



# Environmental Monitoring Report

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**PUBLIC**

Semestral Report: January 2024 – June 2024  
December 2024

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

Part 1 of 3: Main Report (Pages 1 - 204) and Annexure 1 - 5

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

Asian Development Bank

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Project No. 47101-004  
Semi-Annual Report  
July 2024

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# **Environmental Monitoring Report**

**(as of 30<sup>th</sup> June 2024)**

Loan Number 4029-IND

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

Reporting Period : from January 2024 to June 2024

**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 (Interim EIA addendum upto May 2024 with EMP was 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 was updated with the current layouts, additional studies and additional mitigation measures and submitted to ADB and disclosed. Additional downstream assessment were carried out and updated results were reported in the subsequent EIA addendum of June 2024.</p>
Project Stage	Construction
Detailed Design Required Post-Approval	<p>Yes.</p> <p>As all contract packages 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.</p>
Contract(s) Awarded	<p>Yes.</p> <p>Package 1 – Building and Infrastructures works, Package 2 (Civil and Hydromechanical), Package 3 - Electro Mechanical &amp; Package 4 – Transmission line awarded</p>
Bidding Document(s) Include EMP Cleared by ADB	<p>Yes.</p> <p>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.</p>



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	<p>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> <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. EC amendment on the changes due to detailed engineering design was accorded by MoEF&amp;CC on 03.01.2024</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, Migrant labour license, CTO for Batching Plant (near Power House), CTO for Batching Plant (near Dam), CTO for Crusher, Clearances from PESO for establishment of Explosive Magazine, etc.</p> <p>Contractor of CP-3 has labour license, Migrant labour license and permission for Ground water extraction.</p> <p>Contractor of CP-4 has Labour License and Migrant labour license.</p>																
Contractor(s) Given Access to Site	<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> <tr> <td>2<sup>nd</sup> Jan'21</td> <td>Approx. 150 Hectare revenue land handed over to Contractor.</td> </tr> <tr> <td>11<sup>th</sup> Jun'21</td> <td>477.76 Hectare, diverted forest land handed over to Contractor.</td> </tr> <tr> <td>03<sup>rd</sup> Jul'21</td> <td>45.28 Hectare, diverted reserved forest land handed over to Contractor.</td> </tr> <tr> <td>13<sup>th</sup> June'23</td> <td>153 Hectare of land handed over to APGCL.</td> </tr> <tr> <td>12<sup>th</sup> Dec'23</td> <td>505 Hectare of land handed over to APGCL</td> </tr> </tbody> </table> <p>Total 1577 Ha land was handed over by the end of December 2023 which is 100 % of the total land. All the construction activities of</p>	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.	12 <sup>th</sup> Dec'23	505 Hectare of land handed over to APGCL
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	Package 2, Package 3 and Package 1 will be concentrated within this area only. Package 4 - Approved Route Alignment (TOPO Sheet) on 17 <sup>th</sup> June 2022.																				
Construction Progress (%)	<p><b>Physical &amp; Financial Progress : Package wise</b></p> <table border="1"> <thead> <tr> <th>Sl.</th> <th>Package Details</th> <th>Physical Progress</th> <th>Financial Progress</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Building and Infrastructure (Pkg. 1)</td> <td>75.7%</td> <td>66.1%</td> </tr> <tr> <td>2</td> <td>Civil &amp; Hydro Mechanical (Pkg. 2)</td> <td>69.7%</td> <td>67.0%</td> </tr> <tr> <td>3</td> <td>Electro Mechanical (Pkg. 3)</td> <td>81.0%</td> <td>67.3%</td> </tr> <tr> <td>4</td> <td>Transmission line (Pkg. 4)</td> <td>89.0% Completed • Tower Foundation 141 nos. • Tower Erection 115 nos. • Tower Earthing 123 nos. • Tower stringing 15.785 KM.</td> <td>86.0% (excluding 10 % mobilization)</td> </tr> </tbody> </table>	Sl.	Package Details	Physical Progress	Financial Progress	1	Building and Infrastructure (Pkg. 1)	75.7%	66.1%	2	Civil & Hydro Mechanical (Pkg. 2)	69.7%	67.0%	3	Electro Mechanical (Pkg. 3)	81.0%	67.3%	4	Transmission line (Pkg. 4)	89.0% Completed • Tower Foundation 141 nos. • Tower Erection 115 nos. • Tower Earthing 123 nos. • Tower stringing 15.785 KM.	86.0% (excluding 10 % mobilization)
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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>Interim EIA addendum prepared 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 spread area 620 ha as per DPR and MOC and submergence area 552 Ha..</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> <li>• GHG calculation was updated as per updated detail engineering design.</li> </ul> <p>Addendum to EIA II contains –</p> <ul style="list-style-type: none"> <li>• Downstream and backwater assessment based on 10-daily flow of river water,</li> <li>• updated dam break analysis and</li> </ul>																				

	<ul style="list-style-type: none"> <li>emergency action plan including resilience plan for pilot villages.</li> </ul>																																																									
Number of Site Inspections and Audits Undertaken by Environment Safeguards Staff in Reporting Period	<p>10 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>Joint Site inspections were carried out on 5<sup>th</sup>, 19<sup>th</sup> January; 7<sup>th</sup>, 27<sup>th</sup> February; 8<sup>th</sup>, 30<sup>th</sup> March; 5<sup>th</sup>, 30<sup>th</sup> April; 3<sup>rd</sup> May; 17<sup>th</sup> June, 2024.</p> <p>Training was conducted by PMC and APGCL the contractor on EHS 4<sup>th</sup> May, 2024. Training was also given by Contractor to their staff on EHS during this period.</p>																																																									
Corrective Action Required	Corrective actions as per site visits, ADB Aide Memoire for the ADB Mission 29 <sup>th</sup> April to 4 <sup>th</sup> May, 2024 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.																																																									
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	Feb 2024	35	0	5	3	0	0	0
	March 2024	60	0	3	3	0	1	0
	April 2024	40	0	3	3	0	0	0
	May 2024	40	0	3	2	0	0	0
	June 2024	40	0	1	1	0	0	0
	<b>Total</b>	<b>250</b>	<b>0</b>	<b>24</b>	<b>15</b>	<b>0</b>	<b>4</b>	<b>0</b>
	<b>CP-2</b>							
	Jan 2024	1,221	0	233	233	0	4	1
	Feb 2024	1,452	0	272	272	0	6	4
	March 2024	1,498	0	229	229	0	5	1
	April 2024	1,324	0	187	187	0	5	1
	May 2024	1,556	0	154	154	0	3	8
	June 2024	1,314	0	158	158	0	4	4
	<b>Total</b>	<b>8,365</b>	<b>0</b>	<b>1233</b>	<b>1233</b>	<b>0</b>	<b>27</b>	<b>19</b>
	<b>CP-3</b>							
	Jan 2024	69	0	12	12	0	01	03
	Feb 2024	54	0	06	06	0	01	03
	March 2024	65	0	06	06	0	01	01
	April 2024	81	0	06	06	0	0	01
	May 2024	78	0	06	06	0	0	01
	June 2024	84	0	12	12	0	0	0
	<b>Total</b>	<b>431</b>	<b>0</b>	<b>48</b>	<b>48</b>	<b>0</b>	<b>03</b>	<b>09</b>
	<b>CP-4</b>							
	Jan 2024	48	0	8	8	0	0	0
	Feb 2024	32	0	5	5	0	0	0
	March 2024	30	0	6	6	0	0	0

	April 2024	34	0	3	3	0	0	0
	May 2024	18	0	3	3	0	0	0
	June 2024	12	0	0	0	0	0	0
	<b>Total</b>	<b>174</b>	<b>0</b>	<b>25</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>G. Total</b>	<b>9,220</b>	<b>0</b>	<b>1,330</b>	<b>1,321</b>	<b>0</b>	<b>34</b>	<b>28</b>
	<b>Non Work Related Accident :</b>		2 non-work-related accident occurred 16.01.24 and on 17.02.24.  Note :Naresh Oraon died due to Cardio Vascular Accident as per PM report. On 17.02.24 Mr Bistor Teron met an accident outside the project premises, After treatment he is at home.					
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 3,91,561 tCO<sub>2e</sub> / year from 2025 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. An excavated tunnel will 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 3).

