qualified and well-experienced EHS experts need to be appointed under SESC and PMC for EHS and OHS compliance and supervision.

S. N.	Reference	Specific covenant/condition	Compliance as on Jan-June 2022	Remark
5	Schedule 5, Para 10: Safeguard related documents in bidding document and works document.	Safeguard Related Provisions in Bidding Document and Works contracts: The borrower shall ensure or cause the EA to ensure that all bidding documents and contractor for works contain provisions that require contractors to: (i) 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.	Such details are included in the bid document for the works components.
		(ii) budget for environment and social measures;	Complied	
		(iii) unanticipated environmental and social risks that arise during construction, implementation and operation stage of the project and is not included in the EIA/EMP or RIPP, RF or IPPF.	Being complied	
		(iv) Record conditions of roads, agricultural land other infrastructure prior to starting transport materials and construction.	Being Complied	

S. N.	Reference	Specific covenant/condition	Compliance as on Jan-June 2022	Remark
		(v) fully reinstate pathways, other local infrastructure, and agricultural land to their pre-project conditions upon completion of construction	Being Complied	
6	Scheule5, Para 11: Safeguard Monitoring and Reporting	The borrower shall ensure or cause the EA to ensure the following: (i) Submit semi-annual Safeguard Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission.	Being Complied.	Semi-annual safeguards monitoring reports are being submitting to ADB for review.
		(ii) 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 Complied.	The EIA addendum submitted to ADB.

S. N.	Reference	Specific covenant/condition	Compliance as on Jan-June 2022	Remark
		(iii) report any breach of compliance with the measures and requirements set forth in the EMP or RIPP promptly after becoming aware of the breach.	Being complied	Semi-annual safeguards monitoring reports are being submitting to ADB for review.
7	Schedule 5 para 12, (Prohibited Investment Activities)	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.	Complied	The project scope does not include any activity included in the list of prohibited investment activities.
8	Schedule 5 para 13, Labour Standards, Health and Safety	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: (i) carry out HIV / AIDS awareness programs for labour and disseminate information at worksites on risks of sexually transmitted diseases and HIV / AIDS as part of health	Partially Complied	Contractor (only Package 2 contractor i.e., L&T) comply with the labour laws of the Gol; no child labour or forced labour or discrimination in job opportunities were observed during the assessment surveys. PMC reported that HIV/AIDS awareness camps were not organized during Jan-Jun 22. Social, HIV/AIDS awareness and Labour laws related trainings need to be

S. N.	Reference	Specific covenant/condition	Compliance as on Jan-June 2022	Remark
		and safety measures for those employed during construction.		organized on regularly needs to be planned and scheduled in every quarter.
		(ii) follow and implement all statutory provisions on labour (including not employing or using children as labour, equal pay for equal work) health, safety welfare, sanitation, and working conditions.	Partially complied	Sanitation facilities in labour camps and kitchen areas needs improvement.
		(iii) Such contracts shall also include clauses for termination in case of any breach of the stated provisions in the contract.	Being complied.	

3.0 COMPLIANCE WITH ENVIRONMENT MANAGEMENT PLANS

20. An Environmental Management Plan (EMP) with details on mitigation measures, timing, and location for implementing the mitigation measures, costs and responsible agencies for implementing and supervising the mitigation measures has been prepared. In addition, an Environmental Monitoring Plan (EMoP) has been prepared to guide key monitoring activities to ensure effectiveness of EMP implementation. Contractors who are currently working on the project or who will soon begin work on it are charged with the duty of adhering to all management strategies outlined in the EMP. Each contractor must adhere to all applicable laws and ADB's safeguard specifications. Additionally, contractors will need to adhere to any project-specific regulations for soil, water, air, noise, and biodiversity.

3.1 BIODIVERSITY CONSERVATION AND WILDLIFE MANAGEMENT PLAN

21. **Establishment of a Biodiversity Management Committee:** plan requires to constitute a Biodiversity Management Committee for effective implementation of Biodiversity Conservation Programme enlisted in EMP. The committee is required to have representatives from the project authority, members of the Autonomous Council of Dima Hasao and Karbi Anglong, Department of Environment and Forests, Forests and Wildlife Division, and Assam Biodiversity Board.
22. A Biodiversity Management Committee as required has been established including members of autonomous council (Dima Hasao and Karbi Anglong) department of environment and forest and wildlife division and Assam biodiversity board. So far, no meeting has been initiated by the committee and no awareness program among locals ever conducted. After constitution of the Biodiversity Monitoring Committee all the activities under the BMC including awareness will be planned and implemented.
23. Biodiversity Management Committee was formed however selection of NGO was yet to be done and first meeting was yet to be held.
24. **Conservation Plan for Floral Species:** the plan requires rehabilitate and restoration of all cleared sites further as required under the plan there is no proposal review suggesting up-gradation of a recreational area at Panimur forest ranger station in the downstream of the dam which is currently utilized as a picnic spot by the general public.
25. **Compensatory Afforestation Program:** an amount of Rs. 15, 94, 238,500.00 (Rs. Fifteen Crores, Ninety-Four Lakhs, and Twenty-Three Thousand Eight Hundred Fifty) has already

been paid to the Forest Department for Compensatory Afforestation (CA) by the Compensatory Afforestation Fund Management and Planning Authority (CAMPA). As per departmental norms, the Forest Department will implement the CA. The 8 patches of revenue land have already been notified as "reserved forest" by the government of Assam. The Forest Department, Govt. of Assam, has taken up the CA for Dima Hasao and Karbi Anglong in the APO of 2022–2023. APGCL will monitor the activities, and the Department will submit the six-monthly progress report to EA so that EA can update the status of CA to the MoEF&CC.

26. After reviewing the EMP and BMP and communicating with the site staff, the EMC suggests that the following activities be initiated in close coordination with the Forest Department:

- Compensatory Afforestation is a seasonal activity and therefore can only be carried out during the pre-monsoon season to ensure a high survival rate for plant species. Therefore, it is suggested to plant at least 3–4 months before the onset of the pre-monsoon.
- A biodiversity monitoring awareness programme can be developed with a timeline to provide awareness of biodiversity to the local community.

3.2 CATCHMENT MANAGEMENT PLAN

27. As a requirement, the Catchment Area Treatment Plan (CATP) as proposed in the EIA/EMP report needs to be implemented in consultation with the State Forest Department and be implemented in synchronisation with the construction of the project.

28. As communicated by EA, an amount of Rs. 28, 29, and 67,000.00 (Rs. Twenty-Eight Crore, Twenty-Nine Lakh, and Sixty-Seven Thousand) has already been paid to the Forest Department for the implementation of CATP.

3.3 FISH MANAGEMENT PLAN

29. As stated in the EIA, no fish and fishing activities were recorded in the main channel of the Kopili river. However, fishes are present in the local streams, which support small-scale fisheries using traps and small gears. As per environmental monitoring reports, the pH of the water has increased, but it is not clear whether the change in pH is due to an influx of flood or due to the mining ban in the upstream catchment of the river. During the field visit, no local fish were recorded in the market. Interviews with the local

communities revealed that small-scale fishing is done in local streams during the monsoon and post-monsoon period. The proposed fish management plan should investigate the reason for the change in pH to have a more practical fish management plan.

30. After reviewing the management plans, communicating with the site staff and locals, EMC suggests that the following activities be initiated or implemented for fish management:

- Care should be taken to avoid alien invasive species in the river, both fish and fauna. Lentic water is more prone to have invasive plant species, such as Eichornia and Ludwigia Pruviana (Barua et al., 2017), and fish species, such as Tilapia.
- There should be a regular invasive species monitoring plan in all the stages of the project and operational phase.
- Local streams such as Lonku Nala should be part of aquatic ecology study as it is source of livelihood and harbours fish and other aquatic biota

3.4 WATER QUALITY RESTORATION

31. Draft EIA prepared by WAPCOS (October 2016) was finalized with 3 additional reports namely (i) Cumulative Impacts Assessment (CIA), (ii) an Integrated Water Resources Management Plan (IWRMP) and (iii) a Water Quality Restoration Plan (WQRP) including a mitigation strategy. The supplementary EIA (Volume 4) to the main EIA report is prepared mainly with an objective of Water Quality Restoration (WQR). The main objectives of the WQRP are to determine the sources of acidity due to Rat-hole mining and to identify and design remedial alternatives based on feasibility, cost, and relative effectiveness. As per this WQRP, the Kharkar river is the upstream source of the Acid Mine Drainage (AMD) due to rat hole coal mining practices. The Overall objective of the WQRP is:

- (i) Reduce and eventually eliminate the AMD and consequent surface water contamination, up and downstream of Kharkar and Kopili river.
- (ii) Remediate abandoned mine areas to isolate AMD-producing geologic material.
- (iii) Restore coal mine affected land to eventually support pre-mine land eco-systems including its flora and fauna;
- (iv) Restore pre-mining land use including agriculture, horticulture and grazing.
- (v) Restore riverine system to pre-AMD quality to support fisheries; and
- (vi) Guide eventual land use and local economy away from coal mining, to one that promotes sustainable development.

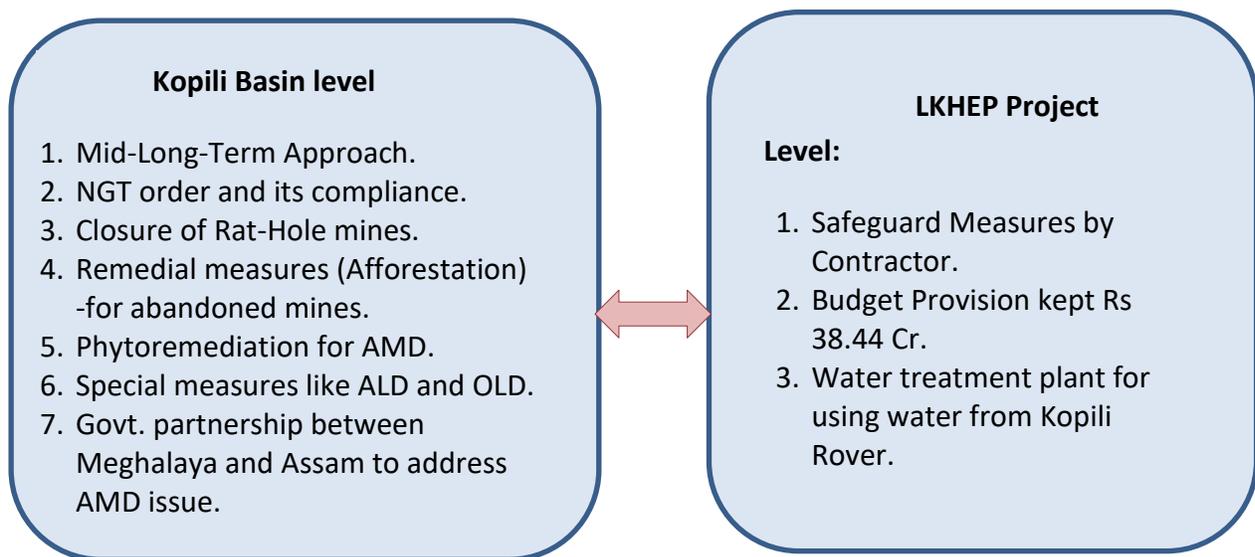
A disclosed copy of the WQRP can be downloaded from the link:
https://www.adb.org/sites/default/files/project-documents/47101/47101-004-eia-en_13.pdf

32. **AMD problem in the Kopili river Basin:** Acid mine drainage (AMD) forms when sulphide minerals have been exposed to oxidising conditions during mining and other excavation activities, such as highway construction. In the presence of oxygen and water, sulphide minerals oxidise to form sulphate-rich and often metal-laden soil. AMD are toxic to vegetation and can reduce the potability of water supplies.
33. Sharma et. al, 2011 indicated the challenges of AMD in Kopili HEP. Since, commissioning the Power Stations are continuously serving the region by providing electric energy. During the commissioning period of KHEP in 2006-07, the performance of the plant was excellent with rare plant outage. The frequency of the outages increased since May 2007.
- The Cooler tube Failure happened 27 times for Khandong Dam, 50 times for Kopili P.S and 4 times for Kopili Stage –II
 - CW line and Fixtures leakages happened 24 times for Khandong Dam, 2 times for Kopili P.S and 9 times for Kopili Stage –II
 - Leakage/Break Down of turbine Component happened 15 times for Khandong Dam, 12 times for Kopili P.S and 1 time for Kopili Stage –II
34. During post outage maintenance it was observed that the crisis was due to corrosion / metal erosion in the power plant equipment's. Frequent failure has been observed in components which are subjected to high turbulence e.g. Cooling water Header pipe, bends, Throttling valves & Pressure equalizer pipe of turbine. Preliminary investigations revealed high acidity in the Umrang reservoir water (pH = 4.82).
35. **Water Quality in the Kopili River Basin:** As per the EIA report (April 2018) for the LKHEP scheme, the Water quality in River Kopili has been reported as acidic (pH 3.3 to 5.2) making it unfit for drinking or usage in construction. Further samples were collected during January 17, indicates that Kharkar River, a tributary of Kopili actually carries exceptionally low pH (2.5-3.3) water leading to acidic nature in River Kopili. The supplementary EIA (Vol4: WQRP) reported that the AMD from the rat hole mining in Meghalaya is the major reason for such low pH value in Kharkar River; measures of AMD show pH value in the range of 2.2 to 3.7. In October 2017, MoEF&CC subcommittee reported that the pH value from river Kopili in the range 6.76-6.86 and at Umrang

Reservoir in the range of 4.54-4.62. This report of MoEF&CC sub-committee therefore does not report high acidic water in River Kopili.

