



# Environmental Monitoring Report

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**PUBLIC**

Semestral Report: January 2023 – June 2023  
February 2024

## India: Assam Power Sector Investment Program - Tranche 3

Part 1 of 2: Main Report (Pages 1 – 171) and Annexures 1 – 14

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

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**Asian Development Bank**

# Environmental Monitoring Report

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Project No. 47101-004  
Semi-Annual Report  
July 2023

SFG Log: 5916

India: Assam Power Sector Investment Program -  
Tranche 3

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# **Environmental Monitoring Report**

## **(as of 30<sup>th</sup> June 2023)**

Loan Number 4029-IND

### **Assam Power Sector Investment Program – Project-3**

Reporting Period : from January, 2023 to June, 2023

**Loan Signing Date : 30<sup>th</sup> 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	Environment Impact Assessment
EMP	Environment 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&amp;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&amp;CC in July 2019. On the basis of that Environment Clearance was accorded to the project vide letter No. J-12011/26/2012-IA-I dated 4<sup>th</sup> 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 assessment 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.</p> <p>EIA addendum is updated with the current layouts and additional mitigation measures and will be submitted to ADB for finalization.</p>
Project Stage Obtained	Construction
Detailed Design Required Post-Approval	Yes. It all are EPC mode of contract. Currently Package 1 – Building and Infrastructures works; Package 2 (Civil and Hydromechanical), Package 3 - Electro Mechanical and Package 4 – Transmission line were awarded.
Contract(s) Awarded	Yes. Package 1 – Building and Infrastructures works, 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 1 – Building and Infrastructures works, Package 2 (Civil and Hydromechanical), Package 3 Electro mechanical works and Package 4 – Transmission line EMP includes relevant sections of the EMP and all were cleared by ADB.
Contract(s) Awarded Include EMP Cleared by ADB	Yes. Contract document of all the 4 packages included EMP which was cleared by ADB.
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.



	<p>During the detail engineering and execution of the project some minor design changes were necessitated without changing the power generation capacity of LKHEP. The Memorandum of Changes (MoC) for these design changes was approved by Central Electricity Authority (CEA) on 09.11.2022 after taking concurrence from the relevant departments of Govt. of India like Central Water Commission, Geological Survey of India, Central Soil and Material research Station etc.</p> <p>As per the EC clause no ix. of X, which stipulates 'No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests &amp; Climate Change (MoEF&amp;CC)'. MoEF&amp;CC, New Delhi and Integrated Regional Office of MoEF&amp;CC, Guwahati; were intimated by the APGCL about CEA approved changes due to detail engineering on 28.11.2022.</p> <p>The six-monthly EC compliance reports for the period Dec 2021 to May 2022; June 2022 to Nov 2022 and Dec 2022 to May 2023 submitted to MoEF&amp;CC, New Delhi with copies to IRO, MoEF&amp;CC Guwahati on 06.07.22, 16.12.22 and 26.06.2023 respectively.</p> <p>APGCL's submitted the action taken report on 02.02.23 on the observation of the EC Compliance Report of the MoEF&amp;CC for the period Jun'22 to Nov'22.</p> <p>The Integrated Regional Office, MoEF&amp;CC Guwahati has already conducted site inspection as a part of EC compliance monitoring in March 2023.</p> <p>EC amendment application process was initiated during this reporting period.</p> <p>Contractor of CP-1 has Labour license and permission for Ground water extraction.</p> <p>Contractor of CP-2 have the Labour License, CTO for Batching Plant (near Power House), CTO for Crusher, Clearances from PESO for establishment of Explosive Magazine, CTO for Batching Plant (near Dam), etc.</p> <p>Contractor of CP-3 has labour license.</p> <p>Contractor of CP-4 has Labour License and Migrant labour license.</p>						
<p>Contractor(s) Given Access to Site</p>	<p>Yes. Initially contractor given access on 20<sup>th</sup> November 2020 for package 2.</p> <table border="1"> <thead> <tr> <th>Date of handover</th> <th>Description of the land</th> </tr> </thead> <tbody> <tr> <td>20<sup>th</sup> Nov'20</td> <td>Approx. 37 Hectare revenue land -1 handed over to Contractor.</td> </tr> <tr> <td>20<sup>th</sup> Nov'20</td> <td>Approx. 63.2 Hectare revenue land -2 handed over to Contractor.</td> </tr> </tbody> </table>	Date of handover	Description of the land	20 <sup>th</sup> Nov'20	Approx. 37 Hectare revenue land -1 handed over to Contractor.	20 <sup>th</sup> Nov'20	Approx. 63.2 Hectare revenue land -2 handed over to Contractor.
Date of handover	Description of the land						
20 <sup>th</sup> Nov'20	Approx. 37 Hectare revenue land -1 handed over to Contractor.						
20 <sup>th</sup> Nov'20	Approx. 63.2 Hectare revenue land -2 handed over to Contractor.						

	2 <sup>nd</sup> Jan'21	Approx. 150 Hectare revenue land handed over to Contractor.
	11 <sup>th</sup> Jun'21	477.76 Hectare, diverted forest land handed over to Contractor.
	03 <sup>rd</sup> Jul'21	45.28 Hectare, diverted reserved forest land handed over to Contractor.
	13 <sup>th</sup> June'23	153 Hectare of land handed over to APGCL. ( <b>Annexure 11</b> ).
	Total 1070.716 Ha land was handed over by the end of June 2023 which is 67.90 % of the total land. All the construction activities of Package 2, Package 3 and Package 1 will be concentrated within this area only.	
Construction Progress (%)	<b>Physical &amp; Financial Progress : Package wise</b>	
	<b>Sl.</b>	<b>Package Details</b>
		<b>Physical Progress</b>
		<b>Financial Progress</b>
	1	Building and Infrastructure (Pkg. 1)
		11.0%
		10.0% (Mob. Advance)
	2	Civil & Hydro Mechanical (Pkg. 2)
		47.1%
		30.6%
	3	Electro Mechanical (Pkg. 3)
		24.0%
		4.7%
	4	Transmission line (Pkg. 4)
		49.4%
		45.0%
Unanticipated Impacts including Change of Scope or Design	<p>As per Forest Advisory Committee's (MoEF&amp;CC) suggestion the miscellaneous area and Muck disposal site has been shifted from Forest Land to Revenue Land.</p> <p>EIA addendum is under preparation as :-</p> <ul style="list-style-type: none"> <li>• there are some changes due to detail engineering approved by Central Electricity Authority as per Memorandum of Changes on 09.11.2022</li> <li>• As per FAC during Forest clearance suggested to shift the dumping area form Forest to Revenue land. EPC contractor of Package 2 selected 4 dumping ground in Revenue land.</li> <li>• Reservoir area 620 ha as per DPR and MOC.</li> <li>• Possibility of presence of pyrites in the excavated materials and the mitigation measures.</li> <li>• A section of Langka Umrangso road now National Highway and the bridge over Langku Nala falling within submergence area will be constructed by State PWD, etc.</li> </ul>	
Number of Site Inspections and Audits Undertaken by Environment Safeguards Staff in Reporting Period	<p>12 nos of site inspection of all the components (Pkg.1, Pkg.2, Pkg.3, Pkg.4) 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.</p> <p>During joint site inspections Environment Specialist of PMC and Environment Expert of APGCL participated along with Environment</p>	

	<p>engineer of contractor. Health and Safety Expert of PMC joined on 25<sup>th</sup> March, 2023.</p> <p>Joint Site inspections were carried out on 4<sup>rd</sup>, 18<sup>th</sup>, 27<sup>th</sup> January, 5<sup>th</sup>, 14<sup>th</sup>, 22<sup>nd</sup> February; 8<sup>th</sup>, 16<sup>th</sup>, 28<sup>th</sup> March; 7<sup>th</sup>, 20<sup>th</sup>, 30<sup>th</sup> April; 10<sup>th</sup>, 16<sup>th</sup>, 23<sup>rd</sup> May; 9<sup>th</sup>, 18<sup>th</sup>, 30<sup>th</sup> June 2023.</p> <p>Training was conducted by PMC and APGCL the contractor on EHS 29.04.2023. Training was also given by Contractor to their staff on EHS.</p>																																																																															
Corrective Action Required	Corrective actions as per site visits, ADB Aide Memoire for the ADB Mission 20 <sup>th</sup> to 25 <sup>th</sup> March, 2023 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 8																																																																															
Outstanding Corrective Action this Reporting Period	Environment Safeguards – Outstanding Corrective Action Plan upto June, 2023 are mentioned in Table 8.																																																																															
Non-Compliances Recorded this Reporting Period																																																																																
Corrective Action Required	Corrective actions mentioned in Table 8, 9.																																																																															
<b>Number of Health and Safety Incidents</b>	<p><b>COVID 19 incidents :</b></p> <table border="1"> <thead> <tr> <th>Month</th> <th>COVID 19 +ve</th> <th>Recovered</th> </tr> </thead> <tbody> <tr> <td>January to June 2023 Total</td> <td>0</td> <td>-</td> </tr> </tbody> </table> <p>COVID vaccination status of the staff and workers- CP2.</p> <table border="1"> <thead> <tr> <th>Month</th> <th>1<sup>st</sup> Dose</th> <th>2<sup>nd</sup> Dose</th> </tr> </thead> <tbody> <tr> <td>January 2023</td> <td>27</td> <td>201</td> </tr> <tr> <td>February 2023</td> <td>97</td> <td>182</td> </tr> <tr> <td>March 2023</td> <td>33</td> <td>132</td> </tr> <tr> <td>April 2023</td> <td>41</td> <td>142</td> </tr> <tr> <td>May 2023</td> <td>265</td> <td>246</td> </tr> <tr> <td>June 2022</td> <td>238</td> <td>206</td> </tr> <tr> <td>Jan-June Total</td> <td>701</td> <td>1109</td> </tr> </tbody> </table> <p><b>Other incidents CP-2:</b></p> <table border="1"> <thead> <tr> <th>Month</th> <th>Work force</th> <th>LTI</th> <th>Dangerous occurrence</th> <th>Non-Work Related Incident</th> <th>First Aid Cases</th> <th>Near Miss Reports</th> </tr> </thead> <tbody> <tr> <td>Jan 2023</td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td>4</td> </tr> <tr> <td>Feb 2023</td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>Mar 2023</td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td>3</td> </tr> <tr> <td>Apr 2023</td> <td></td> <td></td> <td></td> <td></td> <td>5</td> <td>2</td> </tr> <tr> <td>May 2023</td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td>1</td> </tr> <tr> <td>June 2023</td> <td></td> <td></td> <td></td> <td>1</td> <td>5</td> <td>3</td> </tr> </tbody> </table>	Month	COVID 19 +ve	Recovered	January to June 2023 Total	0	-	Month	1 <sup>st</sup> Dose	2 <sup>nd</sup> Dose	January 2023	27	201	February 2023	97	182	March 2023	33	132	April 2023	41	142	May 2023	265	246	June 2022	238	206	Jan-June Total	701	1109	Month	Work force	LTI	Dangerous occurrence	Non-Work Related Incident	First Aid Cases	Near Miss Reports	Jan 2023				1		4	Feb 2023					2		Mar 2023					2	3	Apr 2023					5	2	May 2023					2	1	June 2023				1	5	3
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	Jan – June 2023				2	16	13
<b>Safety Statistics CP-2 :</b>							
<b>Description</b>				<b>Cumulative for the Project</b>			
No. of Reportable Lost Time Injuries				0			
Frequency Rate (FR)				-			
Severity Rate (SR)				-			
<b>Million Man-hours worked</b>				6503009			
No. of Fatalities				-			
Safe man hours from last reportable lost time injury (man-hours)				34,59,948 (till 31 <sup>st</sup> March, 23)			
<b>Non Work Related Accident :</b>				1 worker died on 15th July, 2022 due to cardio respiratory failure due to sudden cardiac arrest. Another accident occurred on 5.12.22 and succumbed to death on 28.12.22 in hospital.			
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 related to environment Health and Safety						
Number of Grievances referred to the Accountability Mechanism	Nil related to environment Health and Safety						

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 tCO<sub>2</sub>/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 46.013 km (final alignment survey not completed yet), 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 3A, 3B).

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 environment clearance 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 30.06.2023 after the recent drone LiDAR survey in the month of April, 2023. The area of the Reservoir is 620 Ha as it was assessed during DPR and the same was approved by CEA. As transmission line is on the Revenue Land there is a change in the alignment and the length is reduced from 52 km to 46.013 km Figure 3. Correspondingly number of towers also reduced from 187 to 153.

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](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 4<sup>th</sup>

September, 2019. As the project requires diversion of forest land stage 1 and stage 2 Forest Clearance was also accorded for the project on 5<sup>th</sup> February, 2019 and 4<sup>th</sup> 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 30.06.2023)**

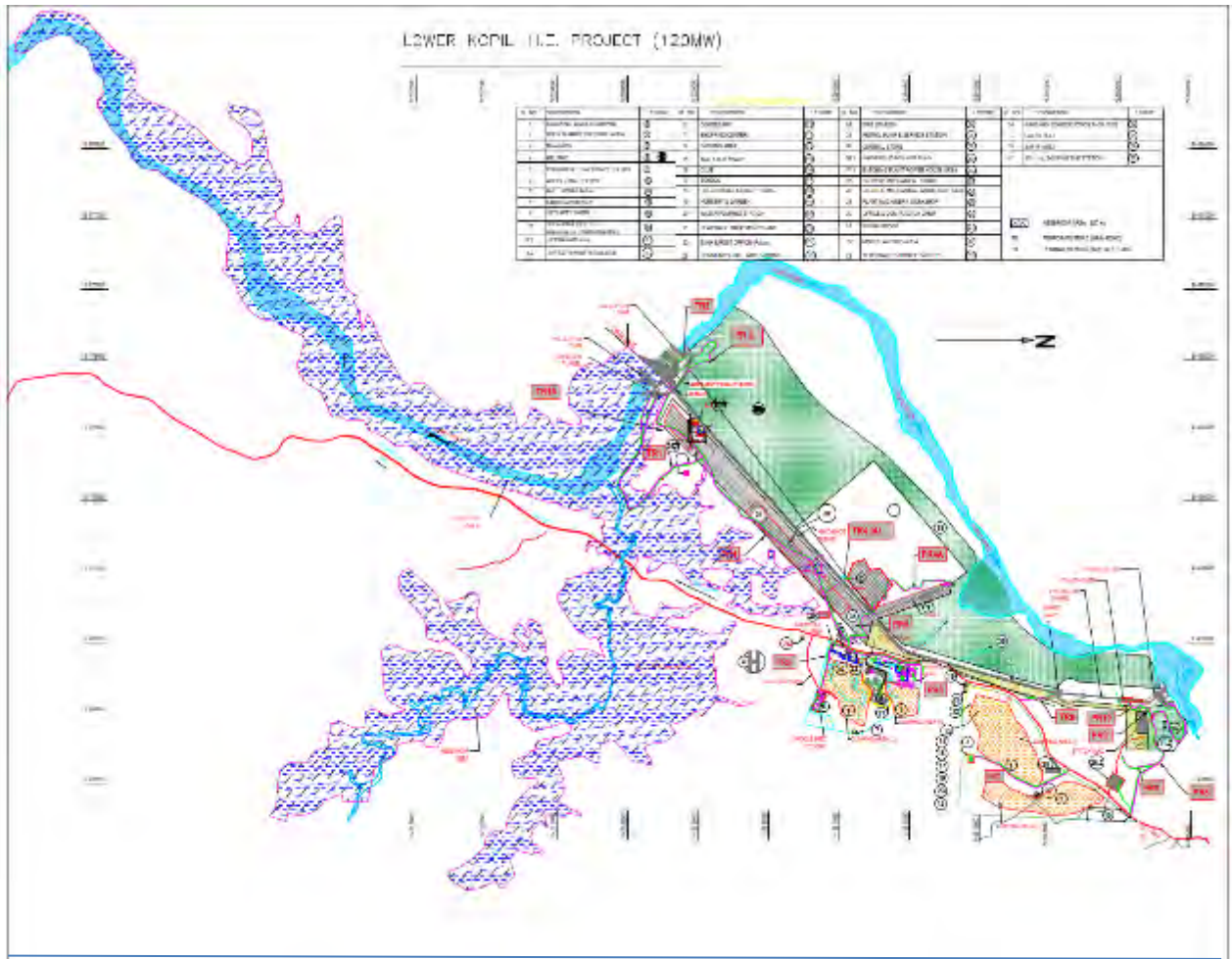




Figure 3 : Layout of Transmission line (Google earth)



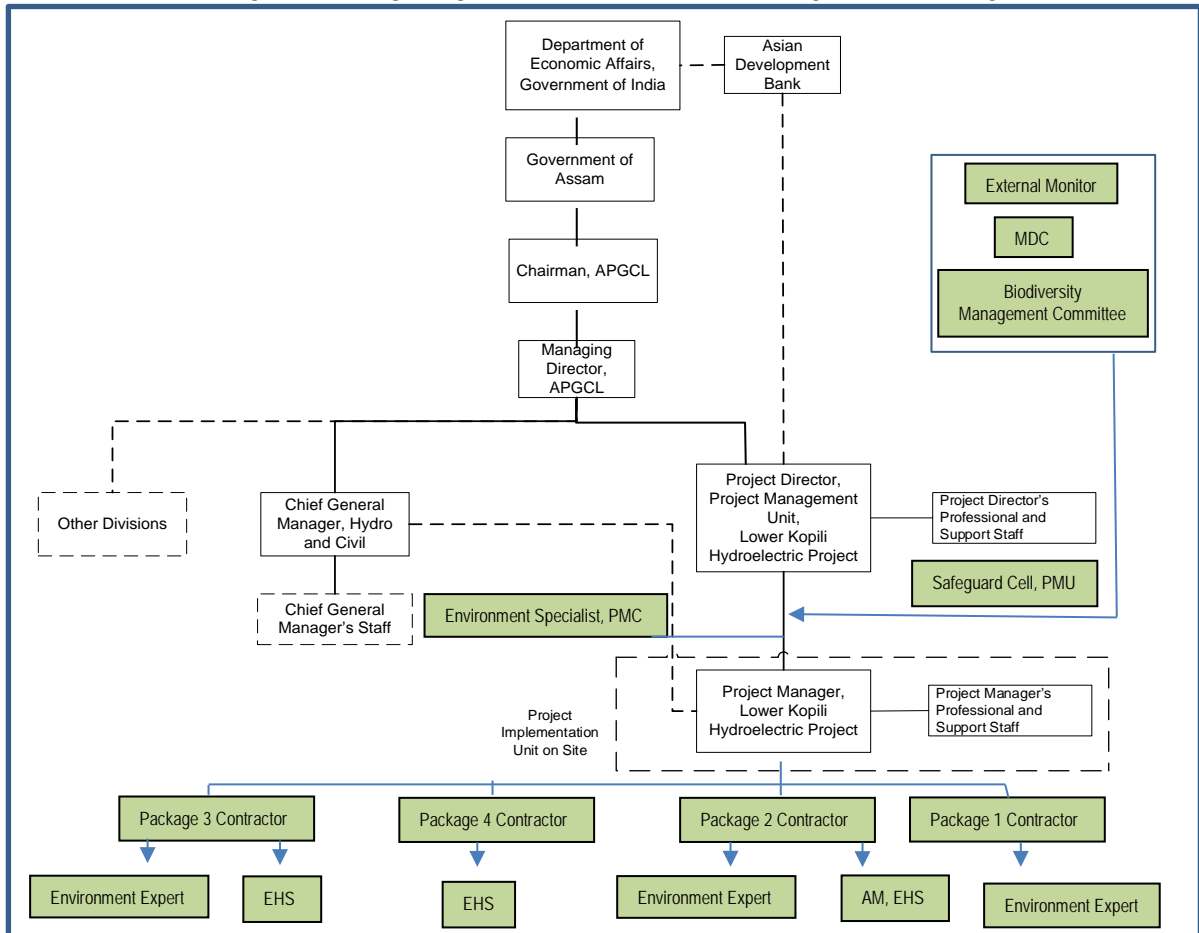
**Figure 4: Layout of Transmission line (Toposheet)**



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 5). Contact details of Environment Safeguard team is given in the table 1.

Figure 5 : Organogram of environmental safeguards staffing



**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
PIU, EHS	Mr. Dhiraj Borthakur	9435526416	
PMC	Dr Jayanta Das	9435406966	jayanta.das@afry.com
PMC	Dr.Chandan Singh Negi	8126900166	chandansinghnegi80@gmail.com
Contractor Package 1	Dr Nilotpal Mahanta Environment Officer	8486464948	
Contractor Package 2	Mr. Tushar Gangopadhay EHS, Head	9332901606	Tushar-g@Intecc.com
	Mr Manoj Yadav Environment Engineer L&T	7838013312	manojyadav@Intecc.com
	Mr. Naba Jyoti Bera Assistant Manager EHS L&T	7099002556	nabajyotibera@Intecc.com
Contractor Package 3	Mr Mohit Mittal. Head HSE	8860085825	mohit.mittal@andritz.com
	Mr. R Ramkumar, HSE Manager at site	9384549075	
	Mr. K. Pathak (HSO)		
Contractor Package 4	Mr. Himangshu Srivastava Health and Safety Expert	7051248211	

(Note : For this reporting period site visits by external monitor were done in February, March, June, 2023).

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. Overall physical progress 48.2%.

**Table 2 : Project Progress status**

Project Component/Stage	Awarded on	Target Completion Date	Progress Status	Physical Progress	Remarks
<ul style="list-style-type: none"> <li>Contract Package 1 (Buildings)</li> </ul>	<ul style="list-style-type: none"> <li>NOA 24<sup>th</sup> August, 2022</li> <li>Contract signed 30<sup>th</sup> Sept, 2022</li> <li>Start date 1<sup>st</sup> Nov, 2022</li> </ul>	<ul style="list-style-type: none"> <li>30<sup>th</sup> April, 2024</li> </ul>	Ongoing	11.0%	EMP provisions included in the Tender Document. Copy of labour license and insurance are obtained by the contractor.
<ul style="list-style-type: none"> <li>Contract award (Package 2) (Civil and Hydromechanical) (Construction phase)</li> </ul>	<ul style="list-style-type: none"> <li>5.8.2020</li> <li>Start Date 1<sup>st</sup> Sept, 2020</li> </ul>	<ul style="list-style-type: none"> <li>31<sup>st</sup> December 2023 (as per Loan agreement)</li> <li>30<sup>th</sup> June 2024 (as per PAM)</li> <li>31<sup>st</sup> August 2024 (as per Contract agreement with Contractor)</li> <li>30<sup>th</sup> April 2024 as per Best effort schedule</li> </ul>	Ongoing	47.1%	Contract awarded to L&T contractor, Relevant section of the EMP included in the contract Labour license and insurance covered 1000 workers.
<ul style="list-style-type: none"> <li>Contract Package 3 (Electro Mechanical)</li> </ul>	<ul style="list-style-type: none"> <li>NOA 9<sup>th</sup> Nov, 2021</li> <li>Signing of contract - 2<sup>nd</sup> November, 2021.</li> <li>Awarded 9<sup>th</sup> Sept, 2021</li> <li>Commencement date : 12th November 2021.</li> </ul>	<ul style="list-style-type: none"> <li>13<sup>th</sup> March, 2025</li> </ul>	Ongoing	24.0%	Contract awarded to M/s Andritz Hydro Private Limited contractor, Relevant section of the EMP included in the contract. Copy of the labour license and insurance submitted.
<ul style="list-style-type: none"> <li>Contract Package 4 (Transmission Line)</li> </ul>	<ul style="list-style-type: none"> <li>NOA- 20.04.2022</li> <li>Contract signed 27.05.2022</li> </ul>	31 <sup>st</sup> May, 2024	Ongoing	49.4%	EMP provisions included in the Tender Document. M/S. Salasar Techno

Project Component/Stage	Awarded on	Target Completion Date	Progress Status	Physical Progress	Remarks
	<ul style="list-style-type: none"> <li>Award: 30.06.2022</li> <li>Start date 1<sup>st</sup> June 2022</li> </ul>				Engineering Limited JV with M/s. Akelik Group OJCS Insurance submitted by the contractor but Labour License submitted by the contractor.
<ul style="list-style-type: none"> <li>ERP Packages (Package no 6)</li> </ul>	Start date 1 <sup>st</sup> June 2019			62.0%	Lot 4, NOA issues on 27 <sup>th</sup> Dec, 2022
<ul style="list-style-type: none"> <li>Resources and Community Resilience (under JFPR)</li> </ul>	NOA, Contract award date, Start date 28.10.2022		ongoing		Inception report submitted on 28 <sup>th</sup> December 2022.

ERP - Enterprise resource planning

### 1.2.1. Physical Progress of Package 2 :

#### 1.2.1.1. Road work

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
Excavation of Permanent Road-01	M	2,488	2,488	-	2,488	Completed	Cat-A
Excavation of Permanent Road-02	M	680	680	-	680	Completed	Cat-A
Excavation of Permanent Road-03	M	310	310	-	310	Completed	Cat-A
Excavation of Permanent Road-04	M	1,329	1,329	-	1,329	Completed	Cat-A
Excavation of Permanent Road-05	M	397	397	-	397	Completed	Cat-A

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
Excavation of Permanent Road-07	M	584	584	-	584	Completed	Cat-A
Excavation of Permanent Road-08	M	1,552	1,552	-	1,552	Completed	Cat-A
Excavation of Permanent Road-08A	M	95	95	-	95	Completed	Cat-A
Excavation of Permanent Road-09	M	165	165	-	165	Completed	Cat-A
Excavation of Permanent Road-10	M	188	188	-	188	Completed	Cat-A
Excavation of Temporary Road-01	M	1,590	1,590	-	1,590	Completed	Cat-A
Excavation of Temporary Road-01A	M	346	346	-	346	Completed	Cat-A
Excavation of Temporary Road-03	M	168	168	-	168	Completed	Cat-A
Excavation of Temporary Road-04A	M	252	252	-	252	Completed	Cat-A
Excavation of Temporary Road-05	M	1,099	1,099	-	1,099	Completed	Cat-A
Excavation of Temporary Road-06	M	254	254	-	254	Completed	Cat-A
Excavation of Temporary Road-07	M	188	188	-	188	Completed	Cat-A
Cross Drainage (Box Culvert +	Nos	12	12	-	12	Completed	Cat-A

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
Hume pipe culvert)							
Rectangular RCC Cross Drainage's	Nos	9	9	-	9	Completed	Cat-A
Road drain concreting (side drain)	M	10,545	10,545	-	10,545	Completed	Cat-A
Road GSB laying	M	11,915	11,915	-	11,915	Completed	Cat-A
Road WMM laying (1st Layer)	M	11,842	11,842	-	11,842	Completed	Cat-A
Road WMM laying (2nd Layer)	M	11,842	11,842	-	11,842	Completed	Cat-A
Road DBM laying	M	7,941	7,828	-	7,828	113	Cat-A

#### 1.2.1.2. Main work

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
<b>Adit Tunnel UG Excavation</b>							
In tunnel RM	M	355	355	-	355	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Adit To HRT Excavation Open Excavation</b>							
w.r.t Volume	cum	19,000	19,000	-	19,000	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Diversion Tunnel UG Excavation (Heading)</b>							
From Outlet Portal	M	264.9	264.9	-	264.9	Completed	Cat-A



Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Diversion Tunnel UG Excavation (Heading)</b>							
From Inlet Portal	M	148.4	148.4	-	148.4	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Diversion Tunnel UG Excavation (Benching)</b>							
Portal (Benching)	M	413	413	-	413	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>DT Inlet Open Excavation</b>							
w.r.t Volume	Cum	37,431	37,431	-	37,431	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>DT Outlet Open Excavation</b>							
w.r.t Volume	cum	7,000	7,000	-	7,000	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>DT Inlet Structure Concrete</b>							
w.r.t Volume	Cum	4,361	4,361	-	4,361	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Approach to DT Gate</b>							
w.r.t Volume	Cum	1,266	1,266	-	1,266	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>DT Surface lining (Invert Concrete)</b>							
w.r.t Volume	RM	413	413	-	413	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>DT Inlet Structure: 2<sup>nd</sup> Stage Concrete</b>							

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
w.r.t Volume	Cum	83	83	-	83	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>D/S Cofferd Dam Rock Filling works</b>							
w.r.t Volume	Cum	7,000	7,000	-	7,000	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Left Bank Open Excavation</b>							
w.r.t Volume	Cum	44,375	44,375	-	44,375	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Right Bank Open Excavation</b>							
w.r.t Volume	Cum	1,30,000	1,30,000	-	1,30,000	Completed	Cat-B
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>River Bed Excavation</b>							
w.r.t Volume	Cum	44,000	44,000	-	44,000	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Cofferd Dam Excavation</b>							
w.r.t Volume	Cum	27,500	27,500	-	27,500	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>U/S Cofferdam Concrete</b>							
w.r.t Volume	Cum	39,471	39,471	-	39,471	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>HRT UG Excavation Face: I (Power Intake to Adit)</b>							
Portal (UG Excavation)	M	732.5	675.2	57.3	732.5	Completed	Cat-A

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
w.r.t Percentage	%	100	92%	8%	100%	Completed	
<b>HRT UG Excavation Face: III (Adit to Surge Shaft)</b>							
Portal (UG Excavation)	M	1,096	1,035.7	60.3	1,096	Completed	Cat-A
w.r.t Percentage	%	100	94%	6%	100%	Completed	
<b>HRT UG Excavation Face: IV (Surge Shaft to Adit)</b>							
Portal (UG Excavation)	M	340.8	340.8	-	340.8	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Surge Shaft Open Excavation</b>							
w.r.t Volume	cum	75,014	75,014	-	75,014	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Surge Shaft Collar Beam Excavation</b>							
w.r.t Volume	cum	1,078	1,078	-	1,078	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Surge Shaft Collar Beam &amp; Gantry Foundation Concrete</b>							
w.r.t Volume	Cum	438	438	-	438	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Surge Shaft UG Excavation</b>							
In tunnel RM	M	47	44	3	47	Completed	Cat-A
w.r.t Percentage	%	100	94%	6%	100%	Completed	
<b>Surge Shaft-Pressure Shaft Junction Excavation</b>							
In tunnel RM	M	10.5	10.5	-	10.5	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Surge Shaft-HRT Junction Excavation</b>							

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
In tunnel RM	M	10.5	10.5	-	10.5	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Switch Yard Excavation</b>							
w.r.t Volume	cum	17,860	17,860	-	17,860	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Valve House Open Excavation</b>							
w.r.t Volume	cum	22,018	22,018	-	22,018	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Horizontal Pressure Shaft Open Excavation</b>							
w.r.t Volume	cum	68,006	68,006	-	68,006	Completed	Cat-A
w.r.t Percentage	%	100	100.0%	-	100%	Completed	
<b>Inclined Pressure Shaft Open Excavation</b>							
w.r.t Volume	cum	56,861	56,861	-	56,861	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Pressure Tunnel UG Excavation</b>							
In tunnel RM	M	449.8	449.8	-	449.8	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Intake Structure Open Excavation</b>							
w.r.t Volume	Cum	82,042	82,042	-	82,042	Completed	Cat-A
w.r.t Percentage	%	100	100.0%	-	100.0%	Completed	
<b>Right Bank Drift Tunnel Excavation @ EL-190</b>							
In tunnel RM	M	30	30	-	30	Completed	Cat-A

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Right Bank Drift Tunnel Excavation @EL-188</b>							
w.r.t Volume	M	45	45	-	45	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Powerhouse Open Excavation [Variation order]</b>							
w.r.t Volume	Cum	1,02,710	1,02,710	-	1,02,710	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Powerhouse Service Bay PCC [Variation order]</b>							
w.r.t Volume	Cum	309	309	-	309	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>Powerhouse Service Bay Raft Concrete [Variation order]</b>							
w.r.t Volume	Cum	553	553	-	553	Completed	Cat-A
w.r.t Percentage	%	100	100%	-	100%	Completed	
<b>HRT UG Excavation Face: II (Adit to Power Intake)</b>							
Portal (UG Excavation)	M	1,459	1,118.1	89.3	1207.4	251.1	Cat-A
w.r.t Percentage	%	100	77%	6%	83%	17%	
<b>HRT Kerb Concrete</b>							
w.r.t Lining	M	3627.8	49	95	143	3,485	Cat-A
w.r.t Percentage	%	100	1%	3%	4%	96%	
<b>HRT Overt Concrete Lining</b>							
w.r.t Lining	M	3627.8	-	30	30	3,598	Cat-A
w.r.t Percentage	%	100	-	1%	1%	99%	
<b>Tail Race Channel Open Excavation [Variation order]</b>							

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
w.r.t Volume	cum	69,138	64,138	-	64,138	5,000	Cat-A
w.r.t Percentage	%	100	92.8%	-	92.8%	7.2%	
<b>Tail Race Channel Concrete [Variation order]</b>							
w.r.t Volume	cum	8,315	45	-	45	8,270	Cat-A
w.r.t Percentage	%	100	1%	-	1%	99%	
<b>Dam Plunge Pool Excavation</b>							
w.r.t Volume	Cum	1,50,000	30,843	665	31,508	1,18,492	-
w.r.t Percentage	%	100	20%	1%	21%	79%	
<b>Dam &amp; Plunge Pool Concrete</b>							
w.r.t Volume	Cum	4,09,847	23,435	4,171	27,606	3,82,241	-
w.r.t Percentage	%	100	6%	1%	7%	93%	
<b>Power Intake Structure Concrete</b>							
w.r.t Volume	Cum	16,000	101	1,113	1,214	14,787	Cat-A
w.r.t Percentage	%	100	1%	7%	8%	92%	
<b>UPS Concrete</b>							
w.r.t Volume	Cum	13,400	-	248	248	13,152	
w.r.t Percentage	%	100	-	2%	2%	98%	
<b>Surge Shaft &amp; Junction Concrete</b>							
w.r.t Volume	Cum	11,000	-	417	417	10,583	Cat-A
w.r.t Percentage	%	100	-	4%	4%	96%	
<b>Auxiliary Powerhouse Open Excavation [Variation order]</b>							
w.r.t Volume	Cum	1,50,000	16,866	-	16,866	1,33,134	-

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
w.r.t Percentage	%	100	11%	-	11%	89%	
<b>Inclined Pressure Shaft Cover Concrete</b>							
w.r.t Volume	Cum	10,000	650	-	650	9,350	Cat-A
w.r.t Percentage	%	100	6.5%	-	6.5%	93.5%	
<b>Transformer Hall Concrete [Variation order]</b>							
w.r.t Volume	Cum	353	118	-	118	235	-
w.r.t Percentage	%	100	33%	-	33%	67%	
<b>Machine Hall Concrete Upto EL 95.28m [Variation order]</b>							
w.r.t Volume	Cum	6,539	5,439	518	5,957	582	Cat-A
w.r.t Percentage	%	100	83%	8%	91%	9%	
<b>Service Bay: Column Concrete [Variation order]</b>							
w.r.t Volume	Cum	175	117	-	117	58	Cat-A
w.r.t Percentage	%	100	67%	-	67%	33%	
<b>Service Bay: Beam Concrete [Variation order]</b>							
w.r.t Volume	Cum	160	107	-	107	53	Cat-A
w.r.t Percentage	%	100	67%	-	67%	33%	
<b>Service Bay: RCC Wall [Variation order]</b>							
w.r.t Volume	Cum	300	139	-	139	161	Cat-A
w.r.t Percentage	%	100	46%	-	46%	54%	
<b>Flood Protection Wall at Main Powerhouse [Variation order]</b>							
w.r.t Volume	Cum	6,500	2,339	368	2,707	3,794	Cat-A
w.r.t Percentage	%	100	36%	6%	42%	58%	
<b>Valve House Concrete [Variation order]</b>							

Activity	UoM	Scope	Achieved up to May'23	Achieved FTM Jun'23	Cum Achieved till Jun'23	Balance Qty	Status of Drawing Approval
w.r.t Volume	Cum	2,818	50	-	50	2,768	-
w.r.t Percentage	%	100	2%	-	2%	98%	
<b>Switchyard Footing &amp; Trench Concrete [Variation order]</b>							
w.r.t Volume	Cum	1840	473	322	795	1,046	-
w.r.t Percentage	%	100	26%	17%	43%	57%	
<b>Penstock Plates Fabrication</b>							
w.r.t Volume	MT	2,615	175	94	269	2,346	-
w.r.t Percentage	%	100	7%	3%	10%	90%	
<b>Main Penstock Grit Blasting &amp; Painting</b>							
w.r.t Ferrule	Nos	277	-	3	3	274	
w.r.t Percentage	%	100	-	1%	1%	99%	

\* Tentative quantities.

#### 1.2.1.3. 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. **Badak Block (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.
7. **Technician Block:** Completed.

#### 1.2.1.4. 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.
- Labour Block No.19 (Mess Block-5): Completed.

1.2.1.5. **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-1 (120 cum/hr Capacity) at Dam complex:** Completed.

**Batching Plant-2 (120 cum/hr Capacity) at Dam complex:** Completed.

**Explosive Magazine:** Completed.

**Weigh Bridge:** Completed.

**P&M/Store Office:** Completed.

During January 2023 to June 2023 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.. Moreover, memorandum of changes was approved by the Central Electricity Authority, Central Water Commission, Geological Survey of India, Central Soil and Materials Research Station, GOI on 9th November, 2022. 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. After resignation Environment Officer of Package 4 is vacant since June 2023.

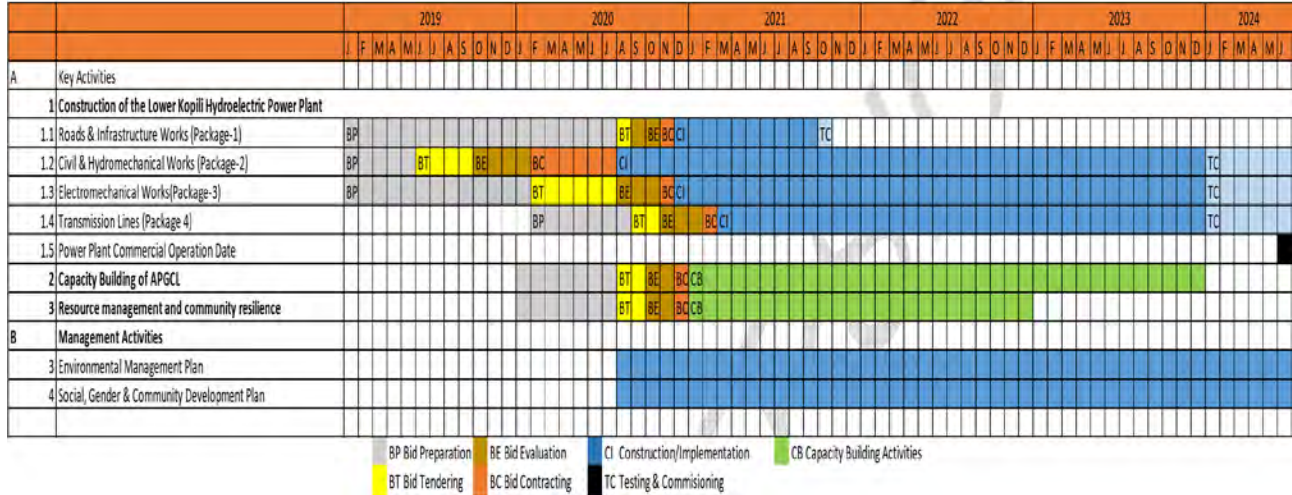
No unanticipated impacts and updates to EIA/EMP that were required during the reporting period.

**Contractor’s Resource Mobilization :**

Month	CP-1		CP-2		CP-3		CP-4	
	Number of workers	Number of staff	Number of workers	Number of staff	Number of workers	Number of staff	Number of workers	Number of staff
Jan’23			874	40				
Feb’23			939	40				
Mar’23			844	40				
Apr’23	9	36	889	41				
May’23	9	20	934	41	8	40	27	14
June’23	9	20	925	41	9	44	27	14

Implementation schedule is shown in the figure 6.

**Figure 6 Implementation schedule**



(As per PAM)

**2.0 Compliance to National Regulations and International Agreements**

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

Status of 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
<b>Nature Conservation</b>				
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	-	
<b>Hazardous Material</b>				

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	
<b>Atmospheric Emissions</b>				
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 <sup>th</sup> June 2023	Remarks
1	Environment Clearance	Environment Protection Act 1986	MoEF&CC, GOI	a. Accorded.  b. EA to expedite the process of amendment of Environment Clearance (EC) to reflect the modifications in Project components as per MOC dated 9.11.22.	a. EC No. J-12011/26/2012-IA-I dated 04th September, 2019  b..  Representative of MoEF&CC visited the site in March 2023 and submitted the site inspection report to Ministry in April 2023.  c. EC compliance report submitted for December 2022 to May, 2023.  d. EC amendment application process initiated.

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
2	Forest Clearance	Forest Conservation Act, 1980	MoEF&CC, GOI	Accorded	<ul style="list-style-type: none"> <li>• Stage 1 F.No.8-53/2018-FC dated 5th February, 2019</li> <li>• Stage 2 File No. 8-53/2018FC dated 4th December, 2020</li> <li>• FC Compliance report submitted for April 2022 to March, 2023.</li> </ul>
3	Consent to Establish (CTE) for Hydro Power Plant.		PCBA	PCBA accorded CTE on 28.2.23 vide No. WB/SLC/T-1267/22-23/7.	Annexure 2- Copy of the CTE for Hydropower plant
4	<b>Quarry</b>				
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 to operate quarry received from NCHAC on 8th July, 2022.	
		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	DFO gave order to RO to realize Royalty from Hi-Tech Rock Products and Aggregates Limited for 3,36,000 cum on 11th July, 2022..	
		4. EC for quarry	SEIAA, Assam	EC accorded on 28.03.23. <b>Annexure 3.</b>	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
	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, Halflong	Permission received from 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	
		2. Permission for crushing 2,00,000 cum of boulders from excavated materials	DFO, Dima Hasao West, Halflong	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	
		2. Royalty submitted	DFO, Dima Hasao West, Halflong	Dec'21- 500000 Jan'22-4750000 Feb'22- 12500000 Mar'22- 27250000 Oct'22-2500000 Feb'23-2450000 Mar'23-7000000 Total=56950000	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	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	Sand requirement will be met by the crushed sand.	
5	<b>Batching Plant (Near Power House)</b>				
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)	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 <sup>th</sup> June 2023	Remarks
	Location: Powerhouse, Totelangso, Dima Hasao			Valid till 31.03.2025	
5	<b>Batching Plant (Near Dam)</b>				
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.	
B		CTO	State Pollution Control Board, Assam	CTO obtained in Oct 2022 vide No. WB/SLC/T-1191/21-22/31	
C	CTO obtained for 714 cum/day against the requirement of 1000 cum/day – Needs to be amended prior to increasing the production rate	CTO	State Pollution Control Board, Assam	CTO amended on 3.1.23 vide No. WB/SLC/T-1191/21-22/39	<b>Annexure 4</b>
6	<b>Crusher</b>				
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 <sup>th</sup> 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.	



Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
D	Consent to Operate (CTO) obtained for primary and secondary crusher only. CTE and CTO for tertiary crusher to be obtained/ amended in the consent letters.		Pollution Control Board Assam	Crusher CTO amended on 11.1.23 vide No. WB/SLC/T-1184/21-22/16/2549	<b>Annexure 5</b>
6	<b>Fuel dispensing Unit</b>				
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. P/EG/AS/14/1630(P502141) dated 18/1/23	Valid till <b>31.12.23</b> ( <b>Annexure 6</b> )
C				Jt. Chief Controller of Explosives, Guwahati	Permission of storage of 20 kl. Valid till <b>31.12.23</b> ( <b>Annexure 7</b> )
7	CTE/CTO to be obtained for RO		Pollution Control Board Assam	CTE accorded on 14.3.23 vide No. WB/SLC/T-1269/22-23/4.	( <b>Annexure 8</b> )
				CTO accorded on 26.4.23 vide No. WB/SLC/T-1269/22-23/9	( <b>Annexure 9</b> )
8	CTE/CTO for proposed 6 lakh liter water treatment plant for construction		Pollution Control Board Assam	CTE for WTP plant obtained on 14.3.23 vide No. WB/SLC/T-1271/22-23/7.	( <b>Annexure 10</b> )
				CTO accorded on 26.4.23 vide No. WB/SLC/T-1271/22-23/12	( <b>Annexure 11</b> )
9	<b>Magazine</b>				

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
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. Storage approval received from PESO. on 26th Nov'21 (Licence No.); E/EG/AS/22/63(E 134742) from PESO, Guwahati.	Valid upto 31.3.24
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 <sup>nd</sup> October 2021 vide letter no. NCH/M-8/2021/6378-83	(Annexure 12)
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	Renewal of NOC received on 20.12.22 vide letter no. NCH/M-3/2022/2/59-63	
E	Fire NOC / Fire License	As per NOC of District Magistrate, Dima Hasao, a fire tendering facility is	Sr. Station Officer, Fires and Emergency Service Station, Haflong, Dima Hasao	Application submitted on 19 <sup>th</sup> November 2021 vide letter no LKHEP-	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
		essential for storage of explosives in the Magazine		PKG2/LNT/155/GL/085.	
F		NOC	Office of the Director , Fire and Emergency Services, Assam, Guwahati.	Renewal application submitted 28.2.23. Renewed on 30.3.23 valid upto 28.3.24. Vide No. UBIN:299/566 476/AAACL01 40P/11/2022.	Copy of Fire NOC (Annexure 13)
10	<b>Blasting</b>				
A	Non Objection Certificate for blasting operations for construction of 120 MW Lowe Kopili Hydel Electric Project at Longku Dim Hasao	Deputy Commissioner, Dima Hasao District, Haflong. / Explosive Rules,2008 (under act of 1884)	Deputy Commissioner, Dima Hasao District, Haflong.	Approval Obtained. Letter no. NCH/M-8/2021 dated 14th Jul'21	
			The Superintendent of Police, Dima Hasao District, Haflong, Assam	Permission received vide letter No. HFG/DSB/80/202 1/1122	Permission Received from Hon'ble Superintendent of Police, Dima Hasao District, Haflong.
			Sr. Station Officer, Fire & Emergency Service Station, Dima Hasao, Haflong, Assam	Permission received.	Application for Granting No objection for blasting operation vide Letter No: LKHEP-PKG2/LNT/153/GL/26 dtd. 2nd July'21
B			The District Magistrate, Dima Hasao, Haflong, Assam	Permission received.	Application for Granting No objection for blasting operation vide Letter No: LKHEP-PKG2/LNT/153/GL/NIL 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	Intimated vide letter No. LKHEP-PKG2/LNT/153/LL/34 dtd. 15th July'21

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
				4 pm to 5 pm	
			Office-in-Charge Umraungsu 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
C		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	
D	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.26/2022/7 dated 14 <sup>th</sup> Oct'2022.	(Annexure 14)
E	Night Shift Blasting Permission inside tunnels [Panimur range]		DC Office, Haflong, Dima Hasao.	Permission Received vide letter No. HCA.26/2009- 16/498 dated 12 January, 2022. Valid up to 31.03.2023.	
F	Request for permission for storage of Explosives (Explosive Van) at Longku police station for blasting operation for construction 120 MW LKHEP at Longku, Dima Hasao		Letter No: LKHEP- PKG2 /LNT /153 /GL/23 dtd. 31st May'21	Permission given upto 21st July 2021 and revoked back on 22nd July 2021.	

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
11	<b>Labour License CP2</b>				
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	Valid Labour license vide 299/566476/AAA CL0140P/11/2022 dated 6.12.22.	Valid till 9/12/2023 Covered 1000 workers. Copy of the Labour License ( <b>Annexure 15</b> )
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, Halflong	Sl No. 133 License No. B&OCW-133 Dated 21st September 2021	Validity 1/11/2021 to 31/09/2024
C				Amendment for 1000 workmen received on 05th Apr'22.	For 1000 workers / day.
12	<b>Labour License CP3</b>	Labour Laws / Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner Assam Gopinath Nagar, Guwahati 781016	Valid Labour license vide License NO CLL/2023/02772 dated 2.3.23..	Validity till 26.2.24 for 50 labour. ( <b>Annexure 16</b> )
13	<b>Labour License CP4</b>	Labour Laws / Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner Assam Gopinath Nagar, Guwahati 781016	Valid Labour license vide License NO CLL/2023/02048 dated 20.2.23..	Validity till 12.2.24 for 20 labour. ( <b>Annexure 17</b> )
	<b>Migrant Labour License</b>	Labour Laws / Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner Assam Gopinath Nagar, Guwahati 781016	Valid Labour license vide License NO MGW(E)/2023/0019 dated 25.5.23..	Validity till 24.5.24 for 30 labour. ( <b>Annexure 18</b> )
14	<b>Labour License CP1</b>	Labour Laws / Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner Assam Gopinath	Valid Labour license vide License NO CLL/2023/03304 dated 15.3.23..	Validity till 11.3.24 for 20 labour. ( <b>Annexure 19</b> )

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
			Nagar, Guwahati 781016		
15	<b>Tree Cutting</b>				
A	NOC for tree Cutting (CP2)	Indian Forest Act, 1927	Forest Department Assam	Tree cutting so far (241 nos) were done under CP-2 with the 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.	.
B	NOC for tree Cutting (CP1)	Indian Forest Act, 1927	Forest Department Assam	NOC will be submitted for the trees cut so far.	
C	NOC for tree Cutting (CP4)	Indian Forest Act, 1927	Forest Department Assam	NOC yet to be obtained	Contractor was requested to submit the same from the respective Forest Divisions
16	<b>Ground water extraction</b>				
A	CP-2	Environment (Protection) Act, 1986. NOC in compliance with the Hon'ble NGT Vide Order of 15 April 2015	Central Ground water Authority or District Administration	Application for Permission of ground water extraction submitted vide Letter No: LKHEP-PKG2/LNT/153/GL/78 dtd. 09th Nov'21	As surface water will be used for construction works, the NOC was not taken from CGWA.
B	CP-1	Environment (Protection) Act, 1986. NOC in compliance with the Hon'ble NGT	Central Ground water Authority or District Administration	NOC No. CGWA/NOC/INF/ORIG/2023/1821 6 Dated 17.4.23.	Copy of the NOC (Annexure 20)

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 30 <sup>th</sup> June 2023	Remarks
		Vide Order of 15 April 2015			
C	CP-3	Environment (Protection) Act, 1986. NOC in compliance with the Hon'ble NGT Vide Order of 15 April 2015	Central Ground water Authority		Application for NOC to be initiated soon
D	CP-4				CP-4 is using water from the land owner's borewell in store
17	<b>Surface water extraction</b>				
A	NOC for surface Water use for construction CP-2		Water Resource Department, Govt. of Assam.	Vide Letter No: EE/WRD/DNK/Misc/2022-23/11 dated 3.5.23	Copy of the NOC (Annexure 21)
B	Permission from Gaon Bura for water extraction from Longkunal			Permission taken by CP-2.	
C	Permission from Gaon Bura for water extraction from local streams / ponds			Permission will be taken by CP-3 and CP-4 soon from the respective Gaon Buras.	
18	<b>Permission from grid power</b>				





### 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**


Covenant	Compliance Status	Status of Compliance as on June 2023.
<b>Schedule 4, Para 6</b>		
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	Not Complied. ESCAP is required.	Environment Clearance obtained on 04 September 2019 from MoEFCC. EIA has been cleared by ADB in 2018. AS per the provisions APGCL has intimated the changes time to time to MoEF&CC. APGCL representatives visited MoEF&CC for obtaining the approval on the changes made as per detail engineering without changing the power generation capacity. Application will be uploaded in the PARIVESH portal shortly for obtaining approval on the changes.
ii)The EA has incorporated the relevant provisions from the EMP into the Works contract	Being Complied	
iii)The EIA is updated to reflect the turnkey contractor's detail design and up to date baseline.	Partially Complied	Pre-construction baseline for environment (10 km radius of project component locations including 220kV power evacuation line and 33kV power transmission line) and biodiversity was underway. EIA addendum has been updated with the available information. Updated report will be submitted to ADB for review on August 2023. Annual bird count will be carried out in Nov Dec 2023.

Covenant	Compliance Status	Status of Compliance as on June 2023.
iv) such updated EIA is cleared by ADB	Not complied. ESCAP is required	EIA Addendum reviewed and corrections suggested by ADB. Revised EIA Addendum (first phase) was submitted on 30 May 2023 and is under review. Works had been started without an ADB cleared EIA addendum. Detail design review was approved by CEA, GOI on 09.11.22. EIA addendum is being updated and will be submitted to ADB in August, 2023 for approval.
<b>Schedule 4, Para 8</b>		
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.	Complied	Contract awarded on 24 <sup>th</sup> December 2021.
<b>Schedule 5, Para 5</b>		
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,	Partially Complied	<p>Amended EC from MoEFCC; inter -state labor license for CP-2 and 4; few permissions were under renewal.</p> <p>Approval in the changes due to detail engineering in pending from MoEF&amp;CC although applied on 28.11.22, 14.2.23, 24.4.23, 9.8.23. Application will be uploaded in the PARIVESH portal soon.</p> <p>CP-2 submitted the required fees for Interstate labour license.</p> <p>Changing of Bhutan registration number of 4 vehicles under process from CP-2.</p>
(b) the Environmental Safeguards,	Partially Complied	
(c) the EARF, and	Being Complied	

Covenant	Compliance Status	Status of Compliance as on June 2023.
(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.	Partially Complied.	Corrective action plans of earlier Missions have been partially complied. Outstanding issues included in the revised ESCAP agreed during the Mission will be adheared
<b>Schedule 5, Para 9</b>		
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	<p>The Mission recommended appointment of a Qualified Health and Safety expert under PMU considering the risks involved in the construction activities. Also recommended the appointment of a Sr. Env. Expert in PMC to assist the Environment Safeguards Specialist and expedite implementation of environmental safeguards (gaps as identified by the Mission are elaborated in the AM) through day-to-day supervision and guidance at site; The Mission requested appointment for suitably qualified and experienced expert/s to conduct the assessment of downstream and backwater assessment study including that of ecological modelling.</p> <p>One qualified Health and Safety Expert as inducted in PMC from 25<sup>th</sup> March, 2023.</p> <p>One Safety Officer is present in APDCL. When any emergency arises APGCL consults with the Safety Officer.</p> <p>The appointment of a Sr. Env. Expert in PMC to assist the Environment Safeguards Specialist and expedite implementation of environmental safeguards through day-to-day supervision and guidance at site. APGCL is considering the proposal for approval and compliance.</p> <p>Engagement of Ecology expert to conduct the assessment of downstream and backwater assessment study including that of ecological modelling will be taken up in due course. As per EC stipulation Down stream impact assessment is to be carried out after 5 years of commissioning of the project.</p>
<b>Schedule 5, Para 10</b>		

Covenant	Compliance Status	Status of Compliance as on June 2023.
<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>	<p>Being Complied</p>	<p>To be updated as per ADB cleared EIA Addendum when applicable</p>
<p>(b) make available a budget for all such environmental and social measures.</p>	<p>Being Complied</p>	
<p>(c) provide the EA with a written notice of any unanticipated environmental or resettlement risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the EIA, EMP, RIPP, RF or the IPPF.</p>	<p>Being complied</p>	

Covenant	Compliance Status	Status of Compliance as on June 2023.
(d) adequately record the condition of roads, agricultural land the other infrastructure prior to starting to transport materials and construction and	Being 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	BP near Powerhouse was being dismantled. The site will be restored as per the environment friendly restoration plan.
<b>Schedule 5, Para 11</b>		
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	Internal EMR is being submitted semi-annually EMC submitted the QPR for the period January to March, 2023. Validation report for the period July to December 2022 will be submitted in August, 2023.
(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	Partially complied	EIA Addendum (first phase) was submitted on 30 May 2023 and is under review. Updated EIA addendum will be submitted in August, 2023.