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

The Lower Kopili HEP (subproject) is classified as Environment Category A, Involuntary Resettlement (IR) Category A, and Indigenous Peoples (IP) Category A 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 spread 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 4. 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. Application for the amendment of the EC submitted to PARIVESH Portal 2.0 on 4<sup>th</sup> September, 2023 on the changes made so far due to detail engineering design for approval. Expert appraisal committee meeting of MoEF&CC was held on 26.10.23 and the committee recommended the changes in the minutes dated 14.11.2024. EC amendment letter received from MoEF&CC on 3<sup>rd</sup> Jan 2024. 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**

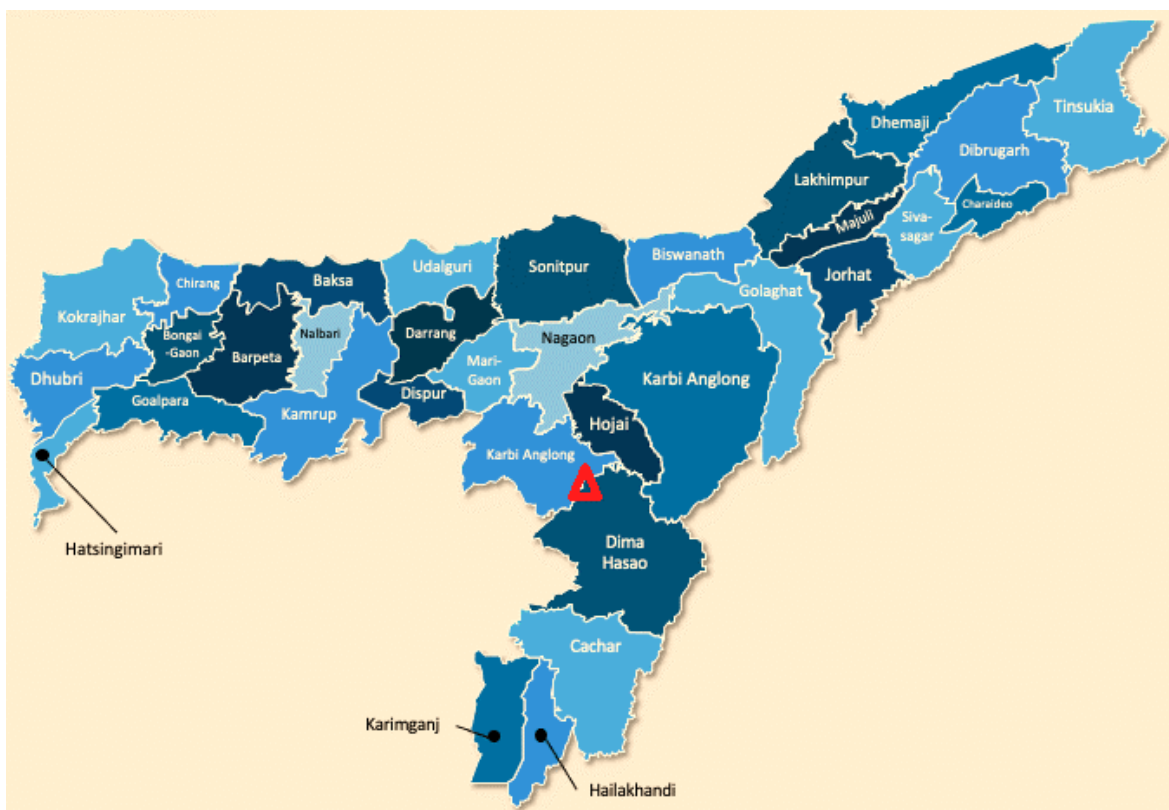




Figure -2 : Detail Layout Plan

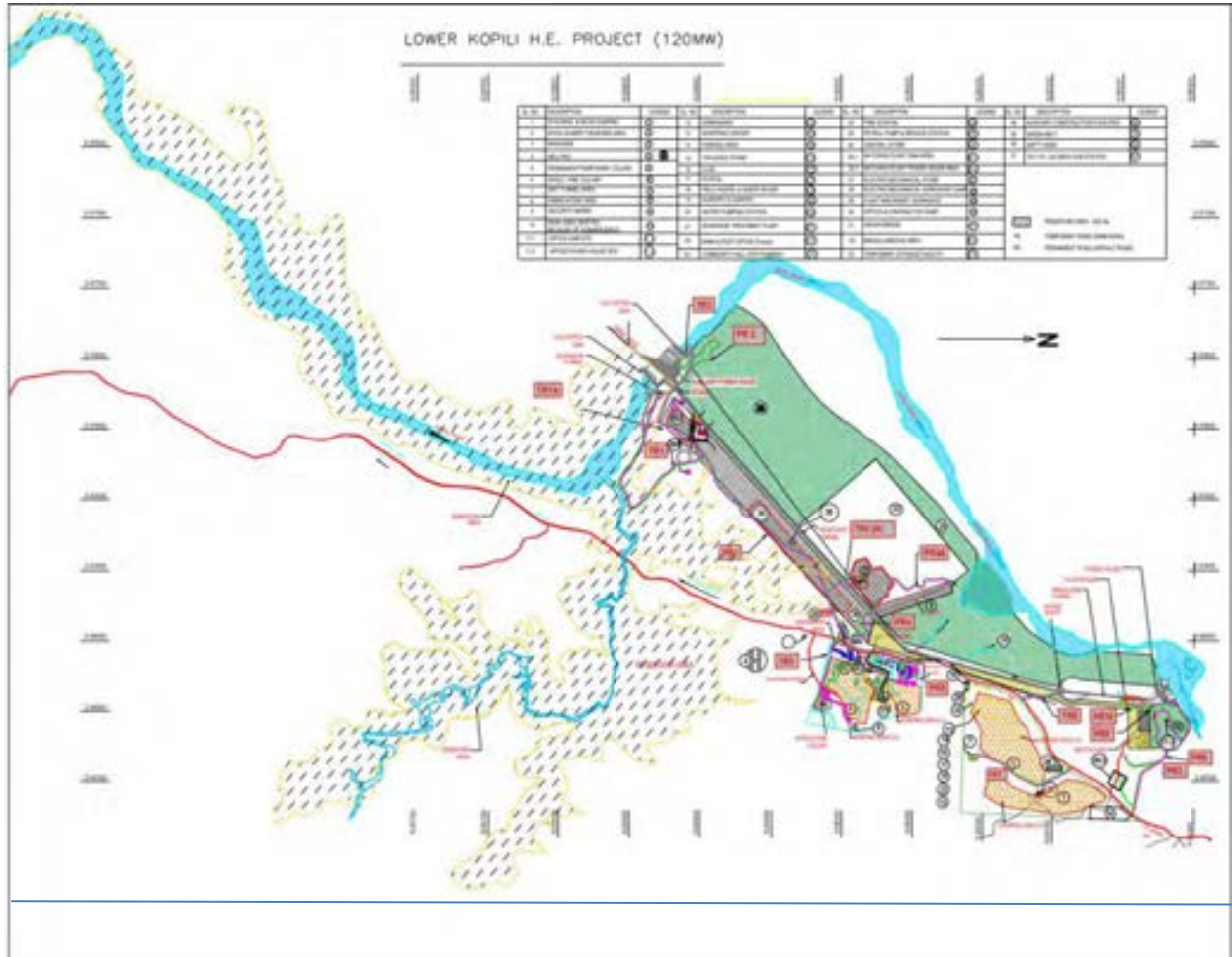


Figure 3 : Layout of Transmission line (Google earth)



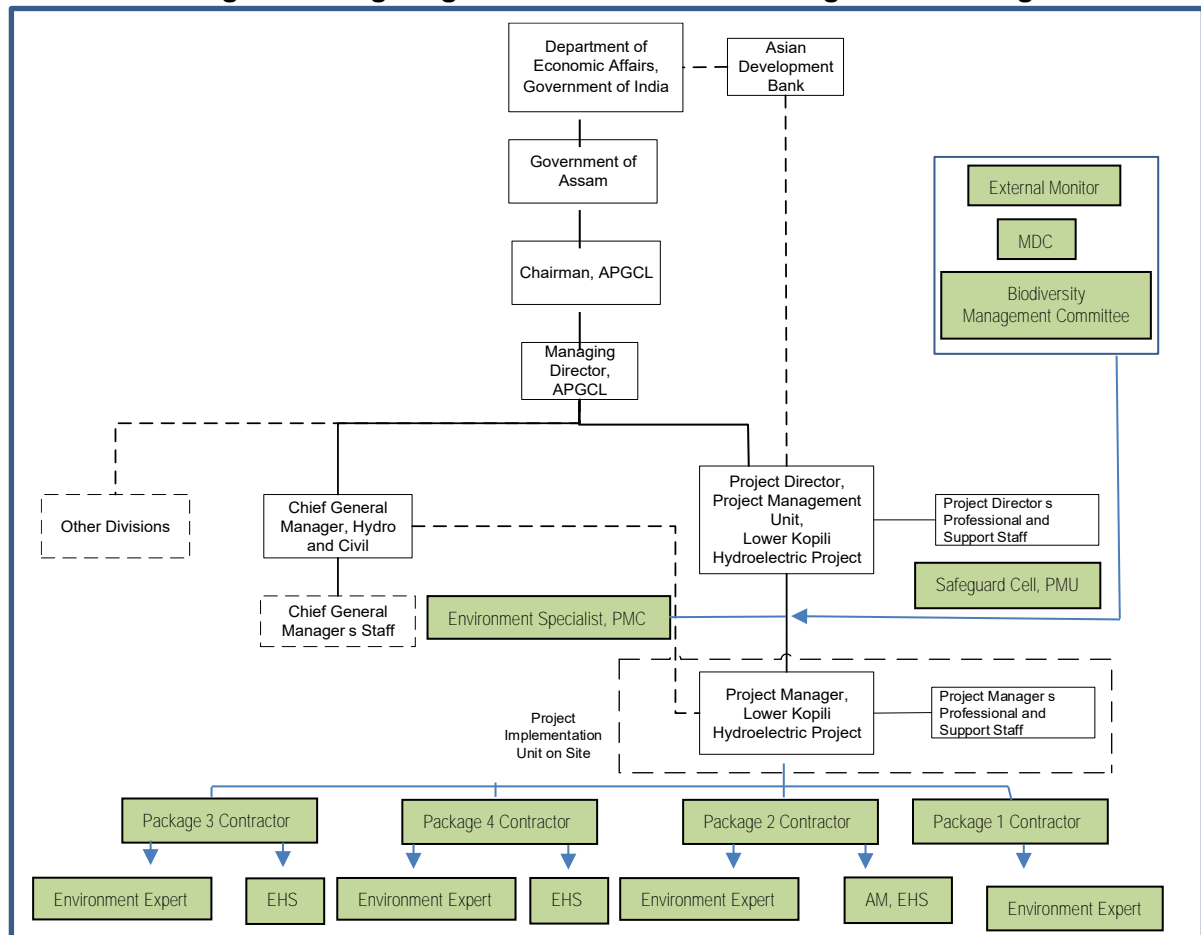
**Figure 4: Layout of Transmission line (Toposheet)**



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. Sarbajit Bhattacharya	8399040457	sarbajit.bhattacharyya@apgcl.org
PMC	Dr Jayanta Das	9435406966	jayanta.das@afry.com
PMC	Dr.Chandan Singh Negi	8126900166	chandansinghnegi80@gmail.com
Contractor Package 1	Mr. Phatik Saikia Environment Officer	8876854914	
Contractor Package 2	Mr. Tushar Gangopadhyay 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. Rohit (HSO)	8600439636	
	Mr. Sandip Mahapatra, EHS officer	9439541311	sandip.mohapatra.external@andritz.com
Contractor Package 4	Mr. Himangshu Srivastava Health and Safety Expert	7051248211	
	Mr. S. Das, Environment Officer	9101939541	

(Note : For this reporting period site visits by external monitor were done in April, May, June, 2024).