36. Further water quality was measured at Dam site and its upstream and downstream parts by APGCL in 2018, 2019 and 2021 which has shown some improvement in pH value (5.9 to 6.25) **while the data collected in March 22, has shown remarkable improvement in pH value showing almost 7 (neutral value) in all the sample collected sites upstream r downstream.**

37. **Management Measures proposed under WQRP for LKHEP:** Based upon disclosed WQRP, Site visit in May 2022, discussion with APGCL, review of EMRs prepared by contractor team and SEMR prepared by PMC team, it is concluded that the safeguard measures related to water quality is largely divided into two parts and stages:



38. The measures proposed under these schemes are discussed in detail in the Inception report along with the water quality report. The water quality report is provided in **Annexure-II** and is summarized below:

At Kopili Basin Level:

- Hon'ble National Green Tribunal (NGT) on 15.03.2021 directed for constitution of a 12-member committee headed by Additional Secretary, MoEF&CC, and the committee to ensure that no illegal/unauthorized mining takes place in Meghalaya
- Combat plan and mining mishap plan to avoid any kind of eventualities.
- MoEF&CC proposed two proposals for rejuvenation of coal mines:

- ✓ Afforestation using conventional methods with a budget estimate of Rs 7.09 Cr. for plantation in 224.26 Ha of land across 8 districts; and
- ✓ Rejuvenate degraded coal mines through soil amendment and microbial technology at a budget estimate of Rs 58.92 Lakhs.
- ✓ These two proposals to be funded under the Meghalaya Environmental Protection Fund (MEPF);
- Phytoremediation proposal through Micro Algae treatment of Kyrhukhla River at a cost of Rs. 19.19 Lakhs.
- Hon'ble NGT finally on 11th April 2022 has directed Govt of Meghalaya to implement the afforestation programme by 31st December 2024 and asked them to take remedial measures for the rejuvenation of all the polluted river stretches along with regular monitoring of the water quality of river (pH) the results to be uploaded regularly on the website of MPCB.
- The latest data uploaded in Meghalaya Pollution Control Board has been checked by Ems and the latest data uploaded in the month of October 2022 indicate that the pH level in river Kyrhukhla is still very acidic showing pH value of 3.5. The link for downloading the data is given as:
https://megspcb.gov.in/mth_waterquality.html
- Responsibility towards minimizing the acidity in river Kopili lies mainly to Govt of Meghalaya (which include closure of Rat-hole Mines, remediation of these mines through afforestation activities etc, Phyto remediation of Kyrhukhla river and other AMD sources subsequently), however, major HEPs are there in Kopili river basin which falls in Assam and therefore major impact will pose to Assam if these acidity in the basin level is not reduced. Therefore, for the benefit of these HEPs, Govt of Assam need to monitor these safeguard measures of Govt of Meghalaya through various administrative processes.
- It has been observed that Pollution Control Board Assam monitor and maintain water quality index of various rivers in the state including **river Kopili for the parameters namely DO (dissolved oxygen), BOD (biochemical oxygen demand), Faecal coliform and Total Coliform and the water quality results of these parameters in river Kopili is found satisfactory (<https://www.pcbassam.org/WQI/new/march%202022.pdf>).**
- **At Lower Kopili HEP Project Level:** In order to Safeguard the Civil and Hydro Mechanical structures, a budget provision of Rs 38.44 Cr. has been kept by the EPC Contractor M/s Larsen and Toubro Limited. The overall weightage of safeguarding the Civil and HM structures from acidic water is about 3.31% of the overall project budget of Rs 1164.04 Cr. This data has consistently been reported in the MPRs (Jan to June) of EPC contractor.
- Overall Physical Progress till June 2022 for Civil & HM structures: 26%

- Overall Physical Progress for Electromechanical works: 3%
- However, the progress towards safeguarding the Civil and HM structures yet to be started by the contractor.
- During discussion with the package 2 contractor team, it was understood that specific safeguard measures such as use of Sulphate Resistant Cement (SRC) along with adequate additives shall be used for the structures which will be exposed to acidic water of river Kopili (like main Main Dam, left and right bank structures and other areas).
- Further, as per discussion with the package 2 contractor team, it is learnt that collecting construction water (about 6 lakh litres per day (~ 0.6 MLD) may not be feasible from Dongekpi Nala, Kala Nala, Longku Nala, Longsomipi (as originally identified and suggested in EIA) due to following reasons:
 - Non perennial nature of these water resources.
 - Local objection for the withdrawal of so much water for construction (6 lakhs litres/day) and drinking (1.5 lakhs litres/day)
 - Therefore, the contractor team is making an alternative arrangement for taking water from Kopili River after making necessary water treatment for pH adjustment during the lean period. Vendor selection for the treatment is under process.
 - Such Water treatment proposal could be a good effort being initiated by the contractor and it is expected to be completed before the next dry season (starting from February –March 2023) so that the pressure on the local water resources is reduced. Site visit observations is enclosed as **Annexure-III**.

3.5 SOLID & LIQUID WASTE MANAGEMENT

39. As required by EC condition, a Solid Waste Management Plan and Biomedical Waste Management Plan were still under preparation. During the assessment period, all sewage from labour colony is being directly draining into watershed.
40. There was no evidence of a solid waste management system on the project site of the package 2 contractor. Although there were some waste management structures, they were not being used. There was no categorization and segregation of waste seen either. Moreover, biomedical waste from the first-aid dispensary unit was also not separated and dumped alongside with other waste in the same spot. After reviewing the EMP and communicating with the site staff, External Monitoring Consultant suggested EA to:
- Solid waste should be scientifically treated to avoid leachate.
 - Area designed for temporary storage of solid waste must have shed to protect from rain.

- To prevent scavengers from dispersing waste, structures for the management of food waste should be gated.
- Proper quantification, categorisation, segregation, handling and disposal of waste is required to be followed.
- Sewage water management should be improved. There should be primary and secondary treatment of sewage.

3.6 MAINTAINING THE REQUIRED ENVIRONMENTAL FLOW

41. River flow is not completely cut off. According to the PMC and package 2 contractor, the imperative to sustain river flow for environmental purposes was taken into account in dam design.

3.7 MUCK MANAGEMENT AND RESTORATION PLAN

42. As per the EIA 2018, it is projected that 0.985 million m³ of the total 1.407 million m³ of muck that needs to be handled will be disposed of at the two designated disposal sites located within the forest area. However, according to the updated estimate overall 1.66 million m³ of muck will be generated, of which 1.28 million m³ will be disposed of at the four designated disposal sites, all of which are situated more than 500 metres from a river.

43. As per EIA, the disposed muck needs to be piled at an angle of repose at the disposal sites followed by phyto-remedial measures for materials stabilisation such as design (plans and cross sections), re-vegetation through an "Integrated Biological and Biotechnological Approach", and afforestation with local plant species. The cost for remediation of muck disposal sites includes slope turving, ground preparation, manure application, providing 5 cm of soil cover, building a retaining wall, transportation and carriage, fencing, maintenance, and irrigation. An amount of Rs. 340.0 lakh has been earmarked for stabilization of muck disposal sites.

44. The Muck Disposal Plan prepared by package 2 contractor has been approved by EA, and the contractor was instructed to dump the excavated material at the identified disposal location only. However, it was noted during the visits that muck generated from tunnelling activities was directly dumped into the river without any protective measures. So far, no expenditure has been made for muck management, landscaping, or restoration work. The muck and exposed soil may cause an increase in sedimentation in the local water bodies. EMC suggests that:

- A muck management plan along with the restoration plan should be implemented accordingly on a priority basis. Muck details are to be monitored and registered for

every dumping location with daily excavation, utilisation, and disposal records. The status of the same should be updated and documented in the monthly environmental report for review.

- The Package 2 contractor is recommended to cover the muck with wet fabric or geotextile and to plant local herbs or grasses that can bind the soil. Some of the suggested species include *Chrysopogon lancearis*, *Saccharum longisetosus*, *Cissus adnata* and other suitable species.

3.8 INTEGRATED WATER RESOURCE MANAGEMENT

45. Integrated water resource management work was not initiated during the assessment period between January to June 2022. However, as per discussion, EA the work may be awarded to a suitable agency, the status will be updated in the next External Semi-annual Monitoring Validation Report.

3.9 LABOUR INFLUX MANAGEMENT

46. Labour Influx Management Plan is under preparation.

3.10 QUANTITATIVE ENVIRONMENTAL MONITORING

47. Quantitative Environmental Monitoring for Air, Water and Noise quality is being conducted in every quarter by M/s. En-vision Enviro Technologies Northeast. During the assessment period, quarterly environmental monitoring was conducted in the month of March 2022. Except for the Kopili River's water quality, test results for air and noise were found to be within permissible limit. It should be noted that M/s R.L. Poddar was awarded the contract for the blasting operations, and the blasting activities started in July 2021. However, there is no vibration impact study and vibration monitoring due to impact of blasting activities were undertaken since July 2021.

4.0 OCCUPATIONAL HEALTH AND SAFETY MONITORING

48. It is reported that the Package 2 contract has submitted a revised Environmental Health and Safety Management Plan, vide LKHEP-PKG2/LNT/140/MS/04, which is yet to be approved by EA. Further, the package 2 contractor is submitting a monthly EHS report to EA. As per data shared, the monthly EHS review meeting was held on December 24, 2021, and no EHS review meeting was held between January and June 2022.

49. As per the records and discussion with EHS team of the Package 2 contractor, there is no casualty reported during the assessment period between January to June 2022.

5.0 GRIEVANCES REDRESS MECHANISM

50. As previously stated, a Grievance Redress Mechanism (GRM) has been established for the project to handle complaints about environmental and social issues. A grievance redressal committee is also in place, and its mandate is to resolve the grievances in a timely manner. As of June 30th, 2022, only social grievances pertaining to land and compensation-related grievances were reported and recorded for the project in a grievance register maintained at the project site; no grievances pertaining to environmental parameters such as air, water, or noise pollution, traffic congestion due to project vehicles, community health and safety concerns due to project activities including blasting, etc. have ever been reported by locals since the commencement of project work.

51. After reviewing the GRM records and communicating with the GRC members, EMC suggests to:

- Ensure the strengthening of GRM at site level for its effective implementation.
- Ensure that all grievances registered at the project site are recorded and resolved, whether reported by the general public or by labourers or workers engaged in the project's construction.
- The grievance register needs to be updated and reviewed on a regular basis, and all logs and records need to be maintained properly.
- Ensure monthly consultation with the local community to record community concerns pertaining to environmental as well as EHS issues, if any. The outcome of the meetings should be recorded in the Monthly Environment Report (MER).
- GRC meetings should be held every quarter, involving local representatives. Suggestions from the meetings should be recorded in the SEMR.

6.0 CAPACITY BUILDING

52. As communicated and a review of records showed, regular EHS trainings and fire safety mock drills are being conducted by the package 2 contractor. However, EA needs to ensure that all trainings related to EHS, fire safety, electrical safety, mock drills, etc. undertaken by the package 2 contractor for their staff and workers should also be extended to APGCL and PMC staff working at the project site. Further, the following trainings may also be included in the training schedule:

- All staff and workers working at the site should be trained on Prevention of Sexual Harassment at Workplace (POSH).
- Social, HIV/AIDS awareness, and labour laws-related trainings
- EHS training module will cover snake and insect bite events.
- All employees are being educated about local culture and heritage.

7.0 REVIEW OF SEMR (JAN-JUNE) PREPARED BY PMC

53. A review of the SEMR as prepared by PMC team is given in detail as **Annexure IV**. The major points which required attention include:

- Application to CGWB for the abstraction of ground water done on 9th November 2021-however, not received till June 2022-delayed substantially.
- Contractor Environmental Management Plan (CEMP) need to be updated with specific measures being adopted by contractor to safeguard the Civil and Hydro Mechanical structures from acidic water of river Kopili.
- NOC for obtaining surface water use for construction has not been taken up yet.
- Drinking water quality test report is provided only for the RO plant (pH and others); However, based on EM's query APGCL confirmed that only from this plant water is supplied to the staff and labour camps and thus separate test report for drinking water is not maintained at APGCL Engineer camp, APGCL colony, Labour and Staff Colony.
- Budget kept under contractors' provision for safeguarding the civil and Hydro-Mechanical structures to a tune of Rs 38.44 Cr. has not been utilized yet by contractor and no progress report in the latest MPR till June 2022 as well as in the SEMR of PMC. The progress needs to be initiated as around 26% progress has been achieved for civil and HM structures and 3% progress for electro-mechanical structures.
- Direction of Hon'ble NGT towards closure of Rat-Hole mines and remediation of the abandoned mines through afforestation in 224.6 ha area need to be monitored and reported from the next SEMR (July-Dec22). This might not be the directly the responsibility of Govt of Assam and ultimately non action or delay in action at the end of Govt of Meghalaya will pose impact on the hydro-electric projects of Assam specially in Kopili basin.
- As stated in SEMR, the quantity of muck generated, reuse and disposed at muck dumping site and slope achieved are being maintained by the contractor. Therefore details of the same is required to be annexed with the report. Further, muck details are to be monitored and registered for every dumping location with daily excavation, utilisation, and disposal records. The status of the same should be updated and documented in the monthly environmental report for review.

- As stated in SEMR, the site-specific earthquake study has been completed by Department of Earthquake Engineering, IIT Roorkee. And, 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. Further, the design has been reviewed by independent experienced dam expert appointed by ADB and found to be adequate. The design review by independent experienced dam expert and a site-specific earthquake study conducted by Department of Earthquake Engineering, IIT Roorkee may be annexed with report.

8.0 CONSULTATION AND INFORMATION DISCLOSURE

54. EA, through SESC and PMC, is regularly conducting consultations that include informal and formal discussions and meetings with APs, local representatives, and concerned committees.
55. As suggested by the EMC, EA has updated or replaced the safety signage and other instructions displayed at the project site with multilingual signs mainly in the local language, which local residents can read and understand. Residents in the area have been informed about the timing of blasting activities and have been given general instructions to avoid entering the project construction site.
56. As understood, an updated downstream impact assessment study along with a project-specific disaster management plan, including a project site emergency preparedness and evacuation plan, is under preparation. EMC suggests that the same should be communicated to relevant stakeholders, including local residents and communities residing in the downstream areas.

9.0 OTHER ANTICIPATED IMPACT

57. Within the submergence close to Longku Nala, EMC discovered a cultural or religious site with a gate labelled "Archaeological Site," Govt. of Assam. It has been highlighted that the impact assessment done for the project did not include any mention of such a site, and the corresponding mitigation strategy was not suggested. It is suggested that, EA to consult with the North Cachar Autonomous Council or another suitable entity to assess and certify the identified site's archaeological status before taking the necessary measures in accordance with SPS 2009 and GOI standards.