Covenant	Compliance Status	Status of Compliance as on June 2023.
detailed description of the event and proposed corrective action plan and		
(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.	Partially Complied	Being complied
<b>Schedule 5, Para 12</b>		
The Borrower shall ensure, or cause the EA to ensure, that no proceeds of the Loan under the Project are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.	Being complied	
<b>Schedule 5, Para 13</b>		
<p>Labour Standards Health and Safety.</p> <p>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:</p> <p>(a) carry out HIV / AIDS awareness programs for labour and disseminate information at worksites on risks of sexually transmitted</p>	Being complied	<p>HIV / AIDS camp organized in 23<sup>rd</sup> January, 2023 by CP-2. AIDS awareness camps will be organized regularly by all the contractors.</p> 

Covenant	Compliance Status	Status of Compliance as on June 2023.
diseases and HIV / AIDS as part of health and safety measures for those employed during construction. and		
(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	Working conditions at critical sites under CP-2 improved as per suggestions of ADB. Camp facilities for CP-4 need significant improvements. Reminder for improvement of the Camp facilities for CP-4 were given for immediate action.
Such contracts shall also include clauses for termination in case of any breach of the stated provisions in the contract	Being 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			Will be formed before the

Organization		Tasks	Compliance Status	Remarks
	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			implementation of the early warning system. Coordination between the relevant departments are being maintained for the implementation 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; (iii) Undertake and supervise compensation to the affected persons based on the entitlement matrix in the RIPP; (iv) Oversight construction contractor(s) on monitoring and implementing mitigation measures during design, construction and operation phases of the project before contracts completed; (v) Advise and coordinate to finalize survey and detailed design and update that safeguard documents following detailed design and survey result; (vi) Engage in grievance redress and ensure the prompt resolution of complaints;	Complied  Being complied  Being complied  Being complied  Complied and ongoing  Complied through APGCL and ongoing  Complied through MPR Ongoing	Adhered




Organization		Tasks	Compliance Status	Remarks
		<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>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 baseline in the past 5 years and the impact assessment remains valid. External Monitor also carried out flora and fauna survey with in 10 km radius of the project in April and Mar, 2023. These surveys also provide an up-to-date data for the purposes of</p>

Organization		Tasks	Compliance Status	Remarks
				<p>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 1, 2, 3, 4 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>
		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.	Social and environmental safeguards cell (SESC) formed within PMU	Dr Deepak Kumar Baruah as Environment Expert and Mr Pankaj Kumar Hazarika as Social Expert with a support team from APGCL.
Para 49. GRM		A grievance redress mechanism (GRM) will be established to deal with complaints on environmental and social issues in a timely manner and adequately publicized amongst the	Being complied. The structure of the GRM and methodology for grievance redress are	Resettlement NGO gave awareness training on the GRM of the LKHEP.

Organization		Tasks	Compliance Status	Remarks
		affected peoples.	described in section 8 of this report below.	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.	<p>TOR for training and capacity building are being prepared and bid evaluation is under process..</p> <p>Independent Dam Safety Expert of External Monitor will review and designs of the dam components and implementation of the provisions of Dam Safety.</p> <p>As per the provision of the Dam Safety Act 2021, 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.</p>

Organization		Tasks	Compliance Status	Remarks
		a) External monitor appointment	External monitor engaged.	External Monitor was engaged in the month do December, 2021. Subsequent visits were carried out in the month of February, March and June 2023 during this reporting period. Inception report and Validation report of six monthly Semi Annual Report for July to December, 2021, Jan to June 2022 submitted to ADB. Validation report for July to December 2022 under process for submission.
Para 56. Unanticipated impact		In the event of any unanticipated environmental impacts during project implementation, including change in project scope or design, APGCL will update the EIA/EMP as appropriate, which will be disclosed on the ADB website. For any non-compliance with the EMP APGCL will take necessary corrective actions to bring the project back into compliance.	Project layout changed for the compliance of FAC, MoEF&CC and MOC of CEA. Addendum for 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.

Organization		Tasks	Compliance Status	Remarks
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.		<p>APGCL must adhere to the EMP and CRTDP during contract implementation as prepared in accordance with ADB's SPS 2009 and as agreed and/or endorsed by the government. APGCL will provide environmental and social monitoring reports to ADB on a semi-annual basis during construction phase and on an annual basis during operation phase. The reports will describe implementation progress of environment and resettlement activities and compliance issues and include quantitative monitoring data in accordance with the EIA/EMP and CRTDP and CRIPP, respectively. The environmental and social monitoring reports and other relevant safeguard reports will be posted to the ADB website and disclosed locally by APGCL. In the event of any unanticipated environmental or resettlement impacts during implementation, or if monitoring identifies a breach of performance standards that should be complied with by APGCL and/or their contractors, APGCL will submit to ADB an updated EIA/EMP, CRTDP and CRIPP or a time-bound corrective action plan. The External Monitor will also prepare semi-annual monitoring validation reports during project construction and annual monitoring validation reports</p>	<p>Being complied.</p> <p>External monitor engaged and will continue to prepare the validation reports every six months and quarterly reports every three months.</p>	

Organization		Tasks	Compliance Status	Remarks
		during project operation for submission to ADB for disclosure on the ADB website.	These reports will be submitted to ADB.	

## 5.0 Compliance to Contract

The table 6 shows the compliance to the contract provision during the period July 2022 to December 2022.

**Table 6 : Compliance to Contract provisions**

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
Package 2	<p>Construction phase : Section 6, General conditions <u>clause 6.1.3.2.</u></p> <ul style="list-style-type: none"> <li>The Contractor shall within one month of receipt of Commencement Date, appoint an Environmental Officer</li> <li>Environmental Officer will submit a Monthly Environment Report every month.</li> </ul> <p><u>Clause 6.1.10.1.a.</u></p> <ul style="list-style-type: none"> <li>The Employer has a goal to create a zero-incident work environment with a safety culture</li> </ul>	<p>Complied</p> <p>Complied for CP2.</p> <p>Being complied</p>	<p>CP-2- appointed Mr Manoj Yadav as Environment Expert.</p> <p>Submission of monthly Environment Report started from November 2020 for CP-2. App based safety monitoring system of L&amp;T.</p> <p>Package 2 CEMP and H&amp;S Plans submitted by the contractor and it has been approved by APGCL and PMC.</p> <p>Package 3 CEMP and H&amp;S Plans were also approved by APGCL, PMC.</p> <p>Root cause analysis are carried out by the contractor and accordingly the corrective action are taken to avoid such kind of accidents in future after any dangerous occurrences, near miss, non-work-related fatalities, LTI.</p> <p>After reviewing all the monthly safety and Monthly Environment reports</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p><u>Clause 6.1.10.1.b.</u></p> <ul style="list-style-type: none"> <li>• The Contractor will be responsible for the security, safety &amp; health and Group insurance of his Employees.</li> </ul> <p><u>Clause 6.1.10.1.c.</u></p> <ul style="list-style-type: none"> <li>• Provide and maintain at his own cost, fencing, warning signs and watch &amp; ward.</li> </ul> <p><u>Clause 6.1.10.1.d.</u></p> <ul style="list-style-type: none"> <li>• Take all reasonable steps to protect the environment.</li> </ul> <p><u>Clause 6.1.10.1.e.</u></p> <ul style="list-style-type: none"> <li>• The contractor will protect the environment following the principles of Approved Environment Management Plan.</li> </ul> <p><u>Clause 6.1.10.1.f.</u></p> <ul style="list-style-type: none"> <li>• The Officer-in-Charge of Safety will submit monthly safety report</li> </ul> <p><u>Clause 6.26.3</u></p> <ul style="list-style-type: none"> <li>• Environmental obligations</li> </ul>	<p>Complied</p> <p>Being complied</p> <p>Being complied</p> <p>Being complied</p> <p>Being complied</p> <p>Being complied</p>	<p>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. Although L&amp;T has online safety reporting system, Monthly Safety Report submitted regularly.</p> <p>All the insurance are valid.</p> <p>Non compliance with corrective actions are reported in Table 8</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
Package 3  (Electro Mechanical)	<p><b>General conditions of the contract</b></p> <p>22.2 Labour</p> <p>22.2.1 engagement of staff and labour</p> <p>a) except as otherwise stated in the specification, the contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.</p> <p>22.2.3 Labour laws</p> <p>a) the contractor shall comply with all the relevant labour laws applicable to the contractor's personnel, including laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.</p> <p>22.2.7 Health and safety</p> <p>a) the contractor shall at all times take all responsible precautions to maintain the health and safety of the contractor's personnel....</p> <p>b) the contractor shall appoint an accident prevention officer at the site, responsible for maintaining safety and protection against accidents.</p> <p>c) the contractor shall send to the project manager, details of any accident as soon as practicable after its occurrence.</p> <p>22.2.11 Supply of water</p> <p>The contractor shall, having regard to local conditions, provide on the site and adequate supply of drinking and other water for the use of contractor's personnel.</p> <p>22.4 Site regulations and safety</p> <p>Such site regulations shall include, but shall not be limited to, rules in respect of security safety of the facilities, gate control, sanitation, medical care and fire prevention.</p> <p>22.8 Watching and lighting</p> <p>The contractor shall provide and maintain at its own expense all lighting, fencing and watching when and where necessary for the proper execution and the protection of the facilities, or for the safety of the owners and occupiers off adjacent property and for the safety of public.</p> <p>34. Insurance</p> <p>a) cargo insurance during transport</p> <p>b) installation all risks insurance</p> <p>c) 3rd party liability insurance</p>	<p>Ongoing</p> <p>Partially complied</p> <p>Partially complied and to be improved</p> <p>To be appointed</p> <p>Will adhere</p> <p>Complied</p> <p>Partially complied</p> <p>Ongoing and improvements required</p> <p>Complied</p>	<p>CP-3-Appointed Mr K Pathak as Health and Safety Officer. There is no Environment Officer.</p> <p>1<sup>st</sup> Monthly environment Report submitted by CP-3 in April, 2023 for the month of March, 2023.</p> <p>Monthly Safety Reports also submitted in April, 2023.</p>



Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>d) automobile liability insurance e) workers compensation f) employers liability</p> <p><b>Special Conditions of the contract</b></p> <p>46.4 the contractor shall comply with all applicable national provincial, and local environmental laws and regulations. The contractor shall comply with (i) the measures and requirements set forth in the initial environment examination and the environmental management plan and (ii) any corrective or preventive actions set out in the safeguards monitoring reports that the employer will repair from time to time to monitor implementation of the initial environmental examination and the environmental management plan. The contractors location with these measures requirements and actions.</p>	Partially complied and improvement required. CEMP submitted.	

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
Package 4	<p><b>General Condition of the Contract</b></p> <p>9.4 The contractor shall comply with all laws in force in the country where the facilities are to be implemented. The laws will include all local, state, national, or other laws that effect the performance of the contract and bind upon the contractor.</p> <p>22.2 Labor</p> <p>22.2.3 Labor Laws The Contractor shall provide equal wages and benefits to men and women for work of equal value or type and comply with the measures set forth in the Gender Action Plan.</p> <p>22.2.5 Working Hours (a) Normal working hours are: 8:00 a.m. to 5:00 p.m. inclusive of one-hour lunch break</p> <p>22.2.7 Health and Safety a) the contractor shall at all times take all responsible precautions to maintain the health and safety of the contractor's personnel....</p>	<p>Ongoing and to be improved</p> <p>Complied and ongoing</p> <p>Complied and ongoing</p> <p>Complied and ongoing</p>	<p>CP-4-Appointed Mr Satyendra Singh as environment Expert. But he resigned in May, 2023.</p> <p>Monthly Safety Reports also submitted in April, 2023.</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>b) the contractor shall appoint an accident prevention officer at the site, responsible for maintaining safety and protection against accidents.</p> <p>c) the contractor shall send to the project manager, details of any accident as soon as practicable after its occurrence.</p> <p>22.2.11 Supply of water The contractor shall, having regard to local conditions, provide on the site and adequate supply of drinking and other water for the use of contractor's personnel.</p> <p>22.4 Site regulations and safety such site regulations shall include, but shall not be limited to, rules in respect of security safety of the facilities, gate control, sanitation, medical care and fire prevention.</p> <p>22.8 Watching and lighting The contractor shall provide and maintain at its own expense all lighting, fencing and watching when and where necessary for the proper execution and the protection of the facilities, or for the safety of the owners and occupiers off adjacent property and for the safety of public.</p> <p>34. Insurance a) cargo insurance during transport b) installation all risks insurance c) 3rd party liability insurance d) automobile liability insurance e) workers compensation f) employers liability</p> <p><b>Special Condition of the Contract</b> 22.2.3 Labor Laws Added the following as sub-paragraph (d) under Sub-Clause 22.2.3: (d) The Contractor shall not make employment decisions based upon personal characteristics unrelated to job requirements. The Contractor shall base the employment relationship upon equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline.</p> <p>22.2.7 Health and Safety</p>	<p>To be appointed</p> <p>Ongoing</p> <p>Complied and ongoing</p> <p>Partially complied</p> <p>Partially complied</p> <p>Complied</p> <p>Complied</p>	

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>Added the following as sub-paragraph (d) under Sub-Clause 22.2.7</p> <p>(d) The Contractor shall conduct health and safety programs for workers employed under the project, and shall include information on the trafficking of women and the risk of sexually transmitted diseases, including HIV/AIDs in such programs. The Contractor shall throughout the contract (including the Defect Liability Period):</p> <p>(iv) The contractor shall follow all covid related protocol issued by competent authority during execution of the work.</p> <p>(e) The Contractor is responsible for establishment of preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks of the construction site work to the health and safety of local communities.</p>	<p>Partially complied. (Women not engaged so far)</p> <p>Partially complied</p> <p>Partially complied</p>	

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
Package 1 (Building and internal roads)	<p><b>General conditions of the contract</b></p> <p>4.8 Safety procedures The contractor shall</p> <p>(a) Comply with all applicable safety regulations</p> <p>(b) take care for safety of all persons entitled to be on site</p> <p>(c) use reasonable efforts to keep the site and works clear for unnecessary obstruction so as to avoid danger to these persons</p> <p>(d) Provide fencing lightings gardening and watching of the works until completion and taking over under clause 10 and</p> <p>(e) Provide any temporary works (including roadways, footpaths, guards and fence) which may be necessary, because of the execution of the works, for the use and protection of the public and of owners and occupiers of adjacent land.</p> <p>4.18 Protection of the environment the contractor shall take all necessary reasonable steps to protect the environment (both on and off the site) and to limit damage and missions to people and property resulting pollution, noise and other results of his operation.</p>	<p>Partially complied</p> <p>Ongoing</p> <p>Ongoing</p> <p>Initiated</p> <p>Initiated</p> <p>To be initiated.</p> <p>CEMP submitted.</p>	<p>CP-1-Appointed Dr Nilitpal Mahanta as environment Expert.</p> <p>1<sup>st</sup> Monthly environment Report submitted by CP-1 in June, 2023 for the month of May, 2023.</p> <p>Monthly Safety Reports also</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>The contractor shall ensure that emissions surface discharges and effluent from the contractors activities shall not exceed the clause stated in the specification or prescribed by applicable laws.</p> <p>6.4 Labour laws The contractor shall comply with all the relevant labour laws applicable to the contractor’s personnel including laws resulting to their employment health safety welfare immigration and emigration and shall allow them all their legal rights. The contractor shall require his employees to obey all applicable laws including those concerning safety at work.</p> <p>6.5 Working hours No work shall be carried out on the side on locally recognised days of rest or outside the normal working hours stated in the contract data unless a) Otherwise stated in the contract, b) the engineer gives consent, or c) Is unavoidable, or necessary for the protection of life or property or of the safety of the works, in which case the contractor shall immediately advise the Engineer</p> <p>6.6 Facilities for staff and labour except as otherwise stated in the specification the contractor shall provide and maintain all necessary accommodation and welfare facilities for the contractors personnel the contractor shall also provide facilities for the employers personnel as stated in the specification. The contractor shall not permit any of the contractors personnel to maintain any temporary or permanent living quarters within the structures forming part of the permanent works.</p> <p>6.7 Health and safety The contractor shall at all time take all responsible precautions to maintain the health and safety of the contractors personnel. The contractor shall appoint an accident prevention officer at site responsible for maintaining safety and protection against accidents. the contractor shall send to the engineer details of any accident as soon as practicable after its occurrence. The contractor shall conduct and HIV aids awareness programme via an approved service provider.</p> <p>18.2 Insurance for workers and contractors equipment</p>	<p>To be followed</p> <p>To be improved, partially complied</p> <p>Complied</p> <p>Partially complied</p> <p>Ongoing</p> <p>HSE appointed</p> <p>Complied</p>	<p>submitted in April, 2023</p>


Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>the insuring party shall ensure the works plant materials and contractors documents for not less than the full reinstatement cost including the cost of demolition removal of debris and professional fees and profit.</p> <p>18.4 Insurance for contractors personnel The contractor shall effect and maintain Insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness diseases or death of any person employed by the contractor or any other of the contractor's personal.)</p> <p><b>Special conditions of the contract</b></p> <p>1.3 Environmental compliance</p> <p>1.3 .1 General reference is made to the environmental requirements given in:</p> <p>a) The law and regulation of the comment of a Assam/ India and relevant standards</p> <p>b) employers requirement for environmental compliance</p> <p>c) sub clause of general condition of the contract and any other clause or sub clause have any relevance to environment.</p> <p>d) Local traditions and customs of project area.</p> <p>1.3.2 environmental compliance and miscellaneous The contractor shall within one month of receipt of the commencement date, appoint an Environmental Officer for the works, who's broad responsibilities are to guide the construction personnel on environmental matters, to communicate and to make liaison with the Employer, the PMC, Government of Assam and local authorities.</p> <p>1.11 Environmental Protection</p> <p>1.11.1 Health, safety and security</p> <p>a) the employer has a goal to create zero-incident work environment with an safety culture based on teamwork and leadership.</p> <p>b) the contractor will be responsible for the security, safety and health and group insurance of his employees.</p> <p>c) provide and maintain at his own cost, fencing warning science and watch and ward, when and where necessary or required by the PMC / Engineer or by any duly constituted authority for the protection of the works</p>	<p>Complied</p> <p>Ongoing</p> <p>Partially complied</p> <p>Appointed EHS officer</p> <p>(a-e) will be followed during construction</p>	





Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>or for the safety and convenience of the public or others.</p> <p>d) take all responsible steps to protect the environment on and off the site and to avoid damage or nuisance to person or property of the public or others resulting from pollution noise or other causes arising as a consequence of its method of operation,</p> <p>e) the contractor will protect the environment following the principles of approved environment management plan the contractor will submit with his tender a return statement assuring compliances with all environments safeguard related clause under section 6.</p> <p>f) The Officer-in-charge of safety will submit monthly safety report.</p> <p>1.15 electrical safety measures</p> <ul style="list-style-type: none"> <li>Lightning protection to be done as per is codes applicable.</li> <li>Safety parameters as indicated under Indian electricity rules 1956 , etc.</li> </ul>	<p>f) Safety report submitted</p> <p>Will be followed</p>	


## 6.0 Compliance to Environmental Management Plan

Compliance of Environment Management Plan implemented by all the 4 contractors.

**Table 7. Compliance to Environmental Management Plan**


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
<b>DESIGN AND PRE-CONSTRUCTION PHASE</b>				
1	<p>Impact on air, water, noise, soil</p> <p>Exposure to safety related risks</p>	<p>Location and design of power house, office, substation and colony</p>	<ul style="list-style-type: none"> <li>Siting of colony away from construction areas including</li> <li>plantation all around colony.</li> <li>Drainage system with de-silting chamber, will be provided all around power house, office, substation and colony.</li> <li>Solid waste storage bin system will be provided at required location.</li> <li>All buildings are designed and will be constructed as per seismic zone provision.</li> </ul>	<p>Planned and is in tender doc and in contract EMP. (CP-2, CP-3)</p>  <p>Plantation</p>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>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.</li> <li>Dam safety surveillance and monitoring aspects are included. Personnel Safety equipment will be provided at required location.</li> </ul>	 <p>Tree Plantation package 4</p>  <p>Fencing along the colony, CP-3</p>  <p>Plantation all around colony , CP-3.</p>  <p>Tree Plantation drive conducted on 01st Jun'23 at dam top during Assam Legislative Assembly Members site visit. CP-2</p>
2	Release of chemicals ashes in	Equipment specifications	<ul style="list-style-type: none"> <li>CFC not used in substation transformers or other project facilities or</li> </ul>	Incorporated in tender doc.


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
	receptors (air, water, land)	and design parameters.	equipment by concerned agencies. <ul style="list-style-type: none"> <li>Processes, equipment, and systems will not use chlorofluorocarbons (CFCs), including halon, and their use.</li> </ul>	CFC not used in substation transformers or other project facilities or equipment so far.
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 (CP-2, CP-3)
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. CP 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"> <li>Compensation will be paid for temporary / permanent loss of productive land as per Govt. rules and regulation.</li> <li>A list of all the affected persons by type of losses and extent of damages has been prepared through and the same will be compensated as per Resettlement and Tribal Development Plan prepared as per Gol and ADB SPS 2009 requirements.</li> </ul>	Compensation done as per entitlement matrix of CRDTP. Mostly completed. Land compensation completed 100 % and other R&R assistance also initiated from April 2022. 95% R&R assistance paid in Dima Hasao and Micro plan for Karbi Anglong prepared for payment.






Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
6	Loss of precious Ecological values/impacts on precious species due to acquisition of 523 ha of forest land	Encroachment into precious ecological areas.	<ul style="list-style-type: none"> <li>Minimize acquisition of forest areas.</li> <li>Avoid encroachment by careful site and alignment selection of access roads, and transmission lines.</li> <li>Afforestation of 1,046 ha (1:2 tree planting ratio) of degraded forest land.</li> <li>A compensatory afforestation and biodiversity conservation and management plan has been prepared (Annex 9).</li> </ul>	<p>If both permanent (including underground areas) and temporary use areas are included, only 297.75 Ha will be required rest will be kept as Green Belt (198.746 Ha) and Safety Area (26.55 Ha) out of 523.465 ha forest land.</p> <p>As per Government norms it is 1:1 is for Compensatory afforestation of Government projects. If CAT plan plantation areas are included it comes around 1:3.</p> <p>Compensatory Afforestation 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 but the Biodiversity Management Committee was formed and 2<sup>nd</sup> meeting was conducted on 21.06.23 during this reporting period.</p> <p><b>Annexure 23:</b> Minutes of the 2<sup>nd</sup> Meeting of the Committee.</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"> <li>Substations, powerhouse, head works designed to ensure noise will not be a nuisance. Noise will be controlled within IFC</li> <li>EHS noise standards. In any case, there is no</li> </ul>	Quarterly test are being carried out in March 2023 and found within the CPCB norms.




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			proximity of residences to these features.	
8	Flooding hazards/ loss of agricultural production	Interference with drainage patterns/ Irrigation channels	<ul style="list-style-type: none"> <li>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.</li> <li>Dam Break Analysis and disaster management plan has been prepared (Annex 30).</li> </ul>	<p>Followed</p> <p>Dam Break Analysis and Disaster Management Plan are part of EIA. The plan is available in the EIA Annexure 21. Emergency Preparedness plan for the Down stream is being prepared by the JFPR consultant for the operation phase. Dam Break analysis although carried out during the EIA will be updated based on the detail engineering design.</p>
9	Environmental pollution	Escape of polluting materials	<ul style="list-style-type: none"> <li>Transformers designed with oil spill containment systems, and purpose-built oil, lubricant and fuel storage system, complete with spill cleanup equipment</li> <li>Construct 110% fenced and bermed area with impermeable concrete floor.</li> <li>Powerhouses/substations to include drainage and sewage disposal systems (septic tanks, sewage treatment plant) to avoid offsite land and water pollution.</li> </ul>	<p>Designed and implemented for the construction power substation.</p> <p>Bermed constructed in substation.</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	Designed and implemented for construction power and will be implemented for evacuation substation.



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			any possible effects from future climate change.	
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"> <li>• 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).</li> <li>• Provision of fire fighting equipment to be located within 20 m of transformers, power generation equipment.</li> <li>• Fire protection and Safety practice have been prepared (Annex 28, 29).</li> </ul>	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"> <li>• Restricting tree cutting within construction limit.</li> <li>• Avoiding tree cutting at ancillary sites.</li> <li>• Providing and maintaining compensatory tree plantation i.e. three times of cutting.</li> <li>• Compensatory afforestation plan prepared.</li> </ul>	<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> <p>Compensatory afforestation plan prepared by the Forest Department and the cost for</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				<p>implementation was deposited to CAMPA account by APGCL. Preparation of nursery started in Dima Hasao in 5 Reserved Forest.</p> <p>CA for Dima Hasao district in Harmen range through establishment of five nurseries have been initiated at locations namely: (i) Wayungdisa RF; (ii) Tartelangso RF; (iii) Bagha Dima RF; (iv) Choto Longku RF; and (v) Bagha Dima RF, including site selection, preparation of the beds, seed collection, clearance of weeds etc.</p>  <p>Seedling of different sizes in the newly established nursery nearby the village TorteLangsu</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				 <p>Seedling of different sizes ready for plantation, Longku near the highway around the Forest office.</p>
14	Removal of vegetative covers (dust, pollution)		<ul style="list-style-type: none"> <li>• Use of controlled clearing activities</li> <li>• Use of dust controlled measures</li> <li>• Collection and disposal of debris and muck.</li> </ul>	Planned and being implemented. (CP-1, CP-2, CP-3)
15	Removal of utilities		<ul style="list-style-type: none"> <li>• Necessary planning and coordination with concerned authority and local body.</li> <li>• 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.</li> </ul>	Shifting of utility is not required so far.
16	Religious places	Work site	<ul style="list-style-type: none"> <li>• Suitable mitigation measures have been incorporated in social</li> </ul>	Reported in SSMR.




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<p>impact assessment report.</p>	
17	Camp site and contractor facilities	Establishment of contractors' facilities	<ul style="list-style-type: none"> <li>Obtain permits and NOCs from ASPBC and other statutory agencies.</li> <li>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.</li> </ul>	<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 &amp; PMC. Additional Plans like Influx management plan, revised Solid waste Management Plan etc 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> <p>CEMP of CP-1,3 and 4 submitted. Influx management plan, Solid waste management plan yet to be submitted.</p> <p>All the toilets have the septic tanks and potable water are connected to all the toilets.</p>  <p>Toilets of CP-2 contractor</p> 


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				 <p>Toilets of CP3 contractor with septic tank.</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"> <li>Obtain environmental clearance from MoEF&amp;CC</li> <li>Obtain forest clearance from forest departments</li> <li>Include EMP in the contract documents.</li> </ul>	Obtained EC and FC. EMP included in the Contract document.
<b>CONSTRUCTION PHASE</b>				
1.	Impact and air, water, noise, soil	Civil construction work for power house, tunnel, office, substation, access roads, colony etc.	<p><b>Air Pollution:</b></p> <ul style="list-style-type: none"> <li>All the vehicles must have valid PUC certificates at all the time during construction phase of the project.</li> <li>Water sprinkling shall be done to suppress the dust emissions from the site.</li> <li>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.</li> </ul>	<p>PUC monitored for vehicles time to time. (CP-1, CP-2, CP-3, CP-4)</p> <p><b>Annexure 24:</b> PUC of the vehicles.</p> 




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>Refer to Annex 24: Measures for Air Pollution Control.</li> </ul> <p><b>Control of Emission</b></p> <ul style="list-style-type: none"> <li>The contractor will be responsible for maintaining properly functioning construction equipment to minimize exhaust.</li> <li>Construction equipment and vehicles will be turned off when not used for extended periods of time.</li> <li>Unnecessary idling of construction vehicles to be prohibited.</li> <li>Effective traffic management to be undertaken to avoid significant delays in and around the project area.</li> <li>Road damage caused by sub-project activities will be promptly attended to with proper road repair and maintenance work.</li> </ul> <p><b>DG sets :</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>Stack height of DG sets</li> </ul>	 <p>Water sprinkling -Being mostly complied.</p> <p>CTO for DG sets available.</p>  <p>Complied</p>   <p>Complied. For internal road 100 % complied.</p> <p>Stack height of DG sets are maintained as per norms i.e, 15 ft for 250 KVA.</p>








Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<p>to be kept in accordance with CPCB norms.</p> <p><b>Dust Control :</b></p> <ul style="list-style-type: none"> <li>• Identification of construction limits (minimal area required for construction activities).</li> <li>• When practical, excavated spoils will be removed as the contractor proceeds along the length of the activity.</li> <li>• When necessary, stockpiling of excavated material will be covered or stacked at offsite location with muck being delivered as needed during the course of construction.</li> <li>• Excessive soil on paved areas will be sprayed (wet) and/or swept and unpaved areas will be sprayed and/or mulched.</li> <li>• Contractors will be required to cover stockpiled soils and trucks hauling soil, sand, and other loose materials.</li> <li>• Clean the wheels of vehicles leaving the site to control the mud spread onto the public road.</li> <li>• Contractor shall ensure that there is effective traffic management at site.</li> </ul>	 <p>Complied Not initiated by the contractor as excavated materials are stockpiled in temporary storage areas far away from the human habitation for backfilling particularly in the surge shaft, penstock, valve house and powerhouse areas.</p> <p>Partially complied.</p> <p>Not initiated. Contractor was instructed to cover the trucks carrying loose materials.</p> <p>Complied</p> <p>Complied</p> <p>Complied</p>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>• 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.</li> </ul>	  <p>Regular vehicle cleaning to reduce dust pollution (CP-2)</p>
			<p><b>Noise Pollution:</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• All the workers will be provided with personal protective equipment including ear plugs and other necessary provisions by the contractor.</li> <li>• Refer to Annex 25: Measures for Noise Pollution Control</li> </ul>	<ul style="list-style-type: none"> <li>• DG sets has acoustic enclosures to prevent noise. Workers are using ear plug at drilling and blast sites along with other safety equipment.</li> <li>• PPE- mostly complied. PPE kits are used 98 %. Use of hand gloves 100 %. Use of proper ear muffler/ plug - 50%. Use oh Jackets, helmet and safety shoes-100 %.</li> </ul> 
			<p><b>Water Quality:</b></p> <ul style="list-style-type: none"> <li>• Quality of water (river and wastewater discharged from the construction site) shall be analyzed monthly during construction, for its compliance to the disposal</li> </ul>	<p>Waste water generation from the construction site monitored.</p> <p>Waste water from labour camp are disposed through natural depression pond adjacent to the colony and the water is percolated through the boulder</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<p>standards of pollution control authority.</p> <ul style="list-style-type: none"> <li>Refer to Annex 26: Measures for Water Pollution Control</li> </ul>	<p>bed (placed by the contractor) for oxidation and the overflow is disinfected 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>Wastewater from all kitchens, bathing areas, washing areas were diverted to the settling tanks prior to releasing in the environment. Still there are instances for direct release of wastewater. CP2 contractor has ordered DRDO approved biodigester septic tanks for treatment of wastewater before release into the environment.</p> <p>Monitoring of water quality after treatment and that of the receiving water body shall be monitored regularly from the next reporting period July to Dec, 2023 SEMR.</p> <p>Sedimentation tank constructed in the Dam Batching Plant area so that the cement slurry can be removed and the remaining water can be released after complying the standards.</p> 
	Exposure to safety related risks		<p><b>Others:</b></p> <ul style="list-style-type: none"> <li>Proper plantation all around colony. Refer to Annex 21: Green Belt Development Plan</li> </ul>	Plantation initiated as per green belt development plan in some areas.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>Drainage with the silting chamber, will be provide all around power house, office, substation and colony.</li> <li>Solid waste storage bean system will be provided at required location. Refer to Annex 22: Solid Waste Management Plan</li> </ul> <ul style="list-style-type: none"> <li>All buildings designed constructed as per seismic zone provision.</li> </ul>	 <p>Drainage provided in the substation and camp area but outlet and desilting chambers to be constructed.</p> <p>Dust binskept 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. (CP-2)</p> <p>All the building designs are constructed as per seismic zone provision.</p>



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>Safety system will be provided at required location. Refer to Annex 18, Annex 28, Annex 29 for Occupational, Health and Safety Plans.</li> </ul>	 <p>Safety systems are provided at site.</p>  <p>Magazine</p> <p>Electric panel covered.</p>  <p>Compliance of EIA Annexure 20 of EIA.</p> <p>Structural condition of buildings/ properties likely to be impacted will be recorded to act as baseline and vibration monitoring is conducted regularly at all blasting and surrounding sites as per relevant Indian Standard/ codes, such as IS-14881:2001 and statutes and results will be incorporated in next EMRs.</p> <p>The ambulances with appropriate and essential lifesaving medical facilities are stationed at 2 critical construction sites by the contractors.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				 <p>The first aid kits at all sites have all unexpired medicines and medical items are in adequate quantity related to the work force at site.</p> <p>The back up alarms and reverse blinkers of all construction vehicles are functional.</p> <p>The sturdy and stable barricading is provided around all deep excavated areas.</p>  <p>Hard Barricading and Proper access and Egress (CP-2)</p>
2.	Infrastructure provisions at labor camps	Health and hygiene at workers camps	<ul style="list-style-type: none"> <li>Contractor during the progress of work will provide, erect and maintain necessary living.</li> <li>Accommodation and ancillary facilities for labor as per the requirements of applicable labor regulations of Government of India.</li> </ul>	<p>Housekeeping and Hygiene at workers camps and bathrooms/toilets to be improved. Accommodation facilities have proper celling to control heat. (CP-2)</p> <p>Celling were placed in all accommodations to reduce heat.</p>



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>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.</li> <li>Refer to Annex 12: Public Health Delivery System</li> <li>Refer to Annex 18: Project Personnel Health Plan</li> <li>Refer to Annex 28: Fire Protection in Labor Camps and Staff Colonies</li> <li>Refer to Annex 29: Safety Practices during Construction</li> </ul>	<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. (CP-2)</p>
	Fire Protection in Labor Camp and Staff Colonies	<ul style="list-style-type: none"> <li>Safety Practices During Construction Phase</li> </ul>	<ul style="list-style-type: none"> <li>Safety Practices During Construction Phase</li> <li>Refer to Annex 28: Fire Protection in Labor Camps and Staff Colonies</li> </ul>	<p>Fire extinguishers are placed at vulnerable sites.</p> <p>Status of Fire Extinguisher at Project sites (Table 25).</p>  <p>Water hydrant at Magazine</p>
3.	Solid Waste Management	Construction camps	<ul style="list-style-type: none"> <li>Collection and disposal of human waste as per waste management plan.</li> <li>Refer to Annex 22: Solid Waste Management Plan</li> </ul>	<p>Solid waste disposal mechanism is only dumping in a pit. MSW management plan is being developed.</p> <p>Umrangsoo Town Committee gave permission for disposal of solid wastes after segregation at their site (23.3.23). CP-2</p>
4.	Muck disposal	Tunneling and excavation activities	<ul style="list-style-type: none"> <li>Muck generated from various tunnelling and excavation activities would be dumped suitably to designated sites</li> </ul>	<p>4 muck dumping sites identified and currently all the 4 are being used.</p>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>Refer to Annex 13: Muck Disposal Plan</li> </ul>	<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> <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"> <li>Restoration of construction sites.</li> <li>Refer Annex 19: Construction Site Restoration Plan.</li> </ul>	Not yet arises.
6.	Noise and vibrations	Equipment layout and installation	<ul style="list-style-type: none"> <li>Construction techniques and machinery selection seeking to minimize ground disturbance.</li> <li>Refer to Annex 25: Measures for Noise Pollution Control</li> </ul>	<p>Being partially complied. 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 activity.</p> <p>Vibration monitoring of the blasting activities were done from March 2023 onwards.</p>




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				 <p>(Annexure 25- Results of vibration monitoring)</p>
7.	Disturbed farming activity	Physical construction	<ul style="list-style-type: none"> <li>Construction activities on cropping land time to avoid disturbance of field crops (within 1 month of harvest wherever possible).</li> </ul>	Being complied.
8.	Noise vibration and operator safety, efficient operation, equipment wear and tear	Mechanized construction	<ul style="list-style-type: none"> <li>Construction Mechanized maintenance and turning of plant.</li> <li>Proper maintenance and turning of plant</li> <li>Implement environmental mitigation and good-construction as integral component of each civil activity and as day-to-day activity</li> </ul>	Being complied and monitored.
9.	Increase in airborne dust particles	Construction of access roads	<ul style="list-style-type: none"> <li>Existing roads and tracks used for construction and maintenance access to the site wherever possible.</li> <li>Refer to Annex 24: Measures for Air Pollution Control</li> </ul>	Being mostly complied. Water sprinkling to reduce dust. (CP-2)  Laying of bitumen on internal roads not yet initiated till 30 <sup>th</sup> June 2022.



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				
10	Increased land requirement for temporary accessibility	Construction of access roads	<ul style="list-style-type: none"> <li>New access ways restricted to a single /intermediate carriageway width. Refer to Annex 20: Road Construction Management Plan</li> </ul>	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 &amp; 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"> <li>Trees allowed growing up to a specified height within the work areas by maintaining adequate clearance between the top of tree and the conductor as per the regulations.</li> </ul>	Will be complied.
14	Loss of vegetation and deforestation		<ul style="list-style-type: none"> <li>Trees that can survive pruning to comply should be pruned instead of cleared.</li> <li>Felled trees and other cleared or pruned vegetation to be disposed of as authorized by the statutory bodies.</li> </ul>	Being complied.
	Loss of vegetation and deforestation	Reservoir clearing	<ul style="list-style-type: none"> <li>Removal of maximum commercially viable timber.</li> <li>All remaining timber, after commercial and salvage logging operations have been completed, will be cut as necessary and burnt.</li> <li>Avoid removing stumps, as disturbed soil may release far more nutrients in water.</li> </ul>	Will be complied.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
15	Loss of vegetation and deforestation	Wood/vegetation harvesting	<ul style="list-style-type: none"> <li>Construction workers prohibited from harvesting wood in the project area during their employment, (apart from locally employed staff continuing current legal activities).</li> <li>Contractor should arrange LPG gas for cooking of food for their workers.</li> <li>Refer to Annex 17: Plan for Construction Camp Management</li> </ul>	<p>Fire wood collection not allowed. LPG are used for cooking. In few cases induction stoves are used.(CP-2, CP-3)</p> <p>CP-1 – Firewood was used by some labour in the camp for cooking. Contractor was instructed to provide Gas immediately.</p>
16	Loss of Biodiversity, Disturbance / accidents/ injury, to wildlife and avian fauna	Construction and clearing of forest areas	<ul style="list-style-type: none"> <li>Implementation of Compensatory afforestation plan.</li> <li>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</li> <li>Provisions of adequate signages and speed limit on road sections within forest areas to avoid accidental road kills.</li> <li>Poaching activities should be monitored in workers areas and well as community areas (as per Annex 9).</li> </ul>	<p>5 nurseries created by the Forest Department in Dima Hasao.</p> <ul style="list-style-type: none"> <li>Not yet initiated.</li> <li>Signages placed in the forest area to reduce the speed limit.</li> </ul>  <ul style="list-style-type: none"> <li>Poaching activities monitored and awareness carried out among the workers.</li> </ul>  <p>Awareness Program conducted regarding critical Indigenous species around project area.</p> <ul style="list-style-type: none"> <li>BMP 2 meetings were conducted with the Forest Department.</li> </ul>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>• Implementation of Biodiversity Conservation and Management Plan (Annex 9)</li> <li>• Compliance with guidelines issued by the National Wildlife Board of India for linear intrusion in natural area pertaining to roads and power lines.</li> <li>• 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.</li> <li>• Provision of wild fruit plantation for wildlife</li> <li>• Annual bird count of migratory birds by involving locals and bird experts</li> <li>• Rehabilitation with local fruit bearing species in gaps</li> <li>• 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.</li> </ul>	 <p>Plantation initiated.</p> <ul style="list-style-type: none"> <li>• NABL clearance not taken as there is no WLS in 10 km radius.</li> <li>• CEA guideline complied during construction of transmission line.</li> <li>• Wild fruit plantation initiated.</li> <li>• Annual Bird count not initiated. Annual bird count will be initiated in the winter months with support of forest department.</li> <li>• Rehabilitation with local fruit bearing species in gaps not initiated.</li> <li>• Anti-grazing drive in drawdown area to protect the bird breeding areas in proximity to reservoir – not initiated.</li> <li>• Construction of check posts – not initiated</li> <li>• Implementation of Conservation action plan – not initiated.</li> </ul>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<ul style="list-style-type: none"> <li>• Construction of check posts / watch towers in key locations</li> <li>• Conservation actions as proposed by IUCN (during construction and during the initial project operation) such as conducting a comprehensive survey and monitoring in and around the project area to establish range, distribution and population status of vulnerable and critical habitats in the project area for assessing its habitat requirements and identifying threats are proposed.</li> <li>• Establishment of biodiversity conservation committee.</li> <li>• Refer to Annex 9: Biodiversity Conservation and management Plan</li> <li>• Refer to Annex 21: Green Belt Development Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Biodiversity conservation committee – constituted. Discussion with forest department going on for the implementation for BMP. 1<sup>st</sup> meeting of BMP was done on 21.12.22 and the 2<sup>nd</sup> meeting was held on 27.06.2023</li> </ul>
17	Runoff to cause water pollution, solid waste disposal	Surplus earth work/soil	<ul style="list-style-type: none"> <li>• Excess fill from excavations disposed of next to roads or on barren land or personal in agreement with the local community or land owner.</li> <li>• Soil excavated from power houses will be disposed as safe &amp; scientific manner by placement on barren land or along back fill trench weir etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not arise as entire land is acquired for the project including the dumping area.</li> <li>• Will be adhered.</li> <li>• Material has been stocked as backfilling will be required in the Power House.</li> <li>• Slope protection measures are taken up as per approved designs in powerhouse area.</li> </ul> 

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				Slope protection in power House area.
18	Loss of soil and water pollution	Substation construction	<ul style="list-style-type: none"> <li>• Fill for the substation foundation obtained by creating or improving local water supply ponds or drains, with the agreement of local communities.</li> <li>• Construction activities involving significant ground disturbance (i.e., substation land forming) not undertaken during the monsoon season.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not arise.</li> <li>• Followed during construction of construction power substation.</li> </ul>
19	Contamination of receptors (land, water, air)	Storage of chemicals and materials	<ul style="list-style-type: none"> <li>• Fuel and other hazardous materials securely stored above high flood level with safety measures.</li> <li>• Refer to Annex 18: Project Personnel Health Plan</li> </ul>	<p>Mostly followed for fuel. Fuel dispensing unit approval received. (CP-2)</p> <p>All Hazardous chemicals are stored on concrete floor with tarpaulin cover shade.</p>  <p>20KL petrol pump station is established.</p> <p>For hazardous chemical materials stores 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"> <li>• Construction workforce will be provided for certain facilities it includes proper</li> </ul>	Housekeeping and Hygiene at workers camps and bathrooms/toilets to be improved. Drainage facilities to




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			<p>sanitation, water supply and waste disposal facilities.</p> <ul style="list-style-type: none"> <li>Refer to Annex 17: Construction Camp Management Plan</li> </ul>	<p>be constructed/completed at camps and facilities. Sedimentation tanks constructed near Tunnel (CP-2). Deposited sediments are regularly cleared from the tanks and disposed in the designated dumping site. Water quality is periodically checked and released to the natural drains (if the quality meets the standards).</p>  <p>Municipal Solid Waste Management facility partially developed.</p>  <p>6 no compost pit filled we have excavated 6 more pit. (CP-2)</p>
22	Loss of agricultural productivity	Encroachment into agricultural land	<ul style="list-style-type: none"> <li>Use of existing roads wherever possible.</li> <li>Ensure existing irrigation facilities are maintained in working condition.</li> <li>Protect/Preserve topsoil and reinstate after construction completed.</li> <li>Repair/reinstate damaged bunds, etc. after construction completed</li> </ul>	<ul style="list-style-type: none"> <li>Followed.</li> <li>Does not arise so far.</li> <li>Top soils were preserved and used by CP-2. Top soil preservation not initiated by CP-4. Instructed to contractor (CP-4) to adhere.</li> <li>Will be followed if bunds are damaged.</li> </ul>
23	Social inequities	Encroachment into agricultural land	Compensation for temporary loss in agricultural production as	Followed



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			per provisions of Resettlement and Tribal Development Plan	
24	Soil loss, downstream siltation; etc.	Uncontrolled erosion/silt runoff	<ul style="list-style-type: none"> <li>• Need for access tracks minimised, use of existing roads.</li> <li>• Limit site clearing to work areas regeneration of vegetation to stabilize works areas on completion (where applicable).</li> <li>• Avoidance of excavation in wet seasons.</li> <li>• Water courses protected from siltation through use of bunds and sediment ponds.</li> </ul> <p>Refer to Annex 26: Water Pollution Control Measures</p>	<ul style="list-style-type: none"> <li>- Followed</li> <li>- Site clearing is done where necessary.</li> <li>- Excavations are avoided during wet season.</li> <li>- Water courses will be protected from siltation through use of bunds and sediment ponds.</li> <li>- Bund prepared for construction of culverts.</li> </ul> <p>Compliance of water pollution control measures : Sewage from labour camp / colonies are treated through settling tank and aerated lagoon. All the toilets are connected with septic tanks. Effluent from tunneling sites and batching plants are processed through the settling tanks. Suspended solids collected in the settling tanks were disposed in the designated site in the dumping yard. Periodically the water quality are tested by PCBA approved agency.</p>
25	Losses to neighbouring land uses/values	Nuisance to nearby properties.	<ul style="list-style-type: none"> <li>• Contract clauses specifying careful construction practices on every stage.</li> <li>• Maximum existing access ways will be used.</li> <li>• Productive land will be reinstated following completion of construction.</li> </ul>	<ul style="list-style-type: none"> <li>- Followed.</li> <li>- Existing access roads are mostly used.</li> <li>- Productive land will be reinstated following completion of construction.</li> </ul>
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"> <li>• Avoid natural drainage pattern/ facilities being disturbed/ blocked/ diverted by ongoing construction activities.</li> </ul>	Natural drainages are not blocked through any kind of construction activity.



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
			Refer to Annex 30: Dam Break Analysis And Disaster Management Plan	
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.	Aggregates are used from the excavated materials. For use of existing quarries fresh permissions are required like EC. Permission taken from NCHAC for aggregate quarry and later EC was also accorded for the quarry. Fine aggregates are used from the crusher dust. (CP-2)  CP-1 and CP-3 are using minor minerals from approved sources.
30	Injury and sickness of workers and members of the public.	Environment, Health and safety	<ul style="list-style-type: none"> <li>• Arrangement of Environment awareness programme.</li> <li>• Contract provisions specifying minimum requirements for construction camps.</li> <li>• Preparation and implementation of health and safety plan.</li> <li>• Arrangement of primary health centre with medicine and instrument with a knowledgeable health staff.</li> <li>• Arrangement for health and safety training sessions.</li> <li>• Refer to Annex 12: Public Health Delivery System</li> <li>• Annex 16: Plan for Environmental Training of Workers</li> </ul>	<ul style="list-style-type: none"> <li>• Arrangement of Environment awareness programme initiated.</li> <li>• Followed.</li> <li>• Health and safety plan prepared and implementation is ongoing.</li> <li>• Primary health centre constructed with trained health staff.</li> <li>• Health camps are being organised by the contractor for the community people on 01.04.23. (CP-2)</li> </ul>



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				 <ul style="list-style-type: none"> <li>• Anti malarial measures taken by the contractor for the labours.</li> </ul>  <ul style="list-style-type: none"> <li>• Health Facilities at Construction sites and labor camp established</li> <li>• For implementation of Public Health Delivery system discussion with respective departments will be initiated soon.</li> <li>• Health and safety training conducted by L&amp;T</li> <li>• Training were also given to the subcontractor personals.</li> <li>• PMC and PMU will also arrange Health and Safety trainings.</li> <li>• Sample First Aid Box.</li> </ul> 

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2023
				<p>Environment Management</p>  <p>Monthly Environment Health and Safety Meeting conducted</p>  <p>General Environmental Awareness Training for workmen</p>
31	Likely to maximize damages	Inadequate construction stages monitoring.	<ul style="list-style-type: none"> <li>• Training to personal of implementing agency for environmental monitoring work.</li> <li>• Implementation of effective environmental monitoring and reporting system using checklist of all contractual environmental requirement.</li> <li>• Appropriate contact clauses to ensure satisfactory implementation of contractual environmental mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Informal Trainings are conducted by the PMC and PIU regularly.</li> <li>• PMC and PIU carried out formal training on EHS and implementation of EMP on 28.6.22.</li> <li>• Check list prepared and implementation monitored.</li> <li>• Letters issued to the contractor on the contractual obligations of noncompliance and this will be continued.</li> </ul>
<b>OPERATION PHASE</b>				<b><i>Operation phase monitoring will be carried out during operation.</i></b>

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

**Table 8: Corrective Actions taken till 30<sup>th</sup> June 2023**

**ACTION TAKEN REPORT on the ESCAP (dated 6 Mar'23) as on 30.06.2023**

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
	<b>Overall</b>			
1	EA was requested to ensure that (a) qualified and well experienced H&S expert is appointed under PMU; (b) Sr. Environment Expert is mobilized by the PMC to assist the Environment Safeguards Specialist in conducting daily supervision to expedite the implementation of environmental safeguards at site; (c) International Environment monitoring expert is mobilized under the EMC; (d) variation for already appointed H&S expert under PMC is approved timely; and (e) all positions of environment and H&S under PMU, PMC, EM, Grant funded consultant and all Contractors are continued till completion of the Project and are served by experts qualified on Environment, Health and Safety subjects.	PMC/EMC/PMU	30 May 2023  (e) Throughout till completion of respective contracts	(a) EA to ensure that the Health and Safety measures as suggested in the EMP are compiled by the contractors and monitored by PMC. APGCL deputed one EHS officer at site. (b) For Sr. Environment Expert APGCL is considering the proposal for approval and compliance. (c) complied (d) Complied (e) Mostly Complied. Though qualified Environment Expert for CP-4 was appointed but after serving around 2 months he resigned and the post is lying vacant till reporting. Contractor was requested to appoint Environment expert by 31 <sup>st</sup> July, 2023.

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
2	EA was requested to ensure that the (a) updated EMP of EIA Addendum is made part of the contract agreements, when cleared by ADB; (b) EMP updated so far is implemented by the Contractors; and (c) the CEMPs are updated based on updated EMP of EIA Addendum after clearance from ADB	Contractors/ PMC/EM C/PMU	(a), (c) As and when applicable  (b) till the ADB clears the EIA Addendum	(a) will be complied after approval of the EIA addendum. (b) Complied (c) will be complied after approval of the EIA addendum.
3	EA was requested to ensure that all the Contractors (a) continue and extend good practices of CP-2 over all sites and activities; (b) maintain data logs of waste / treated water, muck, waste cement concrete, cement slurry generated and reused and submit as part of monthly environment reports that should get reflected in the EMRs submitted to ADB by APGCL; (c) channelize all waste water to the biodigester septic tanks (as proposed) for appropriate treatment prior to releasing the waste water into the environment; (d) expedite the process of segregation and management of waste, identification of authorized vendors to hand over hazardous wastes, recyclable wastes, composting of biodegradable wastes so that these are not released into the environment untreated; and (e) adopt appropriate dust control measures at all the construction sites, approach roads etc.	Contractors/ PMC/EM C/PMU	Throughout till completion of Project	(a) Agreed and contractor was intimated to comply. (b) Mostly complied by all the contractors. (c) Partially complied for CP-2. Rest will initiate soon. (d) Segregation started for all the contractors. Authorized vendors are selected by CP-2. (e) Complied by CP-2

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
4	EA to ensure Contractors under all CPs (a) maintain the stack height of DG sets as per the relevant guidelines of state pollution control board considering the adjacent building height; (b) conduct regular health check-ups for workers; (c) close and restore sites in environmentally responsible manner as per ADB-cleared EMPs and include status with photo evidence in the EMRs, if applicable; (d) take adequate measures to prevent spread of vector borne diseases; and (e) ensure that natural drainage systems are not obstructed.	Contractors/ PMC/EM C/PMU	Ongoing till completion of Project	(a) 90% complied rest are under increase of the stack height. (b) Complied for CP-2 and rest will start. (c) Being complied (d) Being complied (e) Being complied
5	EA to ensure that process for conducting annual bird count is expedited at locations truly representative of the sites under all the contract packages	Contractors/ PMC/EM C/PMU	As and when suitable for bird count starting in 2023	Will be carried out in Nov- December 2023
6	EA was requested to ensure that all Contractors implement the environmental safeguards provisions of ADB cleared EMMPs.	Contractors/ PMC/EM C/PMU	Ongoing till completion of Project	Agreed and being complied
7	The EA was requested to ensure that (a) meaningful public consultations (gender inclusive) are conducted throughout the Project implementation period covering environmental, health and safety aspects under all CPs; (b) issues raised and suggestions given by public are adopted, wherever feasible; and (c) records of public consultation viz. the minutes of meetings, attendance sheets, photographs are maintained under all CPs throughout the project implementation period that can be retrieved for responding to queries and grievances, if any, in future.	Contractors/ PMC/EM C/PMU	Ongoing till completion of Project	(a) Being complied (b) Being complied (c) Agreed

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
8	<p>The Mission again requested PMU to ensure that (a) GRC meetings were held regularly; (b) complaints if received are resolved in timely manner and recorded appropriately; and (c) information on GRC is disseminated amongst the communities residing near the National Highways, common approach roads, power evacuation lines, villages at the upstream of waterbodies used for extraction of water during construction by all the Contractors including any other areas being or likely to be affected</p>	<p>Contractors/ PMC/EM C/PMU</p>	<p>Ongoing till completion of Project</p>	<p>(a) Being complied (b) Being complied. Till date no environment related complaints were recorded. (c) Displayed and more information boards will be posted as suggested.</p>
9	<p>EA and EMC were requested to (a) submit timely the quarterly (from January -March 2023 onwards) and semi-annual environmental validation reports to ADB; (b) incorporate validation of implementation of all provisions mentioned in the EMP and Environment Monitoring Plan (EMonP) including the plans given in annexures and supplementary EIA reports cleared by ADB and EMP updated so far including additional recommendations for critical habitat management as part of EIA addendum that was under preparation; (c) verify the internal EMRs prepared by APGCL in timely manner; (d) manage inputs of all experts to ensure adequate monitoring at field; and (e) meetings are arranged to appraise ADB regularly such as after the site visits to appraise about the external monitor's findings or whenever deemed necessary.</p>	<p>EMC/PMC/ PMU</p>	<p>Ongoing till completion of Project</p>	<p>(a) Agreed by EMC and PMC (b) Agreed by EMC (c) Agreed EMC (d) Communicated to EMC and they will comply (e) Being complied</p>

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
10	EA was requested to ensure that all Contractors disseminate information and leaflets in local language prior to the consultations or as and when required.	Contractors/ PMC/EM C/PMU	Throughout implementation period as and when required	Will be complied and reported during next SEMR
11	EA was requested to ensure that all Contractors maintain sanitation, accommodation, health and safety facilities at labour camp, staff camp, construction sites and meets the national and international standards	Contractors/ PMC/EM C/PMU	Throughout implementation period	Mostly complied but improvement required specially for CP-1 and CP-4
<b>Contract Package -1</b>				
1	EA was requested to ensure that (a) Permission is obtained from respective gaon burah/ competent authority, prior to extraction of surface water; (b) obtaining CTE for STP prior to construction as per applicability from the State Pollution Control Board; (c) all relevant regulatory permissions are obtained prior to commencement of construction and/ or operation of the works at site as per applicability; (d) the licenses and insurance policies of all labor (including all skilled, semi-skilled and unskilled labor) remains valid with all labours adequately covered; (e) conditions stipulated along with regulatory permissions are complied with; (f) no trees are cut without prior permission from competent authority and supporting documents are verified; and (g) all construction materials are continued to be obtained from sources/ plants/ equipment compliant with the environmental regulations of India	Contractor/PMC/ EMC /PMU	(a) 15 April 2023 (b) Prior to STP construction (c) As and when applicable (d) Throughout implementation on stage (e) Throughout implementation on stage (f) Prior to cutting of trees (g) Throughout implementation on stage	(a) Now the ground water being extracted and the permission is accorded from CGWB. (b) Agreed (c) Agreed (d) Being complied (e) Agreed (f) NOC for tree extraction in the revenue land will be received soon from Forest Department (g) Intimated to the contractor and will be verified in the bills for the forest royalty and EC copy.