Field level supervision are carried out by the Environment Engineer, EHS Manager and Assistant Manager EHS of the contractor and they prepare monthly Environment Report and Monthly Safety Reports and submit it to APGCL. PMC environment specialist visit the

sites and prepare field reports and corrective actions to be complied. PMC also carry out joint visit with APGCL environment expert, APGCL EHS Officer and monitor the compliances. Monthly reports submitted by the contractor and field information received from the PMC staff and APGCL staff on the EHS issues are regularly reviewed and necessary actions are being suggested for the compliance and proper implementation of EMP. Trainings are also given on the implementation of EMP, EHS issues, Test of ambient environment for the contractor personal as well as APGCL and PMC staff.

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

## 1.2 Project Progress Status and Implementation Schedule

Project progress status are shown in table 2.

**Table 2 : Project Progress status (As on 30.06.2024)**

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	75.7%	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	69.7%	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> </ul>	<ul style="list-style-type: none"> <li>13<sup>th</sup> March, 2025</li> </ul>	Ongoing	81.0%	Contract awarded to M/s Andritz Hydro Private Limited contractor, Relevant section of the EMP included in the contract.

Project Component/Stage	Awarded on	Target Completion Date	Progress Status	Physical Progress	Remarks
	<ul style="list-style-type: none"> <li>• Commencement date : 12th November 2021.</li> </ul>				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> <li>• Award: 30.06.2022</li> <li>• Start date 1<sup>st</sup> June 2022</li> </ul>	31 <sup>st</sup> May, 2024	Ongoing	89.0%	EMP provisions included in the Tender Document. M/S. Salasar Techno Engineering Limited JV with M/s. Akelik Group OJCS Insurance submitted by the contractor 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	30 <sup>th</sup> June 2024		72.0%	Lot 4, NOA issues on 27th 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	30 <sup>th</sup> June 2024	ongoing	69.6	Inception report submitted on 28 <sup>th</sup> December 2022. Output 1 Report and QPR 4 submitted.

ERP - Enterprise resource planning

During January 2024 to June 2024 there was no change in the scope of the works, location and alignment of the components, construction method and implementation schedule.

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

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

### 1.3. Contractor's Resource Mobilization :

#### A. Staff and Worker

Table : 3 – Worker's and staff strength

	CP-1		CP-2		CP-3		CP-4	
Month	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-24	35	9	115	1106	48	21	48	15
Feb- 24	35		124	1328	35	19	32	15
March-24	60	9	132	1366	49	16	30	15
April-24	40	9	132	1192	65	16	34	15
May-24	40	9	128	1428	61	17	18	15
June-24	40	9	115	1199	67	17	12	12

**B. Contractor's Equipment available at Project Site:**

**CP-2 – Construction Equipment deployment status (June 2024)**

Sl. No	Major Equipment	Specification	Nos	Commissioning Status
1	Excavator	13T - 14T Capacity	4	√
		20T – 30T Capacity	5	√
		45T Capacity	2	√
2	Rock Breaker	20T	3	√
3	Dumpers	14 cum Capacity	10	√
		10 cum Capacity	9	√
		7 cum Capacity	1	√
4	Truck	10 T	1	√
		5.4 T	1	√
5	Diesel Generator	15 kva	2	√
		40 kva	1	√
		125 kva	1	√
		180 kva	1	√
		250 kva	1	√
		500 kva	3	√
6	Air Compressor	1000 kva	1	√
		Diesel - 450 cfm	1	√
		Diesel - 600 cfm	1	√
		Diesel - 650 cfm	4	√
		Electric - 608 cfm	3	√
7	Cement Grout Pump	Diesel - 1100 cfm	2	√
		Hany Make Grout Pump-125 LPM	2	√



Sl. No	Major Equipment	Specification	Nos	Commissioning Status
		150 LPM	2	√
8	Rock Crawler Machine	ROC 203	4	√
		ROC T25	4	√
9	Dozer	Crawler Dozer - 230 HP	1	√
10	Crusher	Primary - 200 TPH	1	√
		Teritary - 200 TPH	1	√
		Secondary - 200 TPH	1	√
		Secondary - 300 TPH	1	√
		Vibrating Screen 200 TPH	1	√
		Wet Classifier - 100 TPH	1	√
		300 TPH Mobile Jaw Crusher, Cone Crusher & Screening Unit	1	√
11	Water Tanker	10 KL	2	√
12	Diesel Tanker	9 KL	1	√
		6 KL	1	√
13	Loader	1.7 – 2.75 cum Bucket Capacity	4	√
		1 cum Bucket Capacity	1	√
14	Crane	Gantry Crane for Surge shaft-25T	1	√
		Hydra Crane - 15T	2	√
		ACE Crawler Mounted Crane- 75 MT	1	√
		Tyre Mounted Crane- 60 MT	1	√
		Tyre Mounted Crane- 200 MT	2	√
		Farana Crane-23 T	1	√
		Truck Mounted Crane 15 Ton Meter	1	√
		Tower Crane- 3.2 T at 70 mtr	2	√
		Tower Crane- 25 T	1	√
		Tower Crane- 18 T	1	√
15	Gang Vibrator	2 X 21.5 KN With 2 nos. Needles	1	√
16	Welding Machine	Electrical	77	√
17	Survey Equipment's	Total Station	2	√
		Tunnel Profiler	3	√
		Auto Level	2	√
18	Hydraulic Drill Jumbo	2 Boom	1	√
19	Shotcrete Machine	Portable Wet Shortcrete Machine	1	√
20	Concrete Boom Placer	36m	3	√
		42m	3	√

Sl. No	Major Equipment	Specification	Nos	Commissioning Status
21	Dewatering Pump	60 HP	2	√
		1 HP	4	√
		1.5 HP	16	√
		3 HP	11	√
		5 HP	19	√
		6 HP	4	√
		10 HP	2	√
		20 HP	2	√
		25 HP	6	√
		50 HP	3	√
		30 HP	4	√
		72 HP	3	√
22	Semi Low Bed Trailer	40 Ft	1	√
23	Batching Plant	120 cum / hr	2	√
		60 cum / hr	1	√
24	Transit Mixer	6 cum capacity	11	√
		7 cum capacity	21	√
25	Weigh Bridge	50T	1	√
		80T	1	√
26	Bar Bending Machine	B-42	2	√
		B-32	3	√
27	Bar Cutting Machine	C-32	3	√
28	Spiral Bending Machine	36 mm	1	√
29	Rebar Cutting, Forging & Threading Machine	36 mm	1	√
30	Telehandler	11 Meter	2	√
31	Cement Feeding Pump	30 TPH	2	√
		20 TPH	1	√
		160 TPH	1	√
		25 TPH	4	√
32	Portable Mixer Machine	0.20 cum	3	√
33	Putzmeister Concrete Pump	60 m3/hr	2	√
	Schwing Stetter	72 m3/hr	1	√
	SANY	60 m3/hr	2	√
34	Fuel Dispenser Unit	55-65 LP	2	√