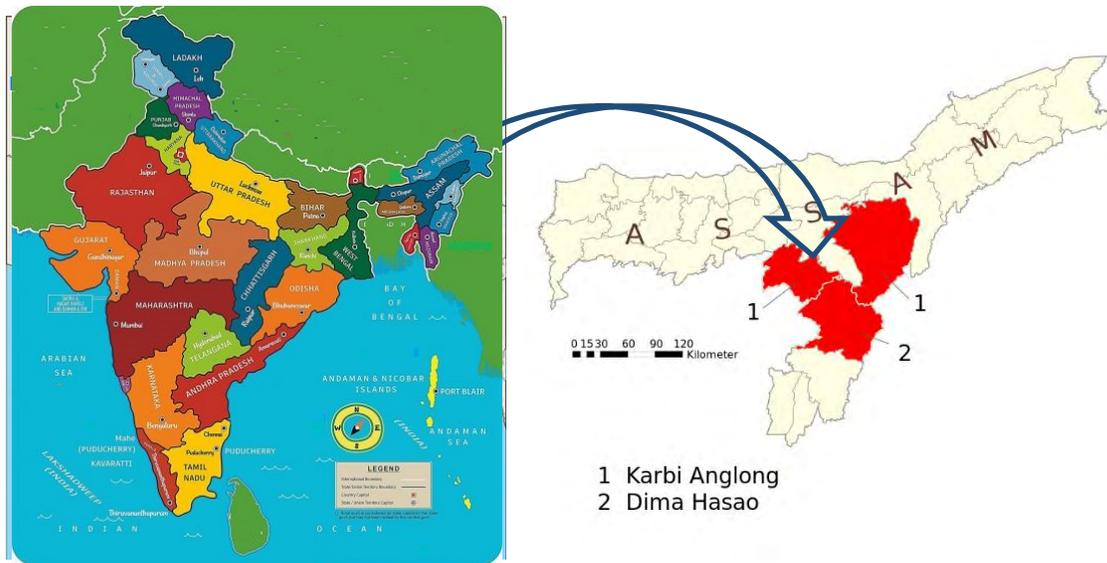
10.0 CONCLUSION AND RECOMMENDATIONS

58. Environmental safeguard measures must be adopted throughout the project's lifecycle to minimise both anticipated and unforeseen effects in compliance with existing laws and statutory requirements. Package 2 Contractor has submitted a detailed CEMP, which is a good reflection of the EMP (EIA), and it has been approved and accepted by EA. However, the CEMP still lacks a site specific Solid and Liquid Waste Management Plan, Biomedical Waste Management Plan and Labour Influx Management plan. Likewise, package 3 and 4 contractors are also required to submit a detailed CEMP for their scope of work.
59. Except for water quality, all measurements in the March 2022 environment monitoring report on water quality, air quality, and noise are within the national standards.
60. Summarized below are a few recommendations from the site assessment, which needs immediate attention for implementation of mitigation measures based on best international practises as per ADB requirements:
- All contractors are required to submit a Monthly Environment Report with monthly updates on the implementation status of environmental safeguard compliance and the implementation status of EMP provisions.
 - All contractors are required to develop a legal register to keep track of statutory requirements applicable to the project, such as clearances, NOCs, permits, permissions, etc., for all project components.
 - Every month, a joint site inspection between the PMC and contractor's (all packages as relevant) representatives is to be made, after which the best solutions to address the inspection's results are to be decided and submitted as a Monthly Environmental Report along with a monthly EHS review report.
 - Regular maintenance of vehicles and machinery needs to be conducted to ensure the lowest possible emissions.
 - No untreated discharge from the camp or plant site should be discharged to any of the adjacent water bodies.
 - All active construction sites must have a first aid facility and a trained first aider, and an emergency project clinic must be coordinated. Trainings for first aiders and other site staff should be provided on a timely basis, and all logs and records should be maintained properly.
 - Emergency contact information for First Aiders must be accessible to all and updated as needed.

- A project awareness programme for HIV/AIDS, wildlife protection, wildlife-human conflict, general EHS requirements, community health safety, and grievance redressal needs to be planned and scheduled every quarter.
- Care should be taken to ensure that road safety measures are worked out and implemented to ensure accident-free working stretches.
- All exposed slopes above the camp building need adequate protection measures to prevent possible slope failure during the rainy season.
- Qualified and well-experienced EHS experts need to be appointed under the SESC and PMC, and a Health and Safety Committee shall be formed soon with representation of all parties involved in project construction.
- Drainage systems need to be provided with de-silting chambers all around the powerhouse, office, substation, and colony.
- The rooms at the camp site should be provided with proper illumination, a smoke detector, and proper insulation of the electrical system. Laborers should be provided with clean water, adequate toilet facilities with respect to the number of laborers, and clean bedding facilities with proper space between two beds.
- Excavated soil should be graded according to soil type and stored separately.
- Ensure that soils exposed on slopes are immediately vegetated or temporarily covered with geotextile and vegetation to help stabilize them and prevent sediment-laden surface water runoff.
- Installation of effectively designed and operated sedimentation tanks for sediment-laden runoff from concrete batching and exposed soils across the construction site and monitoring
- Package 2 contractor and PMC must construct a soak pit for canteen wastewater and avoid open discharge. Further Peripheral drainage around the canteen needs to be provided with fencing to avoid accidents.
- Laborers and other project site officials must be provided with medicated mosquito nets for protection against malaria, dengue, and other vector-borne diseases.
- For underground works, a permit system must be implemented.

Annexures

Project Location Map



Water Quality Report

- The water quality in Kopili River has been reported as acidic (pH 3.3 to 5.2) in the EIA report making it unfit for drinking or usage in construction. The water quality data presented in the main EIA report indicates acidic water quality (i.e pH<7) as per the table given below:

Seasons	Sampling Locations from Kopili River in 2015				
	W1 (U/S of Dam Site)	W2 (Dam Site)	W3 (D/s of Dam- site)	W4 (Powerhouse site)	W5 (D/S of Powerhouse site)
Monsoon	5.2	5.0	5.2	4.6	4.8
Winter	4.0	4.0	4.2	3.6	3.8
Summer	4.0	4.0	3.5	3.2	3.4

Source: EIA report (volume1: Main report): WAPCOS

- The historical water quality samples collected from Kopili River and its tributaries at various locations between 2012 and 2014 during the preparation of DPR also indicated acidic water quality where the pH value ranged between **3.3-4.1** for **43 samples**, while for 4 samples the pH value ranged between **6.5-7.8** samples from LKHEP dam site between May to December 2014, which shows pH values as **7, 6.8, 4.6, 4.8, 5.1, 6.6, 5.2** respectively.
- Further, 6 samples (5 surface water samples and 1 ground water sample) were collected and analyzed in January 2017. Samples indicates that Kharkar River, a tributary of Kopili actually carries very low pH (2.5-3.3) water leading to acidic nature in Kopili River. and are presented below:

Parameter	Sampling Locations in January 2017				
	Kopili River before confluence	Kopili River after confluence	Kharkar River	Longku Nala	LKHEP Dam Axis
Field pH	7.4	3.8	3.3	7.4	4.1
Lab pH	7.1	2.7	2.5	5.1	3.2
Sulfide (mg/l)	0.01	0.26	0.7	BDL	0.09

Source: EIA report (volume1: Main report): WAPCOS

- DPR also reported pH value of samples collected from various tributaries of Kopili River namely, **Dongekpi Nala, Kala Nala, Longku Nala, Longsomipi** shows nearly neutral pH value in the range of 6.5-7.5, hence suitable for drinking and construction water with minimal treatment.

- As per MoEF&CC subcommittee report (**October 2017**) the pH value from Kopili River was observed in the range of **6.76-6.86** while the pH value of samples collected from Umrang Reservoir was in the range of **4.54-4.62**. The MoEF&CC subcommittee report therefore does not report high acidic water in Kopili River.
- Along with the main EIA volume a supplementary EIA (Vol4) on water quality restoration was also prepared and as per supplementary EIA (Vol4; Water Quality Restoration Plan, Nov 2017) the main reason towards low pH in Kharkar River and Kopili River is attributed to Acid Mine Discharge (AMD) from rat hole mines spread across the Jaintia Hills district in the state of Meghalaya. In EIA report samples from 6 locations are presented below:

Parameter	Sampling Locations: Date of Collection: 30.7.2017					
	Location,1	Location, 2	Moopala, 1	Moopala,2	Tulh,1	Tulh, 2
pH	3.3	3.7	2.4	2.6	2.2	2.5

- Myntdu HEP located in Meghalaya state (upstream of KHEP) also facing problem of acid water causing damage to its equipment's and dam structure. MoEF&CC has asked APGCL to check the water quality of this river in order to know what measures are being adopted in Myntdu HEP to protect plant machineries and dam structure, to adopt similar measures in LKHEP. The collected from river Myntdu Leshka and its dam site was also monitored, results indicate acidic nature of river water (**pH values: monsoon: 6.1; post monsoon: 4.2 and pre-monsoon: 3.8**). Hence the measures taken in this HEP can be adopted in LKHEP.
- Further water quality was measured at Dam site and its upstream and downstream parts by APGCL in 2018, 2019 and 2021. The data collected in 2018 and 2019 at proposed dam site shows pH value vary between **5.9 to 6.25** resulting in improvement in pH value and less acidic nature of water. In the upstream area at 2 locations (200m and 500m) the value of pH is recorded on an average as 6.00 while in the downstream (2 locations, 200m and 500m) the pH value is reported in the range of **6.3-6.5** as per the details given below:

Date	Monitoring of pH under Lower Kopili HEP, January to December 2018				
	At proposed dam site	Upstream		Down stream	
		Site1(200m)	Site2(500m)	Site1 (200m)	Site2(500m)
7.1.2018	6.15	6.0	5.90	6.2	6.2
10.02.2018	6.1	6.0	6.00	6.4	6.4
8.3.2018	6.25	6.0	6.00	6.3	6.3
7.04.2018	6.05	6.0	6.00	6.5	6.5
7.05.2018	6.1	6.0	5.95	6.1	6.15
7.06.2018	6.1	6.1	6.0	6.25	6.3
8.07.2018	6.0	6.0	5.90	6.1	6.15
08.08.2018	5.9	5.8	5.80	6.1	6.15
10.09.2018	6.2	5.9	5.9	6.4	6.4

Date	Monitoring of pH under Lower Kopili HEP, January to December 2018				
	At proposed dam site	Upstream		Down stream	
		Site1(200m)	Site2(500m)	Site1 (200m)	Site2(500m)
09.10.2018	6.2	6.15	6.00	6.5	6.7
08.11.2018	6.0	6.0	5.80	6.25	6.4
05.12.2018	6.25	6.0	5.90	6.55	6.7

Source: APGCL (Water Quality Monitoring Report 2018 to 2021)

Date	Monitoring of pH under Lower Kopili HEP, January to July 2019				
	At proposed dam site	Upstream		Down stream	
		Site1(200m)	Site2(500m)	Site1 (200m)	Site2(500m)
10.1.2019	6.1	6.0	5.59	6.56	6.6
5.02.2019	6.3	6.1	6.00	6.45	6.5
3.3.2019	6.2	6.0	5.90	6.35	6.55
3.4.2019	6.1	6.0	6.00	6.25	6.35
5.5.2019	6.2	6.0	5.90	6.35	6.4
10.6.2019	6.25	6.15	5.90	6.4	6.5
7.7.2019	6.45	6.2	6.10	6.5	6.6

Source: APGCL (Water Quality Monitoring Report 2018 to 2021)

1. For monitoring of water quality in 2021 and 2022, M/s Envision Lab (NABL accredited) has been engaged and as per their report shared by APGCL. The water quality was measured at 1 km U/s of Dam site, 1 km D/s of dam site, 3 km D/S of Dam site, 8 km D/S of Dam site and submergence area of dam site in July 21, October 21, December 21 and March 22. The pH value ranges between **4.19 to 6.13** at the downstream sites and submergence sites in July and December 21, while these data have drastically improved in March 22 when at almost all sites pH value of more than 7 have been recorded. Further monitoring in the same sites in other time of the year may also be required to establish that pH is improving. Some outlier pH value has been noticed at location from Adit to Head Race Tunnel (HRT) of 11.32 showing alkaline value and may require further investigation and monitoring.

Period	Monitoring of pH under Lower Kopili HEP, in 2021							
	1 km U/S of Dam Site	1 km D/S of dam site	3 km D/s of Dam Site	8km D/s of dam site	Submerge nce area, Dam Site	Adit to HRT	Dam Site Outlet	Adit water source
July 21	6.35	5.2	4.89	5.19	4.57			
Oct. 21	--	--	--	--	--	--	--	--
Dec. 21	4.54		4.19	4.89	6.13	11.32	7.22	
March 22	7.39	7.28	7.17	7.11	7.41			7.11

Source: Envision Laboratory engaged by APGCL; a NABL Accredited land and recognized by PCBA

Site Visit Observations Feb. and May 2022

A site visit involving reconnaissance survey of project components including upstream and downstream of the proposed dam area has been carried out in the month of Feb 2022 by the environment and aquatic expert. Consecutively the second site visit was conducted with environment expert, water quality and biodiversity experts in the month of May 2022.