<b>Sn</b>	<b>Agreed Actions</b>	<b>Responsibility</b>	<b>Agreed dates</b>	<b>Status as on 30<sup>th</sup> June 2023</b>
2	EA was requested to ensure that one qualified H&S expert is appointed under CP-1	Contractor/PMC/EMC/PMU	15 May 2023	Communicated to the contractor for compliance
3	EA was requested to ensure that Contractor under CP-1 (a) finalizes design of all components and gets them approved in a timely manner so that the assessments can be included into the EIA Addendum, if not already reflected in the ADB cleared EIA; (b) adopts environment friendly practices as were proposed by the Contractor during Mission such as bio-swells, roof top rainwater harvesting, energy efficient fixtures etc. and provides their quantified assessment;	Contractor/PMC/EMC/PMU	15 September 2023	(a) Design review under process (b) Detail yet to be submitted (c)
4	EA was requested to ensure that Contractor under CP-1 tests and suitably treats the water obtained for potable and non-potable uses to avoid water borne infections.	Contractor/PMC/EMC/PMU	Throughout implementation stage	Agreed. Monitoring done and reported in this report.
5	EA to ensure that the revised CEMP including waste management plan prepared in line with the ADB-cleared EMP is submitted by the Contractor.	Contractor/PMC/EMC/PMU	10 April 2023	CEMP submitted with broad outline of treatment but final one will be submitted after finalization of the STP and WTP.
6	EA to ensure that (a) monthly EHS report for previous months since mobilization are submitted; (b) monthly EHS report starting April 2023 are submitted in timely manner.	Contractor/PMC/EMC/PMU	(a) 25 April 2023 (b) By 07 <sup>th</sup> day of subsequent month	(a) Submitted (b) Complied
7	EA was requested to ensure that Contractor under CP-1 (a) makes available at camp and work fronts first aid kits with adequate quantity of unexpired medical items as are recommended by relevant Indian law and International good practices including trained first aiders, medical	Contractor/PMC/EMC/PMU	By 15 April 2023	(a) Partially complied. (b) Registers kept at site (c) Complied (d) Partially complied but instructed to provide LPG immediately (e) Partially complied (f) Complied

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
	practitioner, stretchers, ambulance, hospital collaboration etc.; (b) maintains registers for grievances, accidents , labour attendance , labour details including salary details; (c) makes appropriate use of snake and insect repellants at site; and (d) discontinues the use of fire wood with immediate effect and provides the labours with cleaner cooking fuel and common cooking facilities with raised platform and hygienic condition (e) improves the approach road and lighting arrangements in labour camp; (f) places fire extinguishers at appropriate locations including near kitchen area			
8	The Mission requested PMU to ensure (a) toolbox trainings, and talks are conducted regularly for EHS aspects; (b) mock drills and fire drills are conducted regularly at all critical areas; and (c) workers are regularly trained and made aware regarding EHS, biodiversity conservation, HIV/AIDs etc. and appropriately incorporated in Monthly EHS reports	Contractor/PMC/EMC/PMU	Throughout implementation stage	(a) Complied (b) Mock drill records will be in next reporting period (c) Will be carried out
9	EA was requested to ensure contact details of GRC representatives are displayed on the project information boards at construction camp, sites and villages	Contractor/PMC/EMC/PMU	Throughout implementation stage	Project information board under preparation
10	EA to ensure that testing of environmental parameters such as air quality, water quality, soil quality, noise levels are conducted as per the EMP incorporated in Contract document starting from quarter 2 of 2023.	Contractor/PMC/EMC/PMU	By 30 June 2023 till completion of project.	Complied and one set of testing carried out and reported
<b>Contract Package -2</b>				

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
1	<p>The EA is requested to obtain EC Amendment or approval from MoEFCC as per condition no. (IX) of Section (X) of EC letter dated 04 September 2019.</p> <p>(a) It is reiterated to stop all works related to modified scope until approval of MoEFCC is obtained.</p> <p>(b) Reiterated to upload in PARIVESH portal with assessment for changed scope, if required</p> <p>(c) If assessment is required then NABET accredited agency may please be hired and amended EC may please be obtained from MoEFCC</p> <p>(d) If no further assessment is required amended EC may please be obtained as per MoEFCC's requirement (Timeline of related to MoEFCC process may vary and EA is requested to closely follow up with MoEFCC and expedite the process)</p>	APGCL/PM C	<p>(a) Immediately</p> <p>(b) 20 April 2023</p> <p>(c) October 2023</p> <p>(d) 30 June 2023</p>	<p>(a) AS per the provisions APGCL has intimated the changes time to time to MoEF&amp;CC. APGCL representatives visited MoEF&amp;CC for obtaining the approval on the changes made as per detail engineering without changing the power generation capacity.</p> <p>(b) Application will be uploaded in the PARIVESH portal by 27<sup>th</sup> August, 2023 for obtaining approval on the changes.</p> <p>(c) If MoEF&amp;CC recommends for assessment it will be adhered.</p> <p>(d) Agreed</p>

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
2	EA is requested to (a) stop the dam construction of any such components that are yet to be approved by the PMC and reviewed by the EMC and also until they are informed to the Dam Safety authority; (b) ensure that GSI recommended tests and design modification based on results are conducted diligently; (c) ensure that the designs are approved by PMC and submitted to APGCL for further review; (d) ensure EMC's review (design review w.r.t e-flow by 11 April 2023; dam stability review by 30 April 2023; dam break analysis to be shared with EMC by 10 April 2023 and EMC to provide review by 20 April 2023) is conducted; (e) ensure that Information to Dam safety Authority is submitted on the development of dam design.	Contractor / PMC/EMC /APGCL	(a) Immediately (b) 30 May 2023 (c) Will continue in phased manner till 30 June 2023 (d) Will continue in phased manner till 30 July 2023 (e) If appropriate shall be done in phased manner or full design shall be submitted immediately post 30 July 2023	(a) Agreed (b) Agreed and being complied (c) Agreed and being followed (d) E Flow assessment done by EMC. Dam stability under review based on detailed design (e) Information will be submitted to State Dam Safety Committee / Organization
3	EA was requested to ensure that (a) all works for which permissions/ renewals were pending are stopped and shall be recommenced only after obtaining the requisite permissions; (b) renewal of labour insurance, NOC for explosive supply chain management and blasting, blasting permission for right bank, night-shift blasting of tunnels etc are expedited; (c) process for obtaining inter-state labour license is expedited; (d) all construction materials are continued to be obtained from sources/ plants/ equipment compliant with the environmental regulations of India; (e) conditions stipulated along with regulatory permissions are complied with; (f) no trees are cut without prior permission from competent authority and all	Contractor / PMC/EMC /APGCL	(a) Immediately (b) 30 April 2023 (c) 30 April 2023 (d) (e),(f) Throughout till completion of construction (g) Prior to impounding	(a) Being complied (b) Being complied (c) Process for obtaining interstate labour license initiated (d) Being complied (e) Being complied (f) Agreed and followed (g) Agreed and will be done

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
	<p>records to be maintained in support of regulatory requirements; (g) clearance of submergence area and quantification of biomass shall be done prior to impounding in consultation with and in the presence of the Forest Department officials and supporting regulatory documents shall be maintained for future records</p>			
4	<p>EA was requested to appoint suitably qualified and experienced experts/s to undertake the assessment (some of the data such as river morphology, water flow etc. are being collected by JFPR Consultant) for backwater and downstream impacts along with that of ecological assessment and modelling, reassessment of GHG emissions etc to update the EIA.</p>	APGCL/P MC/EMC	To start recruitment process immediately	<p>Agreed and under process. For Down stream impact and back water assessment APGCL will follow the EC stipulation. However additional studies will be carried out by APGCL within March 2024. The backwater effect details and downstream impact assessment including ecological modelling will be carried out and details of the activities will be reported in the next SEMR (Jul-Dec 2023).</p>

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
5	<p>EA was requested to ensure that (a) the categorization of the incidents done as non-work related are justified and as per relevant guidelines; (b) corrective actions proposed by Contractor are followed in full spirit such as automated feeding of tank, regular training and emphasis on height pass test, ensuring usage of PPEs including full body harness; (c) medical equipment like defibrillator are made available in the dispensary and site to prevent such heart related incidents along with the certified medical practitioner; (d) health and safety measures are given high priority at all work sites including the camps as per Indian and International standards and good practices to avoid such unfortunate situations; and (e) any such incidents are informed immediately to ADB at least within 48 hours.</p>		<p>(a) to (d) throughout the implementation period (d) Immediately after decision of labour commissioner is obtained for the Dec 2022 incident</p>	<p>(a) To (d) Being complied and strictly monitored (d) agreed (e) Agreed and will be followed</p>
6	<p>EA is requested to expedite the submission of first EIA Addendum and stop all works relevant to scope modification immediately until finalization and clearance of second EIA Addendum by ADB. <b>The first EIA Addendum</b> shall contain:</p> <p>(a) field based environmental due diligence of the revised alignment of 220 kV transmission line under CP-4 and recommendations of biodiversity study underway by EMC; (b) assessment of detailed dam design with respect to ascertaining that the recommended</p>	PMU/PMC/Contractors	30 April 2023	<p>First EIA addendum will be submitted after incorporation of ADB's observation by August, 2023 for approval. (a) To (q) will be incorporated</p>




Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
	<p>environmental flow during lean, monsoon and non-lean &amp; non-monsoon season will be maintained along with recommendations made by the EMC; (c) assessment of the likely impacts of the additives being used and tested for ensuring that the hydro- mechanical equipment /structures are acid resistant; (d) provisions for management of pyrites/any other obnoxious substance observed on the cut rocks of Project area such as chemical characterization of the muck and water draining out of weep holes and tunnels along with suitable measures for neutralization or disposal based on the muck and water quality test results, if required; (e) findings of geological study conducted or being conducted for reservoir area and those for the dam site and slopes; (f) environmental assessment of the water neutralization plant under construction; (g) confirmation on submergence area of 620 ha and associated assessments; (h) confirmation if greenhouse gas (GHG) emission from construction owing to modification in design and changes in submergence (including reservoir methane) area would remain within 100,000 ton carbon dioxide equivalent per year in compliance with SPS, 2009; (i) Reassessment of GHG emission due to the HEP for construction stage, loss of forest, decomposition of biomass in reservoir, HEP operation shall be done with detailed breakup adding to what is mentioned in Table 108 in EIA report main Vol-I disclosed in ADB website; (j) map</p>			


Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
	<p>of submergence area with demarcation of forest and other land uses superimposed on satellite imagery; (k) Vibration monitoring and assessment during construction; (l) Provisions for monitoring magnitude of vibrations due to operations of components of hydro power plant and its impact on land and structures during Operations period;</p> <p>(m) Ecological assessment (excluding modelling) of backwater effect based on DPR data on sediment data, fluctuation data of backwater (free board); biodiversity ; eutrophication probable assessments based on water quality data etc; (n) environmental assessment of Project components under CP -1 that shall be updated in second addendum after finalization of design;(o) emergency response and evacuation plan for community during construction; (p) findings and recommendations of environmental and biodiversity study including camera trapping with respect to the project that was underway by the EMC; (q) any other changes in scope or component or unanticipated impacts that were not reported earlier or during the Mission.</p>			



Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
7	<p>EA was requested to submit the second EIA addendum incorporating (a) updated backwater effect assessment including that of ecological assessment/ modelling (as would be advised by the expert/s to be identified and mobilized) based on water flow data from upstream flow sensors or NEEPCO dam and topographic cross sections from LiDAR survey or inputs from RMSI survey as applicable; (b) downstream impact assessment including ecological assessment and modelling factoring peaking power assessment; optimum reservoir operations (details in Appendix-2); (c) Emergency preparedness and evacuation plan for the community for Operations period; (d) environmental assessment for Longku Nala stretch of NH-627 that is proposed to be elevated by PWD, Assam (design not yet available from PWD and construction yet to commence); (e) detailed assessment of submergence area based on LiDAR survey findings.</p>	PMU/RMSI/PMC/Contractors	April 2024 (Tentative)	<p>Agreed. Provided all the information (a) to (d) are received from the concerned agencies and the ecological assessment completed.</p> <p>(e) Submergence area of 552 Ha and Reservoir spread of 620 Ha identified after LiDAR survey.</p>
8	<p>EA was requested to ensure (a) detailed testing of the existing muck dumping sites etc are conducted if the test results were positive as per suggestion of geologists under Contractor and PMC; (b) devising neutralization measures, if required for the existing dumping grounds to prevent leaching into the ground water/ soil; (c) implement the muck management plan at muck dumping sites as prepared by the Contractor and as is included in the ADB cleared EMP</p>	Contractor/PMC/EM C/PMU	(a) 30 May 2023 (b) 15 June 2023	<p>(a) tests carried out and incorporated in the EIA addendum. More tests will be done later also. No obnoxious elements or pyrites found in the samples of the muck and in the ground water samples near the dumping yard.</p> <p>(b) Will be done if required</p> <p>(c) Being complied</p>

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
9	EA was requested to (a) conduct test of water from tube wells near the dumping areas, near transformer bay in PH, river near PH for presence of pyrites/ other obnoxious element (collected on 05 April 2023); (b) expedite adopting adequate measures to prevent pyrites/ obnoxious materials from cut rocks/ slopes to mix into Kopili river or groundwater based on the results.	Contract or/ PMC/EM C/PMU	(a) 15 April 2023 (b) 30 April 2023	(a) Tests were Carried out and incorporated in the EIA addendum. Toxic elements or acid elements were not found in the ground water samples near dumping yard. (b) Will be taken care of after taking suggestion from EMC water quality expert.
10	EA was requested to generate baseline for vibration monitoring and cover all events of blasting and include interpretation and impact, if any on the surrounding structures/ground into the EMRs and EIA Addendum report	Contract or/ PMC/EM C/PMU	Till blasting continues	Tests carried out and incorporated in the EIA addendum
11	EA was requested to ensure that (a) emergency response system including medical facilities are improved as per Annex-29 of ADB cleared EIA at critical construction areas such as tunnels, powerhouse, dam site, all locations of height works, blasting sites etc; (b) first aider training including that for CRP shall be provided to maximum workers; (c) defibrillators are preferably made available at site; (d) medical practitioners or doctors are available at the dispensary.	Contract or/ PMC/EM C/PMU	(a) 30 April 2023 (b),(c),(d) Throughout implementation period	(a) communicated to contractor and are being improved. Emergency response team is in place which is headed by Project Manager. Tunnel illumination, monitoring of dust silica and noxious gases in underground works are regularly monitored. Ventilation of underground works are also regularly monitored. Daily pre start briefing is done at all critical sites. Ambulance is kept near the tunnel to meet the emergency

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
				<p>situation.</p>  <p>Anemometer measures the wind speed in Tunnel.</p> <p>(b) Training were given for CPR</p> <p>(c) will be kept at site</p> <p>(d) One RMP is available at CP-2 first aid center</p>
12	EA was reiterated to ensure that workers at critical locations are tagged as per their skills and job to be performed prior to start of daily works (Contractor suggested to use Helmet color coding for critical work labour with specific skills).	Contract or/ PMC/EM C/PMU	30 April 2023	<p>Colour coded helmets were inducted for critical works</p> 
13	EA was requested to ensure that restoration of batching plant near Powerhouse is done in an environment friendly way such as scrapping all cement layers and reusing or disposing them in authorized land fill sites, waste cement bags to be supplied to recyclers or reused suitably, restoring topsoil and make conditions conducive for growth of vegetation.	Contract or/ PMC/EM C/PMU	30 May 2023	<p>Being complied as per the restoration Plan.</p> <p>As a part of restoration plan the First step is to remove the structures and underground cables.</p>  <p>Batching plant removed.</p>

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
				 <p>Removal of underground cables. The area is now used as parking area.</p> <p>The next step is to removal of the residual wastes from the site. After that topsoil will be spread and plantation to be initiated.</p>
14	EA is requested to encourage good practices such as reuse and recycling of construction and domestic wastes such as cement slurry, waste concrete blocks, tyres, plastic bottles, glass bottles, metal bars, paper etc and also maintain the quantity records.	Contractor/PMC/PMU	Throughout implementation period	Agreed. Concrete blocks are used for foot paths.
15	EA was requested to (a) prepare a list of vulnerable areas requiring slope protection both along the approach roads, at construction camps/ sites and rim of reservoir; (b) ensure adequate slope protection measures are implemented along the cut slopes along temporary and permanent roads as identified; (c) ensure that slope protection measures are undertaken at the reservoir rim areas to avoid slope failure.	(a) PMC/PMU (b) Contractor/PMC/PMU (c) PMC/PMU	(a) 10 April 2023 (b) Status to be updated by 30 April 2023 (c) Status to be updated by 30 May 2023	(a) 20.11.2023 (b) Agreed as per approved design (c) 30.11.2023

<b>Sn</b>	<b>Agreed Actions</b>	<b>Responsibility</b>	<b>Agreed dates</b>	<b>Status as on 30<sup>th</sup> June 2023</b>
16	EA was requested to maintain all records of labour including third party labour along with their salary disbursement.	Contractor/ PMC/PM U/EMC	Throughout implementation period	Ongoing and to be improved
17	EA to ensure that suitable management measures for liquid waste in the labour and staff camp is expedited and bio-digester septic tank of adequate capacity as proposed by contractor are installed (locations such as PMC Kitchen liquid waste; bathing water from the camps etc) and share the details in EMRs subsequently.	Contractor/ PMC/PM U/EMC	15 May 2023	CP-2 placed few bio digestors. CP-3 will place biodigesters. Moreover, EMC suggested to construct 100 KLD STP for treatment of waste water from camp which is under review. Contractor has constructed a pond with lining of boulder, gravels and natural vegetation is growing around the pond. The BOD observed was ranged between 25-37.
18	EA was requested to take suitable measures to conduct downstream impact assessment on ground water hydrology along with the other aspects of downstream study (As suggested by PMU letter to be written immediately to CGWA for past and future trends of data on groundwater fluctuations, drawdown, replenishment rate etc. and also assistance in analyzing impacts if any due to the Project)	PMU/PMC	30 May 2023	APGCL will follow as per EC condition. However, Down stream impact assessment will be carried out before impounding to know whether the suggested measures in the EMP will be sufficient for the operation phase of the project.
17	EA was requested to ensure contractor installs oil and grease trap or other suitable treatment measures at the vehicle washing area	Contractor/ PMC/ EMC /PMU	30 May 2023	Necessary steps has been initiated to trap the oils adopting API technology within 30 <sup>th</sup> Nov, 2023.
18	EA to ensure that access to Project site and camps are restricted to public owing to safety.	Contractor/ PMC/ EMC /PMU	Throughout the implementation period	Partially being complied. It is difficult in the 6 <sup>th</sup> schedule

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
				area but major construction sites are restricted.
19	The EA was requested to ensure (a) that community awareness campaigns for biodiversity along with the Forest department are expedited; (b) toolbox trainings, and talks are continued to be conducted regularly for EHS aspects; (c) mock drills and fire drills are continued to be conducted regularly and strengthened at all critical areas including magazine, tunnel, dam site, powerhouse locations; and (d) workers under all CPs are extensively regularly trained and made aware regarding EHS, biodiversity conservation, HIV/AIDs etc. and appropriately incorporated in Monthly EHS reports	Contractor/PMC/EMC/PMU	Throughout the implementation period	(a) Initiated (b) Agreed (c) Being complied (d) Ongoing and corrective measures suggested for noncompliance
20	EA was requested to ensure that (a) nearby communities are consulted to confirm if there are any impacts observed on the structures due to blasting under CP-2; (b) downstream communities are consulted and made aware of the possible emergency situations and response plans for both construction and operations period	Contractor/PMC/EMC/PMU	Throughout the implementation period	(a) Ongoing (b) Will be under JFPR grant and will be implemented
21	EA was requested to ensure information on GRC is disseminated in the downstream and upstream villages	Contractor/PMC/EMC/PMU	Throughout the implementation period	Will be done
22	EA to ensure that all provisions of ADB cleared EIA and EMP and draft EIA Addendum are implemented at site	Contractor/PMC/EMC/PMU	Throughout the implementation period	Agreed
23	EA to expedite compliance of outstanding actions of ESCAP agreed in Mission held	Contractor/PMC/EMC	As per agreed dates.	Agreed and are being complied

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
	in December 2022.	/PMU		
<b>Contract Package -3</b>				
1	EA was requested to ensure that (a) Permission for ground water extraction is obtained from the CGWA, if applicable; (b) consent from Gaon burah/ WRD is obtained for extraction from surface water bodies, if applicable; (c) all relevant regulatory permissions are obtained prior to commencement of construction and/ or operation of the works at site as per applicability; (d) the licenses and insurance policies of all labor (including all skilled, semi-skilled and unskilled labor) remains valid with all labours adequately covered; (e) conditions stipulated along with regulatory permissions are complied with; (f) no trees are cut without prior permission from competent authority and supporting documents are verified; and (g) all construction materials are continued to be obtained from sources/ plants/ equipment compliant with the environmental regulations of India	Contractor/PMC/EMC/PMU	(a) Prior to extraction (b) Prior to extraction (c) Throughout implementation stage (d) Throughout implementation stage (e) Throughout implementation stage (f) Throughout implementation stage (g) Throughout implementation stage	(a) Application submitted (b) Under process (c) Partially complied and strict compliance will be adhered (d) Covered (e) Being complied (f) No scope of tree cutting (g) Partially Complied as all the documents not yet submitted.
2	EA was requested to ensure that one qualified EHS expert is appointed under CP-3 contractor	Contractor/PMC/EMC/PMU	30 May 2023	Appointed

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
3	EA to ensure that Contractor under CP-3 (a) restores roads in timely manner, if impacted due to transportation of heavy machineries / equipment; (b) manages solid and liquid wastes as per relevant rules including recycling / reuse of construction wastes, treatment of sewage through bio toilets and bio digester septic tanks, in-situ composting of biodegradable waste and dumping of balance inert waste (that cannot be further recycled or reused) in an authorized land fill site; (c) does not dispose untreated wastes into the environment including water bodies/low lying swampy areas; (d) makes available at camp and work fronts first aid kits with adequate quantity of unexpired medical items as are recommended by relevant Indian law and International good practices including trained first aiders, medical practitioner, stretchers, ambulance, hospital collaboration etc.; (e) maintains registers for grievances, accidents, labour attendance, labour details including salary details; (f) makes appropriate use of snake and insect repellants at site; (g) places fire extinguishers at appropriate locations and ensure timely inspections.	Contractor/PMC/EMC/PMU	Throughout till end of contract period of CP-3 Contractor	(a) Will be complied (b) Under process, camp construction not completed (c) Will be complied (d) Will be adhered (e) Registers maintained (f) Being used (g) Complied
4	EA to ensure that CEMP (a) is prepared in line with the ADB-cleared EMP and submitted by the contractor; (b) provisions are implemented at site by the Contractor.	Contractor/PMC/EMC/PMU	(a) 10 April 2023 (b) Throughout till end of contract period of CP-3 Contractor	(a) Prepared (b) Partially complied, environmental monitoring not initiated



<b>Sn</b>	<b>Agreed Actions</b>	<b>Responsibility</b>	<b>Agreed dates</b>	<b>Status as on 30<sup>th</sup> June 2023</b>
5	EA to ensure that Monthly EHS reports are submitted (a) for reporting period since mobilization till Dec 2022; (b) for reporting period Jan to Mar 2023; (c) April to June 2023; and (d) monthly from July 2023 onwards when the works are at full swing.	Contractor/PMC/EMC/PMU	(a)&(b) 15 April 2023 (c) 10 July 2023 (d) 07 <sup>th</sup> day of subsequent month.	(a) Submitted (b) Submitted (c) Being complied
6	EA was requested to ensure the Contractor under CP-3 tests and suitably treats the water obtained for potable and non-potable uses to avoid water borne infections or unhealthy conditions	Contractor/PMC/EMC/PMU	Throughout till contract completion.	Test not initiated during the reporting period. Will be initiated soon
7	The Mission requested PMU to ensure (a) toolbox trainings, and talks are conducted regularly for EHS aspects; (b) mock drills and fire drills are conducted regularly; and (c) workers are regularly trained and made aware regarding EHS, biodiversity conservation, HIV/AIDs etc. and appropriately incorporated in Monthly EHS reports	Contractor/PMC/EMC/PMU	Throughout till contract completion.	(a) Complied (b) Partially complied (c) Partially complied
8	EA was requested to ensure contact details of GRC representatives are displayed on the project information boards at construction camp, sites and villages	Contractor/PMC/EMC/PMU	Throughout till contract completion.	Information board displayed
<b>Contract package- 4</b>				

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
1	EA was requested to ensure that (a) permission is obtained from CGWA prior to extraction of groundwater, if applicable; (b) Permission is obtained from respective gaon burah/competent authority, prior to extraction of surface water, if applicable; (c) all relevant regulatory permissions are obtained prior to commencement of construction and/ or operation of the works at site as per applicability; (d ) the licenses and insurance policies of all labor (including all skilled, semi-skilled and unskilled labor) remains valid with all labours adequately covered; (e) conditions stipulated alongwith regulatory permissions are complied with; (f) no trees are cut without prior permission from competent authority and supporting documents are verified; and (g) all construction materials are continued to be obtained from sources/ plants/ equipment compliant with the environmental regulations of India	Contractor/PMC/EMC /PMU	<ul style="list-style-type: none"> <li>(a) Prior to extraction</li> <li>(b) Prior to extraction</li> <li>(c) Throughout implementation on stage</li> <li>(d) Throughout implementation on stage</li> <li>(e) Throughout implementation on stage</li> <li>(f) Prior to cutting of trees</li> <li>(g) Throughout implementation on stage</li> </ul>	<ul style="list-style-type: none"> <li>(a) Using existing tube well. Separate permission not applied.</li> <li>(b) Not used in the camps. For the tower construction permissions to be obtained by CP-4 immediately.</li> <li>(c) Partially complied, Tree NOC under process</li> <li>(d) Being complied</li> <li>(e) Partially complied</li> <li>(f) NOC under process</li> <li>(g) Complied</li> </ul>
2	EA is requested to ensure that the Contractor under CP-4 (a) establishes labour camp (including that for third party labour) with all basic amenities (such as reasonably safe building material, beds, mosquito nets, ventilated rooms, access to potable water, washrooms with privacy) as are recommended by Indian Law and International good practices including bio digester septic tanks at camp/ store site and bio toilets at tower location/ work fronts; (b) takes adequate measures to avoid conflict with locals as labors are staying at rented accommodation; (c) makes available at camp and	Contractor/PMC/EMC /PMU	30 April 2023	<ul style="list-style-type: none"> <li>(a) CP-4 to improve the camp as per the labour standards. If not complied before the next reporting period Nc will be issued to stop the works till compliance.</li> <li>(b) Being complied</li> <li>(c) One first aid box kept at store</li> <li>(d) Registers kept at office</li> <li>(e) Partially used</li> <li>(f) Partially complied</li> </ul>

Sn	Agreed Actions	Responsibility	Agreed dates	Status as on 30 <sup>th</sup> June 2023
	work fronts first aid kits with adequate quantity of unexpired medical items as are recommended by relevant Indian law and International good practices including stretchers, ambulance, hospital collaboration etc.; (d) maintains registers for grievances, accidents , labour attendance , labour details including salary details; (e) makes appropriate use of snake and insect repellants at site; and (f) discontinues the use of fire wood with immediate effect and provides the labours with cleaner cooking fuel and common cooking facilities with raised platform and hygienic condition.			
3	The EA was requested to ensure that the Contractor (a) maintained single track on agricultural field for transportation to avoid soil compaction; (b) maintained records of excavated top soil and total quantity of earth and backfilled earth; (c) strips off the top soil from every tower location before commencing excavations, store appropriately and separately and reuse it while restoration of site post stringing; (d) displays emergency/ GRM contract details at each tower location while the works are in progress.	Contractor/PMC/EMC/PMU	Throughout till contract completion.	(a) Being complied (b) Reports under preparation (c) Top soil preservation partially complied (d) Emergency contact details displayed. GRM will be displayed
4	EA to ensure that the CEMP along with (a) waste management plan; (b) Health and Safety Protocol for piling, erection and stringing works; (c) chance find protocol; (d) Do's and Don'ts for Forest and wildlife protection are submitted by the Contractor	Contractor/PMC/EMC/PMU	10 April 2023	(a) Submitted (b) Submitted (c) Under preparation (d) submitted
5	EA to ensure that no solid or liquid waste is disposed into water bodies or agricultural field without treatment by the Contractor.	Contractor/PMC/EMC/PMU	Throughout till contract completion	Intimated to the contractor for compliance

<b>Sn</b>	<b>Agreed Actions</b>	<b>Responsibility</b>	<b>Agreed dates</b>	<b>Status as on 30<sup>th</sup> June 2023</b>
6	EA to ensure that the Contractor submits monthly environment, health and safety reports for (a) reporting period from Oct to Dec 2022; (b) reporting period from Jan- March 2023; (c) monthly starting from April 2023	Contractor/PMC/EMC/PMU	(a)&(b) 15 April 2023 (c) 07 <sup>th</sup> day of subsequent month	(a) Monthly environment Report not submitted by CP-4 as the Environment Officer is not appointed by the Contractor after the resignation of earlier one. Environment officer will be appointed by 30 <sup>th</sup> November, 2023.
7	EA to ensure that testing of environmental parameters such as air quality, water quality, soil quality, noise levels are conducted as per the EMP incorporated in Contract document starting from quarter 2 of 2023.	Contractor/PMC/EMC/PMU	By 30 June 2023 till completion of project.	Environmental monitoring started from April, 2023
8	The Mission requested PMU to ensure (a) toolbox trainings, and talks are conducted regularly for EHS aspects; (b) mock drills and fire drills are conducted regularly at all critical areas including magazine, tunnel, dam site, powerhouse locations; and (c) workers are regularly trained and made aware regarding EHS, biodiversity conservation, HIV/AIDs etc. and appropriately incorporated in Monthly EHS reports	Contractor/PMC/EMC/PMU	Throughout till contract completion	(a) Initiated (b) Will be initiated in August, 2023 (c) EHS training done. Other training will be initiated after deployment of environment Officer
9	EA was requested to ensure contact details of GRC representatives are displayed on the project information boards at construction camp, sites and villages	Contractor/PMC/EMC/PMU	Throughout till contract completion	GRC details will be displayed soon
10	EA to ensure that CP-4 contractor expedites replacement of Environment Expert.			Under process and will be appointed by 30.11.23.

## 7.0 Environmental Supervision and Monitoring Results

### 7.1 Environmental Supervision

Site inspections and audits completed during the reporting period January to June 2023 in table 9.

### 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 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22). All test reports are in [Annexure 26](#)

### Noise Monitoring Results (table 9, 10,11)

**Table 9. Monitoring CP-1**

CPCB Standard Limit [dB (A) Leq]	[dB (A)]		WHO standard limit [dB (A) Leq]		Monitoring Dates	Day/ Night	Power Inlet / Dam site
	Day 6AM-10 PM	Night 10AM-6PM	Day 6AM-10 PM	Night 10AM-6PM			
Industrial Area	75	70	70	70	Sep-22	Day	56.2
Commercial Area	65	55				Night	41.3
Residential Area	55	45	55	45			
Silence Zone	50	40	CPCB more stringent				

(Monitoring Dates 22.02.2023)

**Table 10. Noise Test Results CP-2**

CPCB Standard Limit [dB (A) Leq]	WHO standard limit				Monitoring Dates	Day/ Night	Power Inlet / Dam site	Crusher site	Adit to HRT	Batching Plant	Surge Shaft Site	Labour and Staff Camp	Power House	Primary School/ Hospital near APGCL
	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
					Sep-22	Day	47.3	57.2	52.4	50.9	49.2	53.5	54.3	55.7
						Night	38.6	44.2	40.3	44.5	37.3	44.7	42.8	40.8
					Feb-23	Day	48.2	56.3	53.7	52.3	50.2	54.9	55.7	57.2
						Night	37.2	45.6	41.3	47.2	38.4	46.7	43.8	41.7

(Noise Monitoring Sampling Dates 22<sup>nd</sup> Feb to 1<sup>st</sup> March, 2023)

Note : Ambient noise level near Hospital and Primary school is higher as both the institutions are on the NH 627.

**Table 11. Noise Test Results CP-4**

CPCB Standard Limit	[dB (A) Leq]		WHO standard limit		Monitoring	Day/ Night	Dablang Village	Halflong Tiniali	Kokadan glangso	Power House	Sankardev Nagar
	Day 6AM-10 PM	Night 10AM- 6PM	Day 6AM-10 PM	Night 10AM- 6PM							
Industrial Area	75	70	70	70	Dates		26.4.23	25.04.23	25.04.24	27.04.23	26.4.23
Commercial Area	65	55			Apr-23	Day	48.7	46.2	41.9	61.7	59.8
Residential Area	55	45	55	45		Night	36.2	33	36	54	45.4
Silence Zone	50	40	CPCB more stringent								

(Sampling 23<sup>rd</sup> to 27<sup>th</sup> April, 2023)

Note : Noise levels of Dablang Village, Kokadanglangso can be compared with Residential area standards and Halflong Tiniali, Power House, Sankardev Nagarmay be compared with commercial areas standards.

### Air Quality Monitoring Results

**Table 12. Baseline CP-1**

Monitoring Dates	Parameters	CPCB Standard Limit	WHO/ WB/ IFC standard	Permanent Colony
<b>Mar-23</b>	PM 10	100	50	41.6
	PM 2.5	60	25	32.9
	NO2	80		19.1
	CO	2		BDL
	HC	1		BDL
	SO2	80	20	10.5

(Air quality Monitoring Dates 22.02.2023 to 24.02.2023)



**Photographs of test of ambient environment (CP-2**

**Table 13. Air Quality Test results CP2**

Monitoring Dates	Parameters	CPCB Standard Limit	WHO/ WB/ IFC standard	Dam site	Crusher site	HRT Adit	Batching Plant	Surge Shaft Site	Labour and Staff Camp	Switchover yard / Valve House	APGCL near Hospital/ Highway	Power House	Quarry site
<b>Jul-21</b>	PM <sub>10</sub>	100	50					34.3	27.6		33.1		
	PM <sub>2.5</sub>	60	25					17.5	17.1		19.1		
	NO <sub>2</sub>	80						10.1	10.2		9.2		
	CO	2									0.03		
	HC	1									0.01		
<b>Oct-21</b>	PM <sub>10</sub>	100	50	30.6	38	34.7		35.8	28.9	34.9	34.2	36.5	39.4
	PM <sub>2.5</sub>	60	25	18.9	20.5	19		19.3	17.7	18	18.8	19.2	21.6
	NO <sub>2</sub>	80		10.6	12.7	11.4		11.9	10.2	8.6	10.9	10.8	12
	CO	2									0.04		
	HC	1									0.03		
<b>Dec-21</b>	PM <sub>10</sub>	100	50	31.3	37	39.3	32.3	36.7	29.8	36.1	35.6		
	PM <sub>2.5</sub>	60	25	17.1	21.3	19.4	18.6	19.5	16.3	19.2	19.2		
	NO <sub>2</sub>	80		11.2	13.2	12.5	12.3	12.8	11.4	8.7	11.6		
	CO	2									0.03		
	HC	1									0.02		
<b>Mar-22</b>	PM <sub>10</sub>	100	50	33.1	38.1	39.1	35.6	37.3	30.2	37.1	34.2		
	PM <sub>2.5</sub>	60	25	17.1	21.3	19.4	18.6	19.5	16.3	19.2	19.2		
	NO <sub>2</sub>	80		11.2	13.2	12.5	12.3	12.8	11.4	8.7	11.6		
	CO	2			0.04								
	HC				0.03								
Sep-22	PM <sub>10</sub>	100	50	32.3	40.3	36.2	31.6	30.7	32.6		30.7	34.6	
	PM <sub>2.5</sub>	60	25	18.6	26.1	19.2	21.5	16.2	15.7		18.6	18.8	
	NO <sub>2</sub>	80	NA	13.8	15.6	10.8	14.8	12.2	11.3		10.6	10.2	
	CO	2		BDL	0.03	BDL	BDL	BDL	BDL		BDL	BDL	
	HC			BDL	0.04	BDL	BDL	BDL	BDL		BDL	BDL	
Feb-23	SO <sub>2</sub>	80	20	9.2	11.8	8.3	10	9.2	7.8		8.7	7.4	
	PM <sub>10</sub>	100	50	34.2	45.2	37.4	34.7	35.2	34.3		33.1	34.2	
	PM <sub>2.5</sub>	60	25	18.6	29.5	19.2	20.7	20.1	20.3		22.1	21.6	
	NO <sub>2</sub>	80	NA	14.5	17.7	12.2	15.9	13.2	12.4		11.7	9.8	
	CO	2		BDL	0.03	BDL	BDL	BDL	BDL		BDL	BDL	
	HC			BDL	0.02	BDL	BDL	BDL	BDL		BDL	BDL	
SO <sub>2</sub>	80	20	10.1	12.2	9.2	11	9.5	8.2		8.1	8.1		

(Air Quality Monitoring Sampling Dates 21-28 February, 2023)

**Table 14. CP-4: Air Quality analysis**



Parameters	Unit	CPCB Standard Limit (IS 5182)	WHO/ WB/ IFC standard	Halflong Tiniali	Near Power House	Kokdanlangso LP School	Sankardev Nagar	Dablang Village
				25.4.23	21.04.23	25.04.23	26.04.23	26.04.23
PM <sub>10</sub>	( $\mu\text{g}/\text{m}^3$ )	100	50	69	80	69	83	79
PM <sub>2.5</sub>	( $\mu\text{g}/\text{m}^3$ )	60	25	38.2	43	34	42	46.0
NO <sub>2</sub>	( $\mu\text{g}/\text{m}^3$ )	80	NA	23.5	29.4	30.5	28.4	33.2
CO	( $\text{mg}/\text{m}^3$ )	2		0.34	0.74	0.4	0.94	0.36
SO <sub>2</sub>	( $\mu\text{g}/\text{m}^3$ )	80	20	<6	12.8	8.2	9.2	14.5
Ozone O <sub>3</sub>	( $\mu\text{g}/\text{m}^3$ )	180		60	92	78	54	84
Ammonia NH <sub>3</sub>	( $\mu\text{g}/\text{m}^3$ )	400		42	134	104	72	112
Lead Pb	( $\text{mg}/\text{m}^3$ )	1		0.2	BDL	0.28	0.76	BDL
Niclek Ni	( $\text{ng}/\text{m}^3$ )	20		3.6	5.6	6.2	3.18	3.2
Arsenic As	( $\text{ng}/\text{m}^3$ )	6		BDL	1.8	2.14	1.6	0.68
Benzine C <sub>6</sub> H <sub>6</sub>	( $\mu\text{g}/\text{m}^3$ )	5		BDL	BDL	BDL	2.76	BDL
Benzo (a)Pyrene (BaP)	( $\text{ng}/\text{m}^3$ )	1		BDL	BDL	BDL	0.44	BDL

(Monitoring dates : 21<sup>st</sup> to 27<sup>th</sup> April, 2023)



**Photographs of test of ambient environment (CP-2)  
Ground Water Quality Monitoring Results**

**Table 15. Ground water results CP-1**  
CP-1- Sampling Date for 1<sup>st</sup> March, 2023.

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	Mar-23
		Requirement (Acceptable limit)		Borewell
pH value		6.5-8.5	6.5-8.5	<b>7.2</b>
Turbidity	NTU, Max	1	1	1.13
TDS	mg/l	No health-based guideline value is proposed	500	168
Total Hardness as CaCO <sub>3</sub>	mg/l		200	64.3
Calcium as Ca	mg/l		75	30.5
Magnesium as Mg	mg/l		30	16.7
Total Alkalinity as CaCO <sub>3</sub>	mg/l		200	112
Chloride as Cl	mg/l	200-300	250	13.6
Phosphate as PO <sub>4</sub>	mg/l			
Sulphate as SO <sub>4</sub>	mg/l	No health-based guideline value has been derived	200	10.4
Nitrates as NO <sub>3</sub>	mg/l	50	45	2.8
Conductivity	µs/cm			
Arsenic as As	mg/l	0.01	0.01	
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.215
Fluoride as F	mg/l	1.5	1	0.22
TSS	mg/l			
Oil & Grease	mg/l		0.5	
Salinity	mg/l			
Copper as Cu	mg/l	2	0.05	0.023
Cadmium as Cd	mg/l	0.003	0.003	BDL
Lead as Pb	mg/l	0.01	0.01	BDL
Zinc as Zn	mg/l	No health-based guideline value is proposed	5	0.248
Total Chromium	mg/l	0.05		BDL
Manganese	mg/l	0.4	0.1	0.031
Fecal Coliform	MPN/100ml		Shall not be detectable	
Total Coliforms Organisms MPN/100 ml	MPN/100ml		Shall not be detectable	
			<b>CPCB standard</b>	
DO	mg/l	No health-based guideline value is recommended	5	<b>7.2</b>
BOD (5 days 20 <sup>o</sup> C)	mg/l		2-3	
COD	mg/l			

**Table 16. Ground water results CP-2**  
CP-2- Sampling Date for 24<sup>th</sup> Jan to 06<sup>th</sup> Feb, 2023.

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	Sep-22	Feb-23
		Requirement (Acceptable limit)		Revenue land (Store area)	APGCL Engineer's Camp	Brahmaputra Block	Near Store	APGCL Engineer's Camp	Near Crusher	APGCL Engineer's Camp	APGCL Engineer's Camp
pH value		6.5-8.5	6.5-8.5	5.83	6.35	6.61	7.71	6.57	7.04	6.9	7.48
Turbidity	NTU, Max	1	1	0.84	1.6	1.26	5.9	1.92	11.2	1.76	7
TDS	mg/l	No health-based guideline value is proposed	500	226.2		210	186.1		145.2	179	90
Total Hardness as CaCO3	mg/l		200		64.3			83.3	29.6	77.3	64.7
Calcium as Ca	mg/l		75						11.5	33.6	30.4
Magnesium as Mg	mg/l		30						7.1	19.5	16.8
Total Alkalinity as CaCO3	mg/l		200		88.9				305.5	63.7	133
Chloride as Cl	mg/l	200-300	250						13.5	18.1	
Phosphate as PO4	mg/l								<0.02	<0.02	
Sulphate as SO4	mg/l	No health-based guideline value has been derived	200						11.7	10.5	15.4
Nitrates as NO3	mg/l	50	45						3.3	3.8	3.5
Conductivity	µs/cm								230.6	440	
Arsenic as As	mg/l	0.01	0.01						<0.001	BDL	BDL
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3						0.13	1.7	0.247
Fluoride as F	mg/l	1.5	1						0.68		
TSS	mg/l								42.8	85.2	
Oil & Grease	mg/l		0.5						<5	<5	
Salinity	mg/l								0.2	0.3	
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/100ml		Shall not be detectable						Nil	Nil	Nil
Total Coliforms Organisms	MPN/100ml		Shall not be detectable	2	Nil	3	3	Nil	Nil	3	Nil
			<b>CPCB standard</b>								
DO	mg/l	No health-based guideline value is recommended	5	4.9		5.4	5.1			7.1	7.3
BOD (5 days 20° C)	mg/l		2-3	4.5		10	8.5		<2	5	
COD	mg/l								<5	11	

Acceptable limits for pH are between 6.5 to 8.5

**Table 17. Ground water results CP-4**

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	April, 2023			
				Kokdanglangso	Hawaipur	Hablong Village	Dablang Village
		Requirement (Acceptable limit)					
pH value		6.5-8.5	6.5-8.5	8.2	7.56	6.64	7.58
Turbidity	NTU, Max	1	1	9	18	12	9
TDS	mg/l	No health-based guideline value is proposed	500	354	490	310	462
Conductance	mS/cm			0.62	0.92	0.62	0.88
Total Alkalinity as CaCO <sub>3</sub>	mg/l		200	176	198	119	192
Total Hardness as CaCO <sub>3</sub>	mg/l		200	208	226	132	158
Calcium as Ca	mg/l		75	64	74	24.6	50.6
Magnesium as Mg	mg/l		30	18.4	23.4	8.2	19.4
Sulphate as SO <sub>4</sub>	mg/l	No health-based guideline value has been derived	200	124	146	82	118
Nitrates as NO <sub>3</sub>	mg/l	50	45	29	25	3.4	19.4
Chloride as Cl	mg/l	200-300	250	168	117	36.8	170
Fluoride as F	mg/l	1.5	1	0.8	0.48	0.64	0.56
DO	mg/l	No health-based guideline value is recommended	5	4.8	3.8	5.4	3.6
BOD (5 days 20 <sup>o</sup> C)	mg/l		2-3	8	6	6.8	8
COD	mg/l			23.6	18	10.4	20
Sodium Na	mg/l			24	9.8	10.5	23.5
Potassium	mg/l			3.6	1.2	4.4	8.6
Nitrate Nitrogen as N	mg/l			<0.2	<0.2	<0.02	<0.02
Ammonium NH <sub>3</sub> -N	mg/l		0.5	0.2	<0.3	<0.02	<0.02
Boron as B	mg/l		0.5	<0.05	<0.05	<0.05	<0.05
Total Coliform	MPN/100ml			220	96	Not Detected	98
Faecal Coliform	MPN/100ml			Not Detected	Not Detected	Not Detected	Not Detected

**Table 18 : Surface Water Quality Monitoring Results CP-2**

Sampling Date for 20<sup>th</sup> February to 28<sup>th</sup> February 2023.

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	Langku Nala
pH value		6.5-8.5	6.5-8.5	4.4	4.97	4.5	4.34	4	7.75
Turbidity	NTU, Max	1	1	3.61	2.7	2.1	2.21	1.56	10.1
TDS	mg/l	No health-based guideline value is proposed	500	30.8	50	32.5	35	63	86
TSS	mg/l			65.9	25.3	83.8	72.8	41.3	
Oil & Grease	mg/l		0.5	<5		<5	<5	<2	65.7
Total Hardness as CaCO <sub>3</sub>	mg/l		200	69.5	53.2	74.6	60.6	53.8	51.7
Calcium as Ca	mg/l		75	32.8	25.7	34.8	31.8	29.1	24.9
Magnesium as Mg	mg/l		30	15.7	13.5	17.5	14.9	13.6	12.5
Total Alkalinity as CaCO <sub>3</sub>	mg/l		200	35.2	56	42.9	42.5	125.2	119
Chloride as Cl	mg/l	200-300	250		12.4	14.5	15.9	17.2	15.3
Sulphate as SO <sub>4</sub>	mg/l	No health-based guideline value has been derived	200	11.8	8.4	10.8	10.7	16.4	9.6
Nitrates as NO <sub>3</sub>	mg/l	50	45	3.5	2.1	2.3	9.8	3.8	4.1
Phosphate as PO <sub>4</sub>	mg/l			<0.02	<0.02	<0.02	<0.02	BDL	<0.2
Salinity	mg/l			0.6	0.2	0.6	0.3	0.2	0.4
Conductivity	µs/cm			92	130	84.5	76	180	250
Arsenic as As	mg/l	0.01	0.01	BDL	BDL	BDL	BDL	<0.001	BDL
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	1.3	0.135	0.87	1.7	1.1	1.5
Fecal Coliform	MPN/100 ml		Shall not be detectable	Nil	Nil	Nil	Nil	Nil	Nil
Total Coliforms Organisms	MPN/100 ml		Shall not be detectable	4	Nil	2	3		3
			<b>CPCB standard</b>						
DO	mg/l	No health-based guideline value is recommended	5	7	7.8	7.2	7.5	7.1	6.4
BOD (5 days 20 <sup>o</sup> C)	mg/l		2-3	5	<2	5	6	10	5
COD	mg/l			27	<5	23	45	46	27

(Note : Test Results in [Annexure 26](#))

Note : During the third party monitoring pH varies between 4 – 4.97 in the river Kopili. But during Jan to June 2023 pH of Kopili River at Dam site varied between 4 - 7.43 (Fig-27).