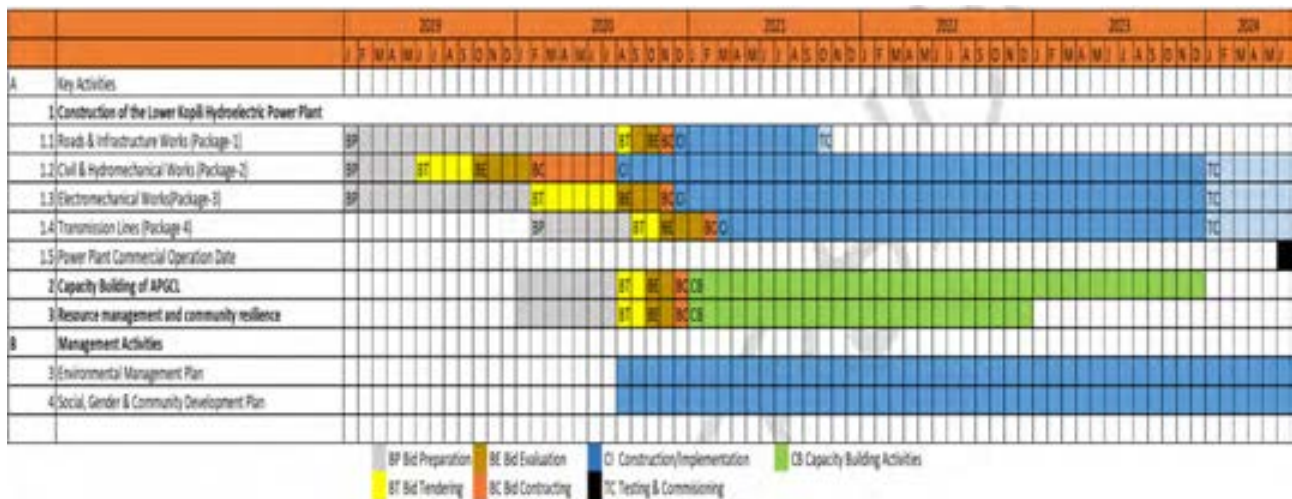
Sl. No	Major Equipment	Specification	Nos	Commissioning Status
35	Light mast	3.0 KW – 2 mtr	2	√
36	Ventilation Fan	55KW	3	√
		132KW	1	√
37	Mahindra Scorpio	S10	2	√
38	Mahindra Bolero	Bolero Jeep ZLX	4	√
39	Bolero Jeep	6+1-Seater	1	√
40	Ambulance	-	1	√
		-	1	√
		-	1	√
41	Bolero Camper	4+1-Seater	6	√
42	Bus	32-Seater	3	√
43	Bus	57-Seater	1	√
44	Traveller	26-Seater	2	√
45	Explosive Van	1.1 T	1	√
46	Telebelt	Putzmeizer TB 130-240 cum/hr	1	√
47	Concrete Placer	25 cum/hr	1	√
48	Wheel Mounted Fog Canon	Water flow rate- 22 liters per min	3	√
49	Schwing Stetter- Loop Belt	3.42 cum/min	1	√
50	Ice Plant	60 TPD	2	√
51	Water Chilling Plant	123 TR	2	√
		75 TR	1	√
52	Micro silica feeding pump	4 TPH	2	√
53	Compression Testing Machine	300T	1	√
54	Aggregate Feeding System	Aggregate Feeding System Radial - 300TPH	2	√
		160TPH	1	√

**CP-1 : Equipment list**

No.	Equipment Type and Characteristics	Quantity
1	Excavator/ JCB 3 DX	2
2	Water tankers	1
3	Dump trucks, 8 to 10 t	2
4	Mixer Machine	5
5	Soil Compactor	2
6	Tractor with trolley	1
7	Needle vibrator 60/40/25 mm with Frequency changer	6
8	Bar bending and cutting machine	6

1.4. 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
	Nature Conservation			
1	Convention on International Trade in Endangered Species of Fauna and Flora (CITES)	Yes	Signed by India in 1976	Being Complied
2	The Wildlife Trade Monitoring Network (TRAFFIC)	Yes	-	
3	Convention on Migratory Species (CMS)	Yes	-	
4	Coalition Against Wildlife Trafficking (CAWT)	Yes	-	
5	Convention on Biological Diversity (CBD)		Ratified February 1994 and September 2003 by Protocol.	
6	International Tropical Timber Organization (ITTO)	Yes	-	
7	United Nations Forum on Forests (UNFF)	Yes	-	
8	International conventions such as the International Union for Conservation of Nature and Natural Resources (IUCN)	Yes	-	
	Hazardous Material			
9	Strategic Approach to International Chemicals Management (SAICM)	Yes	-	Being Complied
10	Basel Convention on the Control of Trans- boundary Movement of Hazardous Waste and Their Disposal	Yes	Adopted on 22 March 1989	
11	Rotterdam Convention on Prior Informed Consent (PIC) for certain Hazardous Chemicals and Pesticides in International Trade	Yes	Adopted in 1998	
	Atmospheric Emissions			
12	United Nations Framework Convention on Climate Change (UNFCCC)	Yes		Being Complied
13	Kyoto Protocol	Yes	Signed by India in August 2002 and ratified in February 2005.	
14	Paris Agreement	Yes	Ratified by India on 2 October 2016. The agreement entered into force on 4 November 2016.	
15	Montreal Protocol (on Ozone Depleting Substances)	Yes	India signed on 17-9- 1992 and also ratified on 3rd March, 2003	

Source: MoEF&CC, India.

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

**Table 3.2 : Statutory Clearances**

Sl. No	Activities for which clearances are required	Statutory Requirement under the Act	Statutory Authority	Compliance Status as on 31 <sup>st</sup> December 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 submitted on 4.09.24. EAC meeting held on 26.10.24 and minutes dated 11.11.24. Amendment of EC accorded by MoEF&CC on 3 <sup>rd</sup> January, 2024.  <b>Annexure 1</b> : Copy of the Amendment of EC.  Valid upto 3 <sup>rd</sup> September, 2029
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. Validity – Not mentioned</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.	Valid upto 27.02.30
4	Quarry				

A	Permission of the State Government for extraction of boulders from quarry. Location: Longku, Dima Hasao	1. NOC from North Sachar Hills Autonomous Council commencement Concession Rules, 2013	Stage-1. North Cachar hills Autonomous Council	Approval to operate quarry received from NCHAC on 8th July, 2022.	Renewal not required
		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 Renewed Approval received on dtd. 03 <sup>rd</sup> <b>Sept'24 vide</b> reference no: GMM/86-B(40)Pt.V/1716-19	Validity till 23.03.25.- It <b>Annexure 2</b>
		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..	Renewal not required
		4. EC for quarry	SEIAA, Assam	EC accorded on 28.03.23.	Valid till 23.03.2025.
Note: FC clearance not required for quarry at Kala Nala and other quarry site. Forest Department has accorded permission for deposition of Forest Royalty and given permission for extraction. Separate EC required before extraction.					
B	Permission for crushing of boulders from excavated materials	1. Permission for crushing 80,000 cum of boulders from excavated materials	DFO, Dima Hasao West, Haflong	Permission received from DFO, Dima Hasao West, Haflong on 20th <b>Dec'21 vide letter</b> no . refer letter no: FRS/G/101(a) Stone-Chips/L&T/2020-21/Pt-IV/2853-56	Renewal not required
		2. Permission for crushing 2,00,000 cum of boulders from	DFO, Dima Hasao West, Haflong	Permission received from Principal Secretary (N), NCHAC on 8th <b>Mar'22 vide letter</b>	Renewal not required

		excavated materials		No. letter no: FRS/Sectt/SP/15 5/2010-21/L/2/278	
		1.Royalty submitted	DFO, Dima Hasao West, Halflong	<b>Dec'21</b> - 500000 <b>Jan'22</b> -4750000 <b>Feb'22</b> -12500000 <b>Mar'22</b> -27250000 <b>Oct'22</b> -2500000 <b>Feb'23</b> -2450000 <b>Mar'23</b> -7000000 Total=56950000	
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	Batching Plant (Near Power House)				
A	Permission of Village Panchayats (Gaon burah) for installation of batching plant. Location: Totelangso, Dima Hasao	Permission from Village Panchayats.	Applied to Village Panchayats for installation of Crushers on 30-06-2021	Approval Received on 30.06.2021	NOC Received from Village Panchayats for setting up Batching Plant near Totelangso, Dima Hasao.  Renewal not required
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.	Renewal not required



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	CTO obtained during the valid period of CTE.
D	Clearance of Pollution Control Board for setting up Batching Plant. Consent to Operate – (CTO) Location: Powerhouse, Totelangso, Dima Hasao	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. Valid till 31.03.2025	
5	Batching Plant (Near Dam)				
A	Batching Plan (Dam), CTE, CTO	CTE	State Pollution Control Board, Assam	CTE obtained on 23rd June 2022 vide No. WB/SLC/T-1191/21-22/24.	CTO obtained during the valid period of CTE.
B		CTO	State Pollution Control Board, Assam	CTO obtained in Oct 2022 vide No. WB/SLC/T-1191/21-22/31	Valid till 31.03.2025.
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	Amended CTO valid till 31.03.2025.
6	Crusher				
A	Permission of Village Panchayats (Gaon burah) for installation of crushers. Location: Totelangso, Dima Hasao.	Permission from Village Panchayats. The Assam Stone Crusher Establishment and regulation rule 2013 (Crusher)	Applied to Village Panchayats for installation of Crushers on 30-06-2021	Approval Received on 30.06.2021	NOC Received from Village Panchayats for setting up Crusher.  Renewal not required
B	Permission of Pollution Control Board for	Permission from Pollution Control Board, Assam	Applied to Pollution Control Board for installation of	CTE obtained from PCBA vide Ref. No. WB/SLC/T-	CTO obtained during the valid period of CTE.

	installation of crushers. Consent to establish-(CTE)		Crushers.	1184/21-22/06/1065 dated 22nd October, 2021	
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.	Valid till 31.03.2025.
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	Amended CTO valid till 31.03.2025.
6	Fuel dispensing Unit				
A	(NOC) from Deputy Commissioner Govt of Assam, for setting up Fuel dispensing Unit at Project location.	Deputy Commissioner Govt of Assam / Petroleum Act, 1934 and Rules 2002	The Deputy Commissioner, Dima Hasao, Haflong; Government of Assam.	NOC received from The Deputy Commissioner, Dima Hasao, Haflong; Govt. of Assam	
B				NOC Received from PESO. P/EG/AS/14/163 0(P502141) dated 05/12/23	Valid till <b>31.12.24</b> Annexure 3
C				Jt. Chief Controller of Explosives, Guwahati. License No. P/EG/AS/14/163 0(P502141) dated 05/12/23	Permission of storage of 20 kl. Valid till <b>31.12.24</b> Annexure 4
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.	CTO obtained during the valid period of CTE.
				CTO accorded on 18.06.24 vide no. rlo/slc/t-3291/22-23/44/142	CTO Valid till 31.03.2026. Annexure 5