KEY OBSERVATIONS & RECOMMENDATIONS @Feb 2022

Key Observations	Recommendations
Capacity Building of Officers & Staffs	<p>1. All staffs & labours working at the site should be trained on Prevention of Sexual Harassment at Workplace (POSH).</p> <p>2. Orientation of all staff on local culture and heritage.</p>
Health Centre at Workplace	<p>The health center run by L&T should have a bedside screen for privacy during examinations and separate female toilets. It is also requested to provide access to the local community.</p>
Aquatic Ecosystem	<p>Following observations were made regarding the health of the aquatic ecosystem due to project activities.</p> <p>Water in the main channel of the river was found to be acidic and devoid of any life forms except stunted moss growing.</p> <p>Aquatic plants Aquatic macrophytes - Elodea sp., Vallisneria spiralis were observed in upstream stretch of the main channels.</p> <p>Presence of these species is an indicator of good water quality. Detailed water quality of this area should be investigated, if found suitable the water could be utilized at the project site</p>
Excavated soil is stored uncovered on the site	<p>Excavated soil from the construction could easily be washed away and pollute local water bodies. Therefore, excavated soil should be graded according to soil type and stored separately. Heaps of soil should be covered with geotextile or and grass and vegetation.</p>

<p>Water Requirement for the project</p>	<p>Currently water is being extracted from local streams. Number of workers is expected to rise to 1100 by the year 2023. According to the central water commission, Water requirement; estimation of Water Requirements for drinking and domestic use (Source: National Building Code 2016, BIS) is 100 to 135 liters/head/day. Therefore, we can expect water requirement of 1.1.</p> <p>- 1.48 lakh liter water per day for domestic use and up to 6 lakh liter per day for construction related work (As per discussion with PMC and site engineers).</p> <p>https://cgwa-noc.gov.in/landingpage/Guidelines/NBC2016WatRequirement.pdf</p>
<p>Gray Water and Sewage management</p>	<p>Construction site is situated in a biodiversity rich area. Water bodies in the area are oligotrophic in nature. Influx of nutrients from the grey water and sewage would result in eutrophication and loss of biodiversity in local water bodies.</p>
<p>Extraction of water from the local sources</p>	<p>The project area falls in a heavy rainfall zone, but experiences water scarcity during lean months.</p>
<p>Cultural/religious site of archaeological importance identified by Archaeological Survey of India (ASI)</p>	<p>A cultural/religious site of archaeological importance identified by Archaeological Survey of India (ASI) was discovered during the survey. The site is located within the submergence area of the Project. It is observed that, although project has received NOC from ASI, but, both APGCL and ASI has missed to cover the mentioned site during the Impact Assessment Study.</p> <p>Therefore, it is recommended that APGCL should take this instance as a Chance Find and inform the ASI at the earliest.</p>
<p>Safety Signages at the Project site</p>	<p>The safety signages and other instruction displayed at the Project site needs to be updated/replaced with multilingual signs mainly with the local language which Local residents can read and understand.</p> <p>Multilingual signages are important for the safety of workers and the public for whom English is a second language.</p>
<p>Oil and chemical handling at the Project site</p>	<p>APGCL to ensure that EHS protocols for handling, storing, and transporting hazardous material/chemicals are strictly followed at site as oil and chemical drums kept at the Project site were not stored properly.</p>

<p>Emergency Contact number of First Aider displayed at Powerhouse location was not working.</p>	<p>APGCL needs to ensure that EHS protocols are strictly followed by construction contractor and all workers, Emergency Contact numbers should be reachable to all and may to be updated as and when needed, First Aid Boxes needs to be handled and maintained properly at site, timely trainings to First Aider and other site staff should be provided and all Logs/Records to be maintained properly.</p>
<p>Medical register was not updated.</p>	<p>On site visit it was noted that the register was not updated, and External Monitoring consultant insisted that the register be updated regularly.</p>
<p>Medical test for Drivers</p>	<p>Construction contractor is required to organized Eyesight and Randomized drug testing (drug and alcohol test) for all Commercial Truck Drivers as per safety protocol for the safety of site staff and locals.</p>
<p>Site specific trainings</p>	<p>All trainings related to EHS, fire safety, electrical safety and Mock Drills etc. undertaken by Construction Contractor for their worker should also be extended to APGCL and PMC staff working at project site.</p>
<p>Grievance reporting and recording</p>	<p>APGCL needs to ensure that all grievance registered at the Project site either reported by public or by labour/workers engaged for the construction of the Project should be recorded and resolved. For this grievance register needs to be updated and reviewed on regular manner and all Logs/Records to be maintained properly.</p>

KEY OBSERVATIONS & RECOMMENDATIONS @May 2022

Issues related with Archaeological Site
<ol style="list-style-type: none">1. A cultural/religious site of archaeological importance was discovered during the survey. The site is located within the submergence area of the Project.2. APGCL reported that the site is not listed under Archaeological Survey of India (ASI).3. However, the consultant team recommended that APGCL should prepare a note after discussing with local authorities and the State Archaeological Department to resolve the issue as soon as possible.
Water Quality
<ol style="list-style-type: none">1. As per the EIA report (April 2018) for the LKHEP scheme, the Water quality in River Kopili has been reported as acidic (pH 3.3 to 5.2) making it unfit for drinking or usage in construction. Further samples were collected during January 17, indicates that Kharkar River, a tributary of Kopili actually carries very low pH (2.5-3.3) water leading to acidic nature in River Kopili. The supplementary EIA (Vol4: Water Quality Restoration Plan) reported that the Acid Mine Drainage (AMD) from the rat hole mining in Meghalaya is the major reason for such low pH value in Kharkar River; measures of AMD show pH value in the range of 2.2 to 3.7. In October 2017, MoEF&CC subcommittee reported that the pH value from river Kopili in the range 6.76-6.86 and at Umrang Reservoir in the range of 4.54-4.62. This report of MoEF&CC sub-committee therefore does not report high acidic water in River Kopili.2. Further water quality was measured at Dam site and its upstream and downstream parts by APGCL in 2018, 2019 and 2021 which has shown some improvement in pH value (5.9 to 6.25) while the data collected in March 22, has shown remarkable improvement in pH value showing almost 7 in all the sample collected sites upstream or downstream.3. Water of main channel was found to be devoid of any life, however, aquatic plants Aquatic macrophytes - Elodea sp. Vallisneria spiralis were observed in upstream stretch of the main channels and algal growth noticed near the Miyungma Daoga waterfall area. More water quality monitoring in coming seasons would be needed to understand the pH trend. The contractor team has kept a budget provision of Rs 38 Cr. towards safeguarding electro-mechanical equipment and dam structure and other components of the HEP from the acidic water. The current physical progress is 5%. Detailed break up of safeguard measures requested.

4. During discussion with the contractor team, it is learnt that collecting construction water (about 6 lakh liters per day (~ 0.6 MLD)) may not always be feasible from Dongekpi Nala, Kala Nala, Longku Nala, Longsomipi (as suggested in EIA) due to following reasons:
 - Dongekpi Nala and Longsomipi are not perennial in nature.
 - Locals have objected for abstraction of so much water for construction (6 lakhs liters/day) and drinking (1.5 lakhs liters/day) from the rivers Kala Nala and Longku Nala.
5. Therefore, the contractor team is making an alternative arrangement for taking water from Kopili River after making necessary water treatment for pH adjustment during the lean period. Vendor selection for the treatment is under process.
6. Currently water is being extracted from local streams. Number of workers is expected to rise up to 1100 by the year 2023. According to the central water commission, Water Requirement; estimation of Water Requirements for drinking and domestic use (Source: National Building Code 2016, BIS) is 100 to 135 liters/head/day. Therefore, it is anticipated that there will be a water requirement of 1.1 - 1.48 lakh liter water per day for domestic use and up to 6 lakh liter per day for construction related work (As per discussion with PMC and site engineers).
<https://cgwanoc.gov.in/landingpage/Guidelines/NBC2016WatRequirement.pdf>
7. A sewage treatment plant of 0.1 MLD (100 KLD) also needs to be installed to treat the sewage generated from the labour camps along with supporting collection drains/networks, the same will be implemented soon. Sewage should be reused for non-drinking purpose.
8. In response to an original application No. 110 (THC) of 2012 (Threat to life arising out of coal District Vs. state of Meghalaya), Hon'ble National Green Tribunal (NGT) on 15.03.2021 directed for constitution of a 12-member committee headed by Additional Secretary, MoEF&CC, Govt of India and the committee was directed to ensure that no illegal/unauthorized mining takes place in Meghalaya and combat plan and mining mishap plan ready to avoid any kind of eventualities. MoEF&CC proposed two proposals for rejuvenation of coal mines in Meghalaya namely:
 - Afforestation using conventional methods with a budget estimate of Rs 7.09 Cr. for plantation in 224.26 Ha of land across 8 districts; and
 - Proposal to rejuvenate degraded coal mines through soil amendment and microbial technology at a budget estimate of Rs 58.92 Lakhs. These two proposals to be funded under the Meghalaya Environmental Protection Fund (MEPF); status report would help in further planning.
9. In addition, as part of rejuvenation of polluted river stretches in the country, CPCB has identified 7 polluted river stretches in Meghalaya namely Umkhrah, Umshyrpi, Kyrhuhkhla, Nongbagh, Umtrew, Lukha and Myntdu. The rivers namely Kyrhuhkhla, Lukha are mainly polluted with Acid Mine Drainage (AMD) from the coal mines. The

River Rejuvenation Committee (RCC) of Govt. of Meghalaya has recommended the proposal of M/s Trinity Impex International for a Pilot Project of Phytoremediation through Micro Algae treatment of the acidic water for Kyrhuhkhla River at a cost of Rs 19.19 Lakhs to be paid out from MEPF. The monthly progress report in this regard may need to be taken from RRC, Govt. of Meghalaya through Pollution Control Board Assam (PCBA) or CPCB.

10. The Kyrhuhkhla River may be the local name of Kharkar in Meghalaya and this needs to be checked. If they are the same river, the results of the Pilot study will be very helpful in designing the proposed water quality monitoring and remedial measures (if any) in Kopili River. But even if the rivers are different then also the treatment results will be helpful in designing the further remedial measures for Kharkar and Kopili.
11. Hon'ble NGT finally on 11th April 2022 has directed Govt of Meghalaya to implement the afforestation programme by 31st December 2024 and asked them to take remedial measures for the rejuvenation of all the polluted river stretches along with regular monitoring of the water quality of river (pH) the results to be uploaded regularly on the website of MPCB.
12. The remedial measures suggested in Supplementary EIA (Vol-4) like Anoxic Limestone Drains (ALD) and Oxic Limestone Drains (OLD) may also be considered based upon further assessment of water quality in coming seasons from Kopili River and accessibility opportunity to various AMD sources located in Meghalaya.

Catchment Area Treatment (CAT) Implementation Plan

1. It was reported that Catchment Area Treatment (CAT) Implementation Plan for the Project has already been shared with the respective Forest Department.
2. Consultant team recommends that APGCL should have a regular follow up with the concerned agency for the concurrence of the CAT plan and closely monitor the implementation.

Biodiversity Management

1. After reviewing the biodiversity management activities, the consultant team recommends APGCL to form a Biodiversity Monitoring Committee as stipulated in the EIA to monitor the Biodiversity Management activities at the Project site. Also, a Biodiversity Management Awareness Program may be developed having a detailed schedule to provide biodiversity awareness training to the Local community, school, and other institutions at local levels.

2. Consultant team further recommends that Self-help groups may be formed for implementing and monitoring the Biodiversity Management activities at local level. If possible and available women may be motivated to participate in self-help groups.

Compensatory Afforestation

1. In relation to Compensatory Afforestation, it is understood that the Forest Department has identified eight (08) areas within Dima Hasao for Compensatory Afforestation; the consultant team has sought detailed information on identified Compensatory Afforestation areas.
2. Further, the consultant team has asked PMC to update on the status of the plantation with the total number species planted L&T at the project site, around the camp area and project vicinity preferably in Google Map.

Impact of Transmission line on birds

In relation to anti-climbing devices and bird deflectors for the Transmission line, the consultant team suggested APGCL to undertake in-house study for ascertaining its necessity to take prudent decisions.

Grievances Redress Mechanism

1. The project has conceptualized three tiers of the GR redress mechanisms to register, evaluate and address project related grievances. The record shows that a large number of public grievances have been registered for the Project which have been forwarded to council to evaluate and lead the redressal process. A regular following up with council is require updating on the status of the grievances and responding them to the complainant.
2. Delay in addressing complaints will add cumulative negative perception among PAP. For this, it is essential to remain in touch with the PAPs and continue dialogues. The CRADLE field team supported by PMC need to be proactive.
3. Grievances should be sorted out, documented, and disseminated to the concerned person/s within a timeframe at all levels.

Emergency Contact numbers of First Aider and Medical register

APGCL needs to ensure that EHS protocols are strictly followed by construction contractor and all workers, Emergency Contact numbers should be reachable to all and may to be updated as and when needed, First Aid Boxes needs to be handled and

maintained properly at site, timely trainings to First Aider and other site staff should be provided and all Logs/Records to be maintained properly. It is also suggested to undertake mock drilling exercises for emergency preparedness on regular basis to aware crew members. The emergency mock drilling exercises may be designed for but not limited to, emergency evacuation, fire, flooding, earthquake etc.

Capacity Building of Officers & Staffs

1. All staffs and labours working at the site should be trained on Prevention of Sexual Harassment at Workplace (POSH)
2. Orientation of all staff on local culture, heritage and ethnicity should be included in training.

Review summary of the Six-Monthly Monitoring Report (SEMR) for the month of Jan 2022 to June 2022.

S.N.	Activity	Previous APGCL Response	External Monitoring Agency	Consultant Responsibility	Agreed Timeline	APGCL Response
I.	EIA addendum is updated with the current layouts and additional mitigation measures and submitted to ADB consultant for finalization.		Anticipated date	APGCL		EIA Addendum is under process
			Update Figure 2 of the report “changed layout of the project” as it is unclear to interpretate any change.			Old and new layout (Appendix 1).
			Also Update Figure 3 (Layout of Transmission line) as legends are blurry and not clear, legends need to be updated.			Layout of Transmission Line (Appendix 2).
II.	CEMP to be updated as required to reflect any changes in mitigation measures as a result of the final EIA Addendum	Will be done after disclosure of the EIA addendum.	Anticipated date of disclosure for it	PMU & APGCL & ADB	15 th Nov, 2022	Package 2 contractor has submitted the Updated CEMP incorporating the additional measures suggested by ADB during EIA addendum. Package 1, 3 and 4 not yet submitted the CEMP but will submit soon.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
III.	Application submitted for ground water abstraction	Contractor 2 applied CGWB on Nov.9, 2021. Clearance yet to be obtained. As communicated Contractor 2 is not extracting any ground water presently.	Anticipated date of receiving the approval/permission. It is substantially delayed. If there is no need for ground water abstraction, it is suggested to drop the ground water abstraction activity.	Contractor, APGCL		Ground water is not abstracted by package 2 contractor. Hence the application was not processed as reported.
IV.	Obtain permission for batching plant 60 cum/hr Capacity at Powerhouse		NOC's and CTO received for the Batching plant as detailed in section 4 of table 3.2 need to be annexed with the report.			CTO of Batching Plant at power house (Appendix 3).
V.	Obtain CTE for batching plant at dam site from PCBA and subsequently obtain CTO	CTE received on June 23, 2022. APGCL instructed to obtain the CTO before the start of the batching plant.	The evidence provided in Annexure-13. Anticipated timeline to obtain the CTO timely to ensure meeting the construction schedule duly meeting the E&S requirements such as preparation of Site-specific environment management plan (SS-EMP) and also reinstatement plan before the operation of the batching plant. Annexed CTE obtained to the	Both the documents should be submitted to the PMC for approval. APGCL to coordinate with the responsible authorities for obtaining the CTO	15 th Nov, 2022 or before start of batching plant operation.	CTE obtained for the batching plant at Dam (Appendix 4). CTE and CTO are contractor's responsibility. Whenever contractor approached APGCL for coordination APGCL extended all possible help for coordination.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			report			
VI.	Obtain outstanding permissions for quarrying and aggregate extraction	Mining plan approved by Director Geology & Mining department on May 16, 2022. Quarry permission pending from DFO, Haflong, Assam.	Anticipated date of obtaining the quarry permission	Contractor & APGCL		Quarry royalty realization order by DFO received on 11.07.2022 As it is in the month of July it was not mentioned in the Jan to June Report 2022.
VII.	Permission of the State Government for extraction of boulders from quarry. Location: Longku, Dima Hasao	Approval Awaited from North Cachar Hill Autonomous council (NCHAC). Application submitted for approval from DFO, Haflong on 23.5.22.	Timeline to be provided	PMU, APGCL		Approval to operate quarry received from NCHAC on 8 th July, 2022. As it is in the month of July it was not mentioned in the Jan to June Report 2022.
VIII.	Permission of the State Government for extraction of Fine aggregate from quarry. Location: Up Stream and Downstream of Dam, Dima Hasao. (2 quarries)	“After receipt of the approval Mining plans will be submitted for approval” “Meanwhile Trial Mix programme with crushed sand is in progress”	Clarification required on the status as the statements “After receipt of the approval Mining plans will be submitted for approval” and “Meanwhile Trial Mix programme with crushed sand is in progress” are not properly put. Which approval? Submit to			As per the approved Mixed Design crusher dust is mostly used in the concrete and natural sand required is met from the procurement from the third party. Sand quarries are not taken by the contractor for operation so far and hence mining plan were also not