**Table 19. CP-2 : Quality of RO Water used for drinking**

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	RO
pH value		6.5-8.5	6.5-8.5	7.22
Turbidity	NTU, Max	1	1	4
TDS	mg/l	No health-based guideline value is proposed	500	42
TSS	mg/l			18.3
Oil & Grease	mg/l		0.5	<2
Total Hardness as CaCO <sub>3</sub>	mg/l		200	45.8
Calcium as Ca	mg/l		75	23.1
Magnesium as Mg	mg/l		30	11.4
Total Alkalinity as CaCO <sub>3</sub>	mg/l		200	91
Chloride as Cl	mg/l	200-300	250	14.3
Sulphate as SO <sub>4</sub>	mg/l	No health-based guideline value has been derived	200	11.7
Nitrates as NO <sub>3</sub>	mg/l	50	45	3.1
Phosphate as PO <sub>4</sub>	mg/l			<0.02
Salinity	mg/l			0.3
Conductivity	µs/cm			120
Arsenic as As	mg/l	0.01	0.01	BDL
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.176
Fecal Coliform	MPN/100 ml		Shall not be detectable	Nil
Total Coliforms Organisms MPN/100 ml	MPN/100 ml		Shall not be detectable	Nil
			<b>CPCB standard</b>	
DO	mg/l	No health-based guideline value is recommended	5	7.1
BOD (5 days 20 <sup>o</sup> C)	mg/l		2-3	<2
COD	mg/l			<5



**Table 20 : RO waste water Quality**

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	RO water
pH value		6.5-8.5	6.5-8.5	6.7
Turbidity	NTU, Max	1	1	<0.2
Total Hardness as CaCO <sub>3</sub>	mg/l		200	29.6
Total Alkalinity as CaCO <sub>3</sub>	mg/l		200	69.3
Chloride as Cl	mg/l	200-300	250	14.9
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.05
Total Coliforms Organisms MPN/100 ml	MPN/100 ml		Shall not be detectable	Nil
Fluoride				0.34
Residual Chlorine				<0.01





Regular water quality monitoring in the RO Plant

SH 20, Assam 788832, India  
 25°40'49.00476" N 92°48'7.53048" E  
 19-JUL-2023 16:48:18

QUALITY CHECKLIST

DATE	TIME	LOCATION	PH	TDS	APFZA	RES	REMARKS
19-07-2023	16:48	SH 20	7.5	20	2.5	20	Good
19-07-2023	16:50	SH 20	7.5	20	2.5	20	Good
19-07-2023	16:55	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:00	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:05	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:10	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:15	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:20	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:25	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:30	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:35	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:40	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:45	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:50	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:55	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:00	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:05	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:10	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:15	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:20	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:25	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:30	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:35	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:40	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:45	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:50	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:55	SH 20	7.5	20	2.5	20	Good
19-07-2023	19:00	SH 20	7.5	20	2.5	20	Good

SH 20, Assam 788832, India  
 25°40'49.00476" N 92°48'7.53048" E  
 19-JUL-2023 16:48:18

QUALITY CHECKLIST

DATE	TIME	LOCATION	PH	TDS	APFZA	RES	REMARKS
19-07-2023	16:48	SH 20	7.5	20	2.5	20	Good
19-07-2023	16:50	SH 20	7.5	20	2.5	20	Good
19-07-2023	16:55	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:00	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:05	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:10	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:15	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:20	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:25	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:30	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:35	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:40	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:45	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:50	SH 20	7.5	20	2.5	20	Good
19-07-2023	17:55	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:00	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:05	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:10	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:15	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:20	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:25	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:30	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:35	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:40	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:45	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:50	SH 20	7.5	20	2.5	20	Good
19-07-2023	18:55	SH 20	7.5	20	2.5	20	Good
19-07-2023	19:00	SH 20	7.5	20	2.5	20	Good

## Analysis of soil

**Table 21 : CP-1 Soil testing results**

Parameters	Unit	Results
pH		7.68
Soil Type		Loamy Sand
Sand	%	69.99
Clay	%	15.94
Silt	%	14.07
Nitrogen	kg/ha	122.3
Phosphorus	mg/kg	48.3
Potassium	mg/kg	54.6
Electrical Conductivity	mS/cm	2.31
Water Holding Capacity	%	42.2
Organic matter	%	1.25
Salinity	mS/cm	2.31
Iron	g/kg	38.4
Copper	mg/kg	16.8
Nickel	mg/kg	5.52
Manganese	g/kg	17.3
Zinc	mg/kg	28.9
Chloride	mg/kg	141.7

**Table 22 : CP-4 Soil Analysis**

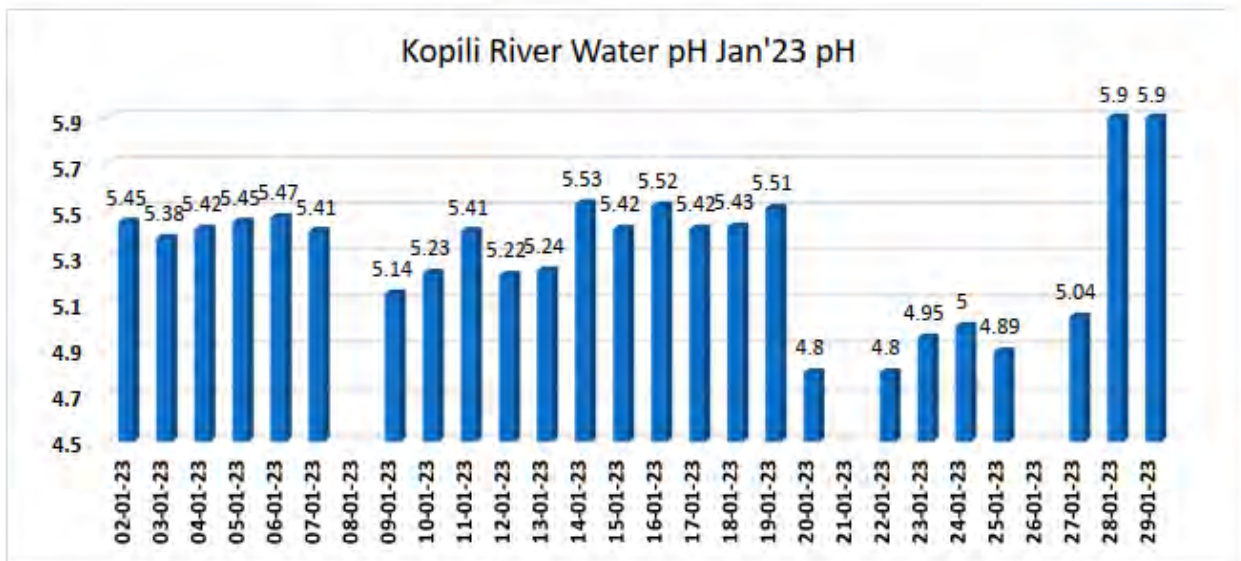
Parameters	Unit	Results				
		Sankerdev Nagar	Kakdangl angso	Power House	Hablong Village	Dablang Village
		28.04.23	25.04.23	27.04.23	26.05.23	26.05.23
pH	--	6.78	5.98	5.78	5.49	6.24
Conductance	mS/cm	0.71	0.324	0.69	2.18	0.368
Organic Carbon	%	1.24	0.88	1.6	0.94	1.24
Available Nitrogen	%	0.292	0.056	0.08	0.02	0.018
Available Phosphorus	%	0.35	0.13	0.02	0.05	0.12
Available Potassium	%	0.198	0.079	0.072	0.072	0.094
Available Sulphur	%	0.16	0.064	0.035	0.056	0.028
Zinc	mg/kg	594	192	542	411	892
Coppr	mg/kg	170	366	179	112	226
Iron	mg/kg	860	1982	1264	886	1262
Manganese	mg/kg	132	320	202	139	318
Boron	mg/kg	0.66	10.6	24	6.8	72

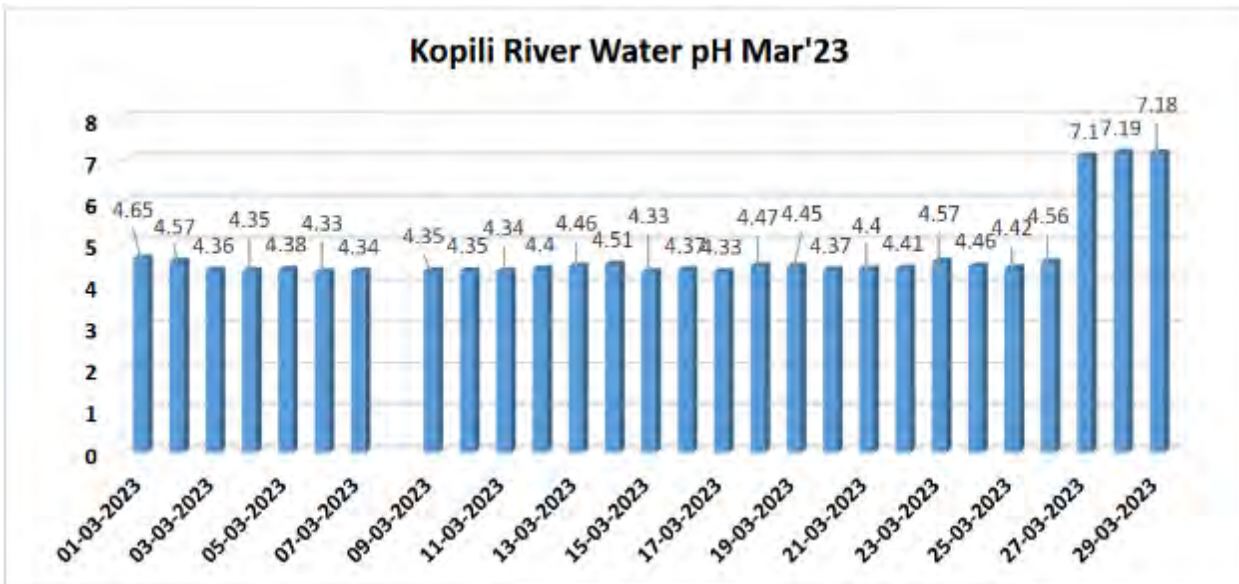
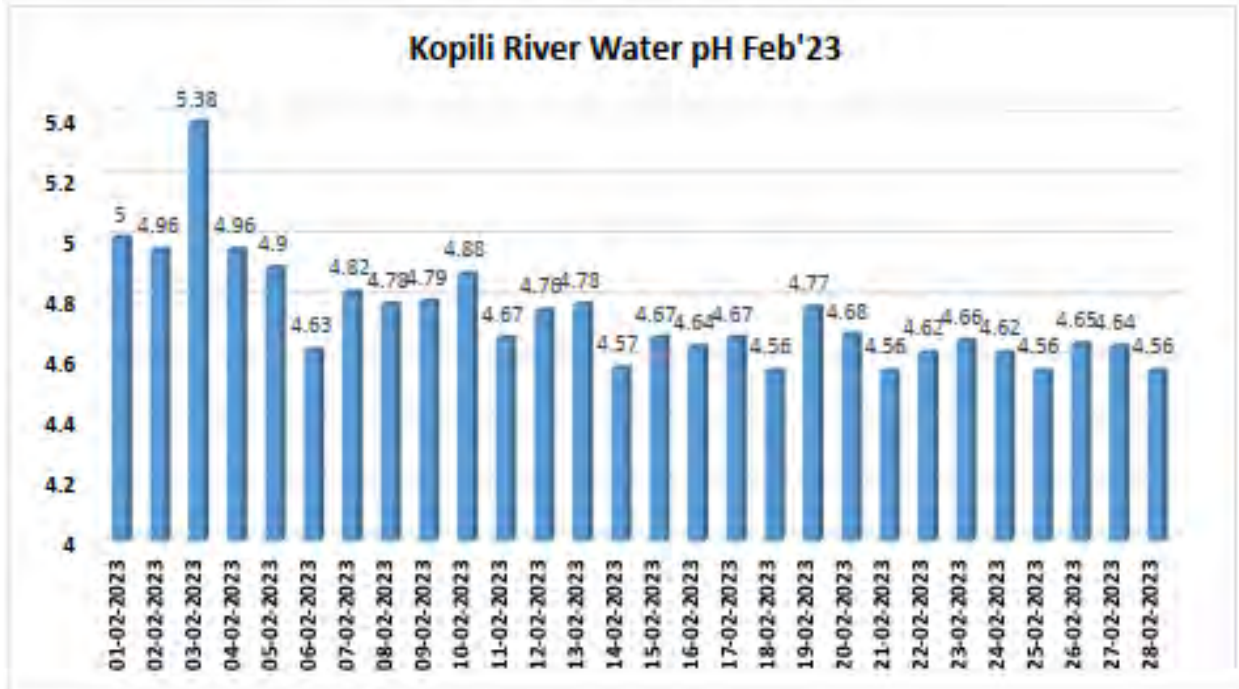
**Table 23: Analysis of the all test results.**

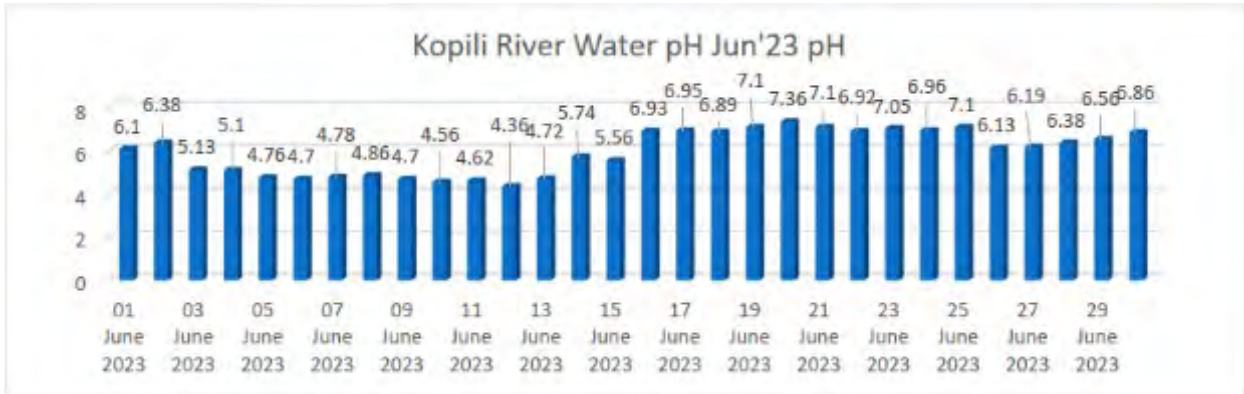
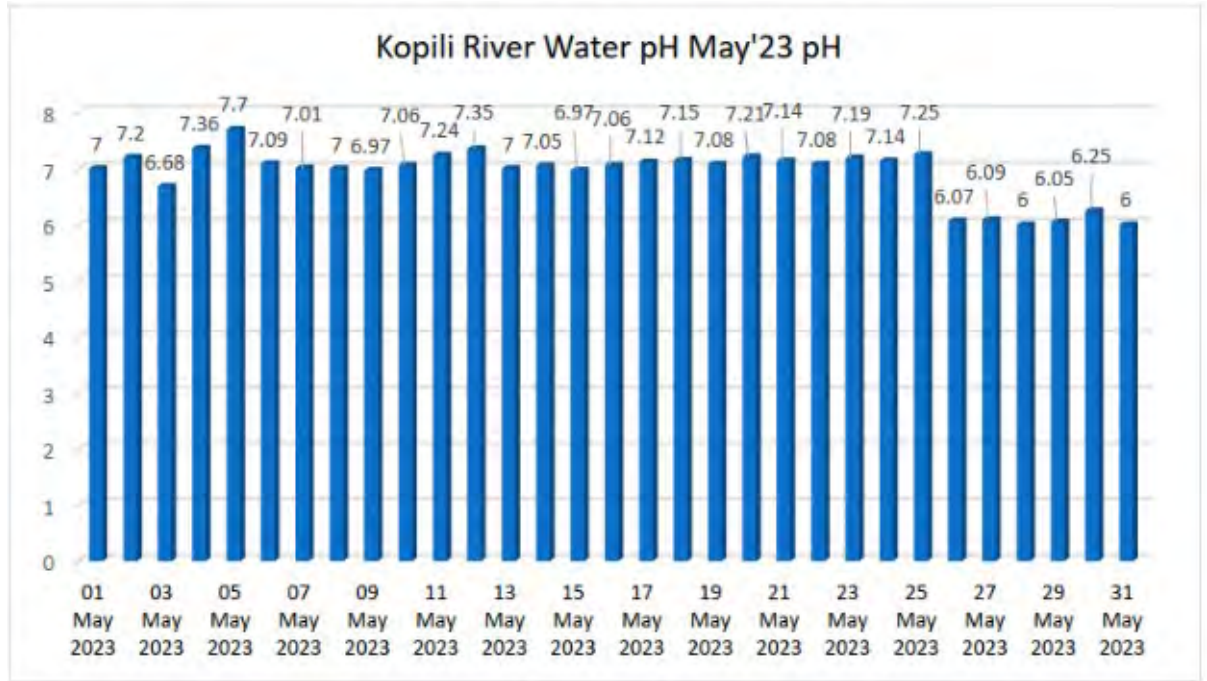
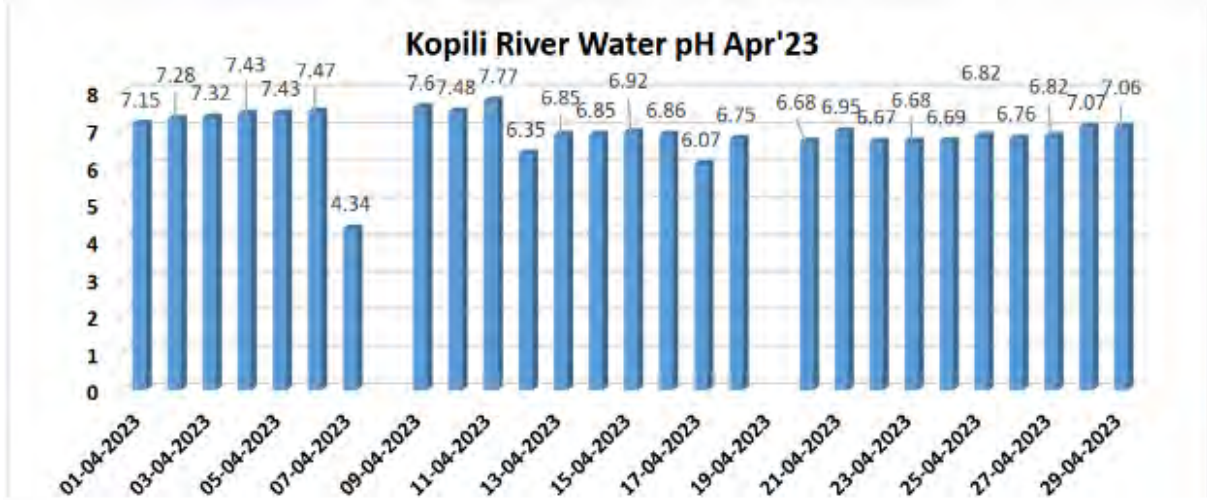
Ambient Environment condition		Explanatory comments
	Good	Construction phase monitoring for LKHEP performed in the month of July, 2021; October, 2021; December, 2021, March, 2022, September, 2022 and February- April 2023 (CP-1, Cp-2, CP-4).
		Air qualities are within prescribed limits of CPCB and IFC norms
		Testing and samplings were done as per the frequencies and parameters recommended in ADB-cleared environment monitoring plan
		Ground water quality results are within the permissible limits in the month of December 21, March 22 September 2022 and February- April 2023 (CP-1, Cp-2, CP-4).
		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 if required by the contractors.

**Monitoring of river water quality :**

Figure 27: Monitoring River water pH







## 7.4 Occupational and Community Health and Safety Monitoring

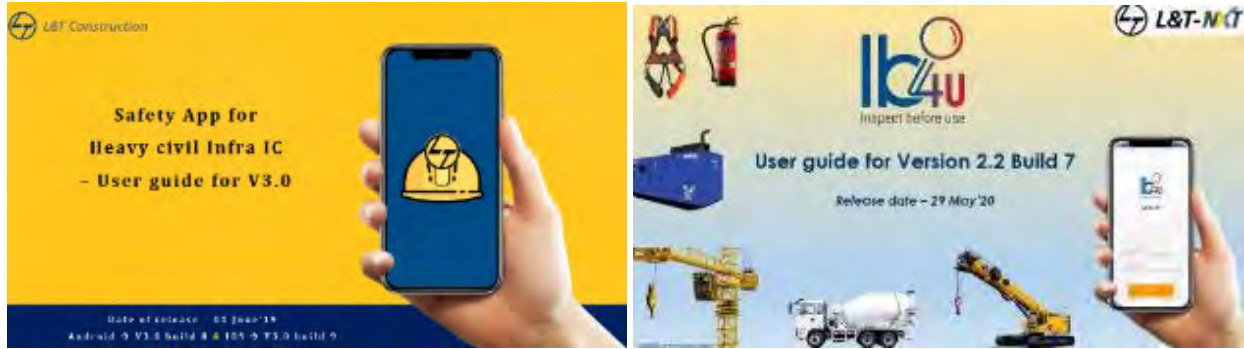
### Safety Statistics for the Month of June 2023

Description		Pkg-1		Pkg-2		Pkg-3		Pkg-4	
		Current Month	Cumulative	Current Month	Cumulative	Current Month	Cumulative	Current Month	Cumulative
Manpower	Staff	9	27	108	323	09	20	14	53
	Workers	40	116	863	2479	44	106	27	108
Man, hours worked.	Staff	1872	5184	36288	105913	1640	3884	2912	10720
	Workers	8320	22400	310908	892762	6680	18992	1728	16224
Nearmiss		0	00	03	06	01	11	0	00
First Aid Case.		0	00	05	12	01	01	0	00
Accident /Incident		0	00	01	01	0	00	0	00
LTI		0	00	0	0	0	00	0	00
Observation		6	10	355	854	4	10	01	08
Observation Status	Close	3	10	355	759	4	10	2	07
	Open	2	5	00	95	0	00	01	01
NCR by PMC	HSE related	0	00	01	02	0	00	0	00
Safety TBT/Training	TBT	5	15	113	311	6	15	08	60
	Training	1	03	09	25	2	04	1	03
Health check-up camp	Pre-employment medical checkup	03	05	25	618	04	25	0	01
HSE Committee Meeting		1	03	01	03	1	03	1	03

**Note:** Pkg.1,2,3,4 - HSE MPR sign copy will be shared by contractors with calculation on 10<sup>th</sup> July '2023.

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

List of fire extinguishers installed at site in table 25.

**Table 25 : Fire extinguishers installed at site**

Sl .no	Location	Type	Capacity (kg)	No's
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



Sl .no	Location	Type	Capacity (kg)	No's
11.	Dihing Block	DCP	1.0	4
12.	Kolong Block	DCP	2.0	4
13.	Kamang Block	DCP	2.0	4
14.	Brahmapurta Block	DCP	2.0	4
15.	Diju Block	DCP	1.0	4
16.	Digaru Block	DCP	1.0	4
17.	Dikhaw Block	DCP	1.0	4
18.	Bhogdoi Block	DCP	1.0	4
19.	Borgang Block	DCP	1.0	4
20.	New Workmen Camp	DCP	1.0	4
21.	Kulse Block	DCP	1.0	4
22.	Subansiri Block	DCP	2.0	3
23.	Store Container	DCP	1.0	1
24.	P&M Container	DCP	1.0	1
25.	Store	CO2	6.5	2
		DCP	1.0	3
		FOAM	6.2	2
		Fire Bucket		2
26.	P&M Workshop	DCP	1.0	1
27.	Fabrication Yard	DCP	1.0	1
28.	Fabrication yard	DCP	1.0	1
29.	Diesel Browser	DCP	1.0	2
30.	DT Outlet Fire Stand	DCP	2.0	2
		CO2	6.0	1
		Fire sand Bucket	5.0	1
31.	Dam Site Office	DCP	2.0	2

SI .no	Location	Type	Capacity (kg)	No's
		Fire sand Bucket	5.0	2
32.	Dame Site DG	CO2	6.5	1
33.	Digaru Block	DCP	1.0	4
34.	Dhansiri Block	DCP	1.1	4
35.	Explosive Magazine	DCP	2.0	4
		Fire Sand Bucket	5.0	4
36.	Fuel Substation	DCP	5.0	2
		Foam	9.0	2
		Fire Sand Bucket	5.0	2
37.	PMC Blocks	DCP	1.0	14



**Fire extinguisher inspection**

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 26.

**Table 26 : Summary of HSE at site**

Month	Work force	LTI	Dangerous occurrence	Non-Work Related Incident	First Aid Cases	Near Miss Reports
Jan 2023				1		4
Feb 2023					2	
Mar 2023					2	3
Apr 2023					5	2
May 2023					2	1
June 2023				1	5	3
Jan – June 2023				2	16	13

**8. Training**

Details of the Trainings are given in Table 27.

**Table 27: 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					
		Jan 23	Feb 23	Mar 23	Apr 23	May 23	June 23
1	Environment Inspection	8	8	5	6	6	4
2	Waste Management			10	12	12	8
3	General Environment Management	10	10	25	30	30	42
4	Critical Endangered species management	12	12	28	12	12	19

**Training Summary : CP-2, June 2023**

<b>Name of Training</b>	<b>Number of persons attended</b>
Rigger Training	19
Defensive Driving	20
Underground Safety	14
P&M Safety	17
Underground Safety	18
Front Line Supervisor EHS Training	16
All New procedures & standards briefing.	19
Crane operation and Rigging Safety	18
All New procedures & standards briefing	13
Work at Height	20
EHS-Subcontractor Management Training	16
Waste Management Training (Hazardous Waste and Food Waste)	20

**Training Summary : CP-2, May 2023**

<b>Name of Training</b>	<b>Number of persons attended</b>
All New procedures & standards briefing	20
Work at Height	19
Rigger Training	6
Defensive Driving	6
Work at Height	18
Work at Height	20
P&M Safety	20
Work at Height	20
Work at Height	33
EHS-Subcontractor Management Training	15
P&M Safety	15
Comprehensive Waste Management Training (Hazardous Waste and Food Waste)	8
Underground Safety	16
Underground Safety	12
Front Line Supervisor EHS Training	18

## Training Summary : CP-2, March 2023

Sl. No.	Date Of Training	Topic/Subject	No of people	Time Duration	Location
1	02-03-23	Electrical Safety	8	30	Dam Site
2	02-03-23	Power & Hand tools	12	30	Coffer Dam
3	03-03-23	Electrical Safety	9	30	HRT Face-01
4	04-03-23	Work at height	8	30	Dam Site
5	06-03-23	Concreting work	5	30	Dam Site
6	06-03-23	Power & Hand tools	12	30	Dam Site
7	07-03-23	Material Handling	8	30	Dam Site
8	08-03-23	Ladder Safety	8	30	Coffer Dam
9	09-03-23	Housekeeping	9	30	HRT Face-01
10	10-03-23	Use of PPE	7	30	Dam Site
11	10-03-23	Fire Safety	7	120	Conference room
12	11-03-23	Hot Work	9	30	Dam Site
13	13-03-23	Work at height	9	30	Coffer Dam
14	13-03-23	Power & Hand tools	9	30	Dam Site
15	14-03-23	Housekeeping and material handling	8	30	Dam Site
16	15-03-23	Reinforcement work Safety	9	30	Dam Site
17	16-03-23	Concreting work	8	30	Dam Site
18	16-03-23	Confined Space Work	8	30	Surge Shaft
19	17-03-23	Ladder Safety	8	30	Dam Site
20	17-03-23	Working in rain safety	12	30	Coffer Dam
21	17-03-23	Defensive Driving	15	120	Conference room
22	17-03-23	Work at height	20	30	Dam Site
23	18-03-23	Electrical Safety	9	30	Dam Site
24	20-03-23	Housekeeping	7	30	Dam Site
25	21-03-23	Behavior Base Safety	9	30	Dam Site
26	22-03-23	Reinforcement work Safety	8	30	Coffer Dam
27	29-03-23	Digital implementation	12	120	Conference room

## Training Summary : CP-2, February 2023

Sl. No.	Date Of Training	Topic/Subject	Conducted By	Attended By	Time Duration	Minutes	Remarks/ Location
1	24.02.2023	Safe handling and storage of Explosive	Sujay Shah	14	30	420	Conference room
2	25.02.2023	Ladder Safety	Sujay Shah	9	30	270	Dam Site
3	23.02.2023	Scaffolding Erection	Sujay Shah	8	30	240	Dam Site
4	21.02.2023	Material Handling	Sujay Shah	9	30	270	Dam Site
5	19.02.2023	PPE	Sujay Shah	8	30	240	Dam Site
6	16.02.2023	Hot Work	Sujay Shah	8	30	240	Conference room
7	13.02.2023	Power tools and Hand tools	Sujay Shah	8	30	240	Dam Site
8	10.02.2023	Tunnel Safety	Sujay Shah	6	30	180	HRT F01
9	07.02.2023	Work at height	Sujay Shah	10	30	300	Dam Site
10	04.02.2023	Safety on Concreting work	Sujay Shah	5	30	150	Dam Site
11	01.02.2023	Electrical Safety	Sujay Shah	10	30	300	Conference room
						Total Hours	2850



**Awareness on the critical species conservation**

Training Summary : CP-2, January 2023

Sl.No.	Date Of Training	Topic/Subject	Conducted By	Attended By	Time Duration	Minutes	Remarks/ Location
1	02-01-23	Electrical Safety	Sujoy Saha	19	30	570	Dam Site
2	03-01-23	Electrical Safety	Sujoy Saha	12	30	360	Dam Site
3	04-01-23	Road Safety	Sujoy Saha	6	30	180	Dam Site
4	05-01-23	Concreting Work	Sujoy Saha	7	30	210	Dam Site
5	06-01-23	Use of PPE	Sujoy Saha	9	30	270	Dam Site
6	07-01-23	Work at height	Nabajyoti Bera	25	120	3000	Conference room
7	07-01-23	Work at height	Sujoy Saha	10	30	300	Dam Site
8	08-01-23	Material Handling	Sujoy Saha	11	30	330	Dam Site
9	09-01-23	Hot Work	Sujoy Saha	9	30	270	Dam Site
10	10-01-23	Concreting Work	Sujoy Saha	7	30	210	Dam Site
11	10-01-23	Crane operator & rigger Training	Manas Majumdar	16	120	1920	Conference room
12	11-01-23	Behavior Base Safety	Sujoy Saha	13	30	390	Dam Site
13	12-01-23	Electrical Safety	Sujoy Saha	12	30	360	Dam Site
14	13-01-23	Power & Hand Tools	Sujoy Saha	7	30	210	Dam Site
15	13-01-23	Safety on Excavation	K.C Maharana	13	120	1560	Conference room
16	14-01-23	Emergency Evacuation	Sujoy Saha	13	30	390	Dam Site
17	16-01-23	Electrical Safety	Gagan Kumar	15	120	1800	Conference room
18	17-01-23	VR Training	Soumyadeep Singha	7	45	315	QA/QC Lab
19	17-01-23	VR Training	Soumya deep Singha	6	10	60	P&M
20	18-01-23	P&M Safety	Partik Kumar Bhunia	21	120	2520	P&M
21	19-01-23	VR Training	Soumya deep Singha	10	30	300	Coffer Dam
22	20-01-23	Fire Safety & Demonstration	Nabajyoti Bera	11	45	495	Store
23	20-01-23	VR Training	Soumya deep Singha	15	30	450	HRT Adit
24	21-01-23	VR Training	Soumya deep Singha	6	30	180	Service Bay
25	21-01-23	Fire Safety & Demonstration	Manish Pandey	19	45	855	Dam Site
26	22-01-23	Fire Safety & Demonstration	P.G Kumar	15	45	675	HRT Adit
27	22-01-23	Fire Safety & Demonstration	Ankit Hajger	7	45	315	Powerhouse
28	24-01-23	Defensive Driving Training	Rupak Paul	33	120	3960	Conference room
Total				354		22455	
					Total Hours	374.25	



**VR training provided to all workmen and staff to give more insight of safety and environment information. CP-2**





**Safety Month Celebration at dam top Location**



**Safety Month Celebration at dam top Location**



Defensive Driving trainings



Onsite – On job Training



Onsite – On job Training



Storage and Handling Explosive by Manufacture



Underground Safety



Safety on Concreting Work



Safety on Hot work



Pre-start Briefing Training



Safety on Concreting Work



Safety on Hot work



Work at height



Pre-Start Briefing

Sample of training Record



IM Format No.11K

Training Attendance

Trainer: N. Bora Topic: Comprehensive Waste Management  
 Venue: Training Hall Date: 28.06.2023 Duration: 1 hr

S.No	Ps.No/Tno	Name	Designation	Department	Signature
1		Rahul praja	Cook	SP Tameng civil	[Signature]
2		Pitu Gosh	mason	Bhorat Gogai	[Signature]
3		Naresh orang	Helper	Bhorat Gogai	[Signature]
4		Sunil Ghatalal	mason	Bhorat Gogai	[Signature]
5		Amit Gogoi	Helper	Bhorat Gogai	[Signature]
6		Birison Gogoi	mason	Joyon phonglo	[Signature]
7		Saifuddin Ahmed	Lab Assistant	Apex	[Signature]
8		Rajkumar Dutta	Carpenter	Bhorat Gogai	[Signature]
9		Debab Kumar Hajong	Helper	Bhorat Gogai	[Signature]
10		Bikash Hajong	Carpenter	Bhorat Gogai	[Signature]
11		Madhurya Saikia	Helper	Bhorat Gogai	[Signature]
12		Sudeep Hajong	Helper	Bhorat Gogai	[Signature]
13		Lashman Hajong	Helper	Bhorat Gogai	[Signature]
14		Kat Rongphar	Helper	Pridip Infrotech	[Signature]
15		Amit Basumatary	Coole Helper	Pridip Infrotech	[Signature]
16		Hemjit Daimary	Supervisor	Pridip Infrotech	[Signature]
17		Judha Daimary	Filter	Pridip Infrotech	[Signature]
18		Rupayan Basumatary	Filter	Pridip Infrotech	[Signature]
19		Songja Timung	Helper	Joyon phonglo	[Signature]
20		Bikar Tisso	Helper	Joyon phonglo	[Signature]

[Signature]  
Signature of Trainer

[Signature]  
Signature of EHSO

CP-1 : Training in the month of June 2023

<b>Training Summary</b> (Attendance sheets and Photo evidence will attached).		
<b>Name of Training</b>	<b>Number of persons attended</b>	<b>Other issues and concerns:</b>
Hot Work.		
Height work.	18	
Vehicles safety.		
Electrical Safety.		
Explosive materials handling.		
Fire & safety.	10	
Health Tips.		
Safe Excavation work.		
Local Disasters if any.		
If any innovation work.		
<b>Prepared by:</b>		



(A)



(B)



(C)

**Photo: Demonstration & Training on:**

- (A) Fire Safety
- (B) Tool Box Meeting
- (C) Height Work Safety

CP-3 : Training in the month of June 2023

<b>Training Summary</b> (Attendance sheets and Photo evidence will attached).		
<b>Name of Training</b>	<b>Number of persons attended</b>	<b>Other issues and concerns:</b>
Hot Work.	Nil	
Height work.	06	
Vehicles safety.	Nil	
Electrical Safety.	Nil	
Explosive materials handling.	Nil	
Fire & safety.	Nil	
Health Tips.	14	
Safe Excavation work.	Nil	
Local Disasters if any.	Nil	
If any innovation work.	Nil	
Prepared by:		





R SE HSE 002/9

### HSE Training / Tool Box Talk

Site:	LKHEP	Date:	05-06-2023	
Company / Department:	AHPL/ MKS Engineering	Duration:	03:00 PM to 04.00 PM	
Location:	Site camp			
Subject:	Environmental safety training.			
Trainer:	Mr. C S Negi & K Pathak	Signature:		
I confirm with my signature that I have taken note and have understood the contents of this Safety Training (Tool Box Talk). I have raised and clarified any queries directly with the ANDRITZ responsible person, prior to signing this document.				
Sr. No.	Company:	Name	Designation	Signature:
1	Angath Frefab	Sachin	Supervisor	
2	Angath Frefab	Kapil	Supervisor	
3	MKS Engg.	Mithun Rai	Hydra Opt.	
4	Angath Frefab	Jahid Khan	Foreman	
5	Angath Frefab	Ajid Khan	Fitter	
6	Angath Frefab	Salim	Welder	
7	Angath Frefab	Mohd. Afzal	Welder	
8	Angath Frefab	Tahir	Welder	
9	Angath Frefab	Rijwan	Helper	
10	Angath Frefab	Amir Khan	Welder	
11	Angath Frefab	Anand Mandal	Mason	
12	Angath Frefab	Bikram	Labour	
13	Angath Frefab	Ashish Mandal	Labour	
14	Angath Frefab	Govinda Mandal	Mason	
15	Angath Frefab	Sadanand Mandal	Labour	
16	Angath Frefab	Sushanta Ravidas	Mason	

ENGINEERED SUCCESS

08.07.2023

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Page 1 of 2

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**Photo of Environmental safety training**



ENGINEERED SUCCESS

CP-4 : Training in the month of June 2023

Training Summary (Attendance sheets and Photo evidence will attached).		
Name of Training	Number of persons attended	Other issues and concerns:
Hot Work.	0	
Height work.	00	
Vehicles safety.	01	
Electrical Safety.	N/A	
Explosive materials handling.	N/A	
Fire & safety.	0	
Health Tips.	01	
Safe Excavation work.	01	
Local Disasters if any.	N/A	
If any innovation work.	N/A	
Prepared by:	Himanshu Srivastava	





## 9. EMP Expenditure :

EMP Expenditure table (Table 28, 29) 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 28: 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, CTE fees 0.7	390.959
2	Catchment Area Treatment	282.960		282.960
3	Public health delivery system	42.360		
4	Muck management	34.000		Covered under EPC contract
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 29
8	Greenbelt development	2.000		
9	Solid Waste Management	23.484		* details in table 29
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		

S. No.	Item Cost	Revised	Remarks	Expenditure so far
		( ₹ Million)		( ₹ Million)
15	Environmental Monitoring during construction phase	10.992		* details in table 29
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	22.9
22	Pre-construction baseline monitoring	50.000		0.300
23	Environmental Monitoring during operation phase (for initial three years)	6.849		
	<b>Total</b>	<b>1230.442</b>		727.846 (59.15%)

**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 29 : Details of the \*EMP Expenditure till June 2023.**

S.I	Item	Amount (Rs. lakh)
1	Expenditure for Environmental Monitoring (Air, Water & Noise)	9.6
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	Implementation of EMP during internal Road construction.	0.25
6	Cement bag Provided for community toilet construction	0.15

S.I	Item	Amount (Rs. lakh)
7	DRDO Bio tank 4000 litre (2 no.)	8.56
8	Prefab container toilet (2 no.)	7.71
9	Plantation on spoil tips (plain area) including bio-fertilizer cost & tree guard cost	1.2
10	Fencing cost for 5000 sqm	17.41
11	Cost of two portable water pumps, (flow 20 cum/hr, 20m head, along with 200 m pipe, 100 mm dia, HDPE) (Used for supply of potable water in the labour camps, water sprinkling for dust suppression, etc)	72.1
12	Watch & Ward for tree plantation	9.1
13	Safety Supervision & monitoring cost	24.28
14	Regular water sprinkling through water tanker on entire roads and NH (water tank capacity 20000 Litter & 12000 litter)	23
15	Fire extinguisher DCP 1KG 50 no./ 2KG 50 no./6KG 30 no./ 9 KG 20 no./BUCKET 20no.	1.4
a)	Fire extinguisher CO2 6.5 KG 20 no.	3.1
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)	85
17	First Aid medicine	13.3
18	Two First aider	24.28
	<b>TOTAL</b>	<b>307.27</b>

## 10. Meaningful Consultation and Grievance Redress

Few consultations were carried out during the reporting period January 2023 to June 2023 (Table 30).

**Table 30 : Consultation carried out during the reporting period**

Date	Format/Venue	Participants (Occupation, )	Main Issues Raised
24.01.2023	APGCL, Conference Hall at Longku	Forest Department, Villagers, PAPA, School Teachers	On environmental perspectives with reference to Environmental Impact Assessment, Environmental Management Plan adhered so far along with additional measures for shifted components and based on the critical habitat analysis for avoidance or mitigation of the adverse impacts on the environmental

			<p>components. This was part of 2<sup>nd</sup> tier GRC Meeting. (attendance sheet – Annexure 27) (Number of participants 12)</p> 
06.06.2023	APGCL, Longku	villagers, gaon buras and the representatives of APGCL, PMC	GRC meeting



Monthly Health and Safety Meeting CP-2



### **10.1 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.

No cases registered so far on environment issues.

GRM is open to all (communities and workers). Moreover, the workers grievances are additionally addressed by the contractor through their own system. 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. Initiatives for the Community or Good Engineering Practices :**

On the occasion of Environment Day, Lower Kopili Project team distributed saplings to the students to nearby Primary Schools. Approx. 100 no. sapling distributed in Longpher M.E. School & Longtar English School.





General Awareness Programme conducted on flood safety and use of life jacket during emergency. Training conducted by Dr. Chandan Singh Negi (Safety In charge, PMC), Mr. Kanak Mazumdar (Tunnel Engineer, PMC) Mr. Zakir Hazarika (DGM Civil, L&T), Mr. Aadeep Kumar (Powerhouse In charge, L&T), Mr. Manoj Yadav (Environmental Engineer, L&T)



Using transparent sheet in store and other sheds to reduce electricity consumption.



Concrete waste cube reusing for infra work.



100% of RO wastewater recycling and reusing for nondomestic purpose such as washroom cleaning and utensil cleaning.

## **12.0 Corrective Actions**





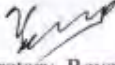
Corrective actions are listed in the table 8 for compliance.

## **13.0 Conclusions and Recommendations**

This is the fifth six monthly Environment Monitoring Report for the period January to June 2023. During this period few noncompliance on the environment safeguard issues were observed and are listed in Table 8. Results of the test of ambient air, noise and water also found within the permissible limit February to April 2023. CP-1, CP-2, CP-4 carried out the monitoring of ambient air, noise, water and soil. CP-3 will initiate soon. Regarding safety there were 2 non work related incident, 16 first aid cases, and 13 near miss under CP-2. Similarly in CP-1, Cp-3 and CP-4 records were also maintained and reports submitted. Contractor followed COVID 19 SOP and reported monthly on the compliance, vaccination status, etc. During this reporting period no COVID positive persons were identified. Most of the support facilities are under final stage of construction. Provisions are kept for environmental compliance. Besides tree plantation, awareness programmes were held. Critical habitat assessment and biodiversity assessment were done and it will be reflected in the EIA addendum which is under preparation. APGCL is in touch with MoEF&CC for obtaining the approval on the changes made during detail engineering design. So far the environmental safeguards measures taken by the contractor was improving in selected domains but in some fields improvements were recommended and were not completed within the agreed timeline for which EA and PMC is closely monitoring the contractors for early compliance of the corrective action plan.

## Annexure

### Annexure 1 Land Handover to APGCL- 153 Ha.

	<b>THE DIMA HASAO AUTONOMOUS COUNCIL HAFLONG</b> <b>DIMA HASAO DISTRICT</b> <b><u>SETTLEMENT &amp; REVENUE DEPARTMENT</u></b>	
NO.REV/S/34/2023-2024/63, To,		Dated Haflong, the 12 <sup>th</sup> June'2023
	The General Manager, LKHEP, APGCL, Longku, Dima Hasao.	
Sub:	Handing over of remaining land measuring 153 Hectares for implementation of 120MW Lower Kopili Hydro Electric Project at Longku.	
Sir,		
	With reference to the subject cited above, I have the honour to inform you that the remaining land measuring 153 Hectares out of 909 Hectares for implementation of 120MW Lower Kopili Hydro Electric Project at Longku will be handed over to you tomorrow i.e.13 <sup>th</sup> June'2023 by Shri Utam Daolagupu, Additional Secretary, Revenue, Dima Hasao Autonomous Council, Haflong on behalf of the undersigned.	
	Therefore, you are hereby requested to take over the possession of land from Additional Secretary, Revenue, DHAC.	
	This is for your kind information and necessary action.	
		Yours faithfully,   Secretary, Revenue Dima Hasao Autonomous Council Haflong Dated Haflong, the 12 <sup>th</sup> June'2023
NO.REV/S/34/2023-2024/63-A, Copy to :-		
	1. The Project Director, LKHEP, APGCL, Bijulee Bhawan, Guwahati-01 for favour of information.	
	2. Shri Utam Daolagupu, Additional Secretary, Revenue, Dima Hasao Autonomous Council, Haflong for information and necessary action.	
	3. P.A. to Hon'ble Chief Executive Member, Dima Hasao Autonomous Council, Haflong for favour of kind appraisal to Hon'ble Chief Executive Member, DHAC.	
	4. The L.P. i/c for information and necessary action.	
Issue No: 3731-35		 Secretary, Revenue, Dima Hasao Autonomous Council Haflong
Dated: 12/06/23		



**THE DIMA HASAO AUTONOMOUS COUNCIL :: HAFLONG**  
**DIMA HASAO DISTRICT**  
**SETTLEMENT & REVENUE DEPARTMENT**



This is to certify that we have handed over and taken over possession of land measuring 153 (one hundred fifty three) hectares as available in due surface measurement and demarcated as per site selected and prior allotment made vide district council order No. REV/S/34/2017-18/11 dated 08/01/2018 for LKHEP, LONGKU, APGCL

**Description of land**

1. Location :- Plot. 1, 2, 3, 4.

2. Boundary :-

North :- Tortelangso village.

South :- Southern side of Longku Nala.

East :- Village Area and Longku Nala.

West :- Village Area and Lankho Road.

Signature of representative of both sides duly authenticated to handover and taken over possession of land.

Handedover by: -

Signature [Signature]  
 Designation Secretary & Revenue Officer  
N.C. Hills Autonomous Council  
Haflong  
 Date \_\_\_\_\_

Takenover by:-

Signature [Signature]  
 Designation General Manager  
L.K.H.E.P.APGCL, Longku  
Dima Hasao, Assam  
 Date 13/6/23

Annexure 2 CTE for LKHEP hydropower plant



**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](http://www.pcbassam.org)

No. WB/SLC/T-1267/22-23/7

Dated Guwahati, the 28<sup>th</sup> Feb, 2023

**"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 there under is granted to:

- |  |   |   |
|--|---|---|
| i) Name of Industry                                  | : | M/s Lower Kopili Hydro Electric Project (120 MW)<br>Assam Power Generation Corporation Ltd. |
| ii) Name of the Occupier / Applicant and Designation | : | Sri Mridul Saikia, CGM (PP&I)   |
| iii) Address of the unit                             | : | Lanka-Umrangsu Road (NH-627), Longku, Dist. Dima Hasao, Assam, PIN-788832.                  |
| iv) Cost of the project                              | : | Rs. 149855 Lakhs.   |
| v) Details of the project and category               | : | Hydro Electric Power Generation (120MW)<br>(Red category)                                   |

**TERMS AND CONDITIONS:**

1. The Consent to Establish (CTE) has been accorded based on the particulars furnished by the applicant vide Application ID: 1726091 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 is made in actual practice.
2. The "CTE" 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 authority shall obtain "Consent to Operate" from the Board before commissioning of the Plant.
6. The unit shall comply with all the stipulated conditions of Environmental Clearance accorded by MoEF&CC, vide No.J-12011/26/2012-IA-I; dtd: 04/10/2019
7. The project proponent shall develop a greenbelt/plantation area with native trees covering at least 33% of the total plot area.

Contd...p/2



8. Proper housekeeping shall be maintained. The unit shall not burn any wastes inside the premises
9. The project authority shall install a Display Board as per the Board's notification No. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021 (Appendix-A).
10. The unit shall comply with all the stipulated conditions of Environmental Clearance accorded by MoEF&CC, vide No.J-12011/26/2012-IA-L, dtd: 04/09/2019.
11. 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 To Establish.

**Specific Conditions:**

**A) Air Aspects:**

1. 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**.
2. The industry shall comply with the Noise Level Standards, notified by MoEF&CC, Govt. of India, vide as per GSR. 7, dated: Dec.22, 1998, as mentioned herein under:

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

**B) Water Aspects:**

1. The unit shall ensure that water is not contaminated with oil (used as lubricants) while passing through turbines

**C) Solid Waste Aspects:**

1. Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste material.
2. Solid waste generated in the unit shall be disposed of as per the provisions of Solid Waste Management Rules, 2016.
3. The unit shall not burn any wastes.

**D) Plastic Waste Aspects:**

1. Plastic Waste generated in the unit shall be disposed of in accordance of the provisions under Plastic Waste Management Rules, 2016.
2. The unit shall submit a report on generation & disposal of Plastic waste in 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 30<sup>th</sup> June every year.

Contd...p/3

**F) Hazardous Waste Aspects:**

1. The unit shall obtain Authorization under the Hazardous and Other Waste (Management & Trans-boundary Movement) Rules, 2016 from the Board.
2. The empty containers containing chemical should be stored and disposed as per Rules.
3. Adequate facility shall be provided for collection and storage of used oil/spent oil, waste transformer oil etc, which shall be sent to registered recyclers for recycling.
4. Appropriate facility shall be created for handling, storage, treatment & disposal of any Hazardous waste generated by the industry in accordance to the provisions of the H&OW Rule including Notification, Guidelines issued there under.
5. The unit shall maintain a record regarding generation of hazardous wastes in Form-III of the Rules.
6. The unit should submit the annual return under the said Rule, in Form-IV, within 30<sup>th</sup> 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 Regional Office, Silchar. 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/SIC/T-1267(22-23)/T-A-2021

Dated Guwahati, the 28<sup>th</sup> Feb, 2021

Copy to:

✓ M/s Lower Kopili Hydro Electric Project (120 MW), Lanka-Umraungsu Road (NH-627), Longku, Dist. Dima Hasao, Assam, PIN-788832, Dist: Dima Hasao, Assam – for information & compliance of conditions.

(Shantanu Kr. Dutta)  
Member Secretary



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



**NOTIFICATION**

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

Dated Guwahati, the 11<sup>th</sup> 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.	
Description 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 11<sup>th</sup> 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.pcbaassam.org](http://www.pcbaassam.org)), PCBA.

*[Signature]*  
**Member Secretary**

### 1.6.6 STANDARDS AND GUIDELINES FOR CONTROL OF NOISE POLLUTION FROM STATIONARY DIESEL GENERATOR (DG) SETS.

#### (A) Notes standards for DG sets (15-500KVA)

The total sound power level LW of DG set should less than  $94 + 10 \log 10\text{KVA}$ , dB (A), at the manufacturing stage, whether; KVA is the nominal power rating of a DG set.

This level should fall by 5dB (A) every five years, till 2007, i.e. in 2002 and then in 2007.

#### (B) Mandatory Acoustic enclosure/Acoustic treatment of room for stationary DG sets (5KVA and above):

Noise from the DG set should be controlled by providing an acoustic enclosure on by treating the room acoustically.

The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB (A) insertion Loss or for meeting the ambient noise standards, which ever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/acoustic treatment. Under circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion Loss may be done at different points at 0.5 from the acoustic enclosure/room, and then averaged. (See the Schematic Diagram).

The DG set should also be provided with proper exhaust muffler with Insertion Loss of minimum 25 dB (A).

#### Guidelines for the manufacturers Users of DG sets 5KVA and above:

- The manufacture should offer to the user a standard acoustic enclosure of 25dB (A). Insertion Loss and also a suitable exhaust muffler with Insertion Loss of 25dB (A).
- The user should make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirements by proper siting and control measures.
- The manufacturer should furnish noise power levels of the unsalaried DG sets as per standards prescribed under (A).
- The total sound power level of a DG set, at the user's end, shall be within 2dB(A) of the total sound power level of the DG set, at the manufacturing stage, as prescribed under (A).
- Installation of DG set must be strictly in compliance with the recommendation of the DG set manufacture.
- A proper routines and preventive maintenance procedure for the DG set manufacturer which would help prevent noise levels of the DG set from deteriorating with use.

#### 2.44.0 NOISE (AMBIENT STANDARDS)

Area Code	Category of Area	Limit in dB (A) Leq.	
		Day time	Night time
A.	Industrial area	75	70
B.	Commercial area	65	55
C.	Residential area	55	45
D.	Silence Zone	50	40

**Note - 1** : Day time is reckoned in between 6.00 A.M. and 9.00 P.M.

**Note - 2** : Night time is reckoned in between 9.00P.M. and 6.00 A.M.

**Note - 3** : Silence zone is defined as areas up to 100 meters around such premises as hospitals, educational institutions and courts. The silence zones are to be declared by the competent Authority.

**Note - 4** : Mixed categories of areas should be declared as one of the four above mentioned categories by the competent Authority and the corresponding standard shall apply.

**Source: EPA, 1986**  
**[GSR 7, dated Dec.22, 1998]**

Source: EPA, Notification  
[GSR 1063 (E), dated Dec., 26, 1998]

### 3.22.0 DIESEL GENERATOR SETS : STACK HEIGHT

1. The minimum stack height to be provided with each generator set shall be worked out as per the following formula:  $H = h + 0.2 \sqrt{\text{KVA}}$ , where H = Total height of stack in meter.

$h$  = Height of the building in meters where generator set is installed  
KVA = Total generator capacity.

Adequate fire fighting measures have to be provided by the occupier of the premises. Based on the above formula the minimum stack height to be provided with different range of generator sets may be categories as follows:

Range of Generator sets	Minimum Stack Height
50 KVA	Ht. of the building + 1.5 metre.
50 - 100 KVA	Ht. of the building + 2.0 metre.
100 - 150 KVA	Ht. of the building + 2.5 metre.
150 - 200 KVA	Ht. of the building + 3.0 metre.
200 - 250 KVA	Ht. of the building + 3.5 metre.
250 - 300 KVA	Ht. of the building + 3.5 metre.

Similarly for higher KVA rating a stack height can be worked out using the above formula.

Source : Evolved by CPCB  
[Emission Regulations Part-IV: COINDS/26 1988-87]

#### 4. A .32.0 Part - C

SL No. 1 Stack Gas : PM - 150  $\mu\text{g}/\text{Nm}^3$

#### B. Ambient Air Standards:

	Residential Area	Industrial Area	Sensitive Area
SO <sub>2</sub>	80* $\mu\text{g}/\text{m}^3$	120* $\mu\text{g}/\text{m}^3$	30* $\mu\text{g}/\text{m}^3$
NO <sub>2</sub>	80* $\mu\text{g}/\text{m}^3$	120* $\mu\text{g}/\text{m}^3$	30* $\mu\text{g}/\text{m}^3$
CO	2.0** $\mu\text{g}/\text{m}^3$	5.0** $\mu\text{g}/\text{m}^3$	1.0** $\mu\text{g}/\text{m}^3$

\*24 hourly; \*\* 8 hourly

#### 5. SCHEMATIC DIAGRAM OF D.G. SET IN AN ACOUSTIC ENCLOSURE No. Process/71/1996-97.

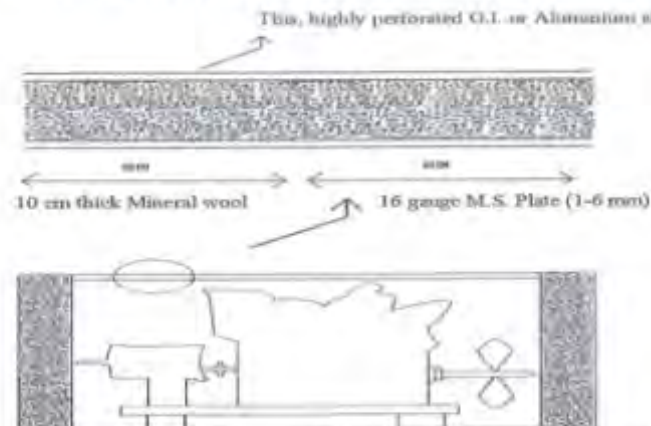


Fig. 4 Schematic Diagram of the DG set in an Acoustic Enclosure

Air required for the ventilation and breathing of the engine will have to be provided by means of intake louvers and exhaust louvers (called parallel baffle mufflers) projecting out of the enclosure.

*(Signature)*  
(Shantanu Kr. Dutta)  
Member Secretary  
Pollution Control Board, Assam

Annexure 3 EC for quarry

<b>ENVIRONMENTAL CLEARANCE</b>	 <b>Government of India Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), ASSAM)</b>																	
<b>PARIVESH</b> <i>(Pro-Active and Responsive Facilitation by Interactive, and Virtuous Environmental Single-Window Hub)</i>	To,  The -1 HI-TECH ROCK PRODUCTS & AGGREGATES LIMITED Hi-Tech Rock Products & Aggregates Limited Longku Gaon, P.O. Umrongso, District: Dima Hasao (Assam) -788931																	
	<b>Subject:</b> Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding																	
	Sir/Madam,  This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/AS/MIN/415959/2023 dated 27 Jan 2023. The particulars of the environmental clearance granted to the project are as below.																	
	<table border="0"><tr><td>1. EC Identification No.</td><td><b>EC23B001AS114059</b></td></tr><tr><td>2. File No.</td><td>SEIAA-3341/2023</td></tr><tr><td>3. Project Type</td><td>New</td></tr><tr><td>4. Category</td><td>B</td></tr><tr><td>5. Project/Activity including Schedule No.</td><td>11a) Mining of minerals</td></tr><tr><td>6. Name of Project</td><td>Lower Kopli HEP Stone Quarry</td></tr><tr><td>7. Name of Company/Organization</td><td>HI-TECH ROCK PRODUCTS &amp; AGGREGATES LIMITED</td></tr><tr><td>8. Location of Project</td><td>ASSAM</td></tr><tr><td>9. TOR Date</td><td>N/A</td></tr></table>	1. EC Identification No.	<b>EC23B001AS114059</b>	2. File No.	SEIAA-3341/2023	3. Project Type	New	4. Category	B	5. Project/Activity including Schedule No.	11a) Mining of minerals	6. Name of Project	Lower Kopli HEP Stone Quarry	7. Name of Company/Organization	HI-TECH ROCK PRODUCTS & AGGREGATES LIMITED	8. Location of Project	ASSAM	9. TOR Date
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8. Location of Project	ASSAM																	
9. TOR Date	N/A																	
	The project details along with terms and conditions are appended herewith from page no 2 onwards.																	
	(e-signed) Indraswar Kalita Member Secretary SEIAA - (ASSAM)																	
	Date: 28/03/2023																	
	<i>Note: A valid environmental clearance shall be one that has EC identification number &amp; E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.</i>																	
	<i>This is a computer generated cover page.</i>																	
																		

This has reference to your application for Prior Environmental Clearance proposal no. SIA/AS/MIN/415959/2023 dated 16/02/2023 along with Form-I, Mining Plan, D.F.O letter, Google map with G.P.S. Co-ordinates and other relevant documents for Collection of Stone from "Lower Kopili Hep Stone Quarry" under Dima Hasao West Forest Division under N C Hills District Council, Hailong.

The quantity of Stone to be collected is:

Stone: 3,30,000 (Three Lakh Thirty Thousand) cu.m. Stone from the proposed mining site within a period of two (2) years @ 1,50,000 (One Lakh Fifty Thousand) cu.m. Stone in the 1<sup>st</sup> year of mining and rest 1,80,000 (One Lakh Eighty Thousand) cu.m. in the 2<sup>nd</sup> year of mining operation.

Total Allotted area: 4.61 Ha.

The Stone shall be extracted only from the area of the GPS Co-ordinates as per Mining plan, mentioned below:

S. No	Longitude (E)	Latitude (N)
1	480965.5910	2842295.5840
2	480917.2680	2842267.7180
3	480912.7340	2842227.8330
4	480952.7940	2842144.4680
5	480978.3580	2842166.3650
6	481101.9610	2842264.4310
7	481132.6190	2842243.5210
8	481166.7360	2842251.6950
9	481174.0820	2842237.0930
10	481187.7550	2842274.1650
11	481200.4650	2842295.0830
12	481209.5660	2842319.6650
13	481223.2550	2842348.6810
14	481241.5470	2842371.5250
15	481266.6900	2842413.3400
16	481246.8950	2842440.9850
17	481234.6870	2842448.0520
18	481203.9310	2842448.0480
19	481149.7050	2842426.9370
20	481125.8150	2842418.6650

The Stone shall be extracted manual/mechanized way (as per mining plan) from "Lower Kopili Hep Stone Quarry" under Dima Hasao West Forest Division under N C Hills District Council, Hailong.

  
Mining Secretary  
D.F.O. Hailong

The proposal was examined and processed in accordance with EIA Notification 2006 and its amendment thereof. The State Level Expert Appraisal Committee (SEAC), Assam examined the documents of the proposal for Extraction of Stone at its meeting held on 04/03/2023. Accordingly the application was discussed and thoroughly scrutinized by the SEAC and found that the project falls under 1(a) and considered as B2 Category of EIA Notification 2006 and subsequent amendments. The Committee recommended the project to the SEIAA, Assam for issuance of Environmental Clearance.

Based on the recommendation of the SEAC, the State Environment Impact Assessment Authority, Assam (SEIAA) considered the proposal in its meeting held on 20/03/2023 and accords Prior Environmental Clearance to the project as mentioned above under the provision of EIA notification 2006 and its subsequent amendments issued under Environment Protection Act 1986 subject to compliance of the following specific and general conditions.

**The operational area of mining must not exceed the given Mining Area 4.61 Ha and there should not be any other area of mining contiguous to this. The project proponent is required to submit a declaration in writing to this effect before commencement of the work.**


**1. Specific Conditions**

1. The legal status of the mining area remains unchanged.
2. The lease holder shall undertake adequate safeguard during collection of Stone and ensure that due to this activity, the hydro geological and ecological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.
3. Manually/semi-mechanized way and low impact Excavation of Stone shall be undertaken (*as per mining plan*).
4. Top soil shall be kept separately and use for refilling the excavated area.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter as at loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard. The status of implementation of measures taken shall be reported to SEIAA and work shall be completed before the start of mining.
6. Parking of vehicles shall not be made on public road.
7. The following measures are to be further implemented to reduce air pollution during transportation of mineral.