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.	CTO obtained during the valid period of CTE.
				CTO accorded on 18.06.24 vide No. RLO/SLC/T-3289/22-23/141	CTO Valid till 31.03.2025. Annexure 6
9	Magazine				
A	No Objection Certificate Obtained from <b>"PESO"</b> 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 28.03.24 (Licence No.); E/EG/AS/22/63(E 134742) from PESO, Guwahati.	Valid upto 31.3.26 Annexure 7
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.  Renewal not required
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 13.09.24 vide letter no. ECF No.18136/298116	Valid till 13.07.25 Annexure 8
D	No objection Certificate for grant of Explosive license and Magazine construction in favour of M/S		District Magistrate, Dima Hasao, Haflong	Renewal of NOC received on 20.12.22 vide letter no. NCH/M-3/2022/2/59-63	

	R.L. Poddar for L&T.				
E	Fire NOC / Fire License	As per NOC of District Magistrate, Dima Hasao, a fire tendering facility is essential for storage of explosives in the Magazine	Sr. Station Officer, Fires and Emergency Service Station, Halfong, Dima Hasao	Application submitted on 19 <sup>th</sup> November 2021 vide letter no LKHEP-PKG2/LNT/155/GL/085.	Renewal not required
F		NOC	Office of the Director , Fire and Emergency Services, Assam, Guwahati.	<b>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.</b>	Copy of Fire NOC attached.  <b>NOC valid upto 29.3.25.</b> Annexure 10
10	Blasting				
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	Renewal not required
			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. Renewal not required
			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. Renewal not required
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. Renewal not required

			ASI L Bishuk Singha In-Charge, Longku out post.		Intimated vide letter No. LKHEP-PKG2/LNT/153/LL/33 <b>dtd. 15th July'21</b>
			Gaon Burah, Village- SAPRU	Intimated Blasting Timing 07 am to 8 am 1 pm to 2 pm 4 pm to 5 pm	Intimated vide letter No. LKHEP-PKG2/LNT/153/LL/34 <b>dtd. 15th July'21.</b> Renewal not required
			Office-in-Charge Umrangsu 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 <b>dtd. 15th July'21</b>
C		Request for issuing No Objection Certificate for explosive supply chain management & blasting operation	<b>The Hon'ble</b> Deputy Commissioner, Dima Hasao District, Haflong, Assam	Permission Received vide letter No. NCHM/M-8/2021/6378-83 <b>dtd. 22nd Oct'21</b>	Renewal not required
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. Renewal application valid till 30.04.23. Blasting time 10:00 to 16:00. Order No. HCA.26/2022/7 dated 14 <sup>th</sup> <b>Oct'2022.</b>	No blasting in the left bank during this reporting period.
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.	Renewal of application submitted on 22.3.23. Renewed permission vide No. NCH/M-3/2023/70 dated 27.05.2023 and valid upto 31.03.24. (After 31 March no night blasting carried out)
F	Request for permission for storage of Explosives (Explosive Van)		Letter No: LKHEP-PKG2 /LNT /153 /GL/23 dtd. 31st <b>May'21</b>	Permission given upto 21st July 2021 and revoked back on 22nd July 2021.	

	at Longku police station for blasting operation for construction 120 MW LKHEP at Longku, Dima Hasao				
G	Joint Chief Controller of Explosives, Guwahati Circle, Guwahati		Original application date 25.11.22	License no.E/EG/AS/22/63(E 134742) dated 28.03.24	Valid till 31.03.26 Annexure 9
H	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, Halflong	NOC received on 13.09.24 vide letter no. ECF No.18136/298116	Valid till 13.07.25 Annexure 8
11	Labour License CP2				
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 29/11/2024 Covered 1500 workers. Copy of the Labour License.
B	Building and other construction works	Building and other construction works (Regulation of Employment & Conditions of Service) Act, 1996 and the Rules made thereof.	Government of Assam Office of the Labour Officer, Dima Hasao, Halflong	SI No. 133 License No. B&OCW-133 Dated 21st September 2021	Validity 1/11/2021 to 31/09/2024
12	Labour License CP3	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/2024/8S 170 7902133370B dated 14.02.24.	Validity till 24.02.25 for 50 labour. Annexure 11

13	Labour License CP4	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/2024/FY170 7811845411OC dated 13.02.24.  Valid Labour license vide License NO CLL/2024/AQ171 5952285082JY dated 17.05.24.	Validity till 10.02.25 for 20 labour. Annexure 12  Validity till 23.05.25 for 30 labour. Annexure 13
14	Labour License CP1	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/2023/03304 dated 15.3.23..	On 18.10.2023 labour licence renewed to cover 50 labour and is valid till 16.10.2024.
15	Migrant workers				
A	<b>Certificate of Registration of APGCL under Inter-State Migrant Workmen (RE&amp; CS) Act, 1979</b>		<b>Labour Commissioner, Guwahati</b>	<b>Issued by Assistant Labour Commissioner, Guwahati on 11.5.2023.</b>	
B	Migrant Labour License CP4	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)/2023/00 019 dated 25.5.23..	Validity till 24.5.24 for 30 labour for CP-4. No migrant labour at present and there is no plan for using the labour from other state.
C	Migrant Labour License CP2	Labour Laws / Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner Assam Gopinath Nagar, Guwahati 781016	<b>Issued on 21.09.2023 for 100 workers for CP-2</b>	<b>valid till 20.09.2024</b>
D	Migrant Labour License CP3	Labour Laws / Factories Act, 1948 and Amendments (1987)	Government of Assam Office of the Labour Commissioner Assam Gopinath Nagar, Guwahati 781016	<b>Issued on 25.09.2023 for 30 workers for CP-3</b>	<b>valid till 25.09.2024</b>
15	Tree Cutting				

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	Revenue submitted to the Forest Department. NOC will be issued for the trees cut so far.	
C	NOC for tree Cutting (CP4)	Indian Forest Act, 1927	Forest Department Assam	NOC obtained	Annexure 14 : NOC from Respective Forest Divisions
16	Ground water extraction				
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 Vide Order of 15 April 2015	Central Ground water Authority or District Administration	NOC No. CGWA/NOC/INF/ORIG/2023/18216 Dated 17.4.23.	Valid till 16.04.2028



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	NOC from CGWA on 23.12.23 and valid till 21.12.28.	Valid till 21.12.2028.
17	Surface water extraction				
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 3.5.23id till 31.-3.2024. Vide letter no EE/WRD/DNK/MISC/2022-23/08 dated 30.03.2023	Validity of NOC from WRD is upto December 2024.
B	<b>Permission from Gaon Bura for water extraction from Longkuna</b>			Permission taken by CP-2.	
C	<b>Permission from Gaon Bura for water extraction from local streams / ponds</b>			Permission taken by CP-3 from the respective Gaon Buras.(Annexure 28)	
D	<b>Permission from Gaon Bura for water extraction from local streams / ponds</b>			Permission will be taken by CP-4 soon from the respective Gaon Buras.	
18	Permission from grid power				
	Permission for Temporary grid power connection at Site Infrastructure facility			Available. Contractor's Letter LKHEP-PKG2/LNT/153/GL/009 dtd. 28th Dec'20	

19	PUC of the vehicles		Pollution Control Board Assam	All the vehicles have valid PUC	Validity for each vehicle are different.
20	CTE for sewage treatment plant proposed under CP-1 for a built-up area of 6720 sqm of permanent colony		Pollution Control Board Assam	CTE NO. WB/SLC/T-1403/24-25/07 dated 10 <sup>th</sup> April' 24.	Valid till 9 <sup>th</sup> April' 29. Annexure 15
21	Insurance Policies				
A	Insurance Policies of CP2				
		<b>Policy Name</b>	<b>Policy Number</b>	<b>Coverage Period</b>	
		Group Personal Accident Policy for	4005/101781287/09/	01-04-24 to 31-03-25	
		Group Personal Accident Policy for	4005/102843874/09/	31-03-24 to 30-03-25	
		Contractor's Plant and Machinery	5011/R/150019780/0	01-04-24 to 31-03-25	
		CAR Policy	12070044200300000	28-10-20 to 31-08-24	
B	Insurance Policies (CP3)				
		<b>Policy Name</b>	<b>Policy Number</b>	<b>Coverage Period</b>	
		Workman Compensation Insurance (10 skilled, 30 Semi skilled, 10 unskilled)	4514044220800000004	22.08.22 to 13.03.25	
C	Insurance Policies (CP4)				
		<b>Policy Name</b>	<b>Policy Number</b>	<b>Coverage Period</b>	
		Workman Compensation Insurance (10 skilled, 30 Semi skilled, 10 unskilled)	4010/252569944/01/000	12.07.23 to 11.07.2024 (Annexure 10)	
D	Insurance Policies (CP1)				
		<b>Policy Name</b>	<b>Policy Number</b>	<b>Coverage Period</b>	
		Workman Compensation Insurance	D094467557	29.04.24 to 28.04.25 Annexure 16	