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			<p>whom? Anticipated dates for obtaining the permission? What is meant by trail mix programme? Can trail be proceeded without required permission?</p> <p>Further, it is believed that NOC from North Cachar Hill Autonomous council is still awaited for quarry function.</p> <p>Moreover, is permission from forest department not triggered for this activity.</p>			<p>prepared. Permission from the forest department is available for the use of the excavated minor minerals (360000 cum) from the project area.</p>
IX.	Permission for crushing of boulders from excavated materials	<p>DFO, Dima Hasao West, Halflong on 20th Dec'21 vide letter no. refer letterno: FRS/G/101(a)</p> <p>Stone-Chips/L&T/2020-21/Pt-IV/2853-56 Principal Secretar</p>	Annex letter of permission received to the report			<p>Permission given from competent authority for the use of suitable boulders from excavation within the project area.</p> <p>Permission for extraction / collection of Mask boulder for 80000 cum (Appendix 5).</p>

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
		y(N), NCHAC on 8th Mar'22 vide letter No.letter no: FRS/Sectt/SP/155/2 010-21/L/2/278				Permission for extraction / collection of Mask boulder for 200000 cum (Appendix 6).
X.	Permission of Pollution Control Board for installation of crushers (Near Powerhouse). Consent to establish- (CTE)	CTO received from PCBA on 7/12.2021 vide Ref. no. WB/SLC/T-1184/21-22/09/1152.	It is delayed substantially need to be expedited. Need to provide time for obtaining CTO	PMU, APGCL		CTO received from PCBA on 7/12.2021.
XI.	Development of solid waste management systems including disposal and storage facilities with transport and disposal to suitably licensed waste management facilities	For Solid waste management contractor has agreed to segregate at source, Stored, treat process the biodegradable waste by composting / vermicomposting Recoverable wastes like (bottle,can) etc. will be sold to vendors. Other non-biodegradable wastes, inert	What is the current status and when it will be initiated need to be provided.	PMC & APGCL		Solid Waste Management Plan already submitted by the Package 2 Contractor. As sought by ADB contractor has to submit captive landfill design which is being prepared by the contractor and after approval from ADB the captive landfill site will be prepared.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
		<p>wastes, and other waste not suitable for biological processing or recycling will kept at designated landfill site developed by the contractor.</p> <p>Hazardous wastes as generated by the contractor are being stored properly and will be sold to the approved authorised recycler.</p>				
XII.	Implementation of Grievances Redress Mechanism	GRC was constituted to address grievances arising due to Social and Environmental related adverse impacts. Out of the total grievances received majority is related to non-receipt of compensation for	Status of grievance received if any and their status need to benotified.	PMU, District Council, NGO		Please Note that so far 402 complaints were registered on land related aspect. On 29 th August 2022 in the Tier II GRC meeting 243 complains were resolved / closed. Regarding remaining 159 nos. grievances, Revenue Department Dima Hasao agreed to verify those complaints very shortly

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
		loss of land and other structures. As these issues are related and comes under the purview of the revenue department of the council the grievances were forwarded to Council for their comments and resolution.				and submit the report within 15 days i.e., by 15th September 2022. There were no Environment related complaints registered so far.
XIII.	Review and approve contractor's updated CEMP covering all sub plans (i.e., worker camp, muck disposal, solid waste, biomedical waste, hazardous waste, hazardous chemicals, batching plants, crusher Unit, Labor influx management, etc.) CEMP to cover all EMP and EMoP provisions per the latest EMP including additional mitigation and monitoring measures as a	Agreed as suggested. Package-3 & Package-4 contractors were intimated to submit CEMP.	Timeline to be provided	PMC, PMU	By 15th November , 2022	Several letters were given for submission of CEMP. To apprise them one training on Environment Safeguards were also carried out.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
	result of the EIA Addendum, refer to draft until finalized.					
XIV.	(NOC) from Deputy Commissioner Govt of Assam, for setting up Fuel dispensing Unit at Project location.		Validity of Permission of storage of 20 kl. Fuel has expired and need to be renewed.	Contractor, PMU		Renewed license valid till 31.12.22 (Appendix 7).
XV.	No Objection Certificate Obtained from "PESO" for establishment of Explosive magazine.	NOC obtained from Employer, Further NOC from PESO is under progress.	<p>The status of NOC is not clear. As understood, is NOC from "PESO" for establishment of Explosive magazine and storage of explosive still pending?</p> <p>An Explosive magazine has already been established for the project to store explosive for blasting.</p> <p>Elaboration/clarification is required.</p> <p>When was NOC submitted and what is anticipated date of obtaining the NOC etc.</p> <p>All correspondence as detailed in section 7 of</p>	PMU, APGCL		<p>Storage approval received from PESO. on 26th Nov'21 (Licence No.); E/EG/AS/22/63(E134742) from PESO, Guwahati.</p> <p>Magazine NOC from District Magistrate, Dima Hasao dated 27th Oct, 2021 (Appendix 8).</p>

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			table 3.2 relating to NOC's and permission received for Magazine need to be annexed with the report.			
XVI.	Fire NOC / Fire License	Application submitted on 19 th November 2021 vide letter no LKHEP-PKG2/LNT/155/GL/085.	It is understood that NOC has been awarded vide letter no. F&ES/FPW/3995/1531/22 dated 17.03.2022 NOC needs to be annexed with the report.	PMU, APGCL		Fire NOC (Appendix 9).
XVII.	No objection Certificate for grant of Explosive license and Magazine construction, and handling of explosives and its blasting operation in favour of M/S R.L. Poddar for L&T.	NOC received on 22 nd October 2021 vide letter no. NCH/M-8/2021/6378-83 NOC received on 27 th October 2021 vide letter no. NCH/M-3/20-21/L/2-A	NOC for blasting license and explosive licence received in favour of M/s. R.L. Poddar and Northeast Associates, Shillong, for L&T (the Contractor) to be annexed with the report.			Magazine NOC from District Magistrate, Dima Hasao dated 27 th Oct, 2021 (Appendix 8).

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
XVIII	NOC for surface Water use for construction	Yet to obtain NOC from Water Resource Department and instruction given to the contractor to comply.	<p>It is substantially delayed.</p> <p>Anticipated timeline for obtaining the NOC need to be provided.</p> <p>What is current source of water being used for domestic and construction purposes.</p> <p>Contractor needs to make a pH treatment arrangement for usage of water from Kopili water during the lean period (Jan-March) when the use of other surface water sources is not feasible (as discussed during site visit 10-14th May 2022). The progress towards this including hiring of vendor may be reported from next MPR</p>	PMU, APGCL	By 30th Oct, 2022	<p>NOC will be obtained from WRD.</p> <p>Adit pond and Longku Nalah</p> <p>Under process.</p>
XIX.	CEMP and H&S Plans	Package 3 (Electromechanical Works) CEMP and H&S Plans are being prepared.	Anticipated timeline for submitting the documents	PMC, APGCL	By 15th November , 2022	Several letters were given for submission of CEMP. To apprise them one training on Environment Safeguards were also

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
						carried out.
XX.	Loss of precious Ecological values/impacts on precious species due to acquisition of 523 ha of forest land	<p>Compensatory Afforestation plan is planned to be included in the Annual Operation Plan of the Forest Department, Govt. of Assam for the year 2022-2023. It is also reported cost for implementation was deposited to CAMPA account by APGCL.</p> <p>Biodiversity Conservation plan is yet to be initiated.</p> <p>BMP will be implemented by APGCL and Forest Department jointly, but CAT Plan will be implemented by Forest Department alone. The required amount for</p>	<p>Status to be shared. It has already been delayed since we missed the rainy season of 2022. Please be noted that compensatory afforestation works are seasonal activities and need to be carried out during wet season ensuring optimum survival rate. To undertake the activity during onset of monsoon, the necessary planning and works to be initiated from January. When cost for implementation deposited to CAMPA.</p> <p>The reason for delay needs to be explained.</p>	PMU, APGCL, Forest Department		<p>APGCL will monitor the activities as per norms.</p> <p>Forest Department, Govt of Assam informed that they have incorporated the CAT Plan and Compensatory Afforestation implementation in their APO 2022-23 in both the districts of LKHEP.</p> <p>Six monthly status report on implementation of Compensatory Afforestation and CAT Plan will be taken from the Forest Department as it will also be required for six monthly EC compliance report and will be incorporated in the next SEMR.</p>

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
		implementation of CAT Plan has been deposited to CAPMA, MoEF & CC, and Govt. of India.				
XXI.	Excessive soil on paved areas will be sprayed (wet) and/or swept and unpaved areas will be sprayed and/or mulched. Contractors will be required to cover stockpiled soils and trucks hauling soil, sand, and other loose materials.	Not initiated	Why is it not initiated as this is directly cause soil erosion, elaborate the reason and how this can be mitigated	Contractor, PMC, PMU		Water sprinkling were done on the unpaved soil also during dry spells. Contractor was instructed to cover the stockpiled soil and other loose materials.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
XII.	Loss of Biodiversity, Disturbance / accidents/ injury, to wildlife and avian fauna	Not yet initiated by the Forest Department. Letter given to Nodal Officer to initiate the CA works.	<p>Where is the update on the points suggested by External Monitor Agency in their previous six-monthly review (June 2021 to Jan 2021)</p> <p>“To avoid road killing subways/culvert should be constructed for road crossing for wildlife”</p> <p>As suggested in six- monthly review (June 2021 to Jan 2021) this issue was targeted to be achieved by 20th August 2022 in EIA addendum. Therefore, latest updates need to be shared on initiation of the activities. As this is a seasonal activity and only can be carried out during wet season. Hence, require proper planning, one season missed means one year lapsed and need to wait for another year.</p>			<p>External Monitor Agency did six monthly reviews of the report July to December 2021.</p> <p>ADB after their review of the EIA addendum given several new observations on 10th August and 25th August 2022.</p> <p>APGCL will take up the issue during the Biodiversity Monitoring Committee meeting and explore the feasibility. Based on the Biodiversity Assessment carried out during February 2021, the Critical habitat assessment was updated by ADB, and additional measures were suggested by the ADB experts. This will be part of the EIA addendum.</p> <p>Biodiversity Committee notification (Appendix 10).</p>

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
XIII.	Impact of Transmission line on birds		In relation to anti-climbing devices and bird deflectors for the Transmission line, the consultant team suggested APGCL to undertake in-house study for ascertaining its necessity to take prudent decisions during site assessment undertaken in the month of May 2022. Status of the same needs to be mentioned in the report.	APGCL	31st December, 2022	After finalization of the transmission line APGCL will take up the matter.
XIV.	Biodiversity Management Plan		Where is the update on the points suggested by External Monitor Agency in their previous six-monthly review (June 2021 to Jan 2021) as below: It needs to be initiated and planned for coming rainy season being a seasonal activity. One season missed means one year lost. The following activities include coordination with the	APGCL, PMC		External Monitor Agency did six monthly review of the report July to December 2021. After constitution of the Biodiversity Monitoring Committee all the activities under the BMC including awareness will be planned and implemented. The committee will decide on the formation of SHGs

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			<p>Department of Forest to be initiated:</p> <p>1). Formulation of Biodiversity Monitoring Committee to monitor the BMP activities at project site.</p> <p>2). Biodiversity Monitoring awareness program to be developed with timeline to provide awareness of biodiversity to local community, school and other institutions actively engaged at local levels (if any).</p> <p>3). Self-help groups to be formed for implementing and monitoring the Biodiversity Monitoring activities at local level. If possible and available women may be motivated to participate in self-help group etc.</p> <p>4). It is also suggested to construct water holes, wherever possible and applicable inside the forest</p>			<p>under BMP. However, there is no provision for formation of SHGs for monitoring the biodiversity.</p> <p>Proposal for construction of water holes inside the forest will be discussed with the committee and finalize the implementation plan.</p>

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			<p>for quenching wild animal thirst, which may also greatly avoid human animal encounter and conflicts.</p> <p>As suggested in six- monthly review (June 2021 to Jan 2021) above points issue were targeted to be achieved by 30th July 2022 and 20th August 2022 in EIA addendum. Therefore, latest updates need to be shared in the current six- month report</p> <p>MoM of Biodiversity Monitoring Committee meeting to be shared in the report as suggested in last six-month report.</p>			MoM of Biodiversity Monitoring Committee meeting will be shared in the SEMR.
XVI.	Annexure 4: Sample Field Visit Report 28th to 30th June 2022.		<p>Burning of solid waste under open sky should be completely prohibited.</p> <p>Camps should have proper air circulation</p> <p>Housekeeping to be improved in and around the</p>	Contractor, PMC, PMU and APGCL	<p>Immediate</p> <p>30th Nov, 2022</p>	All the noncompliance were intimated to the contractor for compliance.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			camp area. Protection measures to prevent the river water contamination should be in place.		Immediate 30th October, 2022	
XVII.	Catchment Area Treatment (CAT) Plan implementation	The CAT Plan implementation authority is the Forest Department. APGCL has deposited the amount for implementation in the CAMPA fund of MoEF & CC. As intimated by the Forest department CAT Plan implementation will start this year and it approved in the AOP of 2022-2023 (Latest by October 2020). APGCL will monitor during implementation.	Regular follow up with the concerned agency for the concurrence of the CAT plan and closely monitor the implementation.	APGCL, PMC, Forest Department		Agreed