  
Member, SEIAA,  
Assam



- i. Roads shall be graded to mitigate the dust emission.
  - ii. Over filling of tippers and consequent spillage on the roads shall be avoided.
8. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010 issued by the MoEF, Govt. of India.
  9. Extraction shall be limited to day time only.
  10. No Stone extraction shall be carried out in the safety zone of any bridge and / or embankment.
  11. No Stone extraction shall be carried out in the vicinity of natural / manmade archaeological sites.
  12. No wildlife habitat will be disturbed along with aquatic Flora & Fauna of the water bodies in the area.
  13. Green belt development shall be carried out in 10% of total extraction area either along road side considering CPCB guidelines with native tree species in the mining area.
  14. User agency shall not make any fresh approach road.
  15. Appropriate mitigation measures shall be taken to prevent any kind of pollution. It shall be ensured that there is no leakage of oil and grease from the vehicles used for transportation.
  16. Special Measures shall be adopted to prevent the nearby settlement from the impacts of extraction activities.
  17. Dispensary facilities for first-aid shall be provided at site.
  18. Occupational health surveillance program of the workers should be undertaken periodically.
  19. Conservation measures shall be taken for protection of Flora & Fauna in the core and buffer zone.
  20. It shall be ensured that collection of mining materials does not disturb or change the underlying soil characteristic of river bed/basin, where mining is carried-out.
  21. It shall be ensured that mining does not in any way disturb the water quality and flow pattern of nearby water bodies/Streams/ Rivers.
  22. Conservation measures shall be taken for protection of flora & fauna in the core and buffer zone.
  23. The fauna nesting area shall not be disturbed.
  24. A maximum depth of 2 m has been allowed for Stone extraction & nonexistence of mining area within a radius of 500 mts from the proposed location is also discussed.
  25. This Environmental Clearance is applicable only subject to receipt of necessary permit by the project proponent from the Competent Authority as per AMMC Rule, 2013 and subsequent amendment.
  26. Any solid waste generated shall be disposed of as per Solid Waste Management Rules 2016. Segregation of bio-degradable and non-biodegradable wastes shall be done at site and disposed of as per Solid Waste Management Rules 2016.
  27. Drills shall either be operated with dust extractors or equipped with water injection system (wet drilling) to suppress air borne dust during drilling.

  
 Anil Kumar  
 Jt. Secy, IA, Amdr


28. Only controlled blasting shall be practiced with necessary protective measures. Blasting operation shall be carried out only during the day time. The blasting shall be performed with all necessary care for protection of public, workers and property from fly rock & vibration risks.
29. Delay detonator shall be used and reduce the weight explosive per delay by decreasing hole size along with depth with proper spacing of holes shall be maintained. Random blasting is not allowed.
30. Blasting shall be done by license holder only.
31. Blasting pattern stemming, charging per hole should be designed on the basis field trial to control flying rocks. Delay detonators & shock tube initiation system blasting shall be used so as to reduce vibration & dust.
32. Safety and security of all members of public shall be sole responsibility of permit holder. Necessary mask, helmet, safety shoes etc. shall be provided to all workers working in the mining.
33. Blasting materials are to be collected from the authorized dealer with permission from District-Authority. Necessary precautionary measures must be taken so that no leakage of explosive occurs during storage & transportation.
34. Blasting shall be done in such a manner to prevent formation of big size boulders and thereby to minimize need for secondary blasting.
35. Adequate sirens, signals, posting of guards at strategic point blasting.
36. Anti-vibration devices shall be provided to vibrating tools/equipment to be used by workers during mining vibration shall be maintained within safe limit.
37. The project proponent shall strive to adopt zero waste mining concepts by reducing the quantum of reject through technological innovation or finding the use of fines through perspective buyers.
38. Top soil from the mining area shall be scrapped, Stocked separately, preserved and utilized for the plantation work.
39. Over burden, waste rock and non-saleable materials generated during prospecting or mining operations shall be stored separately in properly formed dumps on grounds earmarked. Slope & height of such dumps shall be restricted adequately to prevent any slippage of material. Such dumps should be properly terraced, stabilized and secured at toe to prevent the escape material that may cause degradation of the surrounding land or silting of water courses.
40. Overburden or other rejects shall be backfilled into the worked out quarry so far as possible with a view to restore the land to its original use or desired alternative use.
41. Used oil/ waste oil if any generated shall be sold to the registered recyclers.
42. Mining operation shall be restricted to above ground water table and it shall be ensured that it does not intersect ground water table.
43. The project proponent shall ensure that no natural water course gets obstructed due to mining operation.
44. This Environmental Clearance is applicable only subject to receipt of mining permit by the project proponent from the Competent Authority as per AMMC Rule, 2013.

  
 Competent Authority  
 (MHA, Jharkhand)  
 Jharkhand

45. The blasting operation shall not be permitted below the ground level.
46. The blasting schedule for mining shall be prepared with the consultation concerned DFO. There should be a time gap between each blasting. The project proponents are responsible for any damage cause due to blasting operation during mining and bear the expenditure for loss of life & property. The blasting operation shall be performed in presence of Forest official.
47. Considerable quantity of overburden in the form soil and waste rock will yield which should be dumped systematically for backfilling as mentioned in the mining closure plan.
48. The mining materials should not damage the village land and drainage should be made along the mining area boundary.
49. Road safety measures to be adopted along the road passing through the mining site.
50. The proponent have to strictly follow all the terms and condition laid down in the Mining Plan approved by the DGM, Assam.
51. The proponent shall have to take utmost care to avoid blockage of the natural water course because of proposed mining activities and over burden etc, shall have to be dumped as prescribed in the approved mining plan.

**II. General Conditions:**

1. All necessary statutory clearance shall be obtained from competent authority in connection with mining operation and copies of the same shall be submitted to SEIAA, Assam.
2. Special measures shall be adopted to prevent nearby settlements from the impacts of mining activities, maintenance of roads through which transportation of mine mineral is to be undertaken shall be carried out regularly.
3. User agency shall comply with the provisions framed under Assam Minor Mineral concession Rule 2013.
4. The SEIAA Assam may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
5. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawals of this clearance and attract action under the provisions of Environment Protection Act, 1986.
6. The SEIAA, Assam may revoke or suspend the order, if implementation of any of the above condition is not found satisfactory. SEIAA, Assam will monitor the operation area time to time and project component shall be extended full support for the same.
7. The above conditions will be enforced inter-alia under the provision of water (Prevention & Control of Pollution) Act 1974, the air (Prevention & Control of Pollution) Act 1981, the Environment Protection Act 1986 and the public liability Insurance Act 1991 along with their amendments & rules.

  
 Member Secretary  
 SEIAA, Assam  
 pas

8. The Environmental Clearance is valid for period of 2 (two) years w/e from the date of issue of this order.
9. Under Corporate Environment Responsibility (CER), appropriate budgetary provision shall be made as per MOEF&CC OM F. No- 22-65/2017-LA.III dated 01/05/2018 and 19/06/2018 commensurate with the total cost of the work and to be spent for health improvement, education, drinking water facilities, and other socio-economic upliftment in and around the project area (radius of 10 KM from the project site) in consultation with a Committee having representatives from all sections of the population in the nearby villages and with information to the SEIAA on biannual basis.
10. The project proponent shall submit half yearly compliance reports in respect of the terms & conditions stipulated in this order to the SEIAA, Assam in PARIVESH PORTAL through individual User Id to the SEIAA. The Compliance Report should also include the work done under CER as in 9 above and also under Green Belt development in the project area (to be supported with photographs and other documentary evidences in both cases).
11. The Divisional Forest Officer, Dima Hasoo West Forest Division under N C (Hills District) Council, Haflong Assam shall realize the Royalty as per existing rate and he is requested to mount due and regular surveillances on the mining operation to avoid occurrences of irregularities during the mining period. The DFO is also requested to arrange marking of the approved mining area on the ground fixing permanent boundary pillars before starting mining activities as mining is strictly permitted only within the approved mining site and not beyond the limit of the same. He will further ensure that necessary compliance of the terms and condition laid down in the EC be duly complied by the proponent in course of mining operation.

*Handwritten signature and date: 24.03.2023*

Member Secretary  
SEIAA, Assam  
Bamunimaidam, Gauhati-21,  
#D

Annexure 4 CTO amended for Batching Plant near 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](http://www.pcbassam.org)

No. WB/SI/C/T-1191/21-22/39

Dated Guwahati, the 3rd Jan, 2023

**CONSENT TO OPERATE**

Modified 'CONSENT TO OPERATE' (CTO) under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, as amended and Rules Framed thereunder, is granted to:

- i) Name of the unit : M/s Larsen & Toubro Ltd. (Batching Plant)  
ii) Name of the Occupier / Applicant and Designation : Sri 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 and category : Batching Plant (2 Nos.)  
Green Category

Sl No.	Product	Capacity
1	Cement Concrete	2 x 120 m <sup>3</sup> /hour

- vi) D.G. Set : 2 x 15 KVA + 2 x 500 KVA

**General Conditions:**

1. The Consent to Operate (CTO) has been accorded based on the particulars furnished by the applicant vide Application ID: 1410031 and subject to addition of further or more conditions, if so warranted by subsequent developments. The Consent will automatically become invalid, if any change or alteration or deviation made in actual practice.
2. The CTO is valid till 31.03.2025.
3. The CTO 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 CTO;
  - b) Obtaining the CTO 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 further expansion, alteration, and modification of the project.
5. The project proponent shall 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. Proper housekeeping shall be maintained. Burning of any waste inside the unit premises is strictly prohibited.
8. The unit shall apply for renewal of CTO atleast 90 days before expiry.
9. 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.

*(Handwritten signature)*

Contd...p/2

**Specific Conditions:**

**A) Air Aspects:**

1. The unit shall install the screening machine, if any, 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 unit shall comply with the standards and guidelines for control of noise pollution from stationary Diesel Generator (DG) set as attached in Appendix-B.
4. The unit shall comply with the Noise Level Standard notified by MoEF&CC, Govt. of India, vide GSR.7; dtd: 22/12/1998, as mentioned herein under:

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

5. 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<sub>2.5</sub> & PM<sub>10</sub>, 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 <sub>10</sub> (µg/m <sup>3</sup> )	Annual* 24 hours**	60 100	60 100
2.	Particulate Matter (size less than 2.5µg) or PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Annual* 24 hours**	40 60	40 60

**B) Water Aspects:**

1. Source of Water : Surface water
2. Water consumption : 200.0 KLD
3. 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 Sedimentation Tank.
  - 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 - C).
4. 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.

*Handwritten signature/initials*

Contd...p/3

**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. The unit shall comply with the provisions of E-Waste (Management) Rules, 2022.

**F) Hazardous Waste Aspects:**

1. Authorization under Hazardous & Other Wastes (Management & Trans-boundary Movement) Rules, 2016 shall be obtained from the Board.
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 shall submit annual return in Form-IV under the said rules on or before 30<sup>th</sup> June every year.

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

Sd/-  
(Shantanu Kr. Dutta)  
Member Secretary

Dated Guwahati, the 3<sup>rd</sup> Jan, 2023

Memo No. WB/SLC/T-1191/21-22/39 -A *AKS*

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.

*AKS*  
(Shantanu Kr. Dutta)  
Member Secretary

Annexure - 'A'



pcba

Pollution Control Board, Assam  
Bamunimaidam, Guwahati-21



**NOTIFICATION**

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

Dated Guwahati, the 11<sup>th</sup> 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.	
Description 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**

Dated Guwahati, the 11<sup>th</sup> Nov, 2021

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

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](http://www.pcbassam.org)), PCBA.

*[Signature]*  
Member Secretary



## APPENDIX - B

### LATEST STANDARDS AND GUIDELINES FOR CONTROL OF NOISE POLLUTION FROM STATIONARY DIESEL GENERATOR (DG) SETS.

**(A) Noise standards for DG sets (15-500KVA)**

The total sound power level LW of DG set should less than  $94 + 10 \log 10\text{kVA}$ , dB (A), at the manufacturing stage, whether KVA is the nominal power rating of a DG set.

This level should fall by 5dB (A) every five years, till 2007, i.e. in 2002 and then in 2007.

**(B) Mandatory Acoustic enclosure/Acoustic treatment of room for stationary DG sets (5KVA and above):**

Noise from the DG set should be controlled by providing an acoustic enclosure or by treating the room acoustically.

The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB (A) insertion Loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/acoustic treatment. Under circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion Loss may be done at different points at 0.5 from the acoustic enclosure/room, and then averaged (See the Schematic Diagram).

The DG set should also be provided with proper exhaust muffler with Insertion Loss of minimum 25 dB (A).

**Guidelines for the manufacturers Users of DG sets 5KVA and above:**

- The manufacture should offer to the user a standard acoustic enclosure of 25dB(A), Insertion Loss and also a suitable exhaust muffler with Insertion Loss of 25dB(A).
- The user should make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirements by proper siting and control measures.
- The manufacturer should furnish noise power levels of the unsalaried DG sets as per standards prescribed under (A).
- The total sound power level of a DG set, at the user's end, shall be within 2dB(A) of the total sound power level of the DG set, at the manufacturing stage, as prescribed under (A).
- Installation of DG set must be strictly in compliance with the recommendation of the DG set manufacture.
- A proper routines and preventive maintenance procedure for the DG set manufacturer which would help prevent noise levels of the DG set from deteriorating with use.

**2.44.0 NOISE (AMBIENT STANDARDS)**

Area Code	Category of Area	Limit in dB(A) Leq.	
		Day time	Night time
A.	Industrial area	75	70
B.	Commercial area	65	55
C.	Residential area	55	45
D.	Silence Zone	50	40

Note - 1 : Day time is reckoned in between 6.00 A.M. and 9.00 P.M.

Note - 2 : Night time is reckoned in between 9.00P.M. and 6.00 A.M.

Note - 3 : Silence zone is defined as areas up to 100 meters around such premises as hospitals, educational institutions and courts. The silence zones are to be declared by the competent Authority.

Note - 4 : Mixed categories of areas should be declared as one of the four above mentioned categories by the competent Authority and the corresponding standard shall apply.

*Source: EPA, 1986  
[GSR 7, dated Dec.22, 1998]*

Source : EPA, Notification  
[GSR 1063 (E), dated Dec., 26, 1998]

### 3.22.0 DIESEL GENERATOR SETS : STACK HEIGHT

1. The minimum stack height to be provided with each generator set shall be worked out as per the following formula -  $H = h + 0.2 \sqrt{\text{KVA}}$ , where H = Total height of stack in meter.

h = Height of the building in meters where generator set is installed

KVA = Total generator capacity.

Adequate fire fighting measures have to be provided by the occupier of the premises. Based on the above formula the minimum stack height to be provided with different range of generator sets may be categories as follows:

Range of Generator sets	Minimum Stack Height
50 KVA	Ht. of the building + 1.5 metre.
50 - 100 KVA	Ht. of the building + 2.0 metre.
100 - 150 KVA	Ht. of the building + 2.5 metre.
150 - 200 KVA	Ht. of the building + 3.0 metre.
200 - 250 KVA	Ht. of the building + 3.5 metre.
250 - 300 KVA	Ht. of the building + 3.5 metre.

Similarly for higher KVA rating a stack height can be worked out using the above formula.

Source : Evolved by CPCB  
[Emission Regulations Part-IV: COINDS/26 1986-87]

### 4. A .32.0 Part - C

Sl. No. 1 Stack Gas : PM - 150  $\mu\text{g}/\text{Nm}^3$

#### B. Ambient Air Standards:

Residential Area	Industrial Area	Sensitive Area
SO <sub>2</sub> : 80* $\mu\text{g}/\text{m}^3$	120* : $\mu\text{g}/\text{m}^3$	30* : $\mu\text{g}/\text{m}^3$
NO <sub>2</sub> : 80* $\mu\text{g}/\text{m}^3$	120* : $\mu\text{g}/\text{m}^3$	30* : $\mu\text{g}/\text{m}^3$
CO : 2.0** $\mu\text{g}/\text{m}^3$	5.0** : $\mu\text{g}/\text{m}^3$	1.0** : $\mu\text{g}/\text{m}^3$
*24 hourly; ** 8 hourly		

### 5. SCHEMATIC DIAGRAM OF D.G. SET IN AN ACOUSTIC ENCLOSURE No. Process/71/1998-99.

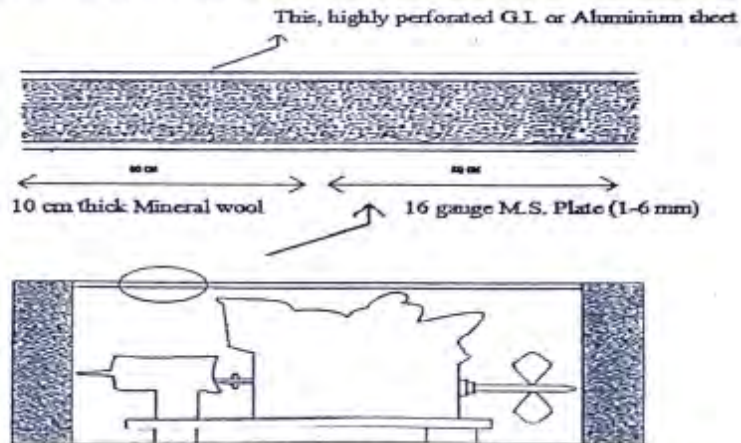


Fig. 4 Schematic Diagram of the DG set in an Acoustic Enclosure

Air required for the ventilation and breathing of the engine will have to be provided by means of intake louvers and exhaust louvers (called parallel baffle mufflers) projecting out of the enclosure.

## Appendix- e

## General Standards for discharge of environment Pollutants Part-A: Effluents

S. No.	Parameter	Standards			
		Inland surface water	public Sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	(c)	(d)
1	Color and Odor	5 to 25 Agreeable	-	5 to 25 Agreeable	5 to 25 Agreeable
2	Suspended Solids mg/l, Max.	100	600	200	(a) For process waste water-100 (b) For Cooling water effluent 10 percent above total suspended matter of influent
3	Particular size of suspended solids	Shall pass 850 micron IS Sieve	-	-	(a) Floatable solids, max. 3 mm (b) Settleable solids, max 850 microns
4*	---	-	-	---	-
5	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6	Temperature	Shall not exceed 5°C above the receiving water temperature	-	-	Shall not exceed 5°C above the receiving water temperature
7	Oil and grease mg/L Max	10	20	10	20
8	Total residual chlorine mg/1, Max	1.0	-	-	1.0
9	Ammonical nitrogen (as N), mg/1 max.	50	50	-	50
10	Total Kjeldhal nitrogen (as NH <sub>3</sub> ) mg/l, Max	100	-	-	100
11	Free Ammonia (as NH <sub>3</sub> ) mg/1, Max	5.0	-	-	5.0
12	Biochemical oxygen demand (5 days at 20°C), mg/1 Max)	30	350	100	100
13	Chemical Oxygen demand, mg/1 Max	250	-	-	250
14	Arsenic (as As) mg/1 Max	0.2	0.2	0.2	0.2
15	Mercury (As Hg), mg/1 max)	0.01	0.01	-	0.01
16	Lead (as Pb) mg/L, Max	0.1	1.0	-	2.0
17	Cadmium (as Cd) mg/1, Max	2.0	1.0	-	2.0
18	Hexavalent chromium, (as Cr) mg/1, Max	0.1	2.0	-	1.0
19	Total chromium (as Cr) mg/l, Max	2.0	2.0	-	2.0

20	Copper (as Cu) g/l, Max	3.0	3.0	-	3.0
21	Zinc (as Zn) mg/l, Max	5.0	15	-	15
22	Selenium (as Se) mg/l, Max	0.05	0.05	-	0.05
23	Nickel (as Ni) mg/l, Max	3.0	3.0	-	5.0
24*	-	-	-	-	-
25*	-	-	-	-	-
26	-	-	-	-	-
27	Cyanide (as CN), mg/l Max	0.2	2.0	0.2	0.2
28*	-	-	-	-	-
29	Fluoride (as F) mg/l Max	2.0	15	-	15
30	Dissolved Phosphates (as P), mg/l Max	5.0	-	-	-
31*	-	-	-	-	-
32	Sulphide (as S) mg/l Max	2.0	-	-	5.0
33	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l Max	1.0	5.0	-	5.0
34	Radioactive materials:				
	(a) Alpha emitter micro curie/ml	10 <sup>-7</sup>	10 <sup>-7</sup>	10 <sup>-8</sup>	10 <sup>-7</sup>
	(b) Beta emitter micro curie/ml	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-7</sup>	10 <sup>-6</sup>
35	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
36	Manganese (as Mn)	2 mg/l	2 mg/l	-	2 mg/l
37	Iron (as Fe)	3 mg/l	3 mg/l	-	3 mg/l
38	Vanadium (as V)	0.2 mg/l	0.2 mg/l	-	0.2 mg/l
39	Nitrate Nitrogen	10 mg/l	-	-	20 mg/l
40	-	-	-	-	-

\* Omitted by Rule 2 (d) (i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No. G.S.R 801 (E) dated 31.12.1993

mk3g 43'

Annexure 5 CTO for crusher unit amended



**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-1184/21-22/16

Dated Guwahati, the 11<sup>th</sup> Jan, 2023

CONSENT TO OPERATE

Modified 'CONSENT TO OPERATE' (CTO), under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended and Rules framed thereunder, is granted to -

- i) Name of the Unit : M/s Larsen & Toubro Ltd.
- ii) Name of the Occupier : Shri Santanu Majumdar, Project Manager  
Applicant and Designation
- iii) Address of the Unit : 120MW Lower Kopili Hydroelectric Project  
(Package-2), Vill - Longku, P.O. Umrangio,  
Dist. Dima Hasao, Assam-788931.
- iv) Cost of the project : Rs. 400.00 (In Lakhs)
- v) Details of the project/  
Category : Stone Crusher (1 x 200 TPH)  
(Orange category)
- vi) Details of product :

Sl. No.	Product	Quantity
1	Stone Aggregate	33378 MT/ month
2	<u>By product</u>	
	1. Quarry Wastage	5006 MT/ month
	2. Stone Dust	3337 MT/ month

vii) D.G. Set(s) : 1 x 40 KVA + 1 x 125 KVA + 1 x 180 KVA + 1 x 250 KVA

Terms & Conditions:

1. 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 made in actual practice.
2. The CTO is valid till 31.03.2025.
3. The CTO 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 CTO;
  - b) Obtaining the CTO 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, modernization of the project.
5. The project proponent shall develop a greenbelt/plantation area with native trees covering atleast 33% of the total plot area.
6. Proper housekeeping shall be maintained within unit premises.
7. The project authority should install a Display Board as per the Boards notification No. PCB/LGL-95/2021/Notification/01 dtd.11.11.2021 (Annexure-A).

Contd...p2

*Handwritten signature/initials*



8. 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.
9. The unit shall install a minimum of 10 ft. height permanent boundary line/partition wall with Tin/Asbestos sheet or other non-porous partition material, etc with installation of permanent boundary post.
10. The unit shall apply for renewal of CTO atleast 90 days before expiry.

**SPECIFIC CONDITIONS:**

**A) Air Aspects:**

1. The unit shall install the crusher and 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.
  - d. Quantitative standard for SPM: The suspended particulate matter measured between 3 to 10 meters from any process equipment of a stone-crushing unit shall not exceed  $600\mu\text{g}/\text{m}^3$ .
3. The unit shall comply with the standards and guidelines for control of noise pollution from stationary Diesel Generator (DG) set, notified by the MoEF & CC, Govt. of India vide, GSR 7, dated Dec.22, 1998. (Appendix-B)
4. 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

5. 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.  $\text{PM}_{2.5}$  &  $\text{PM}_{10}$  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 $10\mu\text{g}$ ) or $\text{PM}_{10}$ ( $\mu\text{g}/\text{m}^3$ )	Annual* 24 hours**	60 100	60 100
2.	Particulate Matter (size less than $2.5\mu\text{g}$ ) or $\text{PM}_{2.5}$ ( $\mu\text{g}/\text{m}^3$ )	Annual* 24 hours**	40 60	40 60

*Handwritten signature/initials*

Contd...p/3

B) Water Aspects:

1. i. Storm water shall not be allowed to mix with effluent and/or floor washings.
  - ii. Storm water within the battery limits shall be channelized through separate drain/pipe passing through an Oil and Grease Trap cum Sedimentation Tank.
  - iii. 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 - C).
2. 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 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. Solid waste generated in the unit shall be disposed of as per the provisions of Solid Waste Management Rules, 2016.

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. The Board will have the liberty to withdraw the CTO, if adequate pollution control and safety measures are not implemented by the unit.

Sd/-  
(Shantanu Kr. Dutta)  
Member Secretary

Dated Guwahati, the 11<sup>th</sup> Jan. 2023

Memo No. WB/SLC/T-1184/21-22/16 -A  
Copy to: 2549

- ✓ 1. M/s Larsen & Toubro Ltd., Vill - Longku, P.O. Umtrangso, Dist. Dima Hasao, Assam-788931 - for information and compliance of conditions. The modified CTO issued in suppression of earlier order No.WB/SLC/T-1184/21-22/09/1152, dtd. 07.12.2021 and inconsideration of request of Project Manager vide letter No.LKHEP-PKG2/LNT/155/GL/218, dtd. 12.12.2022.

Sd/-  
(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 11<sup>th</sup> 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.	
[Redacted]	
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 11<sup>th</sup> 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](http://www.pcbassam.org)), PCBA.

*[Signature]*  
**Member Secretary**



## APPENDIX - B



### 3.66.0 STANDARDS AND GUIDELINES FOR CONTROL OF NOISE POLLUTION FROM STATIONARY DIESEL GENERATOR (DG) SETS.

#### (A) Noise standards for DG sets (15-500KVA)

The total sound power level LW of DG set should less than  $94 + 10 \log 10KVA$ , dB (A) at the manufacturing stage, whether, KVA is the nominal power rating of a DG set.

The level should fall by 5dB (A) every five years, till 2007, i.e. in 2002 and then in 2007

#### (B) Mandatory Acoustic enclosure/Acoustic treatment of room for stationary DG sets (5KVA and above):

Noise from the DG set should be controlled by providing an acoustic enclosure or by treating the room acoustically.

The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB (A) insertion Loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/acoustic treatment. Under circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion Loss may be done at different points at 0.5 from the acoustic enclosure/room, and then averaged. (See the Schematic Diagram).

The DG set should also be provided with proper exhaust muffler with insertion Loss of minimum 25 dB (A).

#### Guidelines for the manufacturers Users of DG sets 5KVA and above:

- The manufacture should offer to the user a standard acoustic enclosure of 25dB(A). Insertion Loss and also a suitable exhaust muffler with Insertion Loss of 25dB(A).
- The user should make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirements by proper siting and control measures.
- The manufacturer should furnish noise power levels of the unsalaried DG sets as per standards prescribed under (A).
- The total sound power level of a DG set, at the user's end, shall be within 2dB(A) of the total sound power level of the DG set, at the manufacturing stage, as prescribed under (A).
- Installation of DG set must be strictly in compliance with the recommendation of the DG set manufacture.
- A proper routines and preventive maintenance procedure for the DG set manufacturer which would help prevent noise levels of the DG set from deteriorating with use.

### 2.44.0 NOISE (AMBIENT STANDARDS)

Area Code	Category of Area	Limit in dB(A) Leq.	
		Day time	Night time
A.	Industrial area	75	70
B.	Commercial area	65	55
C.	Residential area	55	45
D.	Silence Zone	50	40

Note - 1 : Day time is reckoned in between 6.00 A.M. and 9.00 P.M.

Note - 2 : Night time is reckoned in between 9.00P.M. and 6.00 A.M.

Note - 3 : Silence zone is defined as areas up to 100 meters around such premises as hospitals, educational institutions and courts. The silence zones are to be declared by the competent Authority.

Note - 4 : Mixed categories of areas should be declared as one of the four above mentioned categories by the competent Authority and the corresponding standard shall apply.

*Source: EPA, 1986  
[GSR 7, dated Dec.22, 1998]*



Source : EPA, Notification  
[GSR 1063 (E), dated Dec., 26, 1998]

### 3.22.0 DIESEL GENERATOR SETS - STACK HEIGHT

1. The minimum stack height to be provided with each generator set shall be worked out as per the following formula -  $H = h + 0.2 \sqrt{\text{KVA}}$ , where H = Total height of stack in meter.

h = Height of the building in meters where generator set is installed.

KVA = Total generator capacity.

Adequate fire fighting measures have to be provided by the occupier of the premises. Based on the above formula the minimum stack height to be provided with different range of generator sets may be categories as follows:

Range of Generator sets	Minimum Stack Height
50 KVA	Ht. of the building + 1.5 metre.
50 - 100 KVA	Ht. of the building + 2.0 metre.
100 - 150 KVA	Ht. of the building + 2.5 metre.
150 - 200 KVA	Ht. of the building + 3.0 metre.
200 - 250 KVA	Ht. of the building + 3.5 metre.
250 - 300 KVA	Ht. of the building + 3.5 metre.

Similarly for higher KVA rating a stack height can be worked out using the above formula.

Source : Evolved by CPCB  
[Emission Regulations Part-IV: COINDS/26 1986-87]

#### 4. A .32.0 Part - C

Sl. No. 1 Stack Gas : PM - 150  $\mu\text{g}/\text{Nm}^3$

B. Ambient Air Standards:

Residential Area	Industrial Area	Sensitive Area
SO <sub>2</sub> - 80* $\mu\text{g}/\text{m}^3$	120* $\mu\text{g}/\text{m}^3$	30* $\mu\text{g}/\text{m}^3$
NO <sub>2</sub> - 80* $\mu\text{g}/\text{m}^3$	120* $\mu\text{g}/\text{m}^3$	30* $\mu\text{g}/\text{m}^3$
CO - 2.0** $\mu\text{g}/\text{m}^3$	5.0** $\mu\text{g}/\text{m}^3$	1.0** $\mu\text{g}/\text{m}^3$

\*24 hourly; \*\* 8 hourly

#### 5. SCHEMATIC DIAGRAM OF D.G. SET IN AN ACOUSTIC ENCLOSURE No. Process/71/1998-99.

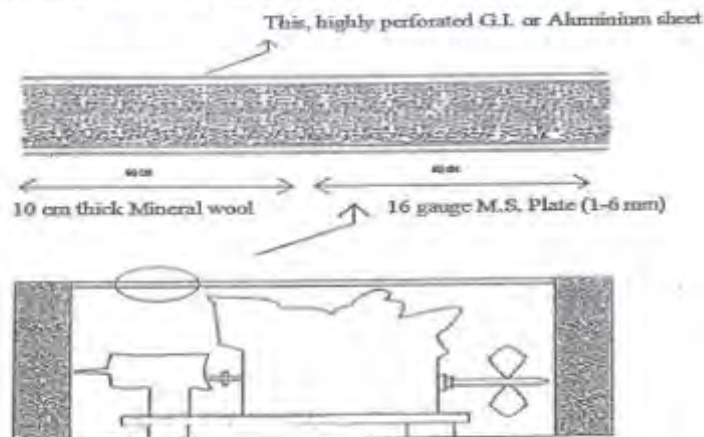


Fig. 4 Schematic Diagram of the DG set in an Acoustic Enclosure

Air required for the ventilation and breathing of the engine will have to be provided by means of intake louvers and exhaust louvers (called parallel baffle mufflers) projecting out of the enclosure.

Sm

## General Standards for discharge of environment Pollutants Part-A: Effluents

S. No.	Parameter	Standards			
		Inland surface water	public Sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	(c)	(d)
1	Color and Odor	5 to 25 Agreeable	-	5 to 25 Agreeable	5 to 25 Agreeable
2	Suspended Solids mg/l, Max.	100	600	200	(a) For process waste water-100 (b) For Cooling water effluent 10 percent above total suspended matter of influent
3	Particular size of suspended solids	Shall pass 850 micron IS Sieve	-	-	(a) Floatable solids, max. 3 mm (b) Settleable solids, max 850 microns
4*	---	-	-	---	-
5	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6	Temperature	Shall not exceed 5°C above the receiving water temperature	-	-	Shall not exceed 5°C above the receiving water temperature
7	Oil and grease mg/L Max	30	20	10	20
8	Total residual chlorine mg/l, Max	1.0	-	-	1.0
9	Ammonical nitrogen (as N), mg/1 max.	50	50	-	50
10	Total Kjeldhal nitrogen (as NH <sub>3</sub> ) mg/l, Max	100	-	-	100
11	Free Ammonia (as NH <sub>3</sub> ) mg/1, Max	5.0	-	-	5.0
12	Biochemical oxygen demand (5 days at 20°C), mg/1 Max)	30	350	100	100
13	Chemical Oxygen demand, mg/1 Max	250	-	-	250
14	Arsenic (as As) mg/1 Max	0.2	0.2	0.2	0.2
15	Mercury (As Hg), mg/1 max)	0.01	0.01	-	0.01
16	Lead (as Pb) mg/L, Max	0.1	1.0	-	2.0
17	Cadmium (as Cd) mg/1, Max	2.0	1.0	-	2.0
18	Hexavalent chromium, (as Cr) mg/1, Max	0.1	2.0	-	1.0
19	Total chromium (as Cr) mg/l, Max	2.0	2.0	-	2.0

20	Copper (as Cu) g/l, Max	3.0	3.0	-	3.0
21	Zinc (as Zn) mg/l, Max	5.0	15	-	15
22	Selenium (as Se) mg/l, Max	0.05	0.05	-	0.05
23	Nickel (as Ni) mg/l, Max	3.0	3.0	-	5.0
24*	-	-	-	-	-
25*	-	-	-	-	-
26	-	-	-	-	-
27	Cyanide (as CN), mg/l Max	0.2	2.0	0.2	0.2
28*	-	-	-	-	-
29	Fluoride (as F) mg/l Max	2.0	15	-	15
30	Dissolved Phosphates (as P), mg/l Max	5.0	-	-	-
31*	-	-	-	-	-
32	Sulphide (as S) mg/l Max	2.0	-	-	5.0
33	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l Max	1.0	5.0	-	5.0
34	Radioactive materials:				
	(a) Alpha emitter micro-curie/ml	10 <sup>-7</sup>	10 <sup>-7</sup>	10 <sup>-8</sup>	10 <sup>-7</sup>
	(b) Beta emitter micro-curie/ml	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-7</sup>	10 <sup>-6</sup>
35	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
36	Manganese (as Mn) *	2 mg/l	2 mg/l	-	2 mg/l
37	Iron (as Fe)	3 mg/l	3 mg/l	-	3 mg/l
38	Vanadium (asV)	0.2 mg/l	0.2 mg/l	-	0.2 mg/l
39	Nitrate Nitrogen	10 mg/l	-	-	20 mg/l
40	-	-	-	-	-

\* Omitted by Rule 2 (d) (i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No. G.S.R 801 (E) dated 31.12.1993

13/43

Annexure 6 Permission for Fuel Dispensing Unit from Controller of Explosives.



भारत सरकार  
Government of India  
वाणिज्य और उद्योग मंत्रालय  
Ministry of Commerce & Industry  
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)  
Petroleum & Explosives Safety Organisation (PESO)  
घर क्रमांक- २१६, दूसरी मंजिल, IDBI बैंक के ऊपर, चांदमारी, गुवाहाटी, आसाम -७८१०२१  
गुवाहाटी- 781021  
House No. 216, 2nd Floor, above IDBI, Chandmari, Guwahati,  
Assam - 781021

E-mail : dycceguwahati@explosives.gov.in  
Phone/Fax No : 0361 - 2652783,2655144

संख्या /No. : P/EG/AS/14/1630 (P502141)

दिनांक /Dated : 18/01/2023

रोया में  
/To,

M/s. Larsen & Toubro Limited,  
VIII- Longku, P.O. Longku BO, P.S. Umrangso,  
Longku,  
Longku,  
Taluka: Umrangso,  
District: DIMA HASAO,  
State: Assam  
PIN: 788931

विषय /Sub : Plot No, NII, 120 MW-Lower KopIII HEP(Package-2), VIII- Longku, P.O. Lonhku BO, Longku, Umrangso, Taluka: Umrangso,  
District: DIMA HASAO, State: Assam, PIN: 788931 में स्थित विद्यमान पेट्रोलियम वर्ग B Consumer Pump की अनुज्ञप्ति संख्या P/EG/AS/14/1630  
(P502141) - नवीकरण के सदर्भ में।  
Existing Petroleum Class B Consumer Pump at Plot No, NII, 120 MW-Lower KopIII HEP(Package-2), VIII- Longku, P.O. Lonhku BO,  
Longku, Umrangso, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 - Licence No. P/EG/AS/14/1630  
(P502141) - Reg Renewal of Licence.

महोदय  
/Sir(s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या OIN1279452 दिनांक 09/01/2023 का संदर्भ ग्रहण करें।  
Please refer to your letter No. OIN1279452 dated 09/01/2023 on the subject.

अनुज्ञप्ति सं P/EG/AS/14/1630 (P502141) दिनांक 06/12/2021 दिनांक 31/12/2023 तक नवीनीकृत कर लौटाई जा रही है।  
Licence No. P/EG/AS/14/1630 (P502141) dated 06/12/2021 is returned herewith duly renewed upto 31/12/2023.

कृपया पेट्रोलियम नियम 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें। अनुज्ञप्ति के नवीकरण हेतु समस्त दस्तावेजों को दिनांक 31/12/2023 या उससे पहले इस कार्यालय में प्रस्तुत करें।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence so as to reach this office on or before 31/12/2023.

कृपया पावती दें। Please acknowledge the receipt.

भवदीय /Yours faithfully,

(यू. एस. भांगे)  
(UJWAL SHANKAR BHANGE)  
विस्फोटक नियंत्रक  
Controller of Explosives  
कृते संपुक्त मुख्य विस्फोटक नियंत्रक  
For Jt. Chief Controller of Explosives  
गुवाहाटी/Assam

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें)  
(For more information regarding status, fees and other details please visit our website: <http://peso.gov.in>)

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

Annexure 7 Permission for fuel dispensing unit from Jt. Controller of explosives, EG, Assam

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 उराके 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 उपबंध नक्शा संख्या P/EG/AS/14/1630(P502141) तारीख 18/01/2023 में दिखाया गया है, के लिए विधिमान्य 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 18/01/2023 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 2023 तक विधिमान्य रहेगी।

The Licence shall remain in force till the 31st day of December 2023

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/हस्ताचालित NIL डिस्पोन्सिंग पंपों 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/हस्ताचालित 1 डिस्पोन्सिंग पंपों 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/किगोरक

c A sales room/kiosk

घ सर्विस साबन्धी सुविधाएं जिन्होंने 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 8 CTE for RO Plant



**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](http://www.pcbassam.org)



No. WB/SUC/T-1269/22-23/A

Dated Guwahati, the 14<sup>th</sup> Mar, 2023

**CONSENT TO ESTABLISH**

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

- |      |  |   |
|------|--|---|
| i)   | Name of the unit                                   | : M/s Larsen and Turbo Ltd.   |
| ii)  | Name of the Occupier/<br>Applicant and Designation | : Santanu Majumdar  |
| iii) | Address of the unit                                | : 120 MW Lower Kopili Hydro Electric Project,<br>Longku, Umrungso, Dima Hasao, PIN:788931 |
| iv)  | Type & Category of Project                         | : Water treatment Plant (15 KLD)<br>(Green Category).                                     |
| v)   | Cost of the project                                | : Rs. 3.56 Lakhs.   |
| vi)  | Details of Products                                | : As per Annexure -A  |

**TERMS AND CONDITIONS**

**General Conditions:-**

1. This Consent to Establish (CTE) has been accorded based on the particulars furnished by the applicant vide Application ID 1715611 and subject to addition of further or more conditions if so warranted by subsequent developments. The CTE will automatically become invalid if any change or alteration or deviation is made in actual practice.
2. This CTE will be valid till the date of commissioning of the unit or five (5) 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 is received.
4. The unit shall obtain prior 'Consent to Establish' from the Board for any further expansion, alteration, modification, modernization of the project.
5. The unit shall obtain Consent to Operate (CTO) from the Board before starting the unit.
6. The project authority shall install a Display Board as per the Board's notification no. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021. (Appendix-B).
7. The project proponent shall develop a greenbelt/plantation area with native trees covering at-least 33% of the total plot area.

Contd... p2

13/3/23



Specific Conditions:-

A. Air / Emission Aspect:

- (c) The unit comply with the ambient noise level standard, notified by MoEF & CC, GOI vide GSR 7, dated Dec.22, 1998, as mentioned here-in-under:

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

B. Water Aspect:

1. Source of Water (Ground/Surface) : Longku Nala
2. The possibility of utilization of rejected water from R.O. system shall be worked out to distribute water to nearby needy population at free of cost. Besides, R.O. rejects could also be sold to nearby industries, if required water quality criteria is fulfilled.
3. i) Storm Water shall not be allowed to mix with effluent, if any, and/or floor washings.  
ii) Storm Water within the battery limit shall be channelized through separate drain/pipe passing through an Oil & Grease Catch Pit cum Sedimentation Tank.
4. For storm water discharge, the unit shall comply with the general effluent discharge parameters standard, notified by MoEF & CC, GOI vide G.S.R.422 (E) dtd. 19.05.1993 (Appendix-C)
5. Rain water harvesting facility shall be installed and maintained.

C. Solid Waste Aspect

1. The non-hazardous solid waste generated from the unit shall be disposed of scientifically as per the provisions of the Solid Waste Management Rules, 2016.
2. Adequate system shall be adopted for reduction of waste generation and enhancement of re-utilization & recycling of waste materials.
3. Proper housekeeping shall be maintained. The unit shall not burn any waste in the facility premises.

D. Plastic Waste Aspect:

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 waste within 30<sup>th</sup> June every year.

E. Hazardous Waste Aspect:

1. Authorization under the Hazardous & Other Waste (Management and Trans Boundary Movement) Rules, 2016 shall be obtained from the Board.
2. The project authorities shall comply with the provisions of the said Rules.
3. Adequate facilities 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 shall submit annual return in Form-IV under the said rules on or before 30<sup>th</sup> June every year.

*MS/45*


Contd...p/3



F. E-Waste Aspects:

The unit shall comply with the provisions of the E- Waste Management Rules, 2022.

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 concerned Regional Office, Silchar, PCBA, till the completion of the project. The Board will have the liberty to withdraw the CTE if adequate pollution control and safety measures are not implemented by the unit.

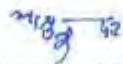
  
(Shantanu Kr. Dutta)  
Member Secretary

Memo No. WB/SLC/T-1269/22-23/4-A / 3073

Dated Guwahati, the 14<sup>th</sup> Mar, 2023

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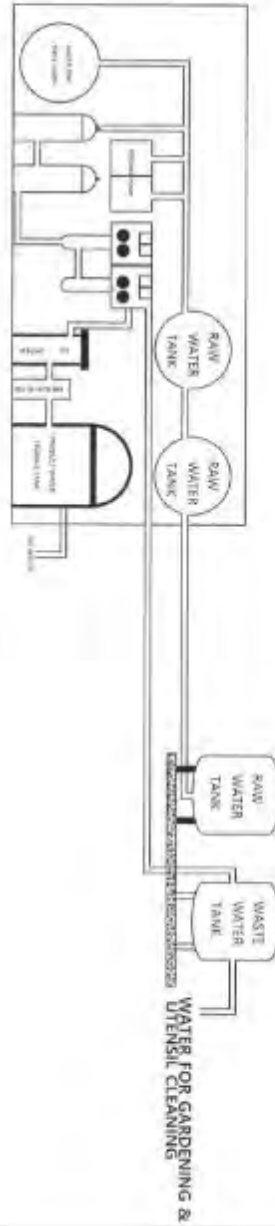
✓ M/s Larsen and Turbo Ltd., 120 MW Lower Kopili HEP, Longku, Umrangso, Dima Hasao.  
PIN:788931 for information and compliance of conditions.

  
(Shantanu Kr. Dutta)  
Member Secretary

Annexure - A



RO WATER TREATMENT PLANT FLOW DIAGRAM



msb  
13.1

TITLE :- RO WATER TREATMENT PLANT
PROJECT:-120 MW LOWER KOPILI HYDRO ELECTRIC PROJECT



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



**NOTIFICATION**

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

Dated Guwahati, the 11<sup>th</sup> 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.	
Description 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  
Copy to:

Dated Guwahati, the 11<sup>th</sup> Nov, 2021

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](http://www.pcbassam.org)), PCBA.

  
**Member Secretary**

## General Standards for discharge of environment Pollutants Part-A: Effluents

S. No.	Parameter	Standards			
		Inland surface water	public Sewers	Land for irrigation	Marine coastal areas
1	2	3			
		(a)	(b)	©	(d)
1	Color and Odor	5 to 25 Agreeable	-	5 to 25 Agreeable	5 to 25 Agreeable
2	Suspended Solids mg/l, Max.	100	600	200	(a) For process waste water-100 (b) For Cooling water effluent 10 percent above total suspended matter of influent
3	Particular size of suspended solids	Shall pass 850 micron IS Sieve	-	-	(a) Floatable solids, max. 3 mm (b) Settleable solids, max 850 microns
4*	---	-	-	---	-
5	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6	Temperature	Shall not exceed 5°C above the receiving water temperature	-	-	Shall not exceed 5°C above the receiving water temperature
7	Oil and grease mg/L Max	10	20	10	20
8	Total residual chlorine mg/l, Max	1.0	-	-	1.0
9	Ammonical nitrogen (as N), mg/1 max.	50	50	-	50
10	Total Kjeldhal nitrogen (as NH <sub>3</sub> ) mg/l, Max	100	-	-	100
11	Free Ammonia (as NH <sub>3</sub> ) mg/1, Max	5.0	-	-	5.0
12	Biochemical oxygen demand (5 days at 20°C), mg/1 Max	30	350	100	100
13	Chemical Oxygen demand, mg/1 Max	250	-	-	250
14	Arsenic (as As) mg/1 Max	0.2	0.2	0.2	0.2
15	Mercury (As Hg), mg/1 max]	0.01	0.01	-	0.01
16	Lead (as Pb) mg/L, Max	0.1	1.0	-	2.0
17	Cadmium (as Cd) mg/1, Max	2.0	1.0	-	2.0
18	Hexavalent chromium, (as Cr) mg/1, Max	0.1	2.0	-	1.0
19	Total chromium (as Cr) mg/l, Max	2.0	2.0	-	2.0

Contd...p/2



-2-					
20	Copper (as Cu) g/l, Max	3.0	3.0	-	3.0
21	Zinc (as Zn) mg/l,Max	5.0	15	-	15
22	Selenium (as Se) mg/l, Max	0.05	0.05	-	0.05
23	Nickel (as Ni) mg/l,Max	3.0	3.0	-	5.0
24*	-	-	-	-	-
25*	-	-	-	-	-
26	-	-	-	-	-
27	Cyanide (as CN), mg/l Max	0.2	2.0	0.2	0.2
28*	-	-	-	-	-
29	Fluoride (as F) mg/l Max	2.0	15	-	15
30	Dissolved Phosphates (as p), mg/l Max	5.0	-	-	-
31*	-	-	-	-	-
32	Sulphide (as S) mg/l Max	2.0	-	-	5.0
33	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l Max	1.0	5.0	-	5.0
34	Radioactive materials:				
	(a)Alpha emitter micro curie/ml	10 <sup>-7</sup>	10 <sup>-7</sup>	10 <sup>-8</sup>	10 <sup>-7</sup>
	(b) Beta emitter micro curie/ml	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-7</sup>	10 <sup>-6</sup>
35	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
36	Manganese (as Mn)	2 mg/l	2 mg/l	-	2 mg/l
37	Iron (as Fe)	3 mg/l	3 mg/l	-	3 mg/l
38	Vanadium (asV)	0.2 mg/l	0.2 mg/l	-	0.2 mg/l
39	Nitrate Nitrogen	10 mg/l	-	-	20 mg/l
40	-	-	-	-	-

\* Omitted by Rule 2 (d) (i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No. G.S.R 801 (E) dated 31.12.1993

21/12/19

Annexure 9 CTO for RO Plant



**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](http://www.pcbassam.org)



No. WB/SLC/T-1269/22-23/9

Dated Guwahati, the 26<sup>th</sup> Apr., 2023

**"CONSENT TO OPERATE"**

"CONSENT TO OPERATE" (CTO) under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974, as amended and Rules Framed thereunder are granted to:

- |  |   |   |
|--|---|---|
| i) Name of Industry                                  | : | M/s Larsen and Turbo Ltd.   |
| ii) Name of the Occupier / Applicant and Designation | : | Shri Santanu Majumdar, Project Manager.   |
| iii) Address of the unit                             | : | 120 MW Lower Kopili Hydro Electric Project, Vill: Longku, P.O.: Umrangso, Dist: Dima Hasao, Assam, PIN: 788931. |
| iv) Cost of the project                              | : | Rs. 3.56 Lakhs.   |
| v) Details of the Project                            | : | Water Treatment Plant (15 MLD) (Green Category)   |

**TERMS AND CONDITIONS**

1. This CTO has been granted based on the information & particulars furnished by the applicant vide **Application ID: 1913145** 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 made in actual practice.
2. The CTO is valid till **31.03.2024**.
3. The CTO 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 CTO;
  - b) Obtaining the CTO by misrepresentation or failure to disclose fully all relevant facts;
  - c) If any genuine complaint received.
4. 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.
5. The project proponent shall develop a greenbelt/plantation area with native trees.
6. 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 (Annexure-A)**.

a. Contd...p/2



7. Proper housekeeping shall be maintained. Burning of any Solid waste inside the unit premises is strictly prohibited.
8. Permission of the Central Ground Water Authority shall be obtained for extraction of Ground Water, if applicable.
9. The unit shall apply for renewal of CTO atleast 90 days before expiry. The Board has decided to renew CTO for five (5) years, if the project proponent submits application with due payment of CTO fees.

**Specific Conditions:**

**A) Water Aspects:**

1. The unit shall meet the specific discharge standard, as mentioned herein under for any discharge from the water treatment plant including RO rejects:

Sl. No.	Parameters	Tolerance Limit
i)	pH	6.0 to 8.5
ii)	Total Suspended Solids	20 mg/l (max.)
iii)	Bio-chemical Oxygen Demand	30 mg/l (max.)
iv)	Chemical Oxygen Demand	250 mg/l (max.)
v)	Oil & Grease	5.0 mg/l (max.)
vi)	Other parameters	As per schedule-VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R 422(E) dated 19.05.1993

2. Water consumption & effluent generation:
  - a) Raw water consumption - 25 KLD
  - b) R.O. reject water - 10 KLD
3. Storm water for a unit (having plot size atleast 200 sq. meters) shall not be allowed to mix with effluent and/or floor washings.
4. Storm water within the battery limits of a unit shall be channelized through separate drain/pipe passing through a HDPE lined pit having holding capacity of 10 minutes (hourly average) of rainfall.
5. Rain water harvesting facility shall be installed and maintained.
6. Quality of R.O. reject shall be tested and if possible use of such water including selling or free distribution to nearby people/agencies shall be explored.

**B) 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.**

**C) Plastic Waste Aspects:**

1. Plastic Waste generated in the unit shall be disposed of in accordance of the provisions under the **Plastic Waste Management Rules, 2016.**

Contd...p/3

*Handwritten signature/initials*



**D) Hazardous Waste Aspects:**

1. The project authorities shall comply with the provisions of the Hazardous & Other Waste/ (Management and Trans Boundary Movement) Rules, 2016.
2. The containers containing chemical should be stored and disposed as per the Hazardous and Other Waste (Management & Trans-boundary Movement) Rules, 2016.
3. Appropriate facility shall be created for handling, storage, treatment & disposal of any Hazardous waste generated by the industry in accordance to the provisions of the HOW Rule including Notification, Guidelines issued there under.
4. The unit should submit the annual return under the said Rule, in Form-IV, within 30<sup>th</sup> 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 30<sup>th</sup> June every year.

The unit shall submit compliance report of the mandated conditions by April, 15, every year to Member Secretary, PCBA as well as to Regional Office, Silchar. 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

Dated Guwahati, the 26<sup>th</sup> Apr, 2023

Memo No. WB/SLE/T-1269/22-23/9-A

Copy to:

✓ M/S. Larsen and Turbo Ltd., 120 MW Lower Kopili Hydro Electric Project, Vill: Longku, P.O.: Umrangso, Dist: Dima Hasao, Assam, PIN:788931 for information & compliance of CTO conditions.

(Shantanu Kr. Dutta)  
Member Secretary





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



**NOTIFICATION**

No. PCBA/LGL-95/2021/Notification/01      Dated Guwahati, the 11<sup>th</sup> 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.	
Description 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-<sup>93</sup>      Dated Guwahati, the 11<sup>th</sup> Nov, 2021  
Copy to:

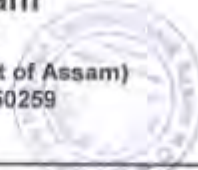
1. The Commissioner & Secretary to the Govt. of Assam, Department of Environment & Forest, Dispur for kind information.
2. P.A. to the Chairman, PCBA for kind appraisal of the Hon'ble Chairman.
3. The All Regional Heads, PCBA for information & necessary action.
4. M/S APS Advertising Pvt. Ltd, Guwahati-1. 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](http://www.pcbassam.org)), PCBA.

*Shankar*  
**Member Secretary**

Annexure 10 CTE for Water Treatment Plant



**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](http://www.pcbassam.org)



No. WB/SLC/T-1271/22-23/7

Dated Guwahati, the 14<sup>th</sup> Mar, 2023

**CONSENT TO ESTABLISH**

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

- i) Name of the unit : M/s Larsen and Turbo Ltd.
- ii) Name of the Occupier/  
Applicant and Designation : Santanu Majumdar
- iii) Address of the unit : 120 MW Lower Kopili Hydro Electric Project,  
Longku, Umrangso, Dima Hasao, PIN:788931
- iv) Type and Category of  
Project : Water Treatment Plant  
(Green Category).
- v) Cost of the project : Rs. 55.72 Lakhs.
- vi) Details of Project : Water Treatment Plant (600 KLD)
- vii) Name of treatment units : As per flow chart enclosed as Annexure- A

**TERMS AND CONDITIONS**

**General Conditions:-**

1. This Consent to Establish (CTE) has been accorded based on the particulars furnished by the applicant vide Application ID 1694651 and subject to addition of further or more conditions if so warranted by subsequent developments. The CTE will automatically become invalid if any change or alteration or deviation is made in actual practice.
2. This CTE will be valid till the date of commissioning of the unit or five (5) 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 is received.
4. The unit shall obtain prior 'Consent to Establish' from the Board for any further expansion, alteration, modification, modernization of the project.
5. The unit shall obtain Consent to Operate (CTO) from the Board before starting the unit.
6. The project authority shall install a Display Board as per the Board's notification no. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021. (Appendix-B).
7. The project proponent shall develop a greenbelt/plantation area with native trees covering at-least 33% of the total plot area.

**Specific Conditions:-**

**A. Air / Emission Aspect:**

1. The unit comply with the ambient noise level standard, notified by MoEF & CC, GOI vide GSR dated Dec.22, 1998, as mentioned here-in-under:

*(Handwritten signature)*

Contd...p/2



-2-

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

**B. Water Aspect:**

1. Source of Water (Ground/Surface) : Longku Nala  
i. Water Consumption : 600 KLD

2. Rain water harvesting facility shall be installed and maintained.

**C. Solid Waste Aspect**

1. The non-hazardous solid waste generated from the unit shall be disposed of scientifically as per the provisions of the Solid Waste Management Rules, 2016.
2. Adequate system shall be adopted for reduction of waste generation and enhancement of re-utilization & recycling of waste materials.
3. Proper housekeeping shall be maintained. The unit shall not burn any waste in the facility premises.