### 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**



<b>Covenant</b>	<b>Compliance Status</b>	<b>ADB's Remarks</b>	<b>APGCL observation 30.06.2024</b>
<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	Partially Complied.	Environment Clearance obtained on 04 September 2019 from MoEFCC. EIA has been cleared by ADB in 2018. The modified EC was obtained on 03 January 2024. Interim EIA addendum disclosed in April 2024. Final updated EIA addendum reflecting all pending assessment is yet to be completed.	Environment Clearance obtained on 04 September 2019 from MoEFCC. EIA has been cleared by ADB in 2018. The modified EC was obtained on 03 January 2024. Interim EIA addendum disclosed in February 2024. Final updated EIA addendum reflecting all pending assessment were submitted on 31 May, 2024.
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	Final updated EIA addendum is yet to incorporate all assessments related to scope/ design modifications and unanticipated impacts. Annual bird count was yet to be conducted.	Final updated EIA addendum reflecting all pending assessment related to scope/ design modifications and unanticipated impacts were submitted on 31 May, 2024. Annual Bird count was completed in February, 2024 by M/S. AARANYAK in between 9 <sup>th</sup> to 12 <sup>th</sup> February, 2024.
iv) such updated EIA is cleared by ADB	Partially complied.	Final updated EIA addendum is yet to be submitted	Final updated EIA addendum submitted on 31.05.2024 and later again sent on 02.07.24 after incorporating the observations of

<b>Covenant</b>	<b>Compliance Status</b>	<b>ADB's Remarks</b>	<b>APGCL observation 30.06.2024</b>
			ADB. It was also disclosed in ADB site.
<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.	Closed
<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	CTE/CTO for RO plant for CP-3, tree felling permission under CP-1 and 4 are awaited; few permissions were under renewal.	Pending statutory permissions : CTO for RO plant for CP- 3. Authorization from PCBA for First Aid Centre of CP-2 and CP-3 under process. Change of registration number of remaining Bhutan Vehicles of CP-2, CTO for STP will be applied by APGCL after completion of the STP construction and reviewing the efficacy as per standard.  Rest all the permissions renewed.
(b) the Environmental Safeguards,	Partially Complied		Mostly complied
(c) the EARF, and	Being Complied		Being Complied



Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
(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 this Mission and given in Table 2.	Corrective action plans of earlier Missions have been mostly complied. Outstanding issues included in the revised ESCAP agreed during this Mission and given in respective section.
<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	The Mission again requested 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.	PMC continued with the existing expert to look after environment.  Mr Sarbajit Bhattacharya is looking after the Health and Safety aspects at site from APGCL.
<b>Schedule 5, Para 10</b>			


Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
<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>	Being Complied.	To be updated as per ADB disclosed Final updated EIA addendum when applicable	<p>Additional provisions as per addendum to EIA – I were intimated to all the 4 contractors.</p> <p>Contractor provisions will be updated as per ADB disclosed Final updated EIA addendum.</p>
<p>(b) make available a budget for all such environmental and social measures.</p>	Being Complied		
<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>	Being complied		
<p>(d) adequately record the condition of roads, agricultural land the other infrastructure prior to starting to transport materials and construction and</p>	Being Complied.		
<p>(e) fully reinstate pathways, other local infrastructure and agricultural land to at least their pre project condition upon the completion of construction.</p>	Being compiled		
<p><b>Schedule 5, Para 11</b></p>			



Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
Safeguard Monitoring and Reporting. The Borrower shall ensure or cause the EA to ensure the following:	Being compiled	EMC requested to submit Quarterly and Semiannual external validation reports to ADB timely.	EMC was requested to submit Quarterly and Semiannual external validation reports to ADB timely.
(a) submit semi-annual Safeguard Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission.			The following reports are pending from EMC : 1. SEMR July to Dec 2023 (Validation Report) 2. QPR Jan to Mar 2024
(b) if any unanticipated environmental and or social risks and impacts arise during construction, implementation, or operation of the Project that were not considered in the EIA, EMP, RIPP, RF or the IPPF as applicable promptly inform ADB of the occurrence of such risks or impacts with detailed description of the event and proposed corrective action plan and	Partially complied	Final updated EIA addendum submission awaited	Addendum to EIA I disclosed in Feb, 2024 and addendum to EIA II will finally be submitted for disclosure to ADB on 02.07.2024.
(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.	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		


Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
<b>Schedule 5, Para 13</b>			
<p><b>Labour Standards Health and Safety.</b>  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 diseases and HIV / AIDS as part of health and safety measures for those employed during construction. and</p>	Being complied		<p>a) Last AIDS awareness camp carried out :  CP-1 : 28 12.23</p>  <p>CP-2 Medical Health Check up Camp and AIDS awareness on dtd. 22/03/2024 (Friday, Subansiri Block, EHS Induction Room at Longku.</p>  <p>CP-3 AIDS awareness camp on 11.11.23.</p>








Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
			 <p>CP-3: Safety awareness program &amp; mock quiz conducted &amp; prize distributed on dated 17-05-24</p> 

Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
			 <p>The top photograph shows two men in an office setting. The man on the left is wearing a purple shirt and is presenting a red award to the man on the right, who is wearing a white shirt. The bottom photograph shows two men in blue shirts presenting a yellow award. Both photos are set against a background of office chairs and informational posters on the wall.</p>

Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
			 <p>CP-4 The 2<sup>nd</sup> AIDS awareness camp will be organised on 26<sup>th</sup> April, 2024 at Store, Mandap, West Karbi Anglong.</p>  <p>Health Camp by CP-4 on 26.04.2024</p> <p>CP-2 (03.08.2024)-Dengue Awareness Program was organized in the Workmen Camp in collaboration with Umrangsu Community Health Center. Along</p>

Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
			<p>with this, anti mosquito fogging was also sprayed in surrounding area of Workmen camp.</p>  <p>The top photograph shows a large cloud of white fog being sprayed onto a dirt path where several people are standing. The middle photograph shows a group of people, some in high-visibility vests, standing in a line on a dirt path, holding a banner that says 'Safety'. The bottom photograph shows a larger group of people standing in a line on a dirt path, also holding a banner.</p>

Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
			
<p>(b) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work) health, safety welfare, sanitation, and working conditions.</p>	<p>Being complied</p>	<p>Safety at critical sites under CP-2 needs continuous attention</p>	<p>b) critical sites under CP-2 improved or being improved,</p>  <p>Safety meeting conducted by CP-2</p>  

Covenant	Compliance Status	ADB's Remarks	APGCL observation 30.06.2024
			 <p>Safety promotional program conducted by CP-2  Safety Audit carried out by PMC on 27.05.24 and 28.05.24 and 03.06.24.  Safety Audit for Lower Kopili HEP Annexure A &amp; B LT HSE Surveillance Rating_Q4 March'24 by CP-2. (Annexure 20)</p>
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 advisory committee- Comprising Principal Secretary, Energy; Managing Director, APGCL; Principal Secretary, Water Resources Department; representatives of Dima Hasao and Karbi Anglong ADC as well as districts of Nagaon, Morigaon and Hojai			Will be formed before the 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	(i) Conduct overall coordination, preparation, planning, and	Complied	Adhered

Organization		Tasks	Compliance Status	Remarks
	Corporation Limited (APGCL) supported by PMC	<p>implementation of all field level activities;</p> <p>(ii) Implement EMPs following ADB's Safeguards Policy Statement 2009, IFC's Environment, Health and Safety general guidelines and national regulations etc. at the project site;</p> <p>(iii) Undertake and supervise compensation to the affected persons based on the entitlement matrix in the RIPP;</p> <p>(iv) Oversight construction contractor(s) on monitoring and implementing mitigation measures during design, construction and operation phases of the project before contracts completed;</p> <p>(v) Advise and coordinate to finalize survey and detailed design and update that safeguard documents following detailed design and survey result;</p> <p>(vi) Engage in grievance redress and ensure the prompt resolution of complaints;</p> <p>(vii) Set up appropriate record keeping system;</p> <p>(viii) Disclose relevant information to the affected people and continue consultations;</p> <p>(ix) Provide training and awareness on environmental and</p>	<p>Being complied</p> <p>Being complied</p> <p>Being complied</p> <p>Complied and ongoing</p> <p>Complied through APGCL and ongoing</p> <p>Complied through MPR</p> <p>Ongoing</p> <p>Ongoing</p>	



Organization		Tasks	Compliance Status	Remarks
		<p>social issues to the project staff and EPC contractor(s);</p> <p>(x) Preparation of semi-annual and annual environmental monitoring reports and semi-annual social monitoring reports; and</p> <p>(xi) Liaise with the concerned ministries, authorities, and government departments for the environmental and resettlement related issues of the project implementation.</p>	<p>Complied 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 baseline for the purposes of monitoring the project's environmental impacts during construction and operation. The EIA is being updated to reflect the detailed designs</p>

Organization		Tasks	Compliance Status	Remarks
				<p>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> <p>Aquatic studies for the migratory fish species has been initiated by APGCL from February 2024 engaging the College of Fisheries, Raha under Assam Agriculture University in compliance with amended EC condition.</p>
		<p>The designated dedicated social and environmental safeguards cell (SESC) with a full-time environmental specialist and a full-time social specialist. The SESC will implement</p>	<p>Social and environmental safeguards cell (SESC) formed within PMU</p>	<p>Dr Deepak Kumar Baruah as Environment Exert and Mr Pankaj Kumar Hazarika as Social Expert with a</p>

Organization		Tasks	Compliance Status	Remarks
		EMP and RIPP and be responsible for safeguards monitoring.		support team from APGCL.
Para 49. GRM		A grievance redress mechanism (GRM) will be established to deal with complaints on environmental and social issues in a timely manner and adequately publicized amongst the affected peoples.	Being complied. The structure of the GRM and methodology for grievance redress are described in section 8 of this report below.	Resettlement NGO gave awareness training on the GRM of the LKHEP.  No grievances reported on environment so far.
Para 53.		a)training and capacity building b)Dam safety expert	a) Ongoing b) International Dam Safety Expert of the External Monitor will act as the Independent Dam Safety Expert for the project.	TOR for training and capacity building are being prepared and bid evaluation is under process.  Independent Dam Safety Expert of External Monitor will review and designs of the dam components and implementation of the provisions of Dam Safety.  As per the provision of the Dam Safety Act 2021, State Dam Safety Committee has been constituted by Government of Assam. Training and capacity building was carried

Organization		Tasks	Compliance Status	Remarks
				out. Dam Safety organization will soon be formed under the same Act.
		a)External monitor appointment	External monitor engaged.	External Monitor was engaged in the month of 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, July to Dec 2022, Jan to June 2023 submitted to ADB. Verification of the July to December 2023 SEMR also done by EMC and submitted to ADB.
Para 56. Unanticipated impact		In the event of any unanticipated environmental impacts during project implementation, including change in project scope or design, APGCL will update the EIA/EMP as appropriate, which will be disclosed on the ADB website. For any non-compliance with the EMP APGCL will take necessary corrective	Project layout changed for the compliance of FAC, MoEF&CC and MOC of CEA. Addendum I for EIA was updated and disclosed in February 2024.	