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
XVIII.	Water Quality Restoration plan budget		Total budget allocated is Rs 65 million. No expenditure incurred yet. The activities undertaken and expenditure incurred may be reported from NEXT MPR/SEMR.	Contractor		Water Quality Restoration plan is not being implemented as the matter has been taken up by NGT.
XIX.	Provision of protection of Civil and Hydro-Mechanical structures from acidic water (Item A14 and B2-(i))	Physical progress of safeguard measures taken up by contractor to protect the plant equipment's (mechanical and electrical) and dam from the acidic water will be reported in the next Six-monthly report.	Total budget allocated is Rs 38.44 Cr. No expenditure incurred yet as reported in MPRs of Jan, Feb, March, Apr, May, and June 2022. Most of the important civil and HM structures are expected completion between May 23 to August/Sept 24. Therefore prior to that the protection measures as per Item A14 and B2 (i) need to be implemented.	Contractor	Prior to March 23.	Agreed
XX.	Drinking water quality test reports to be submitted	Weekly pH data not reported as it is not mentioned in the EMoP. But daily pH data were collected for the RO water.	In the previous SEMR (July –De 21) the drinking water quality at various locations like APGCL Engineer camp, APGCL colony, Labor and Staff Colony were provided ,	Contractor/PM C/APGCL		Water is collected from adit pond, langku nala and after RO treatment drinking water is supplied to all camps and work stations. Surface water

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			<p>while in the current SEMR only data of RO plant shed is provided. A confirmation is needed that water only from the RO plant is supplied to the staff and labor camps.</p> <p>The drinking water test data may be annexed in the SEMR.</p>			<p>quality of Langku nala is tested and water quality of RO Plant also tested. Drinking water quality analysis of RO plant (Appendix 11).</p>
XXI.	Water Quality of river Kopili		<p>The water quality data presented in the current SEMR shows remarkable improvement of water quality when compared to data reports in July-December 2021. The pH data provided is everywhere between 7-7.2. May be action taken of NGT towards closure of illegal mines in Meghalaya has resulted in improving the water quality. Monitoring results of upcoming months like July, September and December 2022 will be checked further which is expected to be</p>	APGCL		Agreed

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
			reported in next SEMR.			
XII.	<p>Obtain outstanding permissions for vehicle registration.</p> <p>All vehicles registered in Bhutan must be registered with Indian numbers and PUC to be obtained.</p>	<p>Contactors will be complied by the end of July 22.</p> <p>Letter has been issued to Contractor to obtain Indian registration of the vehicles along with PUC</p>	<p>As per External monitoring agency observation and due mention of it in the site visit and last six-month report this point is still not closed in MPR from March 2022 to June 2022 and in six-month Jan 2022 to June 2022 wherein information of 18 vehicles provided does not contain any information on vehicles registered in Bhutan</p> <p>Please note that the picture of Water sprinkling truck provided in page 63 of the report is registered in Bhutan.</p> <p>Update/ status need to be provided</p>			<p>5 vehicles with Bhutan Registration number changed and rest are under process.</p> <p>PUC of the above 5 vehicles will be submitted soon as informed.</p> <p>Application submitted for registration change of the vehicles with Bhutan Registration Numbers (Appendix 12).</p>
XIII.	<p>Direction of Honorable NGT to Government of Meghalaya to implement afforestation program and rejuvenation of all the polluted river stretches in Meghalaya</p>	<p>The entire work is under the supervision of NGT and accordingly they have constituted a committee for proper</p>	<p>1) As per the direction of NGT, afforestation with Conventional method needs to be taken up for plantation in 224.26 Ha of land across 8 districts of Meghalaya.</p> <p>2). Rejuvenation of degraded</p>	<p>APGCL through PCBA or Department of Power to get the information from Meghalaya</p>		<p>NGT has constituted a high-powered committee for implementation of the task as mentioned. As the entire matter is monitored by NGT, PCB Meghalaya declined to provide any</p>

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
	along with regular monitoring of the water quality of river (pH).	implementation. So APGCL cannot enter in this matter.	coal mines through soil amendment and microbial technology to be taken up in Meghalaya, The River Rejuvenation Committee (RCC) of Govt. of Meghalaya has recommended the proposal of M/s Trinity Impex International for a Pilot Project of Phytoremediation through Micro Algae treatment of the acidic water for Kyrhukhla River. APGCL may help in obtaining progress of above points from Govt of Meghalaya through PCBA/ Power Department Govt of Assam.	Govt.		status at this stage. Still APGCL is trying to get information from government on implementation of the correction measures for improvement of river water quality.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
XIV.	Muck Management Plan, Biomedical waste plan and Influx management plan pending from Package 2 contractor.	<p>Additional Plans like Muck Management Plan, Influx management plan, Solid waste Management Plan etc. were incorporated by Package 2 contractor.</p> <p>Muck management plan submitted, reviewed by PMC and APGCL and returned to contractor to incorporate the observations and submit it for approval.</p> <p>Biomedical waste plan and Influx management plan is under preparation.</p>	Status to be provided	Contractor/PMC/PMU	15 th November , 2022	Biomedical waste plan and Influx management plan are still under preparation.

S.N.	Activity	Previous APGCL Response	External Consultant Monitoring Agency	Responsibility	Agreed Timeline	APGCL Response
XV.	The rooms at camp site should be provided with proper illumination, smoke detector, proper insulation of electrical system. Labor should be provided with provision of clean water, adequate toilet facilities with respect of number of Labor ratio and clean bedding facilities with proper space between two beds.	Installation of smoke detector in the rooms will be intimated to the contractor. Contractor will be requested to install the smoke detector in the rooms by 20 th June 2022. PMC and APGCL will monitor the implementation.	The status is not given in MPR for June 2022 and six-month Jan 2022 to June 2022	Contractor, PMC, PIU, APGCL	Implementation Dates to be finalized after discussion with the contractor and after verification of the contract specifications.	Smoke detectors are yet to be installed in the camps.
XVI.	Anglong District due to certain unavoidable circumstances- of which restrictions on inter district movement due to COVID situation is the major one.		Perhaps the COVID-19 related restriction is eased and this the factor limiting to cover the issue			Yes. There is no COVID-19 related restriction in Dima Hasao and West Karbi Anglong districts of Assam and rest of Assam.



Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
 (Department of Environment & Forests :: Government of Assam)
 Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
 Website: www.pcbassam.org



No. WB/SLC/T-1191/21-22/17 Dated Guwahati, the 27th December, 2021

“CONSENT TO OPERATE”

“CONSENT TO OPERATE” (CTO) under Section 25 of Water (Prevention and Control of Pollution) Act 1974 and Section 21 of Air (Prevention and Control of Pollution) Act, 1981 as amended is granted to-

i) Name of Industry : M/s Larsen & Toubro Limited.
 ii) Name of the Occupier / Applicant and Designation : Sri Santanu Majumdar, Project Manager
 iii) Address of Industry : Vill-Totelangso, P.O-Umrangso, Dist-Dima Hasao, Assam
 iv) Project cost : Rs. 95.00 Lakhs
 v) Details of Products :

SI No.	Product	Quantity/ Capacity
1	Ready Mix Concrete	5200 M ³ /Month

vi) DG Sets : 1x250 KVA, 1x180 KVA, 1x140 KVA & 1x125 KVA

TERMS AND CONDITIONS:

- This CTO has been accorded based on the particulars furnished by the applicant vide Application ID **838921** and subject to addition of further more conditions if so warranted by subsequent developments. The CTO will automatically become invalid if there is any changes, modification, alteration, expansion or deviation is made in actual practice.
- The CTO is valid for a period up to 31.03.2025 unless otherwise suspended or revoked.
- The CTO may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to the following:-
 - Violation of any Terms and Conditions of this CTO;
 - Obtaining the CTO by misrepresentation or failure to disclose fully all relevant facts;
 - A change in any condition that require temporary or permanent reduction or elimination of the authorized discharge/emission;
- The project proponent shall develop a greenbelt / Plantation area with native trees covering at-least 33% of total plot area for the development of greenbelt and carbon sink.
- As per provisions of water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 any officer, employed by this Board in its behalf shall have without any interruption, the right at any time to enter the industry for inspection, to take samples for analysis and may call for any information etc.
- The project authority should install a Display Board as per the Boards notification no.CBA/LGL-95/2021/Notification/01 dtd.11.11.2021. (Copy enclosed as Appendix-A).
- Permission shall be obtained from the Central Ground Water Authority (CGWA) for the extraction of ground water, if applicable.

Contd....P/2



-2-

8. Measures including water sprinkling shall be provided at all the material in the haul roads to control fugitive emission.

Air Aspects:

- The unit shall comply with the Particulate Matter (PM) emission level at 150 mg/Nm³
- Dust suppression measures are to be taken by the industry to control the dust in the haul roads during movement of vehicles.
- The unit shall comply with the standards and guidelines for control of noise pollution from stationary Diesel Generator (DG) set as notified vide GSR 7, dtd.22.12.1998 as attached in Appendix-B.
- Necessary steps are to be made to bring the noise within the prescribe limit as stipulated below:

Limit in dB(A) Leq.	
Day time	Night time
75	70

- The industry must comply the National Ambient Air Quality Standards as per Schedule – VII under Rule, 3 (3B) of the Environment (Protection) Rules, 1986 as prescribed vide CPCB Notification No. B-29016/20/90/PCI-I dtd. 18.11.2009 (copy enclosed as Appendix -C) especially for PM_{2.5} & PM₁₀.

Sr. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area (notified by Central Government)
1.	Particulate Matter (size less than 10µg) or PM10 µg/m ³	Annual* 24 hours**	60 100	60 100
2.	Particulate Matter (size less than 2.5µg) or PM2.5 µg/m ³	Annual* 24 hours**	40 60	40 60

Water Aspects:

- The unit must construct effluent treatment system for the treatment of waste water and the parameters should meet with general discharge parameters standard as per G.S.R. 422(E) dated 19.05.1993 (Copy enclosed as Appendix -D).
- The unit shall reuse the treated water at their own processes.

Solid Waste Aspect-

- Adequate facility should be created for collection, storage, transportation, treatment & disposal of solid waste generated from the Industry
- Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste materials.
- Solid waste generated in the unit shall be disposed of as per the provisions of the Solid Waste Management Rules 2016.

Contd....P/3



D. Hazardous Waste Aspects-

1. The unit shall apply for authorization under the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016 and submit the annual return under Hazardous & Other Waste (Management & Trans Boundary Movement) Rules 2016 in the Form-IV within 30th June every year.
2. Adequate facility shall be provided for collection and storage of spent oil and such hazardous waste generated in the unit shall be sent to registered recyclers for recycling.
3. The unit shall disposed hazardous waste generated in the unit in accordance to the provisions of the Hazardous & Other Waste (Management & Trans Boundary Movement) Rules 2016 including Notification, Guidelines issued there under.

The unit shall submit compliance report of the mandated conditions by April 15 of every year to Member Secretary, PCBA as well as to Regional Office, Silchar, PCBA. The Board will have the liberty to withdraw the CTO if adequate pollution control and safety measures are not taken.

//
(Shantanu Kr. Dutta)
Member Secretary

Memo No. WB/SLC/T-1191/21-22/17-A, 19/12/21

Dated Guwahati, the 27th December, 2021

Copy to:

1. ✓ M/s Larsen & Toubro Limited, Vill- Totelangso, P.O-Umrangso, Dist- Dima Hasao, Assam A for information & necessary action.
2. The Executive Engineer, RLO, Silchar, Pollution Control Board, Assam for information & necessary action.

Shantanu Kr. Dutta
(Shantanu Kr. Dutta)
Member Secretary

Appendix 4: CTE obtained for the batching plant at Dam



Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
 (Department of Environment & Forests :: Government of Assam)
 Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
 Website: www.pcbassam.org



No. WB/SLC/T-1191/21-22/24

Dated Guwahati, the 22nd June, 2022

“CONSENT TO ESTABLISH”

“CONSENT TO ESTABLISH” (CTE) under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 as amended and Rules Framed thereunder is granted to:

- i) Name of Industry : M/s Larsen & Toubro Ltd. (Batching Plant)
- ii) Name of the Occupier / Applicant and Designation : Santanu Majumder, Project Manager
- iii) Address of the unit : Lower Kopili Hydro Electric Power Project, Vill: Longku, P.O. Umrangso, Dist. Dima Hasao, Assam-788931.
- iv) Cost of the project : Rs. 744.69 Lakhs.
- v) Details of the project & category : Batching Plant (Green Category)

Sl. No.	Product	Capacity
1.	Cement Concrete	200000 m ³ / annum

General Conditions:

1. The Consent to Establish (CTE) has been accorded based on the particulars furnished by the applicant vide **Application ID: 1278389** and subject to addition of further or more conditions if so warranted by subsequent developments. The CTE will automatically become invalid, if there is any changes, modification, alteration, expansion or deviation made in actual practice.
2. “CONSENT TO ESTABLISH” will be valid till the date of commissioning of the unit or seven (7) years whichever is earlier.
3. The CTE may be modified, suspended in whole or in part or withdrawn by the Board during its term for cause including, but not limited to the following:-
 - a) Violation of any Terms and Conditions of this CTE;
 - b) Obtaining the CTE by misrepresentation or failure to disclose fully all relevant facts;
 - c) If any genuine complaint received;
4. The unit shall obtain prior “Consent to Establish” from the Board for any expansion, alteration modification of the project.
5. **The project proponent must develop a greenbelt/plantation area with native trees covering atleast 33% of the total plot area.**
6. **The project authority should install a Display Board as per the Boards notification No. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021 (Annexure-A).**
7. As per the provisions of the Water (Prevention and Control of Pollution) Act, 1974 as amended and the Air (Prevention and Control of Pollution) Act, 1981, as amended, any Officer, empowered by the Board on its behalf shall have without interruption, the right at any reasonable time to enter the unit for inspection, collection of sample for analysis and may call for any information as deemed necessary. Denial of this right will cause withdrawal of the Consent Order.