**D. Hazardous Waste Aspect:**

1. Authorization under the Hazardous & Other Waste (Management and Trans Boundary Movement) Rules, 2016 shall be obtained from the Board.
2. The project authorities shall comply with the provisions of the said Rules.
3. Adequate facilities shall be provided for collection and storage of ETP sludge, empty drums of chemicals etc , 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 shall submit annual return in Form-IV under the said rules on or before 30<sup>th</sup> June every year.

**E. E-Waste Aspects:**

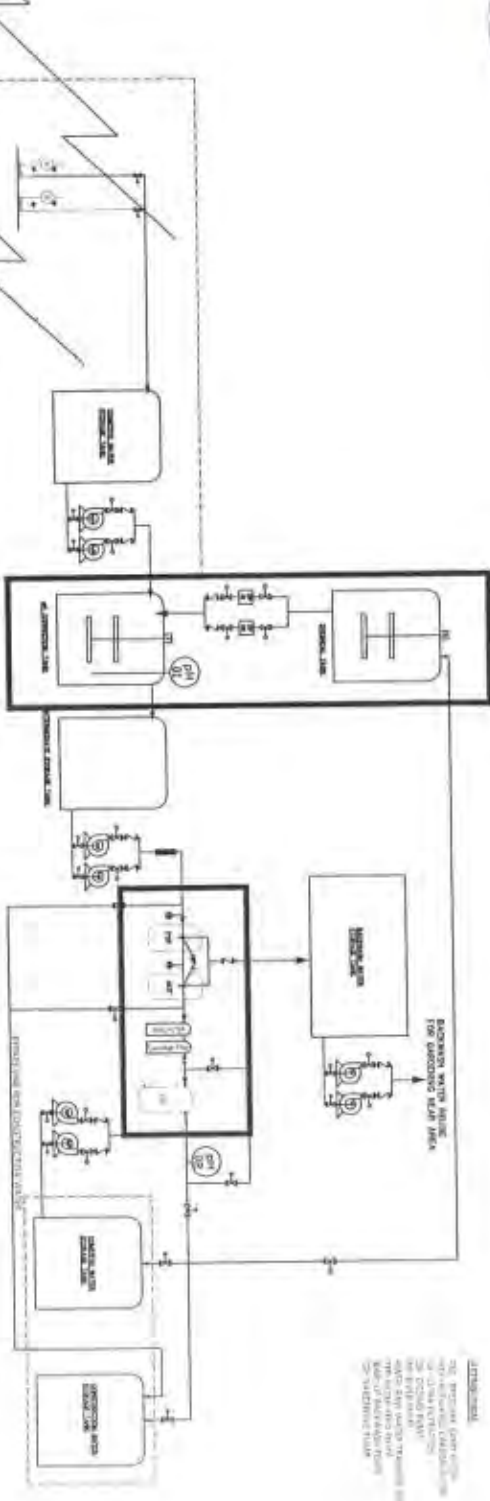
The unit shall comply with the provisions of the E- Waste Management Rules, 2022.

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 concerned Regional Office, Silchar, PCBA, till the completion of the project. The Board will have the liberty to withdraw the CTE if adequate pollution control and safety measures are not implemented by the unit.

(Shantanu Kr. Dutta)  
Member Secretary

Memo No. WB/SLC/T-1271/22-237-A / 3076 Dated Guwahati, the 14<sup>th</sup> Mar, 2023  
Copy to:  
M/s Larsen and Turbo Ltd., 120 MW Lower Kopili Hydro Electric Project, Longku, Umrangso,  
Dimas Hamao, PIN:788931 for information and compliance of conditions.

(Shantanu Kr. Dutta)  
Member Secretary



**NOTE: STORAGE TANK**

<b>TITLE: 600 KLD VTP</b>		
<b>PROJECT: 120KV LOWER KOPILI HYDRO ELECTRIC PROJECT</b>		
<b>DRAWING NO.</b>	<b>REV</b>	<b>DATE</b>
EE/DWG/LAT/600 KLD VTP/001	0	20/11/2018
<b>PREPARED &amp; SUBMITTED BY:</b>		
DNYAIO ENGINEERS, GANDHIDWAGAR		

*Hydraulic - 1*

Appendix - B



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



**NOTIFICATION**

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

Dated Guwahati, the 11<sup>th</sup> 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.	
Description 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  
Copy to:

Dated Guwahati, the 11<sup>th</sup> Nov, 2021

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 "Dainandia Barta" on 12.11.2021.
5. Notice Board, Head Office / Website ([www.pcbassam.org](http://www.pcbassam.org)), PCBA.

**Member Secretary**



**General Standards for discharge of environment Pollutants Part-A: Effluents**

S. No.	Parameter	Standards			
		Inland surface water	public Sewers	Land for Irrigation	Marine coastal areas
1	2	(a)	(b)	3	(d)
1	Color and Odor	5 to 25 Agreeable	-	5 to 25 Agreeable	5 to 25 Agreeable
2	Suspended Solids mg/l, Max.	100	600	200	(a) For process waste water-100 (b) For Cooling water effluent 10 percent above total suspended matter of influent
3	Particular size of suspended solids	Shall pass 850 micron IS Sieve	-	-	(a) Floatable solids, max. 3 mm (b) Settleable solids, max 850 microns
4*					
5	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6	Temperature	Shall not exceed 5°C above the receiving water temperature	-	-	Shall not exceed 5°C above the receiving water temperature
7	Oil and grease mg/L Max	10	20	10	20
8	Total residual chlorine mg/l, Max	1.0	-	-	1.0
9	Ammonical nitrogen (as N), mg/1 max.	50	50	-	50
10	Total Kjeldhal nitrogen (as NH <sub>3</sub> ) mg/l, Max	100	-	-	100
11	Free Ammonia (as NH <sub>3</sub> ) mg/1, Max	5.0	-	-	5.0
12	Biochemical oxygen demand (5 days at 20°C), mg/1 Max	30	350	100	100
13	Chemical Oxygen demand, mg/1 Max	250	-	-	250
14	Arsenic (as As) mg/1 Max	0.2	0.2	0.2	0.2
15	Mercury (As Hg), mg/1 max)	0.01	0.01	-	0.01
16	Lead (as Pb) mg/L, Max	0.1	1.0	-	2.0
17	Cadmium (as Cd) mg/1, Max	2.0	1.0	-	2.0
18	Hexavalent chromium, (as Cr) mg/1, Max	0.1	2.0	-	1.0
19	Total chromium (as Cr) mg/l, Max	2.0	2.0	-	2.0

Contd. p/2



-2-					
20	Copper (as Cu) g/l, Max	3.0	3.0	-	3.0
21	Zinc (as Zn) mg/l, Max	5.0	15	-	15
22	Selenium (as Se) mg/l, Max	0.05	0.05	-	0.05
23	Nickel (as Ni) mg/l, Max	3.0	3.0	-	5.0
24*	-	-	-	-	-
25*	-	-	-	-	-
26	-	-	-	-	-
27	Cyanide (as CN), mg/l Max	0.2	2.0	0.2	0.2
28*	-	-	-	-	-
29	Fluoride (as F) mg/l Max	2.0	15	-	15
30	Dissolved Phosphates (as P), mg/l Max	5.0	-	-	-
31*	-	-	-	-	-
32	Sulphide (as S) mg/l Max	2.0	-	-	5.0
33	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l Max	1.0	5.0	-	5.0
34	Radioactive materials:				
	(a) Alpha emitter micro curie/ml	10 <sup>-7</sup>	10 <sup>-7</sup>	10 <sup>-8</sup>	10 <sup>-7</sup>
	(b) Beta emitter micro curie/ml	10 <sup>-6</sup>	10 <sup>-6</sup>	10 <sup>-7</sup>	10 <sup>-6</sup>
35	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
36	Manganese (as Mn)	2 mg/l	2 mg/l	-	2 mg/l
37	Iron (as Fe)	3 mg/l	3 mg/l	-	3 mg/l
38	Vanadium (as V)	0.2 mg/l	0.2 mg/l	-	0.2 mg/l
39	Nitrate Nitrogen	10 mg/l	-	-	20 mg/l
40	-	-	-	-	-

\* Omitted by Rule 2 (d) (i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No. G.S.R 801 (E) dated 31.12.1993

mg/l

Annexure 11 CTO for Water Treatment Plant



**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](http://www.pcbassam.org)



No. WB/SLC/T-1271/22-23/12

Dated Guwahati, the 26<sup>th</sup> April, 2023

**"CONSENT TO OPERATE"**

"CONSENT TO OPERATE" (CTO) under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974, as amended and Rules Framed thereunder are granted to:

- |      |  |   |  |
|------|--|---|--|
| i)   | Name of Industry                                 | : | M/s Larsen and Turbo Ltd.  |
| ii)  | Name of the Occupier / Applicant and Designation | : | Shri Santanu Majumdar, Project Manager.  |
| iii) | Address of the unit                              | : | 120 MW Lower Kopili Hydro Electric Project, Vill: Longku, P.O.: Umrangso, Dist: Dima Hasao, Assam, PIN:788931. |
| iv)  | Cost of the project                              | : | Rs. 55.72 Lakhs.   |
| v)   | Details of the Project                           | : | Water Treatment Plant (600 KLD) (Green Category).  |
| vii) | Name of treatment units.                         | : | As per flow chart in Annexure- B   |

**TERMS AND CONDITIONS**

1. This CTO has been granted based on the information & particulars furnished by the applicant vide Application ID: 1894033 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 made in actual practice.
2. The CTO is valid till **31.03.2024**.
3. The CTO 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 CTO;
  - b) Obtaining the CTO by misrepresentation or failure to disclose fully all relevant facts;
  - c) If any genuine complaint received.
4. 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.
5. The project proponent shall develop a greenbelt/plantation area with native trees.
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-B).**
7. Proper housekeeping shall be maintained. Burning of any Solid waste inside the unit premises is strictly prohibited.

Contd...p/2





8. Permission of the Central Ground Water Authority shall be obtained for extraction of Ground Water, if applicable.
9. The unit shall apply for renewal of CTO atleast 90 days before expiry. The Board has decided to renew CTO for five (5) years, if the project proponent submits application with due payment of CTO fees.

**Specific Conditions:**

**A) Water Aspects:**

1. The unit shall meet the specific discharge standard, as mentioned herein under for any discharge from the water treatment plant including RO rejects:

Sl. No.	Parameters	Tolerance Limit
i)	pH	6.0 to 8.5
ii)	Total Suspended Solids	20 mg/l (max.)
iii)	Bio-chemical Oxygen Demand	30 mg/l (max.)
iv)	Chemical Oxygen Demand	250 mg/l (max.)
v)	Oil & Grease	5.0 mg/l (max.)
vi)	Other parameters	As per schedule-VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R.422(E) dated 19.05.1993

2. Water consumption & effluent generation:
  - a) Raw water consumption - 600 KLD
  - b) Effluent Generation - 35 KLD (Back wash water)
3. Storm water within the battery limits of a unit shall be channelized through separate drain/pipe passing through a HDPE lined pit having holding capacity of 10 minutes (hourly average) of rainfall.
4. Rain water harvesting facility shall be installed and maintained.

**B) 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.

**C) Plastic Waste Aspects:**

1. Plastic Waste generated in the unit shall be disposed of in accordance of the provisions under the Plastic Waste Management Rules, 2016.

**D) Hazardous Waste Aspects:**

1. The unit shall obtain Authorization under the Hazardous and Other Wastes (Management & Trans-boundary Movement) Rules, 2016.
2. The containers containing chemical should be stored and disposed as per the Hazardous and Other Waste (Management & Trans-boundary Movement) Rules, 2016.

Contd...p/3

23/43

3. Appropriate facility shall be created for handling, storage, treatment & disposal of any Hazardous waste generated by the industry in accordance to the provisions of the HOW Rule including Notification, Guidelines issued there under.
4. The unit should submit the annual return under the said Rule, in Form-IV, within 30<sup>th</sup> 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 30<sup>th</sup> June every year.

The unit shall submit compliance report of the mandated conditions by April, 15, every year to Member Secretary, PCB as well as to Regional Office, Silchar. 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-1271/22-23/12-A

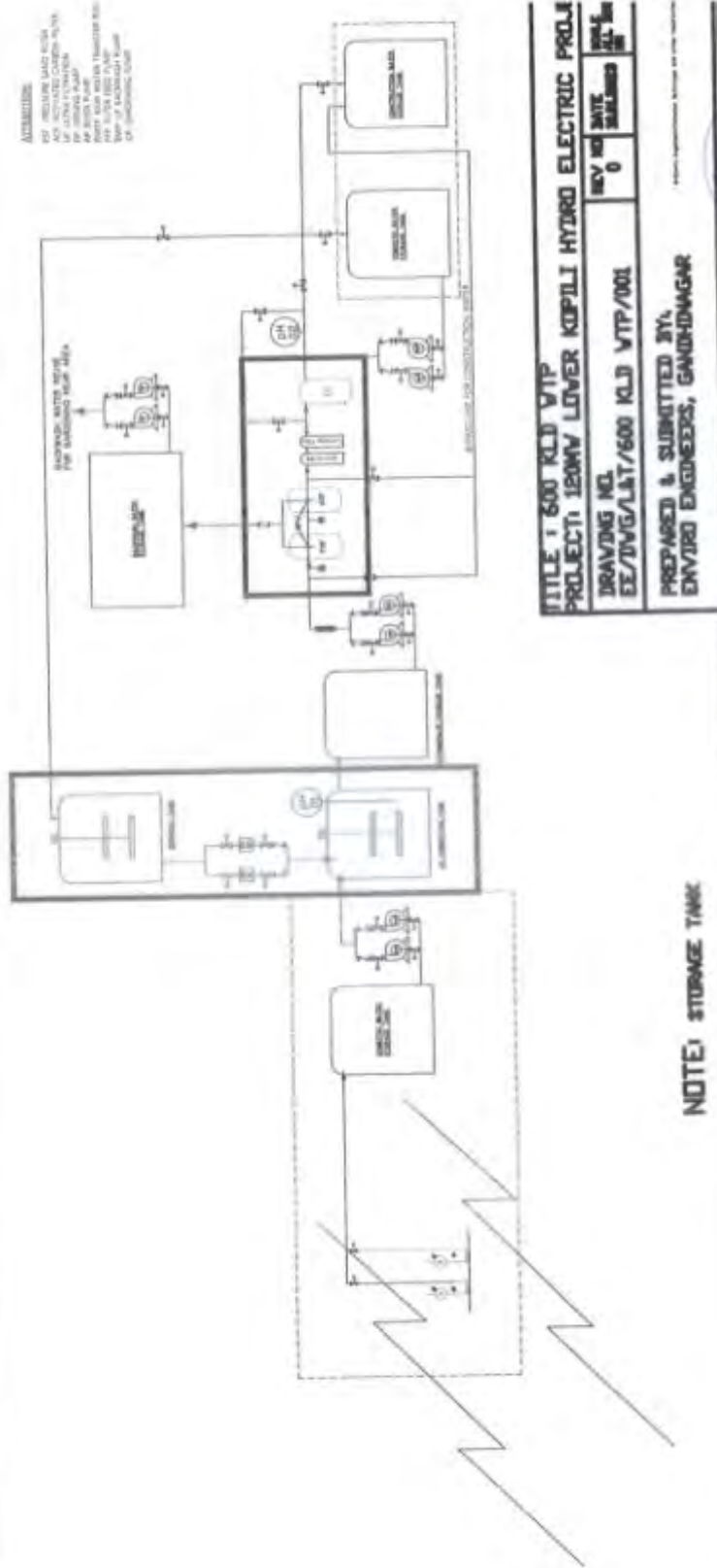
Dated Guwahati, the 26<sup>th</sup> April, 2023

Copy to:

✓ M/S. Larsen and Turbo Ltd. C/O Santanu Majumdar, Project Manager, 120 MW Lower Kopili Hydro Electric Project, Vill: Longju, P.O.: Umrangso, Dist: Dima Hasao, Assam, PIN: 788931 for information & compliance of CTO conditions.

(Shantanu Kr. Dutta)  
Member Secretary

Appendix -A



**TITLE: 600 KLD VTP**  
**PROJECT: 120KV LOWER KOPILI HYDRO ELECTRIC PROJ**  
**DRAWING NO. EE/DMG/LAT/600 KLD VTP/001**  
**REV NO DATE**  
**0**  
**PREPARED & SUBMITTED BY: ENVIRO ENGINEERS, GANDHINAGAR**





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

*Sanjay B*



**NOTIFICATION**

No. PCBA/LGL-95/2021/Notification/01      Dated Guwahati, the 11<sup>th</sup> 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.	
Description 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 11<sup>th</sup> Nov, 2021  
Copy to: *993*

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](http://www.pcbassam.org)), PCBA.

*Sanjay*  
**Member Secretary**

Annexure 121 Copy of the Renewal of NOC from Deputy Commissioner, Dima Hasao for Blasting



GOVT. OF ASSAM

OFFICE OF THE DEPUTY COMMISSIONER::DIMA HASAO DISTRICT::HAFLONG

No. NCH/M-3/2022/ 2159-63

Dated Haflong, the 20 Dec/2022

**NO OBJECTION CERTIFICATE**

Seen letter No. LKHEP-PKG2/LNT/153/GL/152 dated 23/05/2022 submitted by the Project Manager, 120 MW-Lower Kopili HEP (Package-2), Longkhu, Dima Hasao for Larsen & Toubro Ltd. wherein request for extension validity period of NOC issued vide No. NCH/M-8/2021/1639 (A) dated 14/07/2021 for permitting explosive handling and its operation application for construction 120 MW-Lower Kopili Hydroelectric Project which was valid up to 13/07/2022.

The third parties which are M/S R.L. Poddar & North East Associates, Shillong will be solely responsible for explosive handling and its operational application as per prevailing Act, Rules and regulations and for any mishaps related to explosives at the project site. The office of the undersigned hereby grants the **conditional validity extension of the NOC** issued in accordance with powers granted under PESO Rules 2008 provided the following conditions are met:

1. Armed security personnel are to be stationed at the magazine sites at all times.
2. The strength of armed security personnel must be as per that sanctioned by the Home & Political Department, Government of Assam.
3. Armed security personnel are to be present during the conveyance of the explosives from the magazine site to the blasting site and on the return of those vans back to the magazine site.
4. CCTV cameras are to be installed to provide a full view of the entire magazine location and its surroundings with adequate data back-up. Footages should be made available to law & order authorities as and when required.
5. A 9-foot brick wall must be constructed on all sides including the rear side.
6. Local Police Station Officer-in-Charge is to be intimated of timings and dates of blasting activities.
7. Village authorities of villages adjacent to the blasting sites are to be intimated in advance before blasting activities are initiated.

Conditions numbered 1 to 5 above are to be fulfilled by the 31<sup>st</sup> of December 2022 after which this NOC shall be valid till 13/07/2023. However, **if the stated conditions are not met by the 31<sup>st</sup> of December 2022**, this conditional NOC stands cancelled and authority shall cause an **immediate cessation** of blasting activities.



District Magistrate  
Dima Hasao District, Haflong



Memo No. NCH/M-3/2022/  
Copy to:

Dated Haflong, the \_\_\_ Dec/2022.

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, Longkhu, 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. M/S North East Associates, Shillong for kind information.
6. Office Copy.

District Magistrate  
Dima Hasao District, Haflong

## Annexure 13 Fire NOC

 सत्यमेव जयते	<b>GOVT. OF ASSAM</b> <b>OFFICE OF THE DIRECTOR</b> <b>FIRE &amp; EMERGENCY SERVICES, GUWAHATI</b> <b>ASSAM</b>									
UBIN : 299/566476/AAACL0140P/11/2022		UAIN : FIRNOCXII/2023/01873								
<b><u>ACKNOWLEDGEMENT OF RENEWAL NO OBJECTION CERTIFICATE</u></b>										
To, SANTANU MAJUMDAR 120MW LOWER KOPILI HYDRO ELECTRIC PROJECT, LONGKU, DIMA HASAO, DIMA HASAO, Pin 788931										
<p>Subject to the provisions of the Govt. OM No. HMB.362/2019/68 dated 28.06.2022, Corrigendum No. HMB.362/2019/71 dated 08.07.2022 &amp; Letter No. HMB.362/2019/72 dated 08.07.2022 and Self Declaration received in prescribed form on dated 28/03/2023, renewal of the Fire Safety No Objection Certificate for the purpose of EXPLOSIVE MAGAZINE is hereby granted to the building or premises under the name and style LARSEN AND TOUBRO LIMITED and as per description below at Dag No. NIL (PROJECT LAND), Patta No. NIL (PROJECT LAND), Mouza LONGKU, (Place - 120MW LOWER KOPILI HYDRO ELECTRIC PROJECT, LONGKU, DIMA HASAO, DIMA HASAO) for a period of 1 Year from the date of issue unless the No Objection Certificate has not been cancelled or suspended for non-compliance of any of the conditions of the undertaking submitted by the owner or occupier of the building or premises.</p>										
<b><u>DETAILS OF APPROVED OCCUPATION</u></b>										
<table border="1"><thead><tr><th>S. No.</th><th>Floor</th><th>Floor Area</th><th>Purpose of Utilization</th></tr></thead><tbody><tr><td>1</td><td>GROUND FLOOR</td><td>28.2 SQM</td><td>EXPLOSIVE MAGAZINE</td></tr></tbody></table>			S. No.	Floor	Floor Area	Purpose of Utilization	1	GROUND FLOOR	28.2 SQM	EXPLOSIVE MAGAZINE
S. No.	Floor	Floor Area	Purpose of Utilization							
1	GROUND FLOOR	28.2 SQM	EXPLOSIVE MAGAZINE							
Hazard Category: <b>High Hazard</b>										
THIS NOC IS VALID UP TO <b>28/3/2024</b>										
Place of issue: <b>GUWAHATI</b>										
Date of issue : <b>30/03/2023</b>										
Director of Fire and Emergency Services, <u>Assam, Guwahati.</u>										
<b>CONDITIONS :</b>										
<ol style="list-style-type: none"><li>1. This N.O.C. is not transferable in respect of name, place and purpose of utilization.</li><li>2. There should not be any change or alteration of Trade/purpose of utilization for which this N.O.C. has been issued.</li><li>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.</li><li>4. It will be compulsory to obtain fresh Fire Safety No Objection Certificate from Assam Fire &amp; Emergency Services prior to any change in occupation or alteration to building or premises.</li><li>5. The Fire Fighting equipments should be in serviceable condition at all times.</li><li>6. Water reservoir should always be kept full up to brim.</li><li>7. The entrance and exit and the water reservoir should always be free from any obstruction/projection.</li></ol>										

Reference No: FIRNOCXII/2023/01873 To View: <https://eodf.assam.gov.in/ULPTw/8683C37F> Token No: 8683C37F

8. The responsibility to continuously maintain fire prevention and life safety measures provided in the building or premises shall be of the owner or occupier or association of such owners or occupiers of the building or premises and the fire fighting arrangement should be in workable condition round the clock.
9. **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 and would lead to penalty/disconnection of power supply/cancellation of Trade License/sealing the building or premises etc.**

Director of Fire and Emergency Services,  
Assam, Guwahati.



Note : This certificate is computer generated and does not require any Seal/Signature.

## Annexure 14 Renewed Blasting permission under Karbi Anglong



GOVERNMENT OF ASSAM

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

e-mail: dc.westkarbianglong@gov.assam

No.HCA.26/2022/07

October 14, 2022

27<sup>th</sup> Ahin, 1429 Bhaskarabda

### **ORDER**

Seen the report of the Superintendent of Police, West Karbi Anglong vide letter No. HRN/DSB/60/2022/766 dated 13<sup>th</sup> October, 2022 and Divisional Forest Officer, Hamren Vide letter No. A/HRN/ Blasting/2021-22/897-98 dated 12/09/2022 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.





# Environmental Monitoring Report

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**PUBLIC**

Semestral Report: January 2023 – June 2023  
February 2024

## India: Assam Power Sector Investment Program - Tranche 3

Part 2 of 2: Annexure 14 (continued) and Annexures 15 – 27

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.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, ADB does not intend to make any judgments as to the legal or other status of any territory or area.

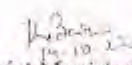
**Asian Development Bank**

16. An announcement regarding the blasting must be done before the execution of blasting in surrounding area by the applicant.
17. 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- 2) at Longku, West Karbi Anglong.
18. No trees shall be uprooted, cut or damaged in the Reserve Forest due to the blasting operation.
19. The blasting must be executed in presence of authorized Explosive Expert.
20. The details of carrying and blasting of explosive must be communicated to the district administration.
21. 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.
22. 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.
23. Intimation to the district Administration from time to time about the progress.
24. 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.

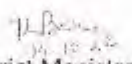
This permission is valid up to 13<sup>th</sup> April, 2023.

Memo. No.HCA.26/2022/07-A

  
 District Magistrate  
 West Karbi Anglong, Hamren.  
 West Karbi Anglong  
 October 14, 2022  
 27<sup>th</sup> Ahin, 1429 Bhaskarabda

Copy to:-

1. The Secretary to the Govt. of Assam, General Administration Department, Dispur, Guwahati-6 for favour of information.
2. The Principal Secretary, KAAC, Diphu for 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 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.

  
 District Magistrate  
 West Karbi Anglong, Hamren.  
 West Karbi Anglong  
 Hamren  
 14-10-2022

Annexure 15 Renewed Labour License of CP2

STOP CHILD LABOUR

  
**FORM-VI**  
[See Rule-25(1)]

**Office of the Commissionerate of Labour**  
**LICENSE UNDER CONTRACT LABOUR (REGULATION & ABOLITION) ACT, 1970**

**UBIN :** 299/566476/AAACL0140P/11/2022  
**UAIN :** LCFORMIVCL/2022/22183  
**License No. :** CLL/2022/22183  
**Date of Issue :** 06/12/2022

1. Licence is hereby granted to **LARSEN AND TOUBRO LIMITED** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in the Annexure.

2. The Licence is for doing the work of **CIVIL, HYDRO, MECHANICAL AND ELECTRICAL WORKS FOR CONSTRUCTION OF 120 MW LOWER KOPILI HEP**, in the Establishment of **CHIEF GENERAL MANAGER PP AND I APGCL**, C/O. **ASSAM POWER GENERATION CORPORATION LIMITED** at **PALTAN BAZAR, GUWAHATI, KAMRUP METRO - 781001, ASSAM**.

3. The Licence shall remain in force till **09/12/2023**.

4. Maximum No of contract labour proposed to be employed in the establishment on any date : **1000 nos.**



**KIMTING SINGSON** Digitally signed by  
KIMTING SINGSON  
Date: 2022.12.06  
16:26:49 +05'30'  
Signature of the Licensing Officer

STOP CHILD LABOUR

Annexure 16 Labour license of CP-3

STOP CHILD LABOUR

  
**FORM-VI**  
[See Rule-25(1)]

**Office of the Commissionerate of Labour**  
**LICENSE UNDER CONTRACT LABOUR (REGULATION & ABOLITION) ACT, 1970**

**UBIN :** 618/141822/NOPAN/2/2023  
**UAIN :** LCFORMIVCL/2023/02772  
**License No. :** CLL/2023/02772  
**Date of Issue :** 02/03/2023

1. Licence is hereby granted to **Ms ANDRITZ HYDRO PRIVATE LIMITED** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in the Annexure.

2. The Licence is for doing the work of **CONTRACT AND SUPPLY**, in the Establishment of **CHIEF GENERAL MANAGER PP and I APGCL ,C/O. APGCL ASSAM at PALTAN BAZAR, , GUWAHATI, KAMRUP METRO - 781001, ASSAM .**

3. The Licence shall remain in force till **26/02/2024** .

4. Maximum No of contract labour proposed to be employed in the establishment on any date : **50 nos.**



**KIMTING SINGSON** Digitally signed by  
KIMTING SINGSON  
Date: 2023.03.02  
19:16:53 +05'30'  
Signature of the Licensing Officer

STOP CHILD LABOUR

Annexure 17 Labour License of CP-4

STOP CHILD LABOUR

  
**FORM VI**  
(New Rule-2011)

Office of the Commissionerate of Labour  
LICENSE UNDER CONTRACT LABOUR (REGULATION & ABOLITION) ACT, 1979

JAN	LCFORMIVCL/2023/02048
License No.	CLL/2023/02048
Date of Issue	20/02/2023

1. License is hereby granted to **SALASAR TECHNO ENGINEERING LIMITED** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1979 subject to the conditions specified in the Annexure.

2. The License is for doing the work of **ELECTRICAL WORKS**, in the Establishment of **CHIEF GENERAL MANAGER PP AND JAPOCL - C.O. GOVT** at **PALTANBAZAR, GUWAHATI, KAMRUP METRO - 781001, ASSAM**.

3. The License shall remain in force till **12/02/2024**.

4. Maximum No. of contract labour proposed to be employed in the establishment on any date **20 nos.**



**KIMTING SINGSON** Digitally signed by  
KIMTING SINGSON  
Date: 2023.02.20  
18:24:03 +05'30  
Signature of the Licensing Officer

STOP CHILD LABOUR

1

Annexure 18 Labour License CP-1

STOP CHILD LABOUR

  
**FORM-VI**  
[See Rule-25(1)]

**Office of the Commissionerate of Labour**  
**LICENSE UNDER CONTRACT LABOUR (REGULATION & ABOLITION) ACT, 1970**

**UBIN :** 618/340057/AACCB0943N/3/2023  
**UAIN :** LCFORMIVCL/2023/03304  
**License No. :** CLL/2023/03304  
**Date of Issue :** 15/03/2023

1. Licence is hereby granted to **MS BVG INDIA LIMITED** under Section 12(1) of the Contract Labour (Regulation and Abolition) Act, 1970 subject to the conditions specified in the Annexure.

2. The Licence is for doing the work of **CIVIL AND ELECTRICAL WORKS**, in the Establishment of **CHIEF GENERAL MANAGER PP AND I APGCL ,C/O. GOVERNMENT OF ASSAM** at **PALTAN BAZAR, , GUWAHATI, KAMRUP METRO - 781001, ASSAM**.

3. The Licence shall remain in force till **11/03/2024**.

4. Maximum No of contract labour proposed to be employed in the establishment on any date : **20 nos.**



**KIMTING SINGSON**  
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KIMTING SINGSON  
Date: 2023.03.15 19:54:01  
+05'30'  
Signature of the Licensing Officer

STOP CHILD LABOUR



सत्यमेव जयते

**FORM-VIII**

[See Rule-11(1)]

**GOVERNMENT OF ASSAM**

**Asistant Labour Commissioner(Guwahati )**

**LICENCE OF CONTRACTOR FOR EMPLOYMENT OF MIGRANT WORKMEN UNDER**

**INTERSTATE MIGRANT WORKMEN (RE & CS) ACT, 1979**

USB#	:	709 257449/AAICS6856K/S/2023
UAN	:	COLFORMV/2023/00019
Original Registration No.	:	L23201DL2001PLC174076
Licence No.	:	MGW(E)2023/00019
Date of Issue	:	25/05/2023

1. Licence is hereby granted to **Selasar Techno Engineering Limited** under Section 8(1) of the Inter-State Migrant Workman (Regulation of Employment and Condition of Service) Act,1979 subject to the conditions specified in the Annexure.

2. The Licence is for doing the work of **EPD/Manufacturing** , in the Establishment of **Assam Power Generation Corporation Limited** at Project director **Lower Kopili HE Project,Bijulee Bhawan,Paltanbazar Guwahati,KAMRUP METRO,781001,ASSAM** .

3. No. of migrant workers to be engaged **30 nos.**

4. The licence is renewed upto **24/05/2024** .



**HEMANTA KALITA**

Digitally signed by HEMANTA KALITA  
DN: cn=, o=GOVERNMENT OF ASSAM, ou=LABOUR WELFARE DEPARTMENT,  
2.5.4.20=4B6C0BFF56502E103641746A79146C18469E9710278  
5A028E, postalCode=781016, st=ASSAM,  
serialNumber=95AC9F518F90212CF28A1790225F528D41A1A79  
4E42E6A0B40E76A, ou=HEMANTA KALITA  
Date: 2023.05.25 13:35:58 +05'30'

**Signature of the Licensing Officer**

## ANNEXURE

The Licence is subject to the following condition:

1. The licence shall be non – transferable.
2. The number of workmen employed as Contract Labour in the establishment shall not, on any day exceed the maximum number specified in the application for licence 30 .
3. Save as provided in these rules fees paid for the grant, or as the case may be, for renewal of the licence shall be non-refundable.
4. The rates of wages payable to the migrant workmen by the contractor shall be not less than the rates prescribed under the Minimum Wages Act 1948, for such employment where applicable and where the rates have been fixed by agreement, settlement or award, not less than the rates fixed.
5. (a) In case where the migrant 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 wages rates, holiday, 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 Labour Commissioner, (Assam) whose decision shall be final.  
 (b) In other case the wage rates holiday, hours of work and conditions of service of the migrant workmen of the contractor shall be as prescribed in these rules.
6. Every migrant workmen shall be entitled to allowance benefits, facilities etc, as prescribed in the act and these rules.
7. No female migrant workmen shall be employed by any contractor before 6.00 A.M. or after 7.00 P.M.  
  
 Provided that this clause shall not apply to the employment of female migrant workmen in Pit head Baths, Creches and Canteens and as Midwives and Nurses in hospitals and dispensaries.
8. The contractor shall notify any change in the number of migrant workmen or the conditions of work to the Licensing Officer.
9. The contractor shall comply with all the provisions of the Act and these Rules.
10. A copy of the licence shall be displayed prominently at the premises where migrant worker are employed.



Annexure 20 Ground water Abstraction NOC, CP-1



भारत सरकार  
जल शक्ति मंत्रालय  
जल संसाधन, नदी विकास  
और गंगा संरक्षण विभाग  
केंद्रीय भूमि जल प्राधिकरण  
Government of India  
Ministry of Jal Shakti  
Department of Water Resources,  
River Development & Ganga Rejuvenation  
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)  
**NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION**

Project Name:	Lower Kopili Hydroelectric Project		
Project Address:	Longku , Dima Hasao, Near Pmc Colony		
Village:	Lanku	Block:	Diyungbra
District:	Dima Hasao	State:	Assam
Pin Code:			
Communication Address:	Longku , Dima Hasao, Near Pmc Colony, Diyungbra, Dima Hasao, Assam - 788931		
Address of CGWB Regional Office :	Central Ground Water Board North Eastern Region, Betkuchi, Opposite Isbt,, Nh-37, Guwahati,, Kamrup Metro, Assam - 781005		

1. NOC No.:	CGWA/NOC/INF/ORIG/2023/18216	2. Date of Issuance	17/04/2023									
3. Application No.:	21-4/2671/AS/INF/2023	4. Category: (GWRE 2020)	Safe									
5. Project Status:	New Project	6. NOC Type:	New									
7. Valid from:	17/04/2023	8. Valid up to:	16/04/2028									
9. Ground Water Abstraction Permitted:												
	Fresh Water		Saline Water	Dewatering		Total						
	m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day m <sup>3</sup> /year					
	70.00	25550.00										
10. Details of ground water abstraction /Dewatering structures												
	Total Existing No.:0						Total Proposed No.:1					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	0	0	0	0	0	0	1	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps												
11. Ground Water Abstraction/Restoration Charges paid (Rs.):	25550.00											
12. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers						Monitoring Mechanism					
							Manual	DWLR**	DWLR With Telemetry			
**DWLR - Digital Water Level Recorder	1						0	1	0			

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

Validity of this NOC shall be subject to compliance of the following conditions:

**Mandatory conditions:**

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and information regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in its website ([www.cgwa-noc.gov.in](http://www.cgwa-noc.gov.in)) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m<sup>3</sup>/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/dischage of effluents or any such matter as applicable.

**General conditions:**

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Whenever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Whenever the NOC is for abstraction of saline water and the existing wells (s) is / are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m<sup>3</sup>/day, the firm/ventry shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

**(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)**

**CENTRAL GROUND WATER AUTHORITY**  
Department of Water Resources, River Development and Ganga Rejuvenation  
Ministry of Jal Shakti, Govt. of India

**Receipt**

(As per the guideline Gazette Notification S.O. 3281(E) regarding the New Guidelines dated 24.09.2020 of CGWA, MoJS, Govt. of India)

<https://cgwa-noc.gov.in>

Application No.:	21-4/2671/AS/INF/2023		
Name of Firm:	LOWER KOPILI HYDROELECTRIC PROJECT		
AppType Category:	Power Station		
Application Type:	Infrastructure		
PAN/GSTIN No. of Firm/Individual:	/		

S N	Description	Amount (Rs.)
1.	Application Processing Fee	10000.00
2.	Ground Water Abstraction /Restoration charges	25550.00
3.	Environmental Compensation Charges (ECRGW) (Date From to ) Days-	
4.	Penalty for non-Compliance of NOC conditions Condition to be mentioned	
<b>Rs. Rupees Thirty Five Thousand Five Hundred Fifty Only</b>		<b>35550.00</b>

This is an system generated invoice, hence, does not require ink signed.

Term and conditions:

- i. All disputes are subject to Delhi Jurisdiction.
- ii. Any complaint in regard to the rates will not be entertained

Member-Secretary  
CGWA, New Delhi

Annexure 21 NOC from WRD for river water extraction for construction.



GOVT. OF ASSAM  
OFFICE OF THE EXECUTIVE ENGINEER: WEST KARBI ANGLONG WATER RESOURCES DIVISION  
DONGKAMOKAM

No. EE/WRD/DNK/Misc/2022-23/11

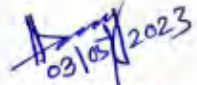
Dated:-03-05-2023

To,  
✓ L&T Construction,  
120 MW Lower Kopili Hydro Electric Project  
Longku, Dima Hasao District, Assam

Sub: NOC for extraction of water from Kopili river for construction of 120 MW Lower Kopili Hydro Electric Project (package-2) at Longku, Dima Hasao District, Assam

With reference to the subject above, NOC for extraction of water from Kopili river for construction of 120 MW Lower Kopili Hydro Electric Project (package-2) at Longku, Dima Hasao District, Assam is issued to L&T Construction, 120 MW Lower Kopili Hydro Electric Project Longku, Dima Hasao District, Assam under the following terms and conditions-

- i) Drawing of water from river Kopili is allowed for an amount of about 600 Cum/day
- ii) The existing water must not be blocked at any cost due to extraction work.
- iii) No damages should be made to the departmental structure, private and public properties at any cost.
- iv) Cost of restoration of any damage to departmental structures should be borne by the implementing authority.
- v) It should be ensured that minimum water flow remains in the river at all time considering the ecological point of view.


  
Executive Engineer  
West Karbi Anglong W.R. Division  
Dongkamokam

Memo No. EE/WRD/DNK/Misc/2022-23/11

Dated:-03-05-2023

Copy to:-

1. The Chief Engineer Water Resources Department, Assam Water Center, Basistha, Guwahati-29 for favour of kind information
2. The Addl.Chief Engineer Diphu Water Resources Zone, Diphu. for favour of kind information.
3. Office file.

  
Executive Engineer  
West Karbi Anglong W.R. Division  
Dongkamokam

# digit

## Policy Schedule



### Digit Employees Compensation Insurance Policy

UIN: IRDAN158RP0020V01201920

**Go Digit General Insurance Ltd**

Validate your Policy Copy



## Insured & Policy Details

Insured Details		Policy Details			
Name	MS BVG India Limited	Policy Number	D094467557		
Address	Midas Touch, 4th Floor, Rajiv Gandhi Infotech Park, Phase 1, Hinjawadi, Pune, 411057	Receipt Number		Policy Issue Date	20-Feb-2023
GST State Code	27	Policy Period	From	20-Feb-2023	00:00:01
City / Location	Pune		To	19-Feb-2024	23:59:59
Contact No	+917002886683	Partner Code and Name	1000090 Solator Services Insurance Brokers Private Limited		
Email ID	deebec1apgc@gmail.com	Partner Contact and Email ID	8336878521 opsretail@solatorservices.com		
GSTIN Number	27AACCB0943N1ZK	Address of Insured Premises / Location covered	Lower Kopili Hydroelectric Project, Langku, Dima Hasao, Assam North Cachar Hills - 788832		
Policy Form	Table A				

## Coverage Details

Work Description	No. of Employees	Estimated Total wages/salary	Classification No.
Engineering, Procurement, construction of Building	3	540000	157A
Engineering, Procurement, construction of Building	2	384000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	2	600000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	1	300000	157A
Engineering, Procurement, construction of Building	12	2160000	157A
Engineering, Procurement, construction of Building	8	2016000	157A
<b>Total</b>	<b>35</b>	<b>8160000</b>	
<b>Scope of Cover:</b>			
1. Coverage as per Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy			
2. Liability under the Fatal Accidents Act & Common Law			

## Endorsement Details

	Opted/ Not-Opted	Limit	Aggregate Limit
Medical Expenses Cover	Opted	Each employee INR 100000	For all accidents
Occupational Disease Cover	Not-Opted	NA	NA
Coverage for Contractors and/or SubContractors Workers/ Employees	Opted	The amount of liability incurred by the insured as per Employee's Compensation Act, 1923 and subsequent amendments	

## Special Terms and Conditions

- Any change in "location" or "nature of employment", if any during the policy period should be informed to the insurer mandatorily and the same shall be covered at the discretion of the Insurer. Where additional premium is required the same shall be charged.
- Occupational diseases shall only mean diseases listed in Part "C" of Schedule III to W.C. Amendment Bill 1989.
- Warranted that attendance and wage register is maintained at the place of employment by the Insured as per statutory requirements/compliance and to be submitted when required by insurer.
- Warranted that at any point in time the total No. of workers on the site Should not exceed No. of employees mentioned in the policy.
- Warranted that employees working at a height, especially exceeding 9 meters should be harnessed using adequate and well maintained fall arrest equipment with personal protective equipment, including harness, ropes, safety helmets, gloves, etc.
- Exclusion: Any work involving blasting, tunnelling, work on high tension live wires, off shore work, underground/ under water work, subaqueous work or any related services in connection therewith.
- Exclusion: Workers predominantly engaged in wrecking or demolition and/or Standalone demolition only Projects and/or collection or removal of scrap metal and any related activities including Loading and unloading. However, demolition in conjunction with re-construction/construction/alteration will be covered.
- Exclusion: Workers involved in maintenance of towers, steeples, bridges, Dams, chimney shafts and excavation > 3mts unless specifically agreed and mentioned on this schedule.
- Exclusion: Any interest and/or penalty imposed on the insured on account of his /their failures to comply with the requirements laid down under the Employee's Compensation ACT, 1923.
- Work Description-
- Project Manager-30,000-1
- Building works Engineer-25,000-2
- Quality assurance/quality control engineer-25,000-1
- HSE Engineer-25,000-1
- Planning/ QSS Engineer-25,000-1
- Surveyor-25,000-1
- Electrical Engineer-25,000-1
- Mechanical Engineer-25,000-1
- Design Engineer (Buildings)-25,000-1
- Unskilled Labours-15,000-12
- Skilled Labourers-21,000-8
- Driver-15,000-3
- Site Supervisor-16,000-2

## Premium and Payment Details

Total Net Premium	27307.56	
CGST rate and amount		0.00
SGST/UTGST rate and Amount		
IGST rate and Amount	18%	4915.36
Final Premium	32222.92	

## Endorsement

Invoice Number	Invoice Date	Net Premium	Igst	Cgst	Sgst	Utgst	Cess	Gross Premium
----------------	--------------	-------------	------	------	------	-------	------	---------------

IA068237931	2023-02-20	27307.56	4915.36	0.00	0.00	0.00	0.00	32222.92
IA068676794	2023-02-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00

#### Important Notice

1. \*Cheque dishonor / Non-receipt of payment: If premium paid through Cheque, the policy is void ab-initio in case of dishonor of Cheque or non-receipt of payment.
2. This policy is subject to the standard policy wordings, warranties, exclusions and conditions as per Digit Employees compensation Insurance Policy Wordings.
3. The Coverage has been provided basis information provided by you/proposer to us and the policy is not valid, if any of the information provided is incorrect.
4. The Policy Wording attached herewith includes all the Standard Coverage offered by Go Digit General Insurance Ltd. to its Customers. For any clarification please call our Call Center Number [1800-103-4448](tel:1800-103-4448).

For & On Behalf of Go Digit General Insurance



Praveen Bhat  
Senior Vice President - Customer Experience  
Authorized Signatory  
praveen.bhat@godigit.com  
DDMMYY  
Printed, Signed, and Executed at Bengaluru  
Hey, our document is now digitally signed.  
Click [here](#) to view the certificate

Consolidated Stamp Duty has been paid as per Letter of Authorization No.67-B/04/2017-18 Date: 30th May 2017 issued by Department of Stamps and Registration, Bengaluru - 560009 - KARNATAKA.

Validate your Policy Copy



Wish to go through your detailed policy, [click here](#).  
In case of any claim, please contact 24-Hour Call Centre at [1800 103 4448](tel:1800-103-4448) or email us at [hello@godigit.com](mailto:hello@godigit.com)

Go Digit General Insurance Ltd. Address: Atlantis, 95, 4th B Cross Road, Koramangala Industrial Layout, 5 Block, Bengaluru, Karnataka 560095, IRDAI Reg No. 158 CIN U66010PN2016PLC167410, GST Reg. No: 18AACCO4128Q1ZZ, GSTIN Address: Go Digit General Insurance Ltd, Guwahati Business Centre, Ground Fir, Bora Service by lane, Behind Bora Service Petrol Pump, GS Rd Ulban, Guwahati, Assam, PIN-781007.  
Website: [www.godigit.com](http://www.godigit.com)



**Annexure 23** 2<sup>nd</sup> Biodiversity Committee Meeting

**2<sup>nd</sup> Meeting of the Biodiversity Management Committee held on 21.06.2023 at 14.30 PM at Divisional Forest Office, Dima Hasao West Division, Haflong, Dima Hasao.**

Following members were present.

Sl. No	Name	Designation	BMC
1	Mr Mridul Saikia	Project Director, LKHEP cum CGM, PP&I, APGCL	Chairman
2	Mr Akshay Talukder	GM, PP&I, APGCL	Member
3	Mr Tuhin Langthasa	Asst. Conservator of Forests, I/c, Dima Hasao West Division	Member
4	Mr Rajiv Engti	Asst. Conservator of Forests, I/C Hamren Division	Member
5	Dr Deepak Baruah	Environment Expert, APGCL	Member

At the onset Chairman of the Committee welcomed the members and explained the purpose of the meeting and requested to extend support for effective implementation of the Biodiversity Conservation Plan under the Environment Management Plan and compliance of the ADB's Safeguard Policy Statement, 2009.

A brief presentation was given on this aspect by PMC and APGCL covering all the measures to be taken and highlighted the prioritization of the action as per the need in a phase manner. APGCL emphasised that both the measures and recommendations of MoEF&CC and ADB to be considered during implementation within the stipulated budget from the state share.

It was decided that activity wise proposals from the Biodiversity Management Plan with the estimates and Action plan for the next 6 months (July to December 2023) to be submitted from the respective Forest Divisions soon.

Mr. Tuhin Langthasa discussed on the implementation of the CAT Plan and Soli and Moisture Conservation Plan with APGCL. He also explained the status of implementation of the Compensatory Afforestation Plan under his Division and requested APGCL to collect the Report and periodic UC from the CAMPA office, Guwahati as they have already submitted the status report to them.

Dima Hasao West Division will prepare the next six months proposal covering :

1. Awareness on conservation of wildlife and their habitats near the project area.
2. Annual Bird Count in winter
3. Legal training for the departmental staff either in Haflong or in Kaziranga.
4. Additional support for Camera Trapping (as the department is getting more information through the camera traps in the upstream of the LKHEP Dam site and camera trap photographs were shown to the members).
5. Construction of a Watch tower
6. Construction of Antipoaching camp

PPT is shared to all the members so that they can provide their views and suggestions for effective implementation of the Plan.

Chairman briefed about the modalities of the financial approval of the Biodiversity Management Plan from the State Government as follows. After getting the suggestions / proposals from the respective forest divisions within 15<sup>th</sup> July 2023; final plan of operation for the next six months will be formulated

with the approval from the APGCL and will be forwarded for necessary budgetary approval from the state government.


The meeting ended with the vote of thanks from the chair.

(Mridul Saikia)

Chairman of the Biodiversity Committee of LKHEP cum  
Project Director, LKHEP, APGCL



Attendance sheet


**2<sup>nd</sup> Biodiversity Management Committee Meeting, Lower Kopili Hydro Electric Project, 120 MW**  
 Date : 21.06.2023  
 Venue : Forest Office, Halflong, Dirma Hasao.