Organization		Tasks	Compliance Status	Remarks
		actions to bring the project back into compliance.		
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 1, 2, and 4 contractors.
Para 63. Health		APGCL will ensure that contractors provide adequately for the health and safety of construction workers	Being complied	
Para 64. Labour		APGCL will ensure that civil works contractors comply with all applicable labor laws and regulations, do not employ child labor for construction and maintenance activities, and provide appropriate facilities for women and children in construction campsites; contractors do not differentiate wages between men and women for work of equal value.	Being complied	
Para 67. Safeguards monitoring.		APGCL must adhere to the EMP and CRTDP during contract implementation as prepared in accordance with ADB's SPS 2009 and as agreed and/or endorsed by the government. APGCL will provide environmental and social monitoring reports to ADB on a semi-annual basis during construction phase and on an annual basis during operation phase. The reports will describe implementation progress of environment and resettlement activities and compliance issues and include quantitative monitoring data in accordance with the EIA/EMP and	Being complied.	

Organization		Tasks	Compliance Status	Remarks
		<p>CRTDP and CRIPP, respectively. The environmental and social monitoring reports and other relevant safeguard reports will be posted to the ADB website and disclosed locally by APGCL. In the event of any unanticipated environmental or resettlement impacts during implementation, or if monitoring identifies a breach of performance standards that should be complied with by APGCL and/or their contractors, APGCL will submit to ADB an updated EIA/EMP, CRTDP and CRIPP or a time-bound corrective action plan. The External Monitor will also prepare semi-annual monitoring validation reports during project construction and annual monitoring validation reports during project operation for submission to ADB for disclosure on the ADB website.</p>	<p>External monitor engaged and will continue to prepare the validation reports every six months and quarterly reports every three months. These reports will be submitted to ADB.</p>	<p>Jan June 2023 validation report submitted to ADB.</p>

## 5.0 Compliance to Contract

The table 6 shows the compliance to the contract provision during the period January 2024 to June 2024.

**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 submitted by CP-2 for the period January to June 2024. 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>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 PMC and APGCL observations are made and communicated to the contractor for compliance. All the observations are also mentioned in the PMC's MPRs. Those which are not complied are flagged in the Six monthly monitoring reports.</p>

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>Being complied</p>	<p>Although L&amp;T has online safety reporting system, Monthly Safety Report submitted regularly. All the insurance are valid.</p> <p>Monthly Safety Reports submitted by the Safety Officer for the period Jan to June 2024.</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	<p><b>General conditions of the contract</b></p> <p>22.2 Labour</p> <p>22.2.1 engagement of staff and labour</p>	Ongoing	CP-3- Appointed Mr K Pathak as Health and Safety Officer. There is Mr. Rohit as Environment Officer.



Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
(Electro Mechanical)	<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</p>	<p>Complied</p> <p>Being Complied</p> <p>Safety Officer appointed</p> <p>Being complied</p> <p>Being complied</p>	<p>Monthly environment Report submitted by CP-3 in for the period Jan to June 2024.</p> <p>Monthly Safety Reports also submitted for the period Jan to June 2024.</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>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</p> <ul style="list-style-type: none"> <li>a) cargo insurance during transport</li> <li>b) installation all risks insurance</li> <li>c) 3rd party liability insurance</li> <li>d) automobile liability insurance</li> <li>e) workers compensation</li> <li>f) employers liability</li> </ul> <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.</p> <p>The contractor shall comply with (i) the measures and requirements set forth in the initial environment</p>	<p>Ongoing and improvements required</p> <p>Complied</p> <p>Complied</p> <p>CEMP submitted.</p>	

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	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.		

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</p> <p>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</p> <p>(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</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>Being complied</p> <p>Complied and ongoing</p> <p>Complied and ongoing</p>	<p>CP-4-Appointed Mr S Das as environment Expert.</p>  <p>Monthly Safety Reports also</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.  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</p>	<p>Ongoing</p> <p>Mostly complied</p> <p>Partially complied</p> <p>Complied</p> <p>Complied</p> <p>Mostly complied.  (Women not engaged so far)</p>	<p>submitted for the period Jan to June 2024.</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>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            Added the following as sub-paragraph (d) under Sub-Clause 22.2.7            (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):            (iv) The contractor shall follow all covid related protocol issued by competent authority during execution of the work.            (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>Complied</p> <p>Being 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            (b) take care for safety of all persons entitled to be on site            (c) use reasonable efforts to keep the site and works clear for unnecessary obstruction so as to avoid danger to these persons            (d) Provide fencing lightings gardening and watching of the works until completion and taking over under clause 10 and            (e) Provide any temporary works (including roadways, footpaths, guards and fence) which may be necessary, because of the execution of the</p>	<p>Partially complied</p> <p>Ongoing</p> <p>Ongoing</p> <p>Initiated</p> <p>Initiated</p>	<p>CP-1-Appointed Mr P. Saikia as EHS Expert.</p> <p>Monthly environment Report submitted by</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>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. 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 employer's 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>Human habitation are far away from work site. To be initiated. CEMP submitted.</p> <p>To be followed</p> <p>To be improved, partially complied</p> <p>Complied</p> <p>Partially complied</p>	<p>CP-1 for the period Jan to June 2024.</p> <p>Monthly Safety Reports also submitted in Dec, 2023</p>

Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<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  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</p>	<p>Partially complied</p> <p>EHS Officer appointed</p> <p>Complied</p> <p>Complied</p> <p>Complied</p> <p>Ongoing</p> <p>CEMP submitted.</p>	


Contract Package	Contract Provisions / Status of the contract package	Compliance Status	Remarks
	<p>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 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>Appointed EHS officer</p> <p>(a-e) Mostly complied</p> <p>Monthly Environment Report submitted.</p> <p>f) Safety report submitted monthly</p> <p>Mostly followed. But improvement required.</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 2024
<b>DESIGN AND PRE-CONSTRUCTION PHASE</b>				
1	Impact on air, water, noise, soil  Exposure to safety related risks	Location and design of power house, office, substation and colony	<ul style="list-style-type: none"> <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> <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</li> </ul>	<p>Planned and is in tender doc and in contract EMP. (CP-2, CP-3)</p>  <p>Plantation by the higher officials of the Project.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			provided at required location.	
2	Release of chemicals ashes in receptors (air, water, land)	Equipment specifications and design parameters.	<ul style="list-style-type: none"> <li>CFC not used in substation transformers or other project facilities or equipment by concerned agencies.</li> <li>Processes, equipment, and systems will not to use chlorofluorocarbons (CFCs), including halon, and their use.</li> </ul>	Incorporated in tender doc. 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-1, CP-2, CP-3, CP-4)
4	Acquisition of private land	Location of powerhouse, head works.	Acquisition of agricultural and cultivable land minimized.	<p>Construction work zones are clustered to minimized the use of agricultural and cultivable land. CP 1, 2 &amp; 3 facilities are concentrated in three patches in revenue land and in 4 patches of Forest land.</p> 
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</li> </ul>	<p>Compensation done as per entitlement matrix of CRDTP. Mostly completed. Land compensation completed 100 % and other R&amp;R assistance also initiated from April 2022. 99% R&amp;R assistance paid in Dima Hasao and Karbi Anglong.</p> <p>Transmission line compensation also initiated.</p>



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			Resettlement and Tribal Development Plan prepared as per Gol and ADB SPS 2009 requirements.	
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> <ul style="list-style-type: none"> <li>Cut only trees marked by the Forest Department</li> <li>Ensure that the area is cleared as per directives/delineation of Forestry staff</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 also 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 2023-2024 and 2024-2025. AOP includes raising nurseries and clearing the plantation sites.</p> <p>Biodiversity Conservation plan is yet to be initiated but the Biodiversity Management Committee was formed and 3<sup>rd</sup> meeting was conducted on 12.12.23 during this reporting period. MOM disclosed in earlier EMRs..</p> <p>Trees are marked and cut by the Forest Department only. For Transmission line NOC taken from the respective Forest Departments.</p> <p><b>Annexure 14</b></p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
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 proximity of residences to these features.</li> </ul>	Quarterly test are being carried out in Aug, Nov, Dec 2023 and found within the CPCB norms.
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. 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 was updated based on the detail engineering design through IIT Roorkee and the details were incorporated in the addendum to EIA II.</p>  <p>Site visit by the professors of IIT Roorkee for Dam Break Analysis and EAP 31<sup>st</sup> Mar to 2<sup>nd</sup> April, 2024.</p>



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>APGCL and PMC team visited IIT Roorkee to finalize the DBA 12<sup>th</sup> to 16<sup>th</sup> May, 2024.</p> <p>Aquatic ecology study was initiated and carried out by College of Fisheries, Raha, Nagaon. The College of Fisheries, RAHA was also appointed for the downstream impact backwater assessment, but the modelling part was done by one Eco modeller in consultation with the college of Fisheries. All the results were incorporated in the addendum to EIA II.</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. 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 2024
			any possible effects from future climate change.	 <p>Switchyard is under construction</p>
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> </ul>	Planned and under implementation.  Bare minimum trees were removed when it was absolutely necessary. Tree cutting were done under the supervision of Forest Department of both the divisions.