13/6/22

Contd...p/2



-2-

8. Proper housekeeping shall be maintained. Burning of any waste inside the unit premises is strictly prohibited.
9. The project authority shall not operate the unit before obtaining “Consent to Operate” from the Board.

Specific Conditions:

A) Air Aspects:

1. **The industry shall install the screening machine, with proper enclosure and dust extraction and treatment mechanism.**
2. The following air pollution control measures shall be implemented by the project authority to control source emission and fugitive emission:
 - a. Dust containment cum suppression system at Raw Material Feed Hopper, all material transfer & dropping points.
 - b. Construction of the metallic roads within the premises.
 - c. Regular cleaning and wetting of ground within the premises.
3. The industry shall comply with the Noise Level Standard notified by MoEF&CC, Govt. of India, vide GSR.7; dtd: 22/12/1998 as mentioned below:

Limit in dB (A) Leq	
Day Time (6:00AM-10:00PM)	Night Time (10:00PM-6:00AM)
75	70

4. The Ambient Air Quality within the Plant premises shall be maintained within the National Ambient Air Quality Standards as notified by MoEF&CC, Govt. of India, vide G.S.R.826(E) dtd.18.11.2009, especially w.r.t. PM_{2.5} & PM₁₀ as mentioned herein under:

Sl. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area (notified by Central Government)
1.	Particulate Matter (size less than 10µg) or PM ₁₀ (µg/m ³)	Annual* 24 hours**	60 100	60 100
2.	Particulate Matter (size less than 2.5µg) or PM _{2.5} (µg/m ³)	Annual* 24 hours**	40 60	40 60

B) Water Aspects:

1. Source of Water : Surface water
2. i) Water consumption : 200.0 KLD
- ii) Effluent generation : Nil KLD
- iii) Effluent recycled : Nil
- iv) NOC from CGWA : Not obtained
- v) Capacity of ETP : No ETP
3. Exemption NOC/Permission of the Central Ground Water Authority shall be obtained for extraction of Ground Water, if applicable.
4. Storm Water Aspect:
 - a) Storm water shall not be allowed to mix with effluent and/or floor washings.
 - b) Storm water within the battery limits of the unit shall be channelized through separate drain/pipe passing through an Oil & Grease Trap cum Sedimentation Tank.

13/6/22

Contd...p/3



- c) Storm water discharge shall meet with general effluent discharge parameters standard notified by MoEF & CC, GOI vide **G.S.R.422 (E)**; dated 31.12.1993 (**Appendix - B**).
5. Rain water harvesting facility shall be installed and maintained.

C) Solid Waste Aspects:

1. Adequate facility should be created for collection, storage, transportation, treatment & disposal of non-hazardous industrial solid waste generated from the Industry.
2. Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste materials.
3. The unit shall strictly comply with all the provisions of the **Solid Waste Management Rules, 2016**.

D) Plastic Waste Aspects:

1. Plastic waste generated in the unit shall be disposed of scientifically as per the provisions of the Plastic Waste Management Rules, 2016.
2. The unit shall submit a report on generation and disposal of Plastic Wastes within June every year.

E) E-Waste Aspects:

1. Electronic wastes generated in the unit shall be disposed of as per the provisions of **E-Waste Management Rules, 2016**.
2. The unit shall submit the Annual Report in the Form-III within 30th June every year.

F) Hazardous Waste Aspects:

1. **Authorization under Hazardous & Other Wastes (Management & Trans-boundary Movement) Rules, 2016** shall be obtained from the Pollution Control Board, Assam.
2. The project authorities shall comply with the provisions of the said Rules.
3. Adequate facility shall be provided for collection and storage of used/spent oil, which shall be sent to registered recyclers for recycling.
4. The unit shall dispose of any other Hazardous Waste generated by the unit as per the provisions of the Rules.
5. The unit shall identify and quantify all streams of Hazardous Waste generation as per Schedule-I and maintain proper record in Form-III of the said Rules.
6. The unit should submit annual return in Form-IV under the said rules on or before 30th June every year.

The unit shall submit compliance report of the mandated conditions of this CTE by April 15, every year to the Member Secretary, PCBA as well as to Regional Office, Silchar. The Board will have the liberty to withdraw the CTE if adequate pollution control and safety measures are not taken.

Sd/-
(Shantanu Kr. Dutta)
Member Secretary

Dated Guwahati, the 25th June, 2022

Memo No. WB/SLC/T-1191/21-22/24 -A

Copy to:

- ✓ 1. M/s Larsen & Toubro Ltd. (Batching Plant), Lower Kopili Hydro Electric Power Project, Vill: Longku, P.O. Umrangso, Dist. Dima Hasao, Assam-788931 - for information & compliance of conditions.

Sd/-
(Shantanu Kr. Dutta)
Member Secretary

Appendix 5: Permission for extraction / collection of Mask boulder (80000 cum)

NORTH CACHAR HILLS AUTONOMOUS COUNCIL:..... HAFLONG
DIMA HASAO DISTRICT
DIMA HASAO FOREST DIVISION (WEST)
E.mail westforestdept@gmail.com

No. FRS/G/101(a)/Stone-Chips/2020-21/Pt-IV/_____ Dated, Haflong the _____

To, The Range Forest Officer,
Panimur Range,
Panimur.

Sub:- Permission for extraction/collection of Mask Boulder 80,000m³ from Panimur Range USF area under Panimur Range.

Ref:- FRS/Sectt/SP/155/2013-20/L/2/9069 dtd. 18-12-2021

You are hereby asked to realise royalty with GST from L & T Ltd. of Lanku for 80,000m³ Mask Boulder which is collected from Panimur Range USF area under Panimur Range with validity upto to 30-06-2022 as per council order No. under reference.

No extraction and collection shall be allowed 50 mts from the outer periphery of National Highway and State Highway and major structure like RCC Bridge and Railway line.


Divisional Forest Officer,
Dima Hasao Forest Division (West),
Haflong

No. FRS/G/101(a)/Stone-Chips/2020-21/Pt-IV/2852-56 Dated, Haflong the 25/12/2021

Copy to:

1. The Principal Secretary (N), N.C. Hills Autonomous Council, Haflong for favour of his kind information with to his No.FRS/Sectt/155/2013-20/L/2/9069 dtd. 18-12-2021
2. P.A to Hon'ble Chief Executive Member N.C. Hills Autonomous Council Haflong for appraisal to the Hon'ble Chief Executive Member for favour of his kind information.
- ✓ 3. L & T Ltd. for information and necessary action. He is requested to deposit royalty alongwith GST at the Range Office Panimur Range within the stipulated date. .


Divisional Forest Officer,
Dima Hasao Forest Division (West),
Haflong

Appendix 6: Permission for extraction / collection of Mask boulder (200000 cum).

THE NORTH CACHAR HILLS AUTONOMOUS COUNCIL :::::: HAFLONG.
No.FRS/sectt/SP/155/2010-21/L/2, Dated 8th March 2022.

Divisional Forest Officer,
Dima Hasao Forest Division (W).

Sub :- Permit for Mask boulder.

Ref :- Your letter No.FRS/G/101(a)/stone chips/L&T/2021-22/
3475-77, dtd. 7/3/2022.

With reference to the above, I am directed to convey the approval of N.C.Hills A/Council to L & T to re use 2,00,000 m³ Mask Boulder under Panimur Range on payment of usual royalty etc.

This is for your information and necessary action.

Principal Secretary (N),
N.C.Hills Autonomous Council,
Haflong.

Memo No.FRS/sectt/SP/155/2010-21/L/2, Dated 8th March 2022.

Copy to :-

1. The Hon'ble Chief Executive Member, N.C.Hills A/Council Haflong for favour of information with reference to approval dtd. nil.
2. L & T Ltd. for information.

Issue No: 278
Dated : 8/3/22



Principal Secretary (N),
N.C.Hills Autonomous Council,
Haflong.

प्ररूप XIV
(प्रथम अनुसूची का अनुच्छेद 5 देखिए)
FORM XIV
(see Article 5 of the First Schedule)

मोटर वाहनों में ईंधन डालने के लिए पम्प आउटफिट के संबंध में टैंक या टैंकों में पेट्रोलियम भंडारण के लिए अनुज्ञप्ति
LICENCE TO STORE PETROLEUM IN TANK/S IN CONNECTION WITH PUMP OUTFIT FOR FUELING MOTOR
CONVEYANCES

अनुज्ञप्ति सं. (Licence No.) : P/EG/AS/14/1630(P502141)

फीस रूपए (Fee Rs.) 5000/- per year

पेट्रोलियम अधिनियम, 1934 के उपबंधों और उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए 20.00 KL of Petroleum class B को टैंक/टैंकों में भण्डारण मात्र के लिए M/s. Larsen & Toubro Limited, Vill- Longku, P.O. Longku BO, P.S. Umrangso, Longku, Longku, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 को नीचे वर्णित अनुज्ञप्त परिसरों में जो कि इससे उपबद्ध नक्शा संख्या P/EG/AS/14/1630(P502141) तारीख 11/01/2022 में दिखाया गया है, के लिए विधिमाम्य अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to M/s. Larsen & Toubro Limited, Vill- Longku, P.O. Longku BO, P.S. Umrangso, Longku, Longku, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 valid only for the storage of 20.00 KL of Petroleum class B in tank/s in the licensed premises described below and shown on the plan no: P/EG/AS/14/1630(P502141) dated 11/01/2022 attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति 31st day of December 2022 तक विधिमाम्य रहेगी।

The Licence shall remain in force till the 31st day of December 2022

December 6, 2021

For Jt. Chief Controller of Explosives
EG, Assam

अनुज्ञप्त परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी सीमाएं संलग्न नक्शे में दिखाई गई हैं Plot No: Nil, 120 MW-Lower Kopili HEP(Package-2), Vill- Longku, P.O. Lonhku BO, Longku, Umrangso, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 में स्थित हैं और उसमें निम्नलिखित सम्मिलित हैं:

The licensed premises, the boundaries of which are shown in the attached plan, are situated at Plot No: Nil, 120 MW-Lower Kopili HEP(Package-2), Vill- Longku, P.O. Lonhku BO, Longku, Umrangso, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 and consist of:

क पेट्रोलियम वर्ग क परिसर के लिए NIL किलोलिटर क्षमता के/क्रमशः NIL क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित NIL डिस्पेंसिंग पम्पों से जुड़े हुए हैं।

a NIL number(s) underground gas tight tanks of capacity NIL kilolitres respectively of petroleum Class A connected with NIL number(s) electrically/manually operated dispensing pump(s)

ख पेट्रोलियम वर्ग ख/ग परिसर के लिए 20.00 किलोलिटर क्षमता के/क्रमशः 1 क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित 1 डिस्पेंसिंग पम्पों से जुड़े हुए हैं।

b 1 number(s) underground gas tight tanks of capacity 20.00 kilolitres respectively of petroleum Class B connected with 1 number(s) electrically/manually operated dispensing pump(s).

ग एक विक्रय कक्ष/कियोस्क

c A sales room/kiosk

घ सर्विस सम्बन्धी सुविधाएं जिनमें I No Underground Tank सम्मिलित हैं।

d Servicing facilities consisting of I No Underground Tank As per attached plan

Note:-This is system generated document does not require signature.

Appendix 8: Magazine NOC from District Magistrate, Dima Hasao

GOVT. OF ASSAM
OFFICE OF THE DISTRICT MAGISTRATE:: DIMA HASAO DISTRICT :: HAFLONG

No. NCH/M-3/2021/ _____ Dated Haflong, the ____ Oct/2021.

NO OBJECTION CERTIFICATE

Seen the letter received from the Superintendent of Police, Dima Hasao, Haflong vide No. HFG/DSB/80/2021/2556 dated 25/10/2021 and it has been observed that nothing adverse was found against the applicant and as such, **recommended for issuing of NOC** for grant of Explosive Licence and Magazine Construction at Longku, Umrangso, District, Dima Hasao.

Also seen the letter received from the Deputy Director (Tech), Fire & Emergency Services, Assam, Guwahati vide No. F&ES/FPW/GG-927/VOL-1/385/21 dated 09/07/2021 wherein is stated the specific measures for construction of Explosive Storage at Longku, Umrangso, District, Dima Hasao.

Further, in response to the fresh application submitted by M/S L & T in favour of NOC for grant of Explosive License and Magazine Construction approval for 120 MW Lower Kopili Hydroelectric Project (Package 2) at Longku, Umrangso, Dima Hasao District vide letter No. LKHEP-PKG2/LNT/153/GL/45A dated 27/10/2021, it is to certify that the District Administration, Dima Hasao District, Haflong has **No Objection** for grant of Explosive Licence and Magazine Construction in favour of **M/S R.L.Poddar** for L&T - 120MW Lower Kopili Hydroelectric Project (Package 2) at Longku, Umrangso, Dima Hasao District subject to compliance of rules and regulations for Storage of Explosive Rules 2008. Further, M/S L&T is directed to communicate to the Fire & Emergency Services, Guwahati after construction and implementation of fire safety measures for grant of NOC from their end as mentioned in the letter No. (mentioned above) in addition to the following conditions that are to be followed for the Construction and Storage Purpose -

1. The Explosive Magazine will be surrounded by brick wall fencing with a minimum height of 9 feet.
2. The surrounding jungles of the Magazine shall be kept clean.
3. There should be strong armed guard on rear and front.
4. There should be an approach road to the explosive Magazine with a provision movement of fire tenders in the event of any contingency situation.
5. Proper COVID protocols are to be maintained at all times on the work and camp sites.

District Magistrate
Dima Hasao District, Haflong

Memo No. NCH/M-3/2021/ 2556-83

Dated, Haflong the 22nd Oct/2021.

Copy to:

1. The Superintendent of Police, Dima Hasao, Haflong for favour of kind information.
2. The Officer-in-Charge, Umrangso Police Station for favour of kind information.
3. The Project Manager, Larsen & Toubro Ltd., LKHEP, Longku, Dima Hasao for kind information.
4. The M/S R.L. Poddar, 14, Poddar Complex, Narangi, Forest Gate, Kamrup (M), Assam for kind information.
5. Office Copy.

District Magistrate
Dima Hasao District, Haflong.

Part-2 (Schedule V)
Format of No objection certificate
(See Rules 102 and 103)
Subject: No objection certificate under the Explosives Rules, 2008

Date:

No.