	Name	Address	Contact No	Mail ID	Signature
1	M SAIKIA	GM (PP&D), APGCL	986401780		
2	AKSHAY TALUKDAR	GM (PP&D), APGCL	9435139916		
3	Dr. Dipankar Biswas	Emy. Saprit, APGCL	9435113521		
4	Tuhin Langhesa	D.F.O. Dirma Hasao forest Division (West)	9678620474	westforest.diptra@gmail.in	
5	Rajul Das	DFO, Divisional Forest Officer, Dirma Hasao, Halflong	9435406966		
6	Jayanta Das	Environment Specialist, P.M.C	9435406966	jayanta.das@rajfouy.com	
7					
8					

Annexure 24 PUC of the vehicles  
CP-3

Form 59  
[See rules 115 (2)]

**Pollution Under Control Certificate**  
Authorised By  
Government of Haryana

**Date** : 08/06/2023  
**Time** : 17:24:24 PM  
**Validity upto** : 07/06/2024



Certificate No.	HR07300870002036
Registration No.	HR73B8739
Date of Registration	03/Jan/2023
Month & Year of Manufacturing	October-2022
Vaisit Mobile Number	*****0458
Emission Norms	BHARAT STAGE VI
Fuel	DIESEL
PUC Code	HR0730087
GSTIN	Rs.100.00
Fees	(GST to be paid extra as applicable)
MBL observation	No

**Vehicle Photo with Registration plate**  
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.67

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>




Authorised Signature with stamp of PUC operator  
60mm x 20 mm



## Updated PUC of the vehicles CP-2

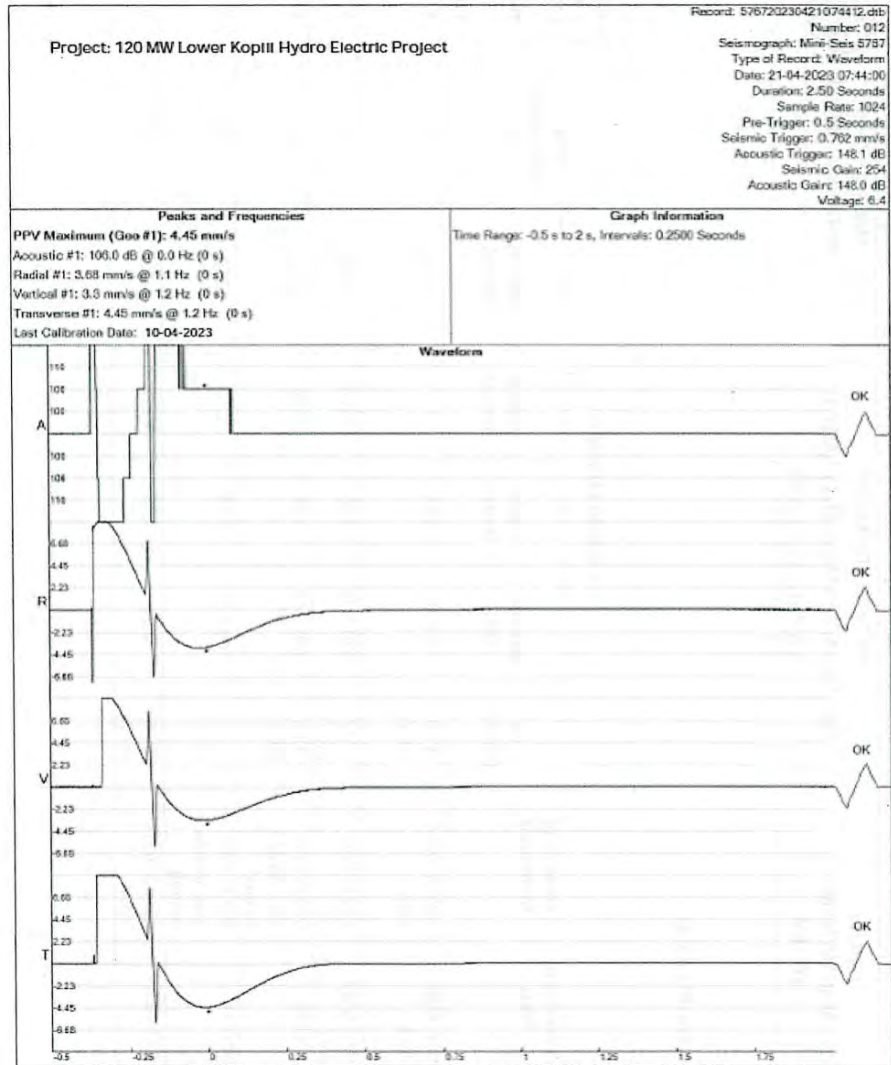
No	Registration No	Model / Certificate No	PUC Date	PUC Expired date
1	AS01EP8909	Scorpio - 8909		20-11-2023
2	AS01EP5996	Scorpio - 5996		11-11-2023
3	AS01EQ1244	Scorpio - 1244		22-11-2023
4	AS01EP7097	Scorpio - 7097		09-11-2023
5	RJ14GH9427	D4RJ41105257	28.11.2022	27.11.2023
6	RJ14GJ9425	D4RJ1105072	29.09.2022	28.09.2023
7	RJ14GJ6355	D4RJ1105073	29.09.2022	28.09.2023
8	RJ14GJ9405	D4RJ41105261	28.11.2022	27.11.2023
9	AS01EQ1244	AS03100170000565	09.11.2022	08.11.2023
10	AS01EP5996	AS03100170000602	12.11.2022	11.11.2023
11	AS01EP7097	AS03100170000577	10.11.2022	09.11.2023
12	AS01EP8909	AS03100170000567	09.11.2022	08.11.2023

## Annexure 25 Results of vibration monitoring

 <b>QUALITY MANAGEMENT SYSTEM</b>	<b>LARSEN &amp; TOUBRO LIMITED</b> <b>HEAVY CIVIL INFRASTRUCTURE IC</b> <b>120 MW Lower Kopili Hydroelectric Project (PKG-2)</b>	Employer – Assam Power Generation Corporation Limited 
	<b>METHOD STATEMENT</b> Doc. No: LKHEP-PKG2/LNT/112/MS/20	PMC – AF Consult Switzerland Limited 
	R-0, Date: 28.04.2023	




**Blast location: Dam Right bank**

**Monitoring distance from blast: 1380 m**



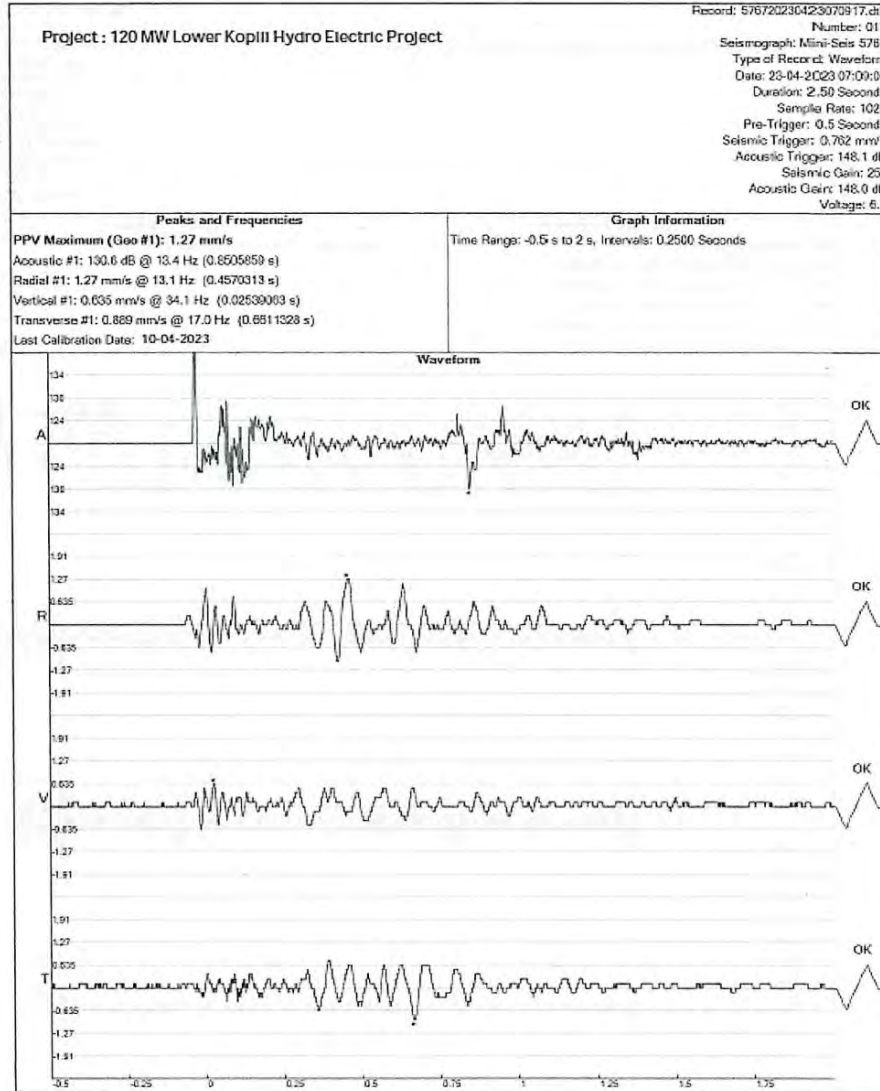
Blast location: Dam Right Bank  
 Monitoring location: 1380 m from blast

White Seismograph Data Analysis V13

 <b>QUALITY MANAGEMENT SYSTEM</b>	<b>LARSEN &amp; TOUBRO LIMITED</b> <b>HEAVY CIVIL INFRASTRUCTURE IC</b> <b>120 MW Lower Kopili Hydroelectric Project (PKG-2)</b>	Employer – Assam Power Generation Corporation Limited 
	<b>METHOD STATEMENT</b> Doc. No: LKHEP-PKG2/LNT/112/MS/20	PMC – AF Consult Switzerland Limited 
	R-0, Date: 28.04.2023	




**Blast location: Dam Right bank**

**Monitoring distance from blast: 150 m**



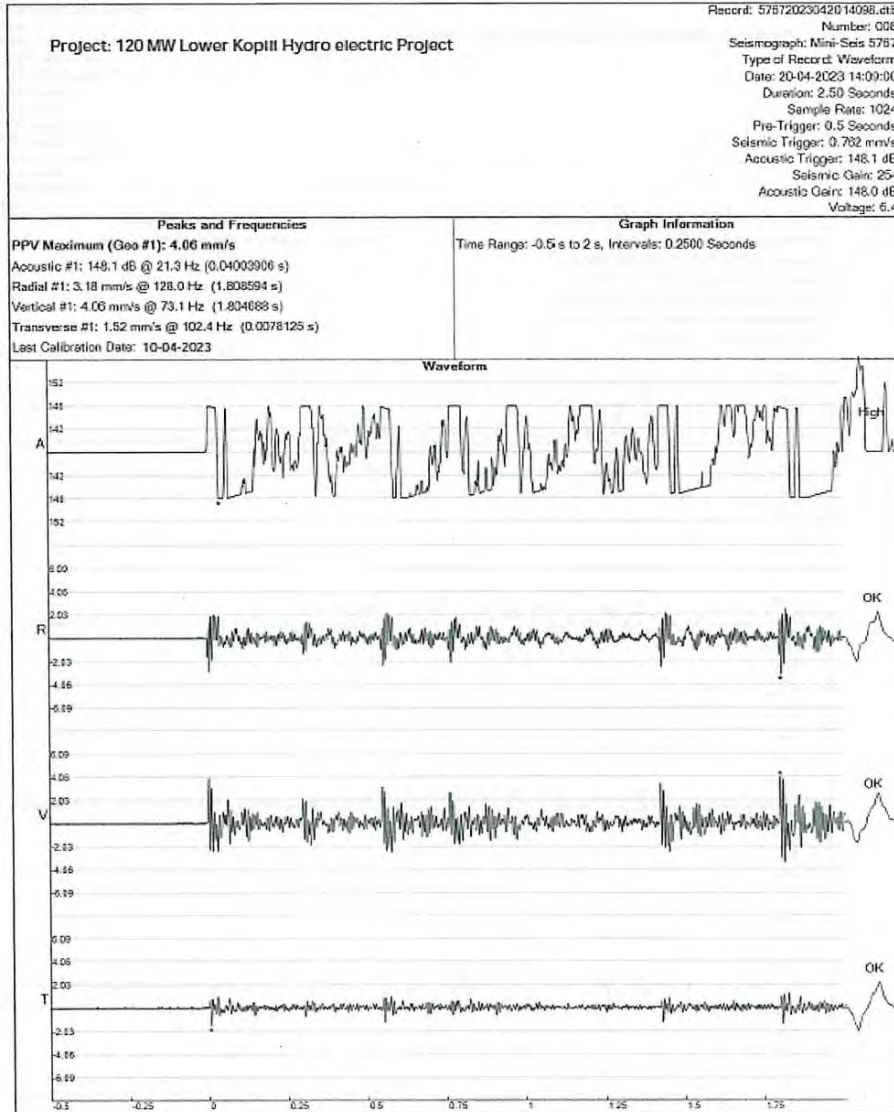
Blast Location: Dam Right Bank  
Monitoring location: 150 m from blast

White Seismograph Data Analysis V13

 <b>QUALITY MANAGEMENT SYSTEM</b>	<b>LARSEN &amp; TOUBRO LIMITED</b> <b>HEAVY CIVIL INFRASTRUCTURE IC</b> <b>120 MW Lower Kopili Hydroelectric Project (PKG-2)</b>	Employer – Assam Power Generation Corporation Limited 
	METHOD STATEMENT Doc. No: LKHEP-PKG2/LNT/112/MS/20	PMC – AF Consult Switzerland Limited 
	R-0, Date: 28.04.2023	

**Blast location: ADIT F3**


**Monitoring distance from blast: 930 m**



Blast location: ADIT F3  
 Monitoring location: Tunnel Junction 930 m from blast  
 White Seismograph Data Analysis V13


## Annexure 26 Environment monitoring results

### 26A. Test Reports of CP-2



Recognized by Pollution Control Board, Assam

Technologies for better tomorrow



#### TESTREPORT

**AMBIENT AIR ANALYSIS REPORT**  
 Rep.No. AAAR\_1503163\_01\_77  
 Sample ID: EETNE/MAR/04/23  
 Issued to : M/s. Lower Kopili HEP Project, Lanku, Dist.- Dima Hasao, Assam.

Date: 13/03/2022 TC-7669  
 ULR NO.: TC766923000000004P

Sample Drawn By : UTPAL BEZBARUAH  
 Sampling Plan & Procedure : EETNE/SOP/01  
 Analysis Duration : 21/02/23 TO 25/02/23, 22/02/23 TO 26/02/23, 23/02/23 TO 27/02/23  
 24/02/23 TO 28/02/23, 25/02/23 TO 01/03/23  
 26/02/23 TO 02/03/23, 27/02/23 TO 03/03/23, 28/02/23 TO 04/03/23  
 Sampling Instrument Used : AMBIENT AIR SAMPLER/RDS  
 Pollution Control Device, if any : NO

SL. NO.	DATE OF SAMPLING	LOCATION/ SOURCE (Latitude & Longitude)	WEATHER	PARAMETERS					
				PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> (µg/m <sup>3</sup> )	HC (mg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )
i)	21/02/23	Power Inlet / Dam Site Lat N 25°39'57.39" Long E 92°46'53.62"	Clear	34.2	18.6	14.5	BDL	BDL	10.1
ii)	22/02/23	Crusher Site Lat N 25°40'37.79" Long E 92°47'43.13"		45.2	29.5	17.7	0.02	0.03	12.2
iii)	23/02/23	HRT Adit Lat N 25°40'47.89" Long E 92°48'9.67"		37.4	19.2	12.2	BDL	BDL	9.2
iv)	24/02/23	Primary Hospital Near APGCL Camp Lat N 25°39'59.93" Long E 92°47'45.52"		33.1	22.1	11.7	BDL	BDL	8.1
v)	25/02/23	Batching plant Lat N 25°41'45.31" Long E 92°48'39.79"		34.7	20.7	15.9	BDL	BDL	11.0
vi)	26/02/23	Surge Shaft Site Lat N 25°41'29.28" Long E 92°48'16.47"		35.2	20.1	13.2	BDL	BDL	9.5
vii)	27/02/23	Labour & Staff Camp Lat N 25°40'54.97" Long E 92°48'9.67"		34.3	20.3	12.4	BDL	BDL	8.2
viii)	28/02/23	Power house Lat N 25°41'54.02" Long E 92°46'53.62"		34.2	21.6	9.8	BDL	BDL	8.1

Remarks: - Sampling were done within the annual based.

**NATIONAL AMBIENT AIR QUALITY STANDARDS:**

Sl. No.	Pollutant	Test Method	Time Average	Weighted	Concentration in Ambient Air Industrial, Residential, Rural and Other Area
1	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	IS:5182 Part-XXIII/ CPCB	Annual		60
				24 hours	100
2	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	EETNE/SOP/01/2017	Annual		40
				24 hours	60
3	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	IS:5182 Part-VI/ CPCB	Annual		40
				24 hours	80
4	Carbon Monoxide (CO), mg/m <sup>3</sup>		8 Hours		2.0
			Annual		50
5	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	IS:5182 Part-II/ CPCB	Annual		50
				24 hours	80

**Utpal Bezbaruah**  
(Environmental Chemist)

**Dr. Pranita Ghosh**  
Authorized Signatory  
(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

House No. 6, 1st Floor, Sankardev Path, Pub-Saranla, Chandmani, Guwahati-781003, Assam

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





TC-7669

Recognized by Pollution Control Board, Assam

**TEST REPORT**

**AMBIENT NOISE LEVEL MEASUREMENT REPORT**

Rep.No. ANLMR\_1503163\_06A\_78  
Sample ID: EETNE/MAR/04/23

Date: 13/03/2023  
ULR NO.: TC766923000000004P

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

SL. NO.	DATE OF SAMPLING	LOCATION /SOURCE (Latitude and Longitude)	NOISE LEVEL in dB(A)Leq	
			Day (6:00 am to 10:00 pm)	Night (10:00 pm to 6:00 am)
i)	22/02/23	Power Inlet / Dam Site Lat N 25°39'57.39" Long E 92°46'53.62"	48.2	37.2
ii)	23/02/23	Crusher Site Lat N 25°40'37.79" Long E 92°47'43.13"	56.3	45.6
iii)	24/02/23	HRT Adit Lat N 25°40'47.89" Long E 92°48'9.67"	53.7	41.3
iv)	25/02/23	Primary Hospital Near APGCL Camp Lat N 25°39'59.93" Long E 92°47'45.52"	57.2	41.7
v)	26/02/23	Batching plant Lat N 25°41'45.31" Long E 92°48'39.79"	52.3	47.2
vi)	27/02/23	Surge Shaft Site Lat N 25°41'29.28" Long E 92°48'16.47"	50.2	38.4
vii)	28/02/23	Labour & Staff Camp Lat N 25°40'54.97" Long E 92°48'9.67"	54.9	46.7
viii)	01/03/23	Power house Lat N 25°41'54.02" Long E 92°46'53.62"	55.7	43.8

Remarks: Noise level is carried out during 75% of the Day Time & Night Time.  
Method of analysis : . IS 9989 : 1981 RA : 2014  
Sampling Instrument Used : SLM100 SLNO484-I-22, SLM 100 (213 DTC-2013)

**Ambient Noise Standards:**

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

Utpal Bezbaruah  
(Environmental Chemist)

For 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.

Ground water

**en-vision**

Enviro Technologies North East

Technologies for better tomorrow

Recognized by Pollution Control Board, Assam



TC-7669

**TEST REPORT:**

Report No: 230206\_1503163\_0  
 Sample ID No: EETNE/Jan/04/23/D  
 Test Starting Date: 24/01/23

Date of Report: 06/02/23  
 Date of sample receipt: 24/01/23  
 Test completion Date: 06/02/23

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.	
Sample Description	Type: Ground Water	Source: APGCL Camp
Sample collected by	M/s. Lower Kopili Project	

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012 Acceptable Limit
1	p <sup>H</sup>	---	7.48	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page: 4-95	6.5-8.5
2	Turbidity	NTU	7.0	APHA 23 <sup>rd</sup> Edition, 2130, Page: 2-13	1
3	TDS	mg/L	90	APHA 23 <sup>rd</sup> Edition, 2540 C, Page: 2-69	500
4	Dissolved Oxygen	mg/L	7.3	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page: 4-146	100
5	Total hardness	mg/L	64.7	APHA 23 <sup>rd</sup> Edition, 2340 B, Page: 2-48	200
6	Calcium	mg/L	30.4	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page: 3-69	75
7	Magnesium	mg/L	16.8	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page: 3-86	30
8	Total Alkalinity	mg/L	133	APHA 23 <sup>rd</sup> Edition, 2320, Page: 2-37	200
9	Sulphate	mg/L	15.4	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page: 4-199	200
10	Nitrates	mg/L	3.5	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> <sup>-</sup> B, Page: 4-127	45



Page 1 of 2

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Sample ID No: EETNE/Jan/04/23/D  
 Test Starting Date: 24/01/23

TC-7669  
 Date of sample receipt: 24/01/23  
 Test completion Date: 06/02/23

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012
					Acceptable Limit
11	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 3114A, Page: 3-36	0.01
12	Iron(as Fe)	mg/L	0.247	APHA 23 <sup>rd</sup> Edition, 3500-Fe B, Page: 3-80	0.3
13	Total Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition, 9222B, Page: 9-81	Shall not be detectable in any 100 ml Sample
14	Fecal Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition, 9222 D, Page: 9-89	Shall not be detectable in any 100 ml Sample

NOTE: (TDS) Total Dissolved Solids.

For Envision Enviro Technologies North East



  
**Rimpi Sarma**  
 Environmental Chemist  
 Test Done By

**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory/Reviewed By

Note: : i) The results relate only to the parameters tested.  
 ii) The test report shall not be reproduced except in full, without written approval of laboratory  
 iii) Parameter no.9 to 14 were analysed by Department of Chemistry, B. Borooah College as per our MOU.

**End of report**

Surface water

**en-VISION**

Enviro Technologies North East

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TC-7669

**TEST REPORT:**

Report No: 230206\_1503163\_0  
 Sample ID No: EETNE/Jan/05/23/D  
 Test Starting Date: 24/01/23

Date of Report: 06/02/23  
 Date of sample receipt: 24/01/23  
 Test completion Date: 06/02/23

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.	
Sample Description	Type: Surface Water	Source: DT Outlet
Sample collected by	M/s. En-vision Enviro Technologies North East	

Sl No.	Parameters	Unit	Result	Reference Method
1	pH	---	4.97	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page: 4-95
2	Turbidity	NTU	2.7	APHA 23 <sup>rd</sup> Edition, 2130, Page: 2-13
3	TDS	mg/L	50	APHA 23 <sup>rd</sup> Edition, 2540 C, Page : 2-69
4	TSS	mg/L	25.3	APHA 23 <sup>rd</sup> Edition, 2540, Page: 2-70
5	Dissolved Oxygen	mg/L	7.8	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page: 4-146
6	Total hardness	mg/L	53.2	APHA 23 <sup>rd</sup> Edition, 2340 B, Page: 2-48
7	Calcium	mg/L	25.7	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page: 3-69
8	Magnesium	mg/L	13.5	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page: 3-86
9	Total Alkalinity	mg/L	56	APHA 23 <sup>rd</sup> Edition, 2320, Page: 2-37
10	Chloride	mg/L	12.4	APHA 23 <sup>rd</sup> Edition, 4500-Cl <sup>-</sup> B, Page: 4-75
11	Sulphate	mg/L	8.4	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page: 4-199
12	Nitrates	mg/L	2.1	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> <sup>-</sup> B, Page: 4-127
13	Phosphate	mg/L	<0.02	APHA 23 <sup>rd</sup> Edition, 4500-P, Page: 4-163
14	Salinity	%	0.2	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60
15	conductivity	µS/cm	130	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60

Page 1 of 2



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Sample ID No: EETNE/Jan/05/23/D  
Test Starting Date: 24/01/23

Date of sample receipt: 24/01/23  
Test completion Date: 06/02/23

Sl No.	Parameters	Unit	Result	Reference Method
16	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition,3114A,Page:3-36
17	Iron(as Fe)	mg/L	0.135	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80
18	Total Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81
19	Fecal Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition,9222 D,Page:9-89
20	BOD	mg/L	<2	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6
21	COD	mg/L	<5	APHA 23 <sup>rd</sup> 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/Reviewed By

Note: i) The results relate only to the parameters tested.  
ii) The test report shall not be reproduced except in full, without written approval of laboratory  
iii) Parameter no.11 to 19 are analyzed by Department of Chemistry,B.Boroah College as per our MOU.  
**End of report**

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Enviro Technologies North East

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**TEST REPORT:**

Report No: 230206\_1503163\_0  
Sample ID No: EETNE/Jan/05/23/D  
Test Starting Date: 24/01/23

Date of Report: 06/02/23  
Date of sample receipt: 24/01/23  
Test completion Date: 06/02/23

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.	
Sample Description	Type: Surface Water	Source: DT Outlet
Sample collected by	M/s. En-vision Enviro Technologies North East	

Sl No.	Parameters	Unit	Result	Reference Method
1	pH	----	4.97	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page: 4-95
2	Turbidity	NTU	2.7	APHA 23 <sup>rd</sup> Edition, 2130, Page: 2-13
3	TDS	mg/L	50	APHA 23 <sup>rd</sup> Edition, 2540 C, Page: 2-69
4	TSS	mg/L	25.3	APHA 23 <sup>rd</sup> Edition, 2540, Page: 2-70
5	Dissolved Oxygen	mg/L	7.8	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page: 4-146
6	Total hardness	mg/L	53.2	APHA 23 <sup>rd</sup> Edition, 2340 B, Page: 2-48
7	Calcium	mg/L	25.7	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page: 3-69
8	Magnesium	mg/L	13.5	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page: 3-86
9	Total Alkalinity	mg/L	56	APHA 23 <sup>rd</sup> Edition, 2320, Page: 2-37
10	Chloride	mg/L	12.4	APHA 23 <sup>rd</sup> Edition, 4500-Cl B, Page: 4-75
11	Sulphate	mg/L	8.4	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page: 4-199
12	Nitrates	mg/L	2.1	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> B, Page: 4-127
13	Phosphate	mg/L	<0.02	APHA 23 <sup>rd</sup> Edition, 4500-P, Page: 4-163
14	Salinity	%	0.2	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60
15	conductivity	µS/cm	130	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60



Page 1 of 2

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Sample ID No: EETNE/Jan/05/23/D  
Test Starting Date: 24/01/23

Date of sample receipt: 24/01/23  
Test completion Date: 06/02/23

Sl No.	Parameters	Unit	Result	Reference Method
16	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition,3114A,Page:3-36
17	Iron(as Fe)	mg/L	0.135	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80
18	Total Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81
19	Fecal Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition,9222 D,Page:9-89
20	BOD	mg/L	<2	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6
21	COD	mg/L	<5	APHA 23 <sup>rd</sup> 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/Reviewed By

Note: i) The results relate only to the parameters tested.  
ii) The test report shall not be reproduced except in full, without written approval of laboratory  
iii) Parameter no.11 to 19 are analyzed by Department of Chemistry, B. Borooah College as per our MOU.  
**End of report**

Page 2 of 2

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TC-7669

**TEST REPORT:**

Report No: 230314\_1503163\_0  
 ULR No:TC76692200000038P  
 Sample ID No: EETNE/March/2\_A/23/D  
 Test Starting Date: 01/03/23

Date of Report: 14/03/23  
 Date of sample receipt:01/03/23  
 Test completion Date: 14/03/23

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 28/02/2023	Time 3:50 P.M	Temperature 27°C	Quantity Drawn: 4 Lt	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	pH	---	4.5	APHA 23 <sup>rd</sup> Edition,4500 H <sup>+</sup> ,Page:4-95
2	Turbidity	NTU	2.10	APHA 23 <sup>rd</sup> Edition,2130,Page:2-13
3	TDS	mg/L	32.5	APHA 23 <sup>rd</sup> Edition,2540 C, Page :2-69
4	TSS	mg/L	83.8	APHA 23 <sup>rd</sup> Edition,2540,Page:2-70
5	Oil and Grease	mg/L	<5	APHA 23 <sup>rd</sup> Edition,5520 B,Page:5-42
6	Dissolved Oxygen	mg/L	7.2	APHA 23 <sup>rd</sup> Edition,4500-O C,Page:4-146
7	Total hardness	mg/L	74.6	APHA 23 <sup>rd</sup> Edition,2340 B,Page:2-48
8	Calcium	mg/L	34.8	APHA 23 <sup>rd</sup> Edition,3500-Ca B,Page:3-69
9	Magnesium	mg/L	17.5	APHA 23 <sup>rd</sup> Edition,3500-Mg B,Page:3-86
10	Total Alkalinity	mg/L	42.9	APHA 23 <sup>rd</sup> Edition,2320,Page:2-37
11	Chloride	mg/L	14.5	APHA 23 <sup>rd</sup> Edition,4500-ClB,Page:4-75
12	Sulphate	mg/L	10.8	APHA 23 <sup>rd</sup> Edition,4500-SO <sub>4</sub> <sup>2-</sup> E,Page:4-199
13	Nitrates	mg/L	2.3	APHA 23 <sup>rd</sup> Edition,4500-NO <sub>3</sub> <sup>-</sup> B,Page:4-127
14	Phosphate	mg/L	<0.02	APHA 23 <sup>rd</sup> Edition,4500-P,Page:4-163
15	Salinity	%	0.6	APHA 23 <sup>rd</sup> Edition,2520B,Page:2-60
16	conductivity	µS/cm	84.5	APHA 23 <sup>rd</sup> Edition,2520B,Page:2-60



Page 1 of 2

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TC-7669

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Sample ID No: EETNE/March/2\_A/23/D

Date of sample receipt: 01/03/23


Test Starting Date: 01/03/23

Test completion Date: 14/03/23

Sl No.	Parameters	Unit	Result	Reference Method
17	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition,3114A,Page:3-36
18	Iron(as Fe)	mg/L	0.87	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80
19	Total Coliform	MPN/100	2	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81
20	Fecal Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition,9222 D,Page:9-89
21	BOD	mg/L	5	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6
22	COD	mg/L	23	APHA 23 <sup>rd</sup> Edition,5220 b,Page:5-18

For Envision Enviro Technologies North East, Guwahati

  
**Rishpi Sarma**  
 Environmental Chemist  
 Test Done By

  
**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory / Reviewed By

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

End of report

Page 2 of 2



TC-7669

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**TEST REPORT:**

Report No: 230314\_1503163\_0  
 ULR No:TC76692300000039P  
 Sample ID No: EETNE/Mar/2\_B/23/D  
 Test Starting Date: 01/03/23

Date of Report: 14/03/23  
 Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23

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 28/02/2023	Time 10:30 A.M	Temperature 25°C	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012
					Permissible Limit
1	pH	---	4.4	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page:4-95	6.5-8.5
2	Turbidity	NTU	3.61	APHA 23 <sup>rd</sup> Edition, 2130, Page:2-13	5
3	TDS	mg/L	30.8	APHA 23 <sup>rd</sup> Edition, 2540 C, Page :2-69	2000
4	TSS	mg/L	65.9	APHA 23 <sup>rd</sup> Edition, 2540, Page: 2-70	----
5	Oil and Grease	mg/L	<5	APHA 23 <sup>rd</sup> Edition, 5520 B, Page:5-42	----
6	Dissolved Oxygen	mg/L	7.0	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page:4-146	100
7	Total hardness	mg/L	69.5	APHA 23 <sup>rd</sup> Edition, 2340 B, Page:2-48	600
8	Calcium	mg/L	32.8	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page:3-69	200
9	Magnesium	mg/L	15.7	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page:3-86	100
10	Total Alkalinity	mg/L	35.2	APHA 23 <sup>rd</sup> Edition, 2320, Page:2-37	600
11	Sulphate	mg/L	11.8	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page:4-199	400
12	Nitrates	mg/L	3.5	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> <sup>-</sup> B, Page:4-127	No relaxation
13	Phosphate	mg/L	<0.02	APHA 23 <sup>rd</sup> Edition, 4500-P, Page:4-163	No relaxation
14	Salinity	%	0.6	APHA 23 <sup>rd</sup> Edition, 2520B, Page:2-60	No relaxation
15	conductivity	µS/cm	92	APHA 23 <sup>rd</sup> Edition, 2520B, Page:2-60	No relaxation

Page 1 of 2



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Sample ID No: EETNE/March/2\_B/23/D  
 Test Starting Date: 01/03/23

Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012
					Permissible Limit
16	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition,3114A,Page:3-36	No relaxation
17	Iron(as Fe)	mg/L	1.3	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80	No relaxation
18	Total Coliform	MPN/100ml	4	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81	Shall not be detectable in any 100 ml Sample
19	Fecal Coliform	MPN/100ml	Nil	APHA 23 <sup>rd</sup> Edition,9222 D,Page:9-89	Shall not be detectable in any 100 ml Sample
20	BOD	mg/L	5	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6	No relaxation
21	COD	mg/L	27	APHA 23 <sup>rd</sup> Edition,5220 b,Page:5-18	No relaxation

For Envision Enviro Technologies North East, Guwahati

  
**Rimpi Sarma**  
 Environmental Chemist  
 Test Done By

  
**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory / Reviewed By

Note: i) The results relate only to the parameters tested and item sampled.  
 ii) The test report shall not be reproduced except in full, without written approval of laboratory.  
 iii) Parameter no.11 to 19 are analyzed by Department of Chemistry, B. Borooah College as per our MOU.  
**End of report**



TC-7669

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**TEST REPORT**

Report No: 230314\_1503163\_0  
 ULR No: TC76692300000040P  
 Sample ID No: EETNE/Mar/2\_C/23/D  
 Test Starting Date: 28/02/23

Date of Report: 14/03/23  
 Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23

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 28/02/2023	Time 2:42 P.M	Temperature 28°C	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

SI No.	Parameters	Unit	Result	Reference Method
1	p <sup>H</sup>	---	4.34	APHA 23 <sup>rd</sup> Edition,4500 H <sup>+</sup> ,Page:4-95
2	Turbidity	NTU	2.21	APHA 23 <sup>rd</sup> Edition,2130,Page:2-13
3	TDS	mg/L	35	APHA 23 <sup>rd</sup> Edition,2540 C, Page :2-69
4	TSS	mg/L	72.8	APHA 23 <sup>rd</sup> Edition,2540,Page:2-70
5	Oil and Grease	mg/L	<5	APHA 23 <sup>rd</sup> Edition,5520 B,Page:5-42
6	Dissolved Oxygen	mg/L	7.5	APHA 23 <sup>rd</sup> Edition,4500-O C,Page:4-146
7	Total hardness	mg/L	60.6	APHA 23 <sup>rd</sup> Edition,2340 B,Page:2-48
8	Calcium	mg/L	31.8	APHA 23 <sup>rd</sup> Edition,3500-Ca B,Page:3-69
9	Magnesium	mg/L	14.9	APHA 23 <sup>rd</sup> Edition,3500-Mg B,Page:3-86
10	Total Alkalinity	mg/L	42.5	APHA 23 <sup>rd</sup> Edition,2320,Page:2-37
11	Sulphate	mg/L	10.7	APHA 23 <sup>rd</sup> Edition,4500-SO <sub>4</sub> <sup>2-</sup> E,Page:4-199
12	Nitrates	mg/L	9.8	APHA 23 <sup>rd</sup> Edition,4500-NO <sub>3</sub> <sup>-</sup> B,Page:4-127
13	Phosphate	mg/L	<0.02	APHA 23 <sup>rd</sup> Edition,4500-P,Page:4-163
14	Salinity	%	0.3	APHA 23 <sup>rd</sup> Edition,2520B,Page:2-60
15	Conductivity	µS/cm	76	APHA 23 <sup>rd</sup> Edition,2520B,Page:2-60



Page 1 of 2

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TC-7669


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Sample ID No: EETNE/March/2\_C/23/D  
 Test Starting Date: 01/03/23

Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23

Sl No.	Parameters	Unit	Result	Reference Method
16	Chloride	mg/L	15.9	APHA 23 <sup>rd</sup> Edition, 4500-Cl <sup>-</sup> B, Page: 4-75
17	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 3114A, Page: 3-36
18	Iron (as Fe)	mg/L	1.7	APHA 23 <sup>rd</sup> Edition, 3500-Fe B, Page: 3-80
19	Total Coliform	MPN/100	3	APHA 23 <sup>rd</sup> Edition, 9222B, Page: 9-81
20	Fecal Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition, 9222 D, Page: 9-89
21	BOD	mg/L	6	APHA 23 <sup>rd</sup> Edition, 5210B, Page: 5-6
22	COD	mg/L	45	APHA 23 <sup>rd</sup> Edition, 5220 b, Page: 5-18

For Envision Enviro Technologies North East, Guwahati

  
 Rimi Sengupta  
 Environmental Chemist  
 Tested and By

  
 Dr. Pranita Chakraborty  
 Quality Manager  
 Authorized Signatory / Reviewed By

Note: i) The results relate only to the parameters tested and item sampled.  
 ii) The test report shall not be reproduced except in full, without written approval of laboratory.  
 iii) Parameter no. 11 to 20 are analyzed by Department of Chemistry, B. Borooah College as per our MOU.  
**End of report**

Page 2 of 2



**TEST REPORT:**

Report No: 230206\_1503163\_0  
 Sample ID No: EETNE/Jan/06/23/D  
 Test Starting Date: 24/01/23

Date of Report: 06/02/23  
 Date of sample receipt: 24/01/23  
 Test completion Date: 06/02/23

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.	
Sample Description	Type: Surface Water	Source: Lanku Nala
Sample collected by	M/s. Lower Kopili Project	

Sl No.	Parameters	Unit	Result	Reference Method
1	p <sup>H</sup>	---	7.75	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page: 4-95
2	Turbidity	NTU	10.1	APHA 23 <sup>rd</sup> Edition, 2130, Page: 2-13
3	TDS	mg/L	86	APHA 23 <sup>rd</sup> Edition, 2540 C, Page: 2-69
4	TSS	mg/L	65.7	APHA 23 <sup>rd</sup> Edition, 2540, Page: 2-70
5	Dissolved Oxygen	mg/L	6.4	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page: 4-146
6	Total hardness	mg/L	51.7	APHA 23 <sup>rd</sup> Edition, 2340 B, Page: 2-48
7	Calcium	mg/L	24.9	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page: 3-69
8	Magnesium	mg/L	12.5	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page: 3-86
9	Total Alkalinity	mg/L	119	APHA 23 <sup>rd</sup> Edition, 2320, Page: 2-37
10	Chloride	mg/L	15.3	APHA 23 <sup>rd</sup> Edition, 4500-Cl B, Page: 4-75
11	Sulphate	mg/L	9.6	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page: 4-199
12	Nitrates	mg/L	4.1	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> <sup>-</sup> B, Page: 4-127
13	Phosphate	mg/L	<.02	APHA 23 <sup>rd</sup> Edition, 4500-P, Page: 4-163
14	Conductivity	µS/cm	250	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60





Sample ID No: EETNE/Jan/06/23/D  
Test Starting Date: 24/01/23

Date of sample receipt: 24/01/23  
Test completion Date: 06/02/23

Sl No.	Parameters	Unit	Result	Reference Method
15	Arsenic	µg/L	BDL	APHA 23 <sup>rd</sup> Edition,3114A,Page:3-36
16	Iron(as Fe)	mg/L	1.5	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80
17	Salinity	%	0.4	APHA 23 <sup>rd</sup> Edition,2520B,Page:2-60
16	Total Coliform	MPN/100 mL	3	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81
17	Fecal Coliform	MPN/100 mL	Nil	APHA 23 <sup>rd</sup> Edition,9222 D,Page:9-89
18	BOD	mg/L	5	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6
19	COD	mg/L	27	APHA 23 <sup>rd</sup> 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 / Reviewed By

Note: i) The results relate only to the parameters tested.  
ii) The test report shall not be reproduced except in full, without written approval of laboratory  
iii) Parameter no.9 to 17 are analyzed by Department of Chemistry, B. Borooah College as per our MOU.

End of report



TC-7669

Recognized by Pollution Control Board, Assam

**TEST REPORT:**

Report No: 230314\_1503163\_0  
 ULR No: TC76692300000002P  
 Sample ID No: EETNE/March/02/23/D  
 Test Starting Date: 01/03/23

Date of Report: 14/03/23  
 Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23

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	Latitude: 25.681362 Longitude: 92.803848		
Sample collected by	M/s. En-vision Enviro Technologies North East				
Sample Collection Particulars	Date 28/02/2023	Time 4:50 P.M	Temperature 29°C	Quantity Drawn: 4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method
1	p <sup>H</sup>	---	4.00	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page: 4-95
2	Turbidity	NTU	1.56	APHA 23 <sup>rd</sup> Edition, 2130, Page: 2-13
3	TDS	mg/L	63	APHA 23 <sup>rd</sup> Edition, 2540 C, Page: 2-69
4	TSS	mg/L	41.3	APHA 23 <sup>rd</sup> Edition, 2540, Page: 2-70
5	Oil and Grease	mg/L	<2	APHA 23 <sup>rd</sup> Edition, 5520 B, Page: 5-42
6	Dissolved Oxygen	mg/L	7.1	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page: 4-146
7	Total hardness	mg/L	53.8	APHA 23 <sup>rd</sup> Edition, 2340 B, Page: 2-48
8	Calcium	mg/L	29.1	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page: 3-69
9	Magnesium	mg/L	13.6	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page: 3-86
10	Total Alkalinity	mg/L	125.2	APHA 23 <sup>rd</sup> Edition, 2320, Page: 2-37
11	Sulphate	mg/L	16.4	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page: 4-199
12	Nitrates	mg/L	3.8	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> <sup>-</sup> B, Page: 4-127
13	Phosphate	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 4500-P, Page: 4-163
14	Salinity	%	0.2	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60
15	Conductivity	µS/cm	180	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60








TC-7669


Recognized by Pollution Control Board, Assam

Sample ID No: EETNE/March/02/23/D  
Test Starting Date: 01/03/23Date of sample receipt: 01/03/23  
Test completion Date: 14/03/23

Sl No.	Parameters	Unit	Result	Reference Method
16	Chloride	mg/L	17.2	APHA 23 <sup>rd</sup> Edition,4500-ClB,Page:4-75
17	Arsenic	mg/L	<0.001	APHA 23 <sup>rd</sup> Edition,3114A,Page:3-36
18	Iron(as Fe)	mg/L	1.1	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80
19	Total Coliform	MPN/100	3	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81
20	Fecal Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition,9222 D,Page:9-89
21	BOD	mg/L	10	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6
22	COD	mg/L	46	APHA 23 <sup>rd</sup> 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 / Reviewed By

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

End of report

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Page 2 of 2

RO Water

**en-vision**

Enviro Technologies North East

Recognized by Pollution Control Board, Assam



**TEST REPORT:**

Report No: 230206\_1503163\_0  
 Sample ID No: EETNE/Jan/08/23/D  
 Test Starting Date: 24/01/23


Date of Report: 06/02/23  
 Date of sample receipt: 24/01/23  
 Test completion Date: 06/02/23


TC-7669

Name & Address of Client	M/s. Lower Kopilli Project. Near Lanka, Dist: Dima Hasao.	
Sample Description	Type: RO Water	Source: PMC Camp
Sample collected by	M/s. Lower Kopilli Project .	

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500: 2012 Acceptable limit
1	p <sup>H</sup>	---	7.91	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page: 4-95	6.5-8.5
2	Turbidity	NTU	<0.2	APHA 23 <sup>rd</sup> Edition, 2130, Page: 2-13	1.0
3	Total hardness	mg/L	31.5	APHA 23 <sup>rd</sup> Edition, 2340 B, Page: 2-48	200
4	Total Alkalinity	mg/L	58.7	APHA 23 <sup>rd</sup> Edition, 2320 B, Page: 2-37	200
5	Residual Chlorine	mg/L	<0.01	APHA 23 <sup>rd</sup> Edition, 4500-Cl B, Page: 4-63	0.2
6	Fluoride	mg/L	0.26	APHA 23 <sup>rd</sup> Edition, 4500-F <sup>-</sup> D, Page: 4-90	1.0
7	Chloride	mg/L	16.7	APHA 23 <sup>rd</sup> Edition, 4500-Cl <sup>-</sup> B, Page: 4-75	250
8	Iron(as Fe)	mg/L	0.13	APHA 23 <sup>rd</sup> Edition, 3500-Fe B, Page: 3-80	0.3
9	Total coliform	MPN/100 mL	Nil	APHA 23 <sup>rd</sup> Edition, 9222B, Page: 9-81	Absent

For Envision Enviro Technologies North East

  
**Rimpi Sarma**  
 Environmental Chemist  
 Test Done By

  
**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory

Note: i) The results relate only to the parameters tested.  
 ii) The test report shall not be reproduced except in full, without written approval of laboratory  
 iii) Parameter no. 4 to 9 are analyzed by Department of Chemistry, B. Borooah College as per our MOU.

**End of report**

RO inlet

**en-vision**

Enviro Technologies North East

Recognized by Pollution Control Board, Assam



TEST REPORT:

Report No: 230314\_1503163\_0  
 ULR NO-TC766923000000007F  
 Sample ID No: EETNE/March/06/23/D  
 Test Starting Date: 01/03/23


Date of Report: 14/03/23  
 Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23


TC-7669

Name & Address of Client	M/s. Lower Kopili Project, Near Lanka, Dist: Dima Hasao.				
Sample Description	Type: RO Inlet	Source: Canteen	Latitude:25.680317	Longitude:92.80195	
Sample collected by	M/s. Lower Kopili Project .				
Sample Collection Particulars	Date 28/02/23	Time 01:35 P.M	Temperature 29°C	Quantity Drawn:3L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500: 2012
					Acceptable limit
1	pH	---	7.7	APHA 23 <sup>rd</sup> Edition,4500 H*, Page:4-95	6.5-8.5
2	Turbidity	NTU	0.21	APHA 23 <sup>rd</sup> Edition,2130,Page:2-13	1.0
3	Total hardness	mg/L	58.4	APHA 23 <sup>rd</sup> Edition,2340 B, Page:2-48	200
4	Total Alkalinity	mg/L	140	APHA 23 <sup>rd</sup> Edition,2320 B, Page:2-37	200
5	Residual Chlorine	mg/L	BDL	APHA 23 <sup>rd</sup> Edition,4500-Cl B, Page:4-63	0.2
6	Fluoride	mg/L	0.25	APHA 23 <sup>rd</sup> Edition,4500-F D, Page:4-90	1.0
7	Chloride	mg/L	13.7	APHA 23 <sup>rd</sup> Edition,4500-Cl B, Page:4-75	250
8	Iron(as Fe)	mg/L	0.14	APHA 23 <sup>rd</sup> Edition,3500-Fe B, Page:3-80	0.3
9	Total coliform	MPN/100 mL	Nil	APHA 23 <sup>rd</sup> Edition,9222B, Page:9-81	Absent

For Envision Enviro Technologies North East

  
**Rimpi Sarma**  
 Environmental Chemist  
 Test Done By

  
**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory/Reviewed By

Note: i) The results relate only to the parameters tested and item sampled.  
 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- 5, 1st Floor, Sankardev Path, Pub-Sarania, Chandmari, Guwahati-781003, Assam

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TC-7669

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**TEST REPORT:**

Report No: 230206\_1503163\_0  
 Sample ID No: EETNE/Jan/07/23/D  
 Test Starting Date: 24/01/23

Date of Report: 06/02/23  
 Date of sample receipt: 24/01/23  
 Test completion Date: 06/02/23

Name & Address of Client	M/s. Lower Kopilli Project. Near Lanka, Dist: Dima Hasao.	
Sample Description	Type: Surface Water	Source: RO Water
Sample collected by	M/s. Lower Kopilli Project	

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012
					Acceptable Limit
1	pH	---	7.22	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page: 4-95	6.5-8.5
2	Turbidity	NTU	4.0	APHA 23 <sup>rd</sup> Edition, 2130, Page: 2-13	1
3	TDS	mg/L	42	APHA 23 <sup>rd</sup> Edition, 2540 C, Page: 2-69	500
4	TSS	mg/L	18.3	APHA 23 <sup>rd</sup> Edition, 2540, Page: 2-70	---
5	Oil and Grease	mg/L	<2	APHA 23 <sup>rd</sup> Edition, 5520 B, Page: 5-42	---
6	Dissolved Oxygen	mg/L	7.1	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page: 4-146	100
7	Total hardness	mg/L	45.8	APHA 23 <sup>rd</sup> Edition, 2340 B, Page: 2-48	200
8	Calcium	mg/L	23.1	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page: 3-69	75
9	Magnesium	mg/L	11.4	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page: 3-86	30
10	Total Alkalinity	mg/L	91	APHA 23 <sup>rd</sup> Edition, 2320, Page: 2-37	600
11	Chloride	mg/L	14.3	APHA 23 <sup>rd</sup> Edition, 4500-Cl <sup>-</sup> B, Page: 4-75	250
12	Sulphate	mg/L	11.7	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page: 4-199	200
13	Nitrates	mg/L	3.1	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> <sup>-</sup> B, Page: 4-127	45
14	Phosphate	mg/L	<0.02	APHA 23 <sup>rd</sup> Edition, 4500-P, Page: 4-163	No Relaxation
15	Salinity	%	0.3	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60	---
16	conductivity	μS/cm	120	APHA 23 <sup>rd</sup> Edition, 2520B, Page: 2-60	No Relaxation

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



TC-7669

Recognized by Pollution Control Board, Assam

Sample ID No: EETNE/Jan/07/23/D  
 Test Starting Date: 24/01/23

Date of sample receipt: 24/01/23  
 Test completion Date: 06/02/23

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012
					Acceptable Limit
17	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 3114A, Page: 3-36	0.01
18	Iron(as Fe)	mg/L	0.176	APHA 23 <sup>rd</sup> Edition, 3500-Fe B, Page: 3-80	0.3
19	Total Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition, 9222B, Page: 9-81	Shall not be detectable in any 100 ml Sample
20	Fecal Coliform	MPN/100	Nil	APHA 23 <sup>rd</sup> Edition, 9222 D, Page: 9-89	Shall not be detectable in any 100 ml Sample
21	BOD	mg/L	<2	APHA 23 <sup>rd</sup> Edition, 5210B, Page: 5-6	----
22	COD	mg/L	<5	APHA 23 <sup>rd</sup> Edition, 5220 b, Page: 5-18	----

For Enviro Enviro Technologies North East, Guwahati



  
**Rimpi Sarma**  
 Environmental Chemist  
 Test Done By

**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory/Reviewed By

Note: i) The results relate only to the parameters tested.  
 ii) The test report shall not be reproduced except in full, without written approval of laboratory  
 iii) Parameter no.11 to 20 are analyzed by Department of Chemistry, B. Borooah College as per our MOU.  
**End of report**

Page 2 of 2

Waste water

**en-VISION**

Enviro Technologies North East

Technology for better **Recognized by Pollution Control Board, Assam**



TC-7669

**TEST REPORT:**

Report No: 230314\_1503163\_0  
 ULR NO-TC76692300000009F  
 Sample ID No: EETNE/March/03\_A/23  
 Test Starting Date: 28/02/23

Date of Report: 14/03/23  
 Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.				
Sample Description	Type: Waste water	Source: Workman Colony	Latitude:25.681362	Longitude:92.803844	
Sample collected by	M/s. En-vision Enviro Technologies North East				
Sample Collection Particulars	Date 01/03/23	Time 01:49 P.M	Temperature 26°C	Quantity Drawn:2L	Sampling Method: EETNE/SOP/02

SN	Parameter	Unit	Result	Method Followed by	Permissible Limit (CPCB)
1	p <sup>H</sup>	---	7.00	APHA 23 <sup>rd</sup> Edition,4500 H <sup>a</sup> ,Page:4-95	6.5-9.0
2	TSS	mg/L	81.3	APHA 23 <sup>rd</sup> Edition,2540,Page:2-70	100
3	BOD	mg/L	27	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6	30
4	COD	mg/L	82	APHA 23 <sup>rd</sup> Edition,5220 b,Page:5-18	250
5	OIL & GREASE	mg/L	3.5	APHA 23 <sup>rd</sup> Edition,5520 B,Page:5-42	10

Note : (TSS) Total Suspended Solids, (BOD) Biochemical Oxygen Demand, (COD) Chemical Oxygen Demand.

For Envision Enviro Technologies North East



  
**Rimpi Sarma**  
 Environmental Chemist  
 Test Done By

**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory/Reviewed By

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

**End of Report**



TC-7669

**TEST REPORT:**

Report No: 230314\_1503163\_0  
 ULR NO-TC766923000000009F  
 Sample ID No: EETNE/March/03\_A/23  
 Test Starting Date: 28/02/23

Date of Report: 14/03/23  
 Date of sample receipt: 01/03/23  
 Test completion Date: 14/03/23

Name & Address of Client	M/s. Lower Kopili Project. Near Lanka, Dist: Dima Hasao.				
Sample Description	Type: Waste water	Source: Workman Colony	Latitude:25.681362	Longitude:92.803844	
Sample collected by	M/s. En-vision Enviro Technologies North East				
Sample Collection Particulars	Date 01/03/23	Time 01:49 P.M	Temperature 26°C	Quantity Drawn:2L	Sampling Method: EETNE/SOP/02

SN	Parameter	Unit	Result	Method Followed by	Permissible Limit (CPCB)
1	p <sup>H</sup>	---	7.00	APHA 23 <sup>rd</sup> Edition,4500 H <sup>+</sup> ,Page:4-95	6.5-9.0
2	TSS	mg/L	81.3	APHA 23 <sup>rd</sup> Edition,2540,Page:2-70	100
3	BOD	mg/L	27	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6	30
4	COD	mg/L	82	APHA 23 <sup>rd</sup> Edition,5220 b,Page:5-18	250
5	OIL & GREASE	mg/L	3.5	APHA 23 <sup>rd</sup> Edition,5520 B,Page:5-42	10

Note : (TSS) Total Suspended Solids, (BOD) Biochemical Oxygen Demand, (COD) Chemical Oxygen Demand.

For Envision Enviro Technologies North East



  
**Rimpi Sarma**  
 Environmental Chemist  
 Test Done By

**Dr. Pranita Chakraborty**  
 Quality Manager  
 Authorized Signatory/Reviewed By

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

**End of Report**

26B. Test Reports of CP-4



**ABNS SCIENTIFIC SERVICES**

এবিএনএচ চাইনিক্যাল সার্ভিসেস  
এবীএনএস সাইন্টিফিক সার্ভিসেস

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রেডিসন ব্লু কে পাৰা, এন এছ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম



TC-10736

Email: info@abnsscientific.com, abnsscientific@gmail.com

Phone: 98640 68513, 98640 89951

**TEST REPORT**

ULR Number: TC1073623000000428F	Report date: 26/05/2023
Name & Address of the Customer:	
M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034, ASSAM	
Sample Description: AMBIENT AIR	Analysis Start Date: 27/04/2023
Sampling Location: Near Hablong Tiniali	Analysis End Date: 04/05/2023
Location category: Rural	
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

**ANALYSIS RESULT**

Location		Near Hablong Tiniali			latitude	longitude
					25.832883°N	92.005219°E
Date of sampling		25/04/2023			Weather	Clear
SI No	Parameters	Unit	RESULT	LIMIT	TEST METHOD	
1.	Particulate Matter (<10µm)	µg/m <sup>3</sup>	69.0	100	IS 5182: Part 23:2006 (Reaff. 2012)	
2.	Particulate Matter (<2.5µm)	µg/m <sup>3</sup>	38.2	60	Lab SOP.Doc.NO. TPM/ABNS/E/5/D	
3.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	< 6.0	80	IS 5182 : Part 2 :2001 (Reaff.2012)	
4.	Oxides of Nitrogen (NO <sub>x</sub> )	µg/m <sup>3</sup>	23.5	80	IS 5182 : Part 6 :2006 (Reaff.2012)	
5.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	60.0	180	IS 5182 : Part 9 :1974 (Reaff.2019)	
6.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	42.0	400	IS 5182 : Part 25 :2018	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta(QM)



*[Signature]*  
26/05/2023  
Authorized Signatory  
(Dr. Bidyut J Sarmah)





# ABNS SCIENTIFIC SERVICES

এবিএনএচ চাইনটিক সার্ভিসেস

एबीएनएस साइंटिफिक सर्विसेज

Pollution Control Board recognised laboratory

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রैडिसन ब्लू के पास, एन एच २७, गुवाहाटी ७८१०३३, असम

Email: info@abnsscscientific.com, abnsscscientific@gmail.com

Phone: 98640 68513, 98640 89951

## TEST REPORT

Report Number: ABNS/EM/052623/33	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>AMBIENT AIR</b> Sampling Location: <b>Near Hablong Tiniali</b> Location category: Rural	Date of sampling: 25/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl No	Parameters	Unit	RESULT	LIMIT	TEST METHOD
7.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.34	2	IS 5182 : Part 10 :1999 (Reaff.2014) (NDIR)
8.	Lead (Pb)	µg/m <sup>3</sup>	0.20	1	IS 5182 : Part 22 :2004 (Reaff.2019)
9.	Nickel (Ni)	ng/m <sup>3</sup>	3.60	20	USEPA-IO3.4
10.	Arsenic (As)	ng/m <sup>3</sup>	BDL	6	USEPA-IO3.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	BDL	5	IS:5182(Part-11):2006 Reaff : 2012
12.	Benzo(a)Pyrene (BaP)	ng/m <sup>3</sup>	BDL	1	IS:5182(Part-12):2004 Reaff.: 2014

Note: The results relate to the parameter tested only. \* BDL: Below detection Limit.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

Authorized Signatory  
(Dr. Bidyut J Sarmah)



# ABNS SCIENTIFIC SERVICES

এবিএনএচ চাইন্টিফিক চার্জিটেড  
এবীএনএস সাইন্টিফিক সার্ভিসেস

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রৈডিসন ব্লু কে पास, एन एडच २७, गुवाहाटी ७८१०३३, असम



TC-10736

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## TEST REPORT

ULR Number: TC1073623000000430F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: AMBIENT AIR	Analysis Start Date: 29/04/2023
Sampling Location: Power House	Analysis End Date: 06/05/2023
Location category: Rural	
Ref: PO No : AS-SPO1923-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Location		Near Power House			latitude	longitude
Date of sampling		27/04/2023			25.697152°N	92.80587°E
					Weather	Cloudy
Sl No	Parameters	Unit	RESULT	LIMIT	TEST METHOD	
1.	Particulate Matter (<10um)	µg/m <sup>3</sup>	80.0	100	IS 5182: Part 23:2006 (Reaff. 2012)	
2.	Particulate Matter (<2.5um)	µg/m <sup>3</sup>	43.0	60	Lab SOP.Doc.NO. TPM/ABNS/E/5/D	
3.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	12.8	80	IS 5182 : Part 2 :2001 (Reaff.2012)	
4.	Oxides of Nitrogen (NO <sub>x</sub> )	µg/m <sup>3</sup>	29.4	80	IS 5182 : Part 6 :2006 (Reniff.2012)	
5.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	92.0	180	IS 5182 : Part 9 :1974 (Reaff.2019)	
6.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	134.0	400	IS 5182 : Part 25 :2018	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



Authorized Signatory  
(Dr. Bidyut J Sarmah)



## ABNS SCIENTIFIC SERVICES

এবিএনএচ চাইনটিক সার্ভিসেস

एबीएनएस साइंटिफीक सर्विसेज

Pollution Control Board recognised laboratory

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### TEST REPORT

Report Number: ABNS/EM/052623/35	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>AMBIENT AIR</b> Sampling Location: <b>Power House</b> Location category: Rural	Date of sampling: 27/04/2023 Analysis Start Date: 29/04/2023 Analysis End Date: 06/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl No	Parameters	Unit	RESULT	LIMIT	TEST METHOD
7.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.74	2	IS 5182 : Part 10 :1999 (Reaff.2014) (NDIR)
8.	Lead (Pb)	µg/m <sup>3</sup>	BDL	1	IS 5182 : Part 22 :2004 (Reaff.2019)
9.	Nickel (Ni)	ng/m <sup>3</sup>	5.60	20	USEPA-103.4
10.	Arsenic (As)	ng/m <sup>3</sup>	1.80	6	USEPA-103.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	BDL	5	IS:5182(Part-11):2006 Reaff : 2012
12.	Benzo(a)Pyrene (BaP)	ng/m <sup>3</sup>	BDL	1	IS:5182(Part-12):2004 Reaff.; 2014

Note: The results relate to the parameter tested only. \* BDL: Below detection Limit.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



Authorized Signatory  
(Dr. Bidyut J Sarmah)



# ABNS SCIENTIFIC SERVICES

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TC-10736

## TEST REPORT

ULR Number: TC1073623000000429F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>AMBIENT AIR</b> Sampling Location: <b>Kokdanglangso</b> Location category: Rural	Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Location	Near Kokdanglangso L P School			latitude	longitude
				25.759703°N	92.925777°E
Date of sampling	25/04/2023			Weather	Clear
SI No	Parameters	Unit	RESULT	LIMIT	TEST METHOD
1.	Particulate Matter (<10um)	µg/m <sup>3</sup>	69.0	100	IS 5182 : Part 23:2006 (Reaff. 2012)
2.	Particulate Matter (<2.5um)	µg/m <sup>3</sup>	34.0	60	Lab SOP.Doc.NO. TPM/ABNS/E/5/D
3.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	8.2	80	IS 5182 : Part 2 :2001 (Reaff.2012)
4.	Oxides of Nitrogen (NO <sub>x</sub> )	µg/m <sup>3</sup>	30.5	80	IS 5182 : Part 6 :2006 (Reaff.2012)
5.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	78.0	180	IS 5182 : Part 9 :1974 (Reaff.2019)
6.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	104.0	400	IS 5182 : Part 25 :2018

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta(QM)



Authorized Signatory  
(Dr. Bidyut J Sarmah)



## ABNS SCIENTIFIC SERVICES

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### TEST REPORT

Report Number: ABNS/EM/052623/34	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>AMBIENT AIR</b> Sampling Location: <b>Kokdanglangso</b> Location category: Rural	Date of sampling: 25/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl No	Parameters	Unit	RESULT	LIMIT	TEST METHOD
7.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.40	2	IS 5182 : Part 10 :1999 (Reaff.2014) (NDIR)
8.	Lead (Pb)	µg/m <sup>3</sup>	0.28	1	IS 5182 : Part 22 :2004 (Reaff.2019)
9.	Nickel (Ni)	ng/m <sup>3</sup>	6.20	20	USEPA-IO3.4
10.	Arsenic (As)	ng/m <sup>3</sup>	2.14	6	USEPA-IO3.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	BDL	5	IS:5182(Part-11):2006 Reaff: 2012
12.	Benzo(a)Pyrene (BaP)	ng/m <sup>3</sup>	BDL	1	IS:5182(Part-12):2004 Reaff.: 2014

Note: The results relate to the parameter tested only. \* BDL: Below detection Limit.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



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# ABNS SCIENTIFIC SERVICES

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H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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TC-10736

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## TEST REPORT

ULR Number: TC1073623000000426F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>AMBIENT AIR</b>	Analysis Start Date: 27/04/2023
<b>Sampling Location: Near Sankardev Nagar (Hojai)</b>	Analysis End Date: 04/05/2023
Location category: Urban	
Ref: PO No : AS-SPOB/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Location		Near Sankardev Nagar (Hojai)			latitude	longitude
Date of sampling		26/04/2023			25.984331°N	92.930287°E
					Weather	Clear
SI No	Parameters	Unit	RESULT	LIMIT	TEST METHOD	
1.	Particulate Matter (<10um)	µg/m <sup>3</sup>	83.0	100	IS 5182: Part 23:2006 (Reaff. 2012)	
2.	Particulate Matter (<2.5um)	µg/m <sup>3</sup>	42.0	60	Lab SOP.Doc.NO. TPM/ABNS/E/5/D	
3.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	9.20	80	IS 5182 : Part 2 :2001 (Reaff.2012)	
4.	Oxides of Nitrogen (NO <sub>x</sub> )	µg/m <sup>3</sup>	28.4	80	IS 5182 : Part 6 :2006 (Reaff.2012)	
5.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	54.0	180	IS 5182 : Part 9 :1974 (Reaff.2019)	
6.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	72.0	400	IS 5182 : Part 25 :2018	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta(QM)

Authorized Signatory  
(Dr. Bidyut J Sarmah)



## ABNS SCIENTIFIC SERVICES

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### TEST REPORT

Report Number: ABNS/EM/052623/31	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>AMBIENT AIR</b> <b>Sampling Location: Near Sankardev Nagar (Hojai)</b> Location category: Urban	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl No	Parameters	Unit	RESULT	LIMIT	TEST METHOD
7.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.94	2	IS 5182 : Part 10 :1999 (Reaff.2014) (NDIR)
8.	Lead (Pb)	µg/m <sup>3</sup>	0.76	1	IS 5182 : Part 22 :2004 (Reaff.2019)
9.	Nickel (Ni)	ng/m <sup>3</sup>	3.18	20	USEPA-IO3.4
10.	Arsenic (As)	ng/m <sup>3</sup>	1.60	6	USEPA-IO3.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	2.76	5	IS:5182(Part-11):2006 Reaff : 2012
12.	Benzo(a)Pyrene (BaP)	ng/m <sup>3</sup>	0.44	1	IS:5182(Part-12):2004 Reaff.; 2014

Note: The results relate to the parameter tested only. \* BDL: Below detection Limit.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

26/05/2023

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# ABNS SCIENTIFIC SERVICES

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H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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TC-10738

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## TEST REPORT

ULR Number: TC1073623000000427F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>AMBIENT AIR</b> Sampling Location: <b>Dablang Village</b> Location category: Rural	Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SI/08/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Location		Near Dablang Village			latitude	longitude
					25.911955°N	92.92581°E
Date of sampling		26/04/2023			Weather	Clear
SI No	Parameters	Unit	RESULT	LIMIT	TEST METHOD	
1.	Particulate Matter (<10um)	µg/m <sup>3</sup>	79.0	100	IS 5182: Part 23:2006 (Reaff. 2012)	
2.	Particulate Matter (<2.5um)	µg/m <sup>3</sup>	46.0	60	Lab SOP.Doc.NO. TPM/ABNS/E/5/D	
3.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	14.5	80	IS 5182 : Part 2 :2001 (Reaff.2012)	
4.	Oxides of Nitrogen (NO <sub>x</sub> )	µg/m <sup>3</sup>	33.2	80	IS 5182 : Part 6 :2006 (Reaff.2012)	
5.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	84.0	180	IS 5182 : Part 9 :1974 (Reaff.2019)	
6.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	112.0	400	IS 5182 : Part 25 :2018	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta(QM)



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(Dr. Bidyut J Sarmah)





## ABNS SCIENTIFIC SERVICES

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Pollution Control Board recognised laboratory

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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### TEST REPORT

Report Number: ABNS/EM/052623/32

Report date: 26/05/2023

Name & Address of the Customer:

**M/S SALASAR TECHNO ENGINEERING LIMITED**  
2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR,  
LALGANESH GUWAHATI, KAMPUP(M),  
GUWAHATI-781034. ASSAM

Sample Description: **AMBIENT AIR**

Sampling Location: **Dablang Village**

Location category: **Rural**

Date of sampling: 26/04/2023

Analysis Start Date: 27/04/2023

Analysis End Date: 04/05/2023

Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023

### ANALYSIS RESULT

Sl No	Parameters	Unit	RESULT	LIMIT	TEST METHOD
7.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	0.36	2	IS 5182 : Part 10 :1999 (Reaff.2014) (NDIR)
8.	Lead (Pb)	µg/m <sup>3</sup>	BDL	1	IS 5182 : Part 22 :2004 (Reaff.2019)
9.	Nickel (Ni)	ng/m <sup>3</sup>	3.20	20	USEPA-TO3.4
10.	Arsenic (As)	ng/m <sup>3</sup>	0.68	6	USEPA-TO3.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	BDL	5	IS:5182(Part-11):2006 Reaff : 2012
12.	Benzo(a)Pyrene (BaP)	ng/m <sup>3</sup>	BDL	1	IS:5182(Part-12):2004 Reaff.: 2014

Note: The results relate to the parameter tested only. \* BDL: Below detection Limit.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



*J. Samah*  
26/05/2023  
Authorized Signatory  
(Dr. Bidyut J Samah)



# ABNS SCIENTIFIC SERVICES

এবিএনএচ চাইন্টিফিক চাৰ্জিচেচ  
এবীএনএস সাইন্টিফিক সৰ্বীসেজ

H-152, Keleki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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TC-10736

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## TEST REPORT

ULR Number: TC107362300000441F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034, ASSAM	
Sample Description: <b>Drinking Water</b>	Date of sampling: 26/04/2023
Sampling Location: <b>Sankardev Nagar (Hojai)</b>	Analysis Start Date: 27/04/2023
Source: Borewell	Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

### Physical & Chemical Test Findings:

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>A. Organoleptic and Physical Parameters</b>						
1	Color	IS: 3025-(part4): 1983 Reaf, 2012	Hazen	2	5 Max	15 Max
2	Odour	IS: 3025-(part5): 1983	....	Agreeable	Agreeable	Agreeable
3	Taste	IS: 3025-(part8): 1983	....	Agreeable	Agreeable	Agreeable
4	pH value	IS: 3025-(part11): 1983 Reaf, 2012	....	7.15	6.5-8.5	No Relaxation
5	Turbidity	IS: 3025-(part10): 1983 Reaf, 2012	NTU	0.8	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983 Reaf, 2012	mg/l	292.0	500 Max	2000
7	Conductance	IS 3025 Part 14	mS/cm	0.48	-	-

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



*Signature*  
26/05/2023  
Authorized Signatory

- The test report shall not be reproduced, except in full, without written approval of the company
- Results relate only to the parameters tested.