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<ul style="list-style-type: none"> <li>Compensatory afforestation plan prepared.</li> </ul>	<p>Compensatory afforestation plan prepared by the Forest Department and the cost for 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> <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, CP-4)
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 2024
			impact assessment report.	
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, 3 contractors 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.</p> <p>CEMP of CP-1,2,3 and 4 submitted. And approved by APGCL.</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>  <p>Toilets of CP3 contractor with septic tank.</p> <p>Drinking water was supplied from the RO Plant.</p>







Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <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> <li>Refer to Annex 24: Measures for Air Pollution Control.</li> </ul> <p>Control of Emission</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</li> </ul>	<p>PUC monitored for vehicles time to time. (CP-1, CP-2, CP-3, CP-4). Copy of attached in the report.</p>  <p>Water sprinkling -Being mostly complied.</p> <p>CTO for DG sets available. Presently not required for &lt;1 MW as per Govt Notification.</p>




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<p>off when not used for extended periods of time.</p> <ul style="list-style-type: none"> <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>DG sets :</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 to be kept in accordance with CPCB norms.</li> </ul> <p>Dust Control :</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</li> </ul>	<p>Stack height of DG sets are maintained as per norms i.e, 15 ft for 250 KVA.</p> <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</p>



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<p>being delivered as needed during the course of construction.</p> <ul style="list-style-type: none"> <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> <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>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>  <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</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 %.</li> </ul>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<p>other necessary provisions by the contractor.</p> <ul style="list-style-type: none"> <li>Refer to Annex 25: Measures for Noise Pollution Control</li> </ul>	 <p>Use of Jackets, helmet and safety shoes-100 %.</p>
			<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 standards of pollution control authority.</li> <li>Refer to Annex 26: Measures for Water Pollution Control</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 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 biogester 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 are monitored regularly from the reporting period July to Dec, 2023 and reported in this SEMR.</p>




Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				<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>  <p>Additional Sedimentation tank constructed at Dam Batching Plant</p>
	<p>Exposure to safety related risks</p>		<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> <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>	<p>Plantation initiated as per green belt development plan in some areas.</p>  <p>World Environmental Day Celebrated on 5th June this event celebrated with 100 no. Saplings planted at Powerhouse, Switch Yard, Adit and surge shaft area, also provided Environment</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<ul style="list-style-type: none"> <li>All buildings designed constructed as per seismic zone provision.</li> <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>and Safety awarness training amongs the workers and staff.</p>  <p>World Environmental Day Celebrated on 5th June this event celebrated with 200 no. Saplings planted at Longtar English Medium School, Longku.</p> <p>Drainage provided in the substation and camp area but outlet and desilting chambers to be constructed.</p> <p>Dust bins kept at different sites</p>  <p>Waste are segregated designated bins at source and then biodegradable waste are taken to composting area and recyclable wastes are sent to vendors partially. A secured land fill site is being constructed as per rules and following the IFC Health and Safety guidelines. (CP-2, CP-3)</p>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				<p>All the building designs are constructed as per seismic zone provision.</p>  <p>Safety systems are provided at site.</p>  <p>CP-3 camp.</p> <p>Electric panel covered.</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 2024																																																			
				 <p>CP-2</p>  <p>CP-3 List of equipment in the Ambulance.</p> <table border="1"> <thead> <tr> <th>SER. NO.</th> <th>NAME OF EQUIPMENTS</th> <th>QUANTITY</th> </tr> </thead> <tbody> <tr><td>1</td><td>AUTO LOADING STRETCHER</td><td>01</td></tr> <tr><td>2</td><td>CARDIAC MONITOR</td><td>01</td></tr> <tr><td>3</td><td>OXYGEN CYLINDER</td><td>02</td></tr> <tr><td>4</td><td>SCOP STRETCHER</td><td>01</td></tr> <tr><td>5</td><td>SPINE BOARD</td><td>01</td></tr> <tr><td>6</td><td>FLOW METER</td><td>01</td></tr> <tr><td>7</td><td>OXYGEN MASK</td><td>02</td></tr> <tr><td>8</td><td>INVERTER WITH BATTERY</td><td>01 SET</td></tr> <tr><td>9</td><td>ABC BAG</td><td>01</td></tr> <tr><td>10</td><td>FIRST AID BOXES</td><td>01</td></tr> <tr><td>11</td><td>BP AUTOMATIC</td><td>01</td></tr> <tr><td>12</td><td>PULSE OXYMETER</td><td>01</td></tr> <tr><td>13</td><td>GEL GARBAGE WITH STRIP</td><td>01</td></tr> <tr><td>14</td><td>OXYGEN CYLINDER OPENER</td><td>01</td></tr> <tr><td>15</td><td>HAND AND LEG SPLINT</td><td>01 EACH</td></tr> <tr><td>16</td><td>OXYGEN OPENER</td><td>01</td></tr> </tbody> </table>  <p>CP-2 ambulance at power house. 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>	SER. NO.	NAME OF EQUIPMENTS	QUANTITY	1	AUTO LOADING STRETCHER	01	2	CARDIAC MONITOR	01	3	OXYGEN CYLINDER	02	4	SCOP STRETCHER	01	5	SPINE BOARD	01	6	FLOW METER	01	7	OXYGEN MASK	02	8	INVERTER WITH BATTERY	01 SET	9	ABC BAG	01	10	FIRST AID BOXES	01	11	BP AUTOMATIC	01	12	PULSE OXYMETER	01	13	GEL GARBAGE WITH STRIP	01	14	OXYGEN CYLINDER OPENER	01	15	HAND AND LEG SPLINT	01 EACH	16	OXYGEN OPENER	01
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Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				<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> <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>Housekeeping and Hygiene at workers camps and bathrooms/toilets to be improved. Accommodation facilities have proper ceiling to control heat. (CP-2)</p> <p>Celling were placed in all accommodations to reduce heat.</p>  <p>CP3 Camp</p>  <p>CP-3 Camp</p>



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>RO Plant for workers and officers</p> <p>Drainage facilities to be constructed/ completed at camps and facilities.</p> <p>Camp sites also be provided with basic sanitation and infrastructure as per the requirements of Building and other Construction Workers. (CP-2)</p>
	<p>Fire Protection in Labor Camp and Staff Colonies</p>	<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>CP-3</p>  <p>CP-3 Status of Fire Extinguisher at Project sites given below.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <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 in CP-2, CP-1, CP-3.</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> <li>Refer to Annex 13: Muck Disposal Plan</li> </ul>	<p>4 muck dumping sites identified and currently all the 4 are being used.</p> <p>Muck disposal plan approved by APGCL.</p> <p>Requested the contractor to immediately replant the slope up with grass to prevent soil erosion and replacement trees to compensate for numbers that were lost due to muck disposal.</p> <p>For levelling of the road 70% 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>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>Gabion wall constructed to arrest sliding of materials from the dumping site. Size of the gabion wall (Height above ground-1 meter, Width-1 meter, Length -16.8 meter.)</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 2024
				Vibration monitoring during Blasting time by PMC Safety expert and L&T team, March, 2024.
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.  Multi Disciplinary Committee was constituted to monitor the implementation of EMP. 3 <sup>rd</sup> Meeting of the MDC was conducted at Site on 11.12.23. During this reporting period Jan to June 2024 no MDC meeting were conducted.
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 completed.  
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 were constructed as per plan approved. As per EMP roads under EIA 2018.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
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.	Being complied. Tree cutting are done in presence of Forest Department only after enumeration and recording.  Tree marking & cutting at Power house area in presence of Panimure Forest Department Team for CP-2. For the transmission line NOC taken from respective Forest Divisions. (Annexure 14)
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 through Forest Department.
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> </ul>	Fire wood collection not allowed. LPG are used for cooking. In few cases induction stoves are used.(CP-2, CP-3)  CP-1 – Firewood was used by some labour in the camp for cooking. Contractor was


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<ul style="list-style-type: none"> <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>	instructed to provide Gas immediately.
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> <li>Implementation of Biodiversity Conservation and Management Plan (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 in labour camps and awareness carried out among the workers on 25.03.23; 09.05.23 and on 15.12.23.</li> </ul> <p>Awareness Program conducted regarding critical Indigenous species around project area.</p>  <p>CP-2. Critical species Awareness in March, 2024.</p> <ul style="list-style-type: none"> <li>Last BMP (3<sup>rd</sup>) meetings was conducted with the Forest Department on 12.12.23.</li> <li>NABL clearance not taken as there is no WLS in 10 km radius.</li> </ul>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<ul style="list-style-type: none"> <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> <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</li> </ul>	<ul style="list-style-type: none"> <li>• CEA guideline complied during construction of transmission line.</li>   <li>• Wild fruit plantation initiated.</li> <li>• Annual Bird count carried out by engaging AARANYAK in the month of February, 2024. Summary Report in <b>Annexure - 17.</b></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 – initiated. A comprehensive survey was carried out by EMC in the month of April and May, 2023. Terrestrial Monitoring also initiated. 10 camera traps with accessories were given to Forest Department and after installation of camera traps monitoring of terrestrial wildlife strengthened.</li> </ul>





Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<p>habitats in the project area for assessing