With reference to the application in Form AE-12 dated. submitted by **SMTI. KANCHAN PODDAR on behalf of M/s R L PODDAR** and in pursuance of rule 102 and 103 of the Explosives Rule, 2008 there is No objection for granting licence under the Explosives Rule, 2008 to, **SMTI. KANCHAN PODDAR on behalf of M/s R L PODDAR** of address **Village/Town/City-Guwahati, District-KAMRUP (METRO), State- Assam, Pin Code- 781026, Police Station- Noonmati, Railway Station- Narangi** for the following purpose. kinds and quantities of explosives in the premises at **Survey No: LAND MEASURING 251.25 HECTRES (1884.375 Bighas) at Lower Kopili HEP, Longku, Village- Longku, District- DIMA HASAO. State- Assam, Pin Code- 788832, Police Station- Umrangshu, Railway Station- Lanka** as shown in the site plan duly endorsed and enclosed herewith.

1. Purpose (Note: please write only one purpose corresponding to one Article No. as stated in Table of purposes and authority in part 1 of schedule IV annexed to the Explosives Rule ,2008):

Possession and use of Explosives

2. Kinds and quantities of explosives:

Name of Explosives	class	Div.	Quantity
(a) Nitrate Mixture	II	NIL	10000 kg.
(b) Electric / Ordinary Detonator	VI	III	44000 nos
(c) Detonating Fuse	VI	II	100000 mtr

Signature of the No objection certificate issuing authority with his office seal



District Magistrate

- Note:** The following particulars have been verified / considered while issuing this No. objection certificate
- (a) The antecedents of the applicant (in case of individual or proprietary firm) / partners (in case of partnership company) or directors (in case of limited company) or office bearers in case of society or association and also occupier of the premises.
 - (b) The lawful possession of the site by the applicant.
 - (c) Interest of public.
 - (d) Requirement of explosives for use in mines or quarries (possessed by the applicant in the area proposed by the licence have been considered
 - (e) Genuineness of purpose.

Note:-

1. Genuineness of purpose means relating to manufacture – whether there is manufacture of the explosives for lawful constructive use in the area or state or country or export purpose.
2. Verification of antecedents and lawful position of site by applicant as stated in serial Nos. 1 and 2 are not applicable in case of No objection certificate granted by Directorate General of Mines Safety.



OFFICE OF THE DIRECTOR,
FIRE AND EMERGENCY SERVICES, ASSAM, GUWAHATI.

Azadi Ka
Amrit Mahotsav

SEE RULE - 18(2)

F O R M - (G)

Dated Guwahati the 17/03/2022

No. F&ES/FPW/3995/159/22

To,

Mr. Santanu Majumdar,
For Larsen & Toubro Limited,
Project Manager,
120 MW - Lower Kopili Hydro Electric Project (Package 2),
(Explosive Magazine),
Longku, Dima Hasao, Assam.

NO OBJECTION CERTIFICATE IN RESPECT OF INBUILT FIRE FIGHTING/ FIRE PREVENTION AND MEANS OF ESCAPE MEASURES IN THE 120 MW - LOWER KOPILI HYDRO ELECTRIC PROJECT (PACKAGE 2), LONGKU, DIST. DIMA HASAO, ASSAM.

With reference to your completion report under No. Nil Dated 16.03.2022 and on the basis of the Inspection Report submitted by Station Officer, Kamdhan Senapati, I hereby certify that the building as per description below at Dag No. -----, Patta No. -----, Mouza Longku, (Place Longku, Dima Hasao) has been inspected in respect of implementation of inbuilt Fire Fighting/ Fire Prevention/ Escape means measures and is declared fit in respect of fire safety. The Fire & Emergency Services, Assam has no objection in its occupation/ utilization for the purpose of **EXPLOSIVE MAGAZINE** subject to conditions mentioned below.

DETAILS OF APPROVED OCCUPATION:-

GROUND FLOOR:-

1. Floor area: - 28.2 m²
2. Purpose of utilization: -
For Explosive Magazine.

Details of inbuilt Fire Fighting and Fire Prevention measures:

1. Hose Reel hose system.
2. Water Reservoir.
3. Yard hydrant system.
4. Fire Fighting pump.
5. Fire Extinguishers - 8 nos.

SP cum F&ESA,
for and on behalf of
Director of Fire and Emergency Services, Assam
Assam, Guwahati.
Dated: 17/03/2022

NO. F&ES/FPW/

Copy to:-

1. The Deputy Commissioner, Dima Hasao, Assam for information.
2. The Superintendent of Police, Dima Hasao, Haflong, Assam for information.
3. The Station Officer, Umrangso F&ES Station for information and necessary action.

SP cum F&ESA,
for and on behalf of
Director of Fire and Emergency Services,
Assam, Guwahati.

CONDITIONS:-

1. The N.O.C. is valid up to: - 31.03.2023.
2. There should not be any change of Trade for which this License has been issued.
3. There should not be any structural change in the building either horizontally or vertically.
There should not also be any change in the existing arrangements.
4. The Fire Fighting equipments should be in serviceable condition at all time.
5. Water reservoir should always be kept full up to brim.
6. The entrance and exit and the water reservoir should always be free from any obstruction/ projection.
7. The N.O.C. is liable to be cancelled if the premises (for which the N.O.C. is granted) when inspected are not found conforming to the description and condition under which this N.O.C. is granted.

SP cum F&ESA,
for and on behalf of
Director of Fire and Emergency Services, Assam
Assam, Guwahati.



ASSAM POWER GENERATION CORPORATION LIMITED

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

Mridul saikia
Chief General Manager (PP&I)
Project Director (PMU)
Email:mridul.saikia@apgcl.org

No: APGCL/LKHEP/PD/2022-23/81/02

Dated: 12.10.2022

OFFICE ORDER

A Biodiversity Management Committee is hereby constituted for Lower Kopili Hydro Electric Project for effective implementation, monitoring and evaluation of the Biodiversity Conservation and Wildlife Management Plan with the following members:

1. Project Director (PMU), APGCL- **Chairman**
2. GM, LKHEP, APGCL- **Convenor**
3. DGM (Civil), LKHEP, Longku, APGCL- **Member**
4. DGM (PP&I), APGCL HQ- **Member**
5. AGM, F&A, APGCL HQ- **Member**
6. Environment Expert, APGCL- **Member**
7. Representative from Department of Environment & Forest, GoA- **Member**
8. Chief Conservator of Forest, Dima Hasao- **Member**
9. DFO, West Karbi Anglong- **Member**
10. Representative from Assam Biodiversity Board- **Member**

The committee will look after the demarcated conservation areas, monitor and enforce regulator provisions and ensure that the structure and functions of the natural ecosystems in the area are not changed or subjected to any threat. The Committee would also propose other approaches for the biodiversity conservation plan, whenever deemed necessary including the proposed measures for conservation of the endangered and critically endangered species of the area.


Project Director (PMU)
APGCL
Dated: 12.10.2022

Memo No: APGCL/LKHEP/PD/2022-23/81/02(a)

Copy to:

- 1) The OSD to the Chairman, APGCL - for kind information of Hon'ble Chairman, APGCL
- 2) The OSD to the MD, APGCL - for kind information of MD, APGCL
- 3) Officers concerned.
- 4) Relevant file.


Project Director (PMU)
APGCL

Appendix 11: Drinking water quality analysis of RO plant

en-VISION
Enviro Technologies North East
Technologies for better tomorrow

Recognized by Pollution Control Board, Assam

TEST REPORT:
Report No: 220407_1503163_0
ULR No: TC76692200000076P
Sample ID No: EETNE/March/17/22/D
Test Starting Date: 30/03/22

NABL ACCREDITED
Date of Report: 07/04/22
Date of sample receipt: 30/03/22
Test completion Date: 07/04/22

Name & Address of Client		M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.					
Sample Description		Type: Drinking Water			Source: RO		
Sample collected by		M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars		Date	Time	Temperature	p ^H	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02
		29/03/2022	1:38 P.M	28°C	7.00		

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
2	Turbidity	NTU	<.2	APHA 23 rd Edition,2130,Page:2-13	1.0	5
3	Total hardness	mg/L	35.7	APHA 23 rd Edition,2340 B,Page:2-48	200	600
4	Total Alkalinity	mg/L	52.2	APHA 23 rd Edition,2320,Page:2-37	200	600
5	Residual Chlorine	mg/L	BDL	APHA 23 rd Edition,4500-Cl B,Page:4-63	0.2	.1.0
6	Chloride	mg/L	11.4	APHA 23 rd Edition,4500-Cl B,Page:4-75	250	1000
7	Fluoride	mg/L	0.21	APHA 23 rd Edition,4500-F ⁻ D,Page:4-90	1.0	1.5
8	Iron(as Fe)	mg/L	0.05	APHA 23 rd Edition,3500-Fe B,Page:3-80	0.3	No relaxation
9	Total Coliform	MPN/100	Nil	APHA 23 rd Edition,9222B,Page:9-81	Shall not be detectable in any 100 ml Sample	Shall not be detectable in any 100 ml Sample
10	Fecal Coliform	MPN/100	Nil	APHA 23 rd Edition,9222 D,Page:9-89	Shall not be detectable in any 100 ml Sample	Shall not be detectable in any 100 ml Sample


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.

End of report _____

Page 1 of 2

House No. 6, 1st Floor, Sankardev Path, Pub-Sarania, Chandmari, Guwahati-781003, Assam.

Phone : +91 8811096201 ♦ e-mail : envisionghy@gmail.com

Appendix 12: Application submitted for registration change of the vehicles with Bhutan Registration Numbers

Customer Copy Printed On: 13-Aug-2022 08:18:58

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D22080000009/AS22080822825267
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 12-Aug-2022
 Vehicle No: BP2B5038 Chassis No: MA1RY2GHKF3E29275
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	300	0	300
RC Paper Document Charge	200	0	200
GRAND TOTAL (in Rs): 500/- (FIVE HUNDRED ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy Printed On: 08-Aug-2022 08:09:40

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D220800000003/AS22080622701100
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 06-Aug-2022
 Vehicle No: BP2B5038 Chassis No: MA1RY2GHKF3E29275
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(01-Jul-2022 to 30-Jun-2023)	8900	185	9085
GRAND TOTAL (in Rs): 9085/- (NINE THOUSAND AND EIGHTY FIVE ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy Printed On: 13-Aug-2022 08:21:02

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D22080000010/AS22080852824663
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 12-Aug-2022
 Vehicle No: BP2B5039 Chassis No: MA1RY2GHKF3E29272
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	300	0	300
RC Paper Document Charge	200	0	200
GRAND TOTAL (in Rs): 500/- (FIVE HUNDRED ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy Printed On: 08-Aug-2022 08:10:57

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D220800000004/AS22080652701236
 Vehicle Class: Goods Carrier
 Received From: LARSEN AND TOUBRO LTD
 Receipt Date: 06-Aug-2022
 Vehicle No: BP2B5039 Chassis No: MA1RY2GHKF3E29272
 Regn Date: 25-Jun-2015
 Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(01-Jul-2022 to 30-Jun-2023)	8900	185	9085
GRAND TOTAL (in Rs): 9085/- (NINE THOUSAND AND EIGHTY FIVE ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 13-Aug-2022 08:22:07

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D22080000011/AS22080892823177
Vehicle Class: Bus
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 12-Aug-2022
Vehicle No: BP2A5693 Chassis No: MAT412283AR00255
Regn Date: 19-Dec-2011
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
Re-assignment of Registration No (RMA)	1500	0	1500
RC Paper Document Charge	200	0	200
GRAND TOTAL (in Rs): 1700/- (ONE THOUSAND SEVEN HUNDRED ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Customer Copy

Printed On: 08-Aug-2022 08:11:37

GOVERNMENT OF ASSAM
State Transport Department
DIMA HASAO, Assam



RECEIPT/APPL No: AS8D22080000005/AS22080622701330
Vehicle Class: Bus
Received From: LARSEN AND TOUBRO LTD
Receipt Date: 06-Aug-2022
Vehicle No: BP2A5693 Chassis No: MAT412283AR00255
Regn Date: 19-Dec-2011
Remarks: ONLINE-PAYMENT

Particular	Amount	Penalty	Total
MV Tax(08-Dec-2021 to 31-Dec-2022)	18928	1210	20138
GRAND TOTAL (in Rs): 20138/- (TWENTY THOUSAND ONE HUNDRED AND THIRTY EIGHT ONLY)			

Note-- This is computer generated slip, no need of signature (<https://parivahan.gov.in>).

ONLINE PAYMENT

Snippets of The Site Visit



Improper storage of Oil and Chemical Drums at the Project Site



Safety Signages and Other Instruction at the Project site



Site of Religious and Archaeological importance in the Upstream of dam site



Upstream of the Dam Site where Aquatic Macrophytes were Observed



Uncovered Excavated Soil along the Roads and Labour Colony



Workers without PPE's working in Surge Shaft



Vehicles with Bhutanese Number Plate



Uncovered Muck along the River Kopili



View of Umrangso HEP discharge leading to meet with Kopili River



Confluence of Umrangso HEP discharge with Kopili River



Growth of Algae in the surrounding areas of Miyungma Daoga Waterfall, Umrangso

List of Persons FIPL Had Discussions and Interacted During This Site Visit Feb & May 2022

APGCL	PMC	L&T
Mr. M. Saikia, CGM	Mr. Sangram Singh	Mr. Santanu Majumdar, Project Manger
Th. S. M. Singha, GM	Dr Jayanta Das, Environment Expert	Mr. Ak Diwan, Deputy Project Manager
Mr. Akshay Talukdar, DGM	Mr. Shashi Kumar Sharma, Team Leader	Mr. Manoj Yadav, Sr. Environment Engineer
Mr. L.S. Bey, GM		Mr. Pk Kumar, EHS Manager
Dilip Kumar Das, GM		Mr. N. Behera, EHS (First Aid staff at project site)
Mr. J. Rongpi, DGM		(Workers at Labour Camp)
Mr. Sanju Kather, AGM		(Workers at construction Sites)
Mr. Parag Jyoti Ligira, DM		
Ms. Destimona Borah, DM		
Mr. Dhiraj Borthakur, AM		
Mr. Ajanth Kumar, DGM		
Mr. Deepak Kr. Baruah, Environment Expert		
Mr. Pankaj Kumar, Social Safeguard Expert		



Contact Details

Feedback Infra Pvt. Ltd

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Fax: + 977 (01) 5332171