# ABNS SCIENTIFIC SERVICES

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H-152, Keleki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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## TEST REPORT

ULR Number: TC107362300000441F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034, ASSAM	
Sample Description: <b>Drinking Water</b>	Date of sampling: 26/04/2023
Sampling Location: <b>Sankardev Nagar (Hojai)</b>	Analysis Start Date: 27/04/2023
Source: Borewell	Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

### Physical & Chemical Test Findings:

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>A. Organoleptic and Physical Parameters</b>						
1	Color	IS: 3025-(part4): 1983 Reaf, 2012	Hazen	2	5 Max	15 Max
2	Odour	IS: 3025-(part5): 1983	....	Agreeable	Agreeable	Agreeable
3	Taste	IS: 3025-(part8): 1983	....	Agreeable	Agreeable	Agreeable
4	pH value	IS: 3025-(part11): 1983 Reaf, 2012	....	7.15	6.5-8.5	No Relaxation
5	Turbidity	IS: 3025-(part10): 1983 Reaf, 2012	NTU	0.8	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983 Reaf, 2012	mg/l	292.0	500 Max	2000
7	Conductance	IS 3025 Part 14	mS/cm	0.48	-	-

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



*Dr. Mayur Jyoti Mahanta*  
26/05/2023  
Authorized Signatory

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Pollution Control Board recognised laboratory

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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## TEST REPORT

Report Number: ABNS/EM/052623/41	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b> Sampling Location: <b>Sankardev Nagar (Hojai)</b> Source: Borewell	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
1	Temperature	IS 3025 ( Part 09 ) : 1984	°C	32.2	NA	NA
2	Phenolphthalein Alkalinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf, 2009	mg/l	NIL	NA	NA
3	DO	APHA 22 <sup>nd</sup> Edn., 2012, 4500 O-C	mg/l	6.4	NA	NA
4	BOD	IS 3025 (Part 44)1993; RfIm. 2017	mg/l	< 4.0	NA	NA
5	COD	IS 3025 (Part 58)2006; RfIm. 2019	mg/l	9.6	NA	NA
6	Sodium	IS 3025 ( Part 45 )	mg/l	31.8	NA	NA
7	Potassium	IS 3025 ( Part 48 ) : 1994, RfIm. 2003	mg/l	10.5	NA	NA
8	Nitrite Nitrogen as N	IS 3025 ( Part 34 ) : 1988,	mg/l	<0.2	NA	NA
9	Ammonium (NH <sub>3</sub> -N)	IS: 3025-(part34)	mg/l	<0.2	0.5 Max	No Relaxation
10	Boron as B	IS: 3025-(part57): 2005 Reaf, 2010	mg/l	<0.05	0.5 Max	1.0
<b>C. Microbiological Test parameters</b>						
1	Total coliform	IS 1622-1981, Reff. 2014	MPN/100 ml	Not Detected	No Relaxation	No Relaxation
2	Faecal coliforms	IS 1622-1981, Reff. 2014	MPN/100 ml	Not Detected	No Relaxation	No Relaxation

For ABNS Scientific Services.

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



*[Signature]*  
26/05/2023  
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### TEST REPORT

Report Number: ABNS/EM/052623/71	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: Soil Sampling Location: Sankardev Nagar(Hojai) (Location GPS: 25.984334°N, 92.93039°E)	Date of sampling: 28/04/2023 Analysis Start Date: 02/05/2023 Analysis End Date: 10/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl. No.	Test Parameters	Unit	Result	Method
1	pH value(1:2.5) at 25 Deg. C	None	6.78	IS 2720 (Part 26) 1987:Rffm:2011
2	Conductance	(mS/cm)	0.710	IS 14767 (2000)
3	Organic Carbon	%	1.24	IS 2720 (Part 22) 1972:Rffm:2010
4	Available Nitrogen	%	0.292	Soil testing manual, Department of Agriculture & Cooperation Ministry of Agriculture Government of India, 2011
5	Available Phosphorus	%	0.35	
6	Available Potassium	%	0.198	
7	Available Sulphur	%	0.160	
8	Zinc	mg/kg	594.0	
9	Copper	mg/kg	170.0	
10	Iron	mg/kg	860.0	
11	Manganese	mg/kg	132.0	
12	Boron	mg/kg	0.66	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed By: Dr.Bidyut J Sarmah (TM)



*Mayur Jyoti Mahanta*  
26/05/2023  
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(Dr. Mayur Jyoti Mahanta)

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### TEST REPORT

Report Number: ABNS/EM/052623/55

Report date: 26/05/2023

Name & Address of the Customer:

**M/S SALASAR TECHNO ENGINEERING LIMITED**  
2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR,  
LALGANESH GUWAHATI, KAMPUP(M),  
GUWAHATI-781034. ASSAM

Sample Description: Soil

Date of sampling: 25/04/2023

Sampling Location: Kokdanglangso

Analysis Start Date: 27/04/2023

(Location GPS: 25.725763°N, 92.849757°E)

Analysis End Date: 04/05/2023

Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023

### ANALYSIS RESULT

Sl. No.	Test Parameters	Unit	Result	Method
1	pH value(1:2.5) at 25 Deg. C	None	5.98	IS 2720 (Part 26) 1987;Rffm:2011
2	Conductance	(mS/cm)	0.324	IS 14767 (2000)
3	Organic Carbon	%	0.88	IS 2720 (Part 22) 1972;Rffm:2010
4	Available Nitrogen	%	0.056	Soil testing manual, Department of Agriculture & Cooperation Ministry of Agriculture Government of India, 2011
5	Available Phosphorus	%	0.13	
6	Available Potassium	%	0.079	
7	Available Sulphur	%	0.064	
8	Zinc	mg/kg	192	
9	Copper	mg/kg	366	
10	Iron	mg/kg	1982	
11	Manganese	mg/kg	320	
12	Boron	mg/kg	10.6	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed By: Dr. Bidyut J Samah (TM)



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### TEST REPORT

Report Number: ABNS/EM/052623/54	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: Soil Sampling Location: Power House (Location GPS: 25.697112°N, 92.805877°E)	Date of sampling: 27/04/2023 Analysis Start Date: 29/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl. No.	Test Parameters	Unit	Result	Method
1	pH value(1:2.5) at 25 Deg. C	None	5.78	IS 2720 (Part 26) 1987;Rffm:2011
2	Conductance	(mS/cm)	0.690	IS 14767 (2000)
3	Organic Carbon	%	1.60	IS 2720 (Part 22) 1972;Rffm:2010
4	Available Nitrogen	%	0.080	Soil testing manual, Department of Agriculture & Cooperation Ministry of Agriculture Government of India, 2011
5	Available Phosphorus	%	0.02	
6	Available Potassium	%	0.072	
7	Available Sulphur	%	0.035	
8	Zinc	mg/kg	542	
9	Copper	mg/kg	179	
10	Iron	mg/kg	1264	
11	Manganese	mg/kg	202	
12	Boron	mg/kg	24	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed By: Dr. Bidyut J Sarmah (TM)



*Mayur Jyoti Mahanta*  
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### TEST REPORT

Report Number: ABNS/EM/052623/53	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034, ASSAM	
Sample Description: Soil Sampling Location: Hablong Village (Location GPS: 25.758582°N, 92.928582°E)	Date of sampling: 25/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

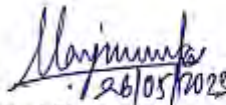
Sl. No.	Test Parameters	Unit	Result	Method
1	pH value(1:2.5) at 25 Deg. C	None	5.49	IS 2720 (Part 26) 1987;Rffm:2011
2	Conductance	(mS/cm)	2.18	IS 14767 (2000)
3	Organic Carbon	%	0.94	IS 2720 (Part 22) 1972;Rffm:2010
4	Available Nitrogen	%	0.020	Soil testing manual, Department of Agriculture & Cooperation Ministry of Agriculture Government of India, 2011
5	Available Phosphorus	%	0.05	
6	Available Potassium	%	0.072	
7	Available Sulphur	%	0.056	
8	Zinc	mg/kg	411	
9	Copper	mg/kg	112	
10	Iron	mg/kg	886	
11	Manganese	mg/kg	139	
12	Boron	mg/kg	6.8	

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed By: Dr. Bidyut J Sarmah (TM)



  
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(Dr. Mayur Jyoti Mahanta)

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## ABNS SCIENTIFIC SERVICES

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### TEST REPORT

Report Number: ABNS/EM/052623/52	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Soil</b> <b>Sampling Location: Dablang Village</b> (Location GPS: 25.911938°N, 92.925635°E)	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 08/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl. No.	Test Parameters	Unit	Result	Method
1	pH value(1:2.5) at 25 Deg. C	None	6.24	IS 2720 (Part 26) 1987;Rffin:2011
2	Conductance	(mS/cm)	0.368	IS 14767 (2000)
3	Organic Carbon	%	1.24	IS 2720 (Part 22) 1972;Rffin:2010
4	Available Nitrogen	%	0.018	Soil testing manual, Department of Agriculture & Cooperation Ministry of Agriculture Government of India, 2011
5	Available Phosphorus	%	0.094	
6	Available Potassium	%	0.028	
7	Available Sulphur	%	892	
8	Zinc	mg/kg	226	
9	Copper	mg/kg	1262	
10	Iron	mg/kg	318	
11	Manganese	mg/kg	72	
12	Boron	mg/kg		

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed By: Dr. Bidyut J Sarmah (TM)

  
*Mayur Jyoti Mahanta*  
26/05/2023  
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TC-10736

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### TEST REPORT

ULR Number: TC1073623000000432F	Report date: 26/05/2023
Name & Address of the Customer: M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: Noise Level	Location: Near Dablang Village
Sample Drawn on: 26/04/2023	(latitude: 25.911950°N, longitude: 92.925707°E)
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

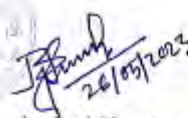
### ANALYSIS RESULT

Sl. No.	Test Parameters	Method	Unit	Result
1	Leq dB (A) Day	IS: 9989: 1981(Reaff:2014)	dB(A)	48.7
2	Leq dB (A) Night	IS: 9989: 1981(Reaff:2014)	dB(A)	36.2
<b>Ambient Noise Standards:</b>				
	Area Code	Category of Area	Limit in dB(A) Leq	
			Day time	Night time
	A.	Industrial area	75	70
	B.	Commercial area	65	55
	C.	Residential area	55	45
	D.	Silence Zone	50	40

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

  
26/05/2023  
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(Dr. Bidyut J Sarmah)

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## TEST REPORT

ULR Number: TC107362300000433F	Report date: 26/05/2023
Name & Address of the Customer: M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: Noise Level	Location: Near Hablang Tiniali
Sample Drawn on: 25/04/2023	(latitude: 25.758214°N, longitude: 92.83680°E)
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Sl. No.	Test Parameters	Method	Unit	Result
1	Leq dB (A) Day	IS: 9989: 1981(Reaff:2014)	dB(A)	46.2
2	Leq dB (A) Night	IS: 9989: 1981(Reaff:2014)	dB(A)	33.0
<b>Ambient Noise Standards:</b>				
	Area Code	Category of Area	Limit in dB(A) Leq	
			Day time	Night time
	A.	Industrial area	75	70
	B.	Commercial area	65	55
	C.	Residential area	55	45
	D.	Silence Zone	50	40

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

Authorized Signatory  
(Dr. Bidyut J Sarmah)

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TC-10736

Phone: 98640 68513, 98640 89951

## TEST REPORT

ULR Number: TC1073623000000436F	Report date: 26/05/2023
Name & Address of the Customer: M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: Noise Level	Location: Near Kokdanglangso
Sample Drawn on: 25/04/2023	(latitude: 25.725832°N, longitude: 92.84977°E)
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Sl. No.	Test Parameters	Method	Unit	Result
1	Leq dB (A) Day	IS: 9989: 1981(Reaff:2014)	dB(A)	41.9
2	Leq dB (A) Night	IS: 9989: 1981(Reaff:2014)	dB(A)	36.0
<b>Ambient Noise Standards:</b>				
	Area Code	Category of Area	Limit in dB(A) Leq	
			Day time	Night time
	A.	Industrial area	75	70
	B.	Commercial area	65	55
	C.	Residential area	55	45
	D.	Silence Zone	50	40

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

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(Dr. Bidyut J Sarmah)

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## TEST REPORT

ULR Number: TC1073623000000434F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: Noise Level	Location: Near Power House
Sample Drawn on: 27/04/2023	(latitude: 25.697154°N, longitude: 92.805847°E)
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Sl. No.	Test Parameters	Method	Unit	Result
1	Leq dB (A) Day	IS: 9989: 1981(Reaff:2014)	dB(A)	61.7
2	Leq dB (A) Night	IS: 9989: 1981(Reaff:2014)	dB(A)	54.0
<b>Ambient Noise Standards:</b>				
	Area Code	Category of Area	Limit in dB(A) Leq Day time    Night time	
	A.	Industrial area	75	70
	B.	Commercial area	65	55
	C.	Residential area	55	45
	D.	Silence Zone	50	40

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

26/05/2023

Authorized Signatory  
(Dr. Bidyut J Sarmah)

End of report

Page No: 1/1



# ABNS SCIENTIFIC SERVICES

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एबीएनएस साइंटिफीक सर्विसेज

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রেডিসন ব্লু কে पास, एन एइच २७, गुवाहाटी ७८१०३३, असम



TC-10736

Email: info@abnsscientific.com, abnsscientific@gmail.com

Phone: 98640 68513, 98640 89951

## TEST REPORT

ULR Number: TC1073623000000435F	Report date: 26/05/2023
Name & Address of the Customer: M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: Noise Level	Location: Sankardev Nagar(Hojai)
Sample Drawn on: 26/04/2023	(latitude: 25.984331°N, longitude: 92.930237°E)
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	


## ANALYSIS RESULT

Sl. No.	Test Parameters	Method	Unit	Result
1	Leq dB (A) Day	IS: 9989: 1981(Reaff:2014)	dB(A)	59.8
2	Leq dB (A) Night	IS: 9989: 1981(Reaff:2014)	dB(A)	45.4
<b>Ambient Noise Standards:</b>				
	Area Code	Category of Area	Limit in dB(A) Leq	
			Day time	Night time
	A.	Industrial area	75	70
	B.	Commercial area	65	55
	C.	Residential area	55	45
	D.	Silence Zone	50	40

Note: The results relate to the parameter tested only.

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

  
26/05/2023  
Authorized Signatory  
(Dr. Bidyut J Sarmah)

End of report

Page No: 1/1



# ABNS SCIENTIFIC SERVICES

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H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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Phone: 98640 68513, 98640 89951



## TEST REPORT

ULR Number: TC1073623000000442F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b>	Date of sampling: 26/04/2023
Sampling Location: <b>Kokdanglangso</b>	Analysis Start Date: 27/04/2023
Source: Tubewell	Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

#### Physical & Chemical Test Findings:

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>A. Organoleptic and Physical Parameters.</b>						
1	Color	IS: 3025-(part4): 1983 Reaf, 2012	Hazen	12	5 Max	15 Max
2	Odour	IS: 3025-(part5): 1983	....	Agreeable	Agreeable	Agreeable
3	Taste	IS: 3025-(part8): 1983	....	Agreeable	Agreeable	Agreeable
4	pH value	IS: 3025-(part11): 1983 Reaf, 2012	—	8.20	6.5-8.5	No Relaxation
5	Turbidity	IS: 3025-(part10): 1983 Reaf, 2012	NTU	9.0	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983 Reaf, 2012	mg/l	354.0	500 Max	
7	Conductance	IS 3025 Part 14	mS/cm	0.62	-	

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

*Dr. Mayur Jyoti Mahanta*  
 26/05/2023  
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H-152, Keleki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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TC-10736

## TEST REPORT

ULR Number: TC107362300000441F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b> Sampling Location: <b>Kokdanglangso</b> Source: Tubewell	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>B. General parameters Concerning Substances Undesirable in Excessive Amounts</b>						
1	Total Alkinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf, 2009	mg/l	176.0	200 Max	600 Max
2	Total Hardness as CaCO <sub>3</sub>	IS: 3025-(part21) 2009	mg/l	208.0	200 Max	600 Max
3	Calcium as Ca	IS: 3025-(part40): 1991 Reaf, 2009	mg/l	64.0	75 Max	200 Max
4	Magnesium as Mg	IS: 3025-(part46): 1994 Reaf, 2009	mg/l	18.4	30 Max	100 Max
5	Sulphate as SO <sub>4</sub>	IS: 3025-(part24): 1983 Reaf, 2009	mg/l	124.0	200 Max	400 Max
6	Nitrate as NO <sub>3</sub>	IS: 3025-(part34): 1988 Reaf, 2009	mg/l	29.0	45 Max	No Relaxation
7	Chloride as Cl	IS: 3025-(part32): 1988 Reaf, 2009	mg/l	168.0	250 Max	1000 Max
8	Fluoride as F	IS: 3025-(part60): 2008	mg/l	0.80	1 Max	1.5 Max

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

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26/05/2023  
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एबीएनएस साइंटिफीक सर्विसेज

Pollution Control Board recognised laboratory

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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Phone: 98640 68513, 98640 89951

## TEST REPORT

Report Number: ABNS/EM/052623/41	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b>	Date of sampling: 26/04/2023
Sampling Location: <b>Kokdanglangso</b>	Analysis Start Date: 27/04/2023
Source: <b>Tubewell</b>	Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
1	Temperature	IS 3025 ( Part 09 ) : 1984	°C	30.8	NA	NA
2	Phenolphthalein Alkalinity as CaCO <sub>3</sub>	IS: 3025-(part23), 1986 Reaf, 2009	mg/l	NIL	NA	NA
3	DO	APHA 22 <sup>nd</sup> Edn., 2012, 4500 O-C	mg/l	4.8	NA	NA
4	BOD	IS 3025 (Part 44)1993; RfIn. 2017	mg/l	8.0	NA	NA
5	COD	IS 3025 (Part 59)2006; RfIn. 2019	mg/l	23.6	NA	NA
6	Sodium	IS 3025 ( Part 45 )	mg/l	24.0	NA	NA
7	Potassium	IS 3025 ( Part 48 ) : 1994, RfIn. 2003	mg/l	3.6	NA	NA
8	Nitrite Nitrogen as N	IS 3025 ( Part 34 ) : 1988,	mg/l	<0.2	NA	NA
9	Ammonium (NH <sub>3</sub> -N)	IS: 3025-(part34)	mg/l	0.2	0.5 Max	No Relaxation
10	Boron as B	IS: 3025-(part57), 2005 Reaf, 2010	mg/l	<0.05	0.5 Max	1.0
<b>C. Microbiological Test parameters</b>						
1	Total coliform	IS 1622-1981, Ref. 2014	MPN/100 ml	220	No Relaxation	No Relaxation
2	Faecal coliforms	IS 1622-1981, Ref. 2014	MPN/100 ml	Not Detected	No Relaxation	No Relaxation

For ABNS Scientific Services.

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



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H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রৈডিসন ব্লু কে पास, एन एड्च २७, गुवाहाटी ७८१०३३, असम

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## TEST REPORT

ULR Number: TC1073623000000439F	Report date: 26/05/2023
Name & Address of the Customer:	
M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b> Sampling Location: <b>Hawaipur</b> Source: <b>Tubewell</b>	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

### Physical & Chemical Test Findings:

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>A. Organoleptic and Physical Parameters</b>						
1	Color	IS: 3025-(part4): 1983 Reaf, 2012	Hazen	8	5 Max	15 Max
2	Odour	IS: 3025-(part5): 1983	---	Agreeable	Agreeable	Agreeable
3	Taste	IS: 3025-(part8): 1983	---	Agreeable	Agreeable	Agreeable
4	pH value	IS: 3025-(part11): 1983 Reaf, 2012	---	7.56	6.5-8.5	No Relaxation
5	Turbidity	IS: 3025-(part10): 1983 Reaf, 2012	NTU	18.0	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983 Reaf, 2012	mg/l	490.0	500 Max	2000
7	Conductance	IS 3025 Part 14	mS/cm	0.92	-	-

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

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H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

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## TEST REPORT

ULR Number: TC107362300000439F	Report date: 26/05/2023
Name & Address of the Customer: M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b> Sampling Location: <b>Hawaipur</b> Source: Tubewell	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>B. General parameters Concerning Substances Undesirable in Excessive Amounts</b>						
1	Total Alkinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf, 2009	mg/l	198.0	200 Max	600 Max
2	Total Hardness as CaCO <sub>3</sub>	IS: 3025-(part21): 2009	mg/l	226.0	200 Max	600 Max
3	Calcium as Ca	IS: 3025-(part40): 1991 Reaf, 2009	mg/l	74.0	75 Max	200 Max
4	Magnesium as Mg	IS: 3025-(part46): 1994 Reaf, 2009	mg/l	23.4	30 Max	100 Max
5	Sulphate as SO <sub>4</sub>	IS: 3025-(part24): 1983 Reaf, 2009	mg/l	146.0	200 Max	400 Max
6	Nitrate as NO <sub>3</sub>	IS: 3025-(part34): 1988 Reaf, 2009	mg/l	25.0	45 Max	No Relaxation
7	Chloride as Cl	IS: 3025-(part32): 1988 Reaf, 2009	mg/l	117.0	250 Max	1000 Max
8	Fluoride as F	IS: 3025-(part60): 2008	mg/l	0.48	1 Max	1.5 Max

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

26/05/2023  
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Pollution Control Board recognised laboratory  
H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam  
কেতেকী পথ, রৈডিসন ব্লু কে পাস, এন এছ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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Phone: 98640 68513, 98640 89951

## TEST REPORT

Report Number: ABNS/EM/052623/39

Report date: 26/05/2023

Name & Address of the Customer:

M/S SALASAR TECHNO ENGINEERING LIMITED  
2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR,  
LALGANESH GUWAHATI, KAMPUP(M),  
GUWAHATI-781034. ASSAM

Sample Description: **Drinking Water**

Date of sampling: 26/04/2023

Sampling Location: **Hawaiapur**

Analysis Start Date: 27/04/2023

Source: Tubewell

Analysis End Date: 04/05/2023

Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023

### ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
1	Temperature	IS 3025 ( Part 09 ) : 1984	°C	32.8	NA	NA
2	Phenolphthalein Alkalinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf, 2009	mg/l	NIL	NA	NA
3	DO	APHA 22 <sup>nd</sup> Edn., 2012, 4500 O-C	mg/l	3.8	NA	NA
4	BOD	IS 3025 (Part 44)1993; Rflm. 2017	mg/l	6.0	NA	NA
5	COD	IS 3025 (Part 58)2006; Rflm. 2019	mg/l	18.0	NA	NA
6	Sodium	IS 3025 ( Part 45 )	mg/l	9.8	NA	NA
7	Potassium	IS 3025 ( Part 48 ) : 1994, Rflm. 2003	mg/l	1.2	NA	NA
8	Nitrite Nitrogen as N	IS 3025 ( Part 34 ) : 1988,	mg/l	<0.2	NA	NA
9	Ammonium (NH <sub>3</sub> -N)	IS: 3025-(part34)	mg/l	<0.2	0.5 Max	No Relaxation
10	Boron as B	IS: 3025-(part57): 2005 Reaf, 2010	mg/l	<0.05	0.5 Max	1.0
<b>C. Microbiological Test parameters</b>						
1	Total coliform	IS 1622-1981, Ref. 2014	MPN/100 ml	96	No Relaxation	No Relaxation
2	Faecal coliforms	IS 1622-1981, Ref. 2014	MPN/100 ml	Not Detected	No Relaxation	No Relaxation

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



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26/05/2023  
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H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রেডিসন ব্লু কে পাস, এন এছ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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TC-10736

## TEST REPORT

ULR Number: TC1073623000000440F	Report date: 26/05/2023
Name & Address of the Customer:	
M/S SALASAR TECHNO ENGINEERING LIMITED 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b>	Date of sampling: 26/04/2023
Sampling Location: <b>Hablong Village</b>	Analysis Start Date: 27/04/2023
Source: Tubewell	Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

### Physical & Chemical Test Findings:

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>A. Organoleptic and Physical Parameters</b>						
1	Color	IS: 3025-(part4): 1983 Reaf, 2012	Hazen	6	5 Max	15 Max
2	Odour	IS: 3025-(part5): 1983	....	Agreeable	Agreeable	Agreeable
3	Taste	IS: 3025-(part8): 1983	....	Agreeable	Agreeable	Agreeable
4	pH value	IS: 3025-(part11): 1983 Reaf, 2012	....	6.64	6.5-8.5	No Relaxation
5	Turbidity	IS: 3025-(part10): 1983 Reaf, 2012	NTU	12.0	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983 Reaf, 2012	mg/l	310.0	500 Max	2000
7	Conductance	IS 3025 Part 14	mS/cm	0.62	-	-

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

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एबीएनएस साइंटिफीक सर्विसेज

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রেডিসন ব্লু কে पास, एन एड्च २७, गुवाहाटी ७८१०३३, असम



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## TEST REPORT

ULR Number: TC1073623000000440F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b> Sampling Location: <b>Hablong Village</b> Source: Tubewell	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

## ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>B. General parameters Concerning Substances Undesirable in Excessive Amounts</b>						
1	Total Alkinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf, 2009	mg/l	119.0	200 Max	600 Max
2	Total Hardness as CaCO <sub>3</sub>	IS: 3025-(part21) 2009	mg/l	132.0	200 Max	600 Max
3	Calcium as Ca	IS: 3025-(part40): 1991 Reaf, 2009	mg/l	24.6	75 Max	200 Max
4	Magnesium as Mg	IS: 3025-(part46): 1994 Reaf, 2009	mg/l	8.2	30 Max	100 Max
5	Sulphate as SO <sub>4</sub>	IS: 3025-(part24): 1983 Reaf, 2009	mg/l	82.0	200 Max	400 Max
6	Nitrate as NO <sub>3</sub>	IS: 3025-(part34): 1988 Reaf, 2009	mg/l	3.4	45 Max	No Relaxation
7	Chloride as Cl	IS: 3025-(part32): 1988 Reaf, 2009	mg/l	36.8	250 Max	1000 Max
8	Fluoride as F	IS: 3025-(part60): 2008	mg/l	0.64	1 Max	1.5 Max

For ABNS Scientific Services.

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

 *[Signature]*  
26/05/2023  
Authorized Signatory

- The test report shall not be reproduced, except in full, without written approval of the company
- Results relate only to the parameters tested.



# ABNS SCIENTIFIC SERVICES

एबि.एन.एस. साइंटिफिक सर्विसेज

एबीएनएस साइंटिफिक सर्विसेज

Pollution Control Board recognised laboratory

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

केतेकी पथ, रेडिसन ब्लू के पास, एन एच २७, गुवाहाटी ७८१०३३, असम

Email: info@abnsscientific.com, abnsscientific@gmail.com

Phone: 98640 68513, 98640 89951

## TEST REPORT

Report Number: ABNS/EM/052623/40

Report date: 26/05/2023

Name & Address of the Customer:

M/S SALASAR TECHNO ENGINEERING LIMITED  
2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR,  
LALGANESH GUWAHATI, KAMPUP(M),  
GUWAHATI-781034, ASSAM

Sample Description: Drinking Water

Date of sampling: 26/04/2023

Sampling Location: Hablong Village

Analysis Start Date: 27/04/2023

Source: Tubewell

Analysis End Date: 04/05/2023

Ref. PO No : AS-SPOE/23-24/7, dated:21/04/2023

## ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
1	Temperature	IS 3025 ( Part 09 ) : 1984	<sup>0</sup> C	29.6	NA	NA
2	Phenolphthalein Alkalinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf. 2009	mg/l	NIL	NA	NA
3	DO	APHA 22 <sup>nd</sup> Edn., 2012, 4500 O-C	mg/l	5.4	NA	NA
4	BOD	IS 3025 (Part 44)1993; Rflm. 2017	mg/l	6.8	NA	NA
5	COD	IS 3025 (Part 58)2006; Rflm. 2019	mg/l	10.4	NA	NA
6	Sodium	IS 3025 ( Part 45 )	mg/l	10.5	NA	NA
7	Potassium	IS 3025 ( Part 48 ) : 1994, Rflm. 2003	mg/l	4.4	NA	NA
8	Nitrite Nitrogen as N	IS 3025 ( Part 34 ) : 1988,	mg/l	<0.2	NA	NA
9	Ammonium (NH <sub>3</sub> -N)	IS: 3025-(part34)	mg/l	<0.2	0.5 Max	No Relaxation
10	Boron as B	IS: 3025-(part57): 2005 Reaf. 2010	mg/l	<0.05	0.5 Max	1.0
<b>C. Microbiological Test parameters</b>						
1	Total coliform	IS 1622-1981, Reff. 2014	MPN/100 ml	Not Detected	No Relaxation	No Relaxation
2	Faecal coliforms	IS 1622-1981, Reff. 2014	MPN/100 ml	Not Detected	No Relaxation	No Relaxation

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

 *Authorized Signatory*  
26/05/2023

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# ABNS SCIENTIFIC SERVICES

এবিএনএস চাইনিটিক্যাল সার্ভিসেস  
एबीएनएस साइंटिफिक सर्विसेज

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রেডিসন ব্লু কে पास, एन एड्च २७, गुवाहाटी ७८१०३३, असम



TC-10736

Email: info@abnsscientific.com, abnsscientific@gmail.com

Phone: 98640 68513, 98640 89951

## TEST REPORT

ULR Number: TC1073623000000438F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b>	Date of sampling: 26/04/2023
Sampling Location: <b>Dablang Village</b>	Analysis Start Date: 27/04/2023
Source: Tubewell	Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

#### Physical & Chemical Test Findings:

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>A. Organoleptic and Physical Parameters</b>						
1	Color	IS: 3025-(part4): 1983 Reaf, 2012	Hazen	5	5 Max	15 Max
2	Odour	IS: 3025-(part5): 1983	....	Agreeable	Agreeable	Agreeable
3	Taste	IS: 3025-(part8): 1983	....	Agreeable	Agreeable	Agreeable
4	pH value	IS: 3025-(part11): 1983 Reaf, 2012	....	7.58	6.5-8.5	No Relaxation
5	Turbidity	IS: 3025-(part10): 1983 Reaf, 2012	NTU	9.0	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983 Reaf, 2012	mg/l	462.0	500 Max	2000
7	Conductance	IS 3025 Part 14	mS/cm	0.880	-	-

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)

 *[Signature]*  
26/05/2023  
Authorized Signatory

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# ABNS SCIENTIFIC SERVICES

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एबीएनएस साइंटिफीक सर्विसेज

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

কেতেকী পথ, রেডিসন ব্লু কে পাথ, এন এছ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম



TC-10736

Email: info@abnsscscientific.com, abnsscscientific@gmail.com

Phone: 98640 68513, 98640 89951

## TEST REPORT

ULR Number: TC1073623000000438F	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECHNO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b> Sampling Location: <b>Dablang Village</b> Source: Tubewell	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

SL No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
<b>B. General parameters Concerning Substances Undesirable in Excessive Amounts</b>						
1	Total Alkalinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf, 2009	mg/l	192.0	200 Max	600 Max
2	Total Hardness as CaCO <sub>3</sub>	IS: 3025-(part21): 2009	mg/l	158.0	200 Max	600 Max
3	Calcium as Ca	IS: 3025-(part40): 1991 Reaf, 2009	mg/l	50.6	75 Max	200 Max
4	Magnesium as Mg	IS: 3025-(part46): 1994 Reaf, 2009	mg/l	19.4	30 Max	100 Max
5	Sulphate as SO <sub>4</sub>	IS: 3025-(part24): 1983 Reaf, 2009	mg/l	118.0	200 Max	400 Max
6	Nitrate as NO <sub>3</sub>	IS: 3025-(part34): 1988 Reaf, 2009	mg/l	19.4	45 Max	No Relaxation
7	Chloride as Cl	IS: 3025-(part32): 1988 Reaf, 2009	mg/l	170.0	250 Max	1000 Max
8	Fluoride as F	IS: 3025-(part60): 2008	mg/l	0.56	1 Max	1.5 Max

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



*[Signature]*  
26/05/2023  
Authorized Signatory

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- Results relate only to the parameters tested.



# ABNS SCIENTIFIC SERVICES

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एबीएनएस साइंटिफिक सर्विसेज

Pollution Control Board recognised laboratory

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam

केतेकी पथ, रैडिसन ब्लू के पास, एन एडच २७, गुवाहाटी ७८१०३३, असम

Email: info@abnsscientific.com, abnsscientific@gmail.com

Phone: 98640 68513, 98640 89951

## TEST REPORT

Report Number: ABNS/EM/052623/38	Report date: 26/05/2023
Name & Address of the Customer: <b>M/S SALASAR TECINO ENGINEERING LIMITED</b> 2ND FLOOR, 205, AMRIT ENCLAVE, GANAPATI NAGAR, LALGANESH GUWAHATI, KAMPUP(M), GUWAHATI-781034. ASSAM	
Sample Description: <b>Drinking Water</b> Sampling Location: <b>Dablang Village</b> Source: Tubewell	Date of sampling: 26/04/2023 Analysis Start Date: 27/04/2023 Analysis End Date: 04/05/2023
Ref: PO No : AS-SPOE/23-24/7, dated:21/04/2023	

### ANALYSIS RESULT

Sl. No.	Test Parameters	Test Method	Unit	Result	Norms as per IS: 10500, 2012 (2 <sup>nd</sup> Rev.)	
					Acceptable Limit	Permissible Limit
1	Temperature	IS 3025 ( Part 09 ) : 1984	°C	32.2	NA	NA
2	Phenolphthalein Alkalinity as CaCO <sub>3</sub>	IS: 3025-(part23): 1986 Reaf, 2009	mg/l	NIL	NA	NA
3	DO	APHA 22 <sup>nd</sup> Edn., 2012, 4500 O-C	mg/l	3.6	NA	NA
4	BOD	IS 3025 (Part 44)1993; Rfin. 2017	mg/l	8.0	NA	NA
5	COD	IS 3025 (Part 58)2006; Rfin. 2019	mg/l	20.0	NA	NA
6	Sodium	IS 3025 ( Part 45 )	mg/l	23.5	NA	NA
7	Potassium	IS 3025 ( Part 48 ) : 1994, Rfin. 2003	mg/l	8.6	NA	NA
8	Nitrite Nitrogen as N	IS 3025 ( Part 34 ) : 1988,	mg/l	<0.2	NA	NA
9	Ammonium (NH <sub>3</sub> -N)	IS: 3025-(part34)	mg/l	<0.2	0.5 Max	No Relaxation
10	Boron as B	IS: 3025-(part57): 2005 Reaf, 2010	mg/l	<0.05	0.5 Max	1.0
<b>C. Microbiological Test parameters</b>						
1	Total coliform	IS 1622-1981, Ref. 2014	MPN/100 ml	98	No Relaxation	No Relaxation
2	Faecal coliforms	IS 1622-1981, Ref. 2014	MPN/100 ml	Not Detected	No Relaxation	No Relaxation

For ABNS Scientific Services,

Report reviewed by: Dr. Mayur Jyoti Mahanta (QM)



*[Signature]*  
26/05/2023  
Authorized Signatory

- The test report shall not be reproduced, except in full, without written approval of the company
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35C. Test Reports of CP-1



TC-7669

**TESTREPORT**

**AMBIENT AIR ANALYSIS REPORT**

Rep.No. AAAR\_1503282\_01\_75

Sample ID: EETNE/MAR/03/23

Issued to : M/s. BVG India Ltd. Midas Tower 4<sup>th</sup> Floor, Rajiv Gandhi Infotech Park, Phase 1- Hinjawani, Pune-411057

Date: 10/03/2023

ULR NO.: TC766923000000003P

Sample Drawn By : UTPAL BEZBARUAH  
 Sampling Plan & Procedure : EETNE/SOP/01  
 Analysis Duration : 22/02/23 TO 24/02/23  
 Sampling Instrument Used : AMBIENT AIR SAMPLER/RDS  
 Pollution Control Device, if any : NO

SL. NO.	DATE OF SAMPLING	LOCATION/ SOURCE (Latitude & Longitude)	WEATHER	PARAMETERS					
				PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> (µg/m <sup>3</sup> )	HC (mg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )
1)	22/02/23	Package 1 Lat 25°88'03.52" N Long 92°80'49.47" E	Clear	41.6	32.9	19.1	BDL	BDL	10.5

Remarks: - Sampling were done within the 24hrs

**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 <sub>10</sub> ), µg/m <sup>3</sup>	IS:5182 Part-XXIII/ CPCB	Annual	60
			24 hours	100
2	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	EETNE/SOP/01/2017	Annual	40
			24 hours	60
3	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	IS:5182 Part-VI/ CPCB	Annual	40
			24 hours	80
4	Carbon Monoxide (CO), mg/m <sup>3</sup>		8 Hours	2.0
5	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	IS:5182 Part-II/ CPCB	Annual	50
			24 hours	80

Utpal Bezbaruah  
(Environmental Chemist)

For Envision Enviro Technologies North East, Guwahati

Dr. Pranita Chakraborty  
Authorized by (Quality Manager)

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



TC-7669

Recognized by Pollution Control Board, Assam

**TEST REPORT**

**AMBIENT NOISE LEVEL MEASUREMENT REPORT**

Rep.No. ANLMR\_1503282\_01\_76  
Sample ID: EETNE/MAR/03/23

Date: 10/03/2023  
ULR NO.: TC766923000000003P


Issued to : M/s. BVG India Ltd. Midas Tower 4<sup>th</sup> Floor, Rajiv Gandhi Infotech Park, Phase 1- Hinjawani, Pune-411057

SL. NO.	DATE OF SAMPLING	LOCATION /SOURCE (Latitude and Longitude)	NOISE LEVEL in dB(A)Leq	
			Day (6:00 am to 10:00 pm)	Night (10:00 pm to 6:00 am)
i)	22/02/23	Package 1 Lat N 25°88'03.52" Long E 92°80'49.47"	56.2	41.3


Remarks: Noise level is carried out during 75% of the Day Time & Night Time.  
Method of analysis : IS 9989 : 1981 RA : 2014  
Sampling Instrument Used : SLM100 SLNO484-I-22, SLM 100 (213 DTC-2013)

**Ambient Noise Standards:**

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

  
**Utpal Bezbaruah**  
(Environmental Chemist)

FOR ENVISION ENVIRO TECHNOLOGIES NORTH EAST, GUWAHATI

  
**Dr. Pranita Chakraborty**  
(Quality Manager)  
(Authorized Signatory)

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

-----END OF REPORT-----



TC-7669

**TEST REPORT:**

Report No: 230314\_14080047\_0  
ULR No: TC76692300000001P  
Sample ID No: EETNE/Mar/01/23/D  
Test Starting Date: 01/03/23

Date of Report: 14/03/23  
Date of sample receipt: 01/03/23  
Test completion Date: 14/03/23

Name & Address of Client	M/s. BVG India Ltd, Midas Tower, 4 <sup>th</sup> Floor, Rajiv Gandhi Infotech Park, Phase-1, Hinjwani.				
Sample Description	Type: Raw Water	Source : Borewell			
Sample collected by	M/s. En-vision Enviro Technologies North East				
Sample Collection Particulars	Date 27/02/2023	Time 11:20 A.M	Temperature 28°C	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500: 2012	
					Acceptable limit	Permissible limit
1	pH	---	7.20	APHA 23 <sup>rd</sup> Edition, 4500-H <sup>1</sup> , Page:4-95	6.5-8.5	No relaxation
2	Turbidity	NTU	1.13	APHA 23 <sup>rd</sup> Edition, 2130, Page:2-13	1.0	5.0
3	TDS	mg/L	168	APHA 23 <sup>rd</sup> Edition, 2540 C, Page :2-69	500	2000
4	Total hardness	mg/L	64.3	APHA 23 <sup>rd</sup> Edition, 2340 B, Page:2-48	200	600
5	Calcium	mg/L	30.5	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page:3-69	75	200
6	Magnesium	mg/L	16.7	APHA 23 <sup>rd</sup> Edition, 3500-Mg B, Page:3-86	30	100
7	Total Alkalinity	mg/L	112	APHA 23 <sup>rd</sup> Edition, 2320 B, Page:2-37	200	600






Sl No.	Parameters	Unit	Result	Reference Method	IS 10500: 2012	
					Acceptable limit	Permissible limit
8	Dissolved Oxygen	mg/L	7.2	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page: 4-146	--	--
9	Chloride	mg/L	13.6	APHA 23 <sup>rd</sup> Edition, 4500-Cl B, Page: 4-75	250	1000
10	Sulphate	mg/L	10.4	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page: 4-199	200	400
11	Nitrates	mg/L	2.8	APHA 23 <sup>rd</sup> Edition, 4500-NO <sub>3</sub> <sup>-</sup> B, Page: 4-127	45	No relaxation
12	Residual Chlorine	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 4500-Cl B, Page: 4-63	0.2	1.0
13	Fluoride	mg/L	0.22	APHA 23 <sup>rd</sup> Edition, 4500-F D, Page: 4-90	1.0	1.5
14	Copper	mg/L	0.023	APHA 23 <sup>rd</sup> Edition, 3111 B, Page: 3-20	0.05	1.5
15	Iron (as Fe)	mg/L	0.215	APHA 23 <sup>rd</sup> Edition, 3111 B, Page: 3-20	0.3	No relaxation
16	Cadmium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 3111 B, Page: 3-20	0.003	No relaxation
17	Lead (as Pb)	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 3111 B, Page: 3-20	0.01	No relaxation
18	Zinc	mg/L	0.248	APHA 23 <sup>rd</sup> Edition, 3111 B, Page: 3-20	5	15
19	Chromium Total	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 3111 B, Page: 3-20	0.05	No relaxation
20	Manganese	mg/L	0.031	APHA 23 <sup>rd</sup> Edition, 3111 B, Page: 3-20	0.1	0.3
21	Selenium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition, 3114A, Page: 3-36	0.01	No relaxation

NOTE: (BOD) Biochemical Oxygen Demand, (COD) Chemical Oxygen Demand, (TDS) Total Dissolved Solids, (BDL) Below Detection Limit.

For Enviro Enviro Technologies North East

  
Rimpi Sarma  
Environmental Chemist  
Test Done By

  
Dr. Pranita Chakraborty  
Quality Manager  
Authorized Signatory/Reviewed By

Note: i) The results relate only to the parameters tested and item sampled.  
ii) The test report shall not be reproduced except in full, without written approval of laboratory.  
iii) Parameter no.13 to 21 were analysed by Department of Chemistry, B. Borooah College as per our MOU.

End of report

# en-VISION

Enviro Technologies North East

Recognized by Pollution Control Board, Assam

Technologies for better tomorrow

## SOIL ANALYSIS REPORT

Rep.No: 230314\_1502010\_0

Date: 14/03/23

Name & Address of Client	M/s. BVG India Ltd, Midas Tower, 4 <sup>th</sup> Floor, Rajiv Gandhi Infotech Park, Phase-1, Hinjwani
Sample Description	Soil collected from Project site(Package 1)
Date of Sampling	27.02.23
Sample collected by	M/s. En-vision Enviro Technologies North East

SI No.	Soil Parameters	Unit	Result	Reference Method
1	p <sup>H</sup>	---	7.68	Potentiometric
2	Soil type	----	Loamy Sand	Hydrometer
	Sand	%	69.99	Hydrometer
	Clay	%	15.94	Hydrometer
	Silt	%	14.07	Hydrometer
3	Nitrogen	kg/ha	122.3	Alkaline KMnO <sub>4</sub>
4	Phosphorus	mg/kg	48.3	Olsen method
5	Potassium	mg/kg	54.6	NH <sub>4</sub> -acetate extraction
6	Electrical conductivity	mS/cm	2.31	Conductivity meter
7	Water holding capacity	%	42.2	Standard method



House No. 6, 1st Floor, Senkardev Path, Pub-Sarana, Chandinari, Guwahati-781003, Assam.

Phone : +91 8811096201 | e-mail : [envisionghy@gmail.com](mailto:envisionghy@gmail.com) | visit us at : [www.en-vision.in](http://www.en-vision.in)



# en-VISION

Enviro Technologies North East

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Sl No.	Parameters	Unit	Result	Reference Method
8	Organic matter	%	1.25	Titrimetric
9	Salinity	mS/cm	2.31	Conductometric
10	Iron	g/kg	38.4	Flame AAS (mg/kg)
11	Copper	mg/kg	16.8	Flame AAS
12	Nickel	mg/kg	5.52	Flame AAS
13	Manganese	g/kg	17.3	Flame AAS (mg/kg)
14	Zinc	mg/kg	28.9	Flame AAS
15	Chlorides	mg/kg	141.7	Argentometric

For En-vision Enviro Technologies North East, Guwahati



(Quality Control Manager)

Note: i) The results relate only to the parameter tested.  
ii) The test report shall not be reproduced except in full, without written approval of laboratory.  
iii) Parameter no.4,10 to 15 are analyzed by Department of Chemistry,B.Borooh College as per our MOU.

House No. 6, 1st Floor, Sankardev Path, Pub-Saranla, Chandmari, Guwahati-781003, Assam.

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Annexure 27 : Meeting attendance sheet. (Date 24.1.23)



ASSAM POWER GENERATION CORPORATION LIMITED  
120 MW LOWER KOPILI HYDRO ELECTRIC POWER PROJECT  
SECOND TIER (TIER-II) GRIEVANCE  
REDRESSAL COMMITTEE MEETING  
IMPLEMENTATION OF CRTDP (ATTENDANCE SHEET)



Venue/Location: Office of the GM, LKHEP at Longku, Dima Hasao ADC Date: 24 January 2023

Purpose of Meeting: 2<sup>nd</sup> Grievance Redressal Committee (GRC) meeting of Tier-II, GRC for resolution of pending grievances

Sl. No.	Name	GRC	Sex	Designation / Department	Contact no./Email	Signature
1.	Er. Dilip Kumar Das	Chairman	M	GM, Longku, APGCL	+91 9957456385 dilipkr.das@apgcl.org	<i>Dilip Kumar</i> 24.1.23
2.	Er. Amrendra Singha	Member Secretary	M	GM Civil (PMU), APGCL	+91 9365533072 amrendra.singha@apgcl.org	
3.	<i>Elberton Teson</i>	Member	M	Secretary, Revenue, NCHAC	8811859662	<i>Elberton</i>
4.		Member	M	Secretary, Revenue, KAAC		
5.	Er. Jonardan Rongpi	Member	M	DGM (Civil), APGCL	+91 8638014206 jonardan.rongpi@apgcl.org	<i>Jonardan</i>
6.	Er. Victor Paul Choudhury	Member	M	AGM (Civil), APGCL	+91 84535 42061 victorpaul.choudhury@apgcl.org	<i>Victor Paul</i>
7.	Dr. Deepak Kumar Baruah	Member	M	Environmental Expert, PMU, APGCL	+91 9435113521 Deepakbaruah007@gmail.com	<i>Deepak Baruah</i>
8.	Mr Pankaj Hazarika	Member	M	Social Expert, PMU, APGCL	+91 8638651918 hazarika072@gmail.com	<i>Pankaj</i>
9.	<i>Manjunda</i>	Member	M	Contractor's Representative M/s. L&T	+91 7331141553 dinkr@lnt.com	<i>Manjunda</i> 24/01/2023
10.	Shri Bidyasing Engti	Member	M	President, LKPAPA	+91 6900386528 president.lkhepapa@gmail.com	<i>Bidyasing</i> 24/01/23
11.	Shri Prabin Hojai	Member	M	Secretary, LKPAPA	+91 9101839421 p.hajai78@gmail.com	<i>Prabin</i>
12.	Ms Nilima Engtipi	Member	F	Women Representative Borolongku	+91 6001532021 nilimaengtipi504@gmail.com	<i>Nilima</i>

(GRC notified vide letter no: APGCL/LKHEP/PD/2017-18/21/Part-1/45 dated 17.06.2020 and amended vide letter no.-LKHEPAPA/LAU/01/2021-22/2054 dated 23.07.2021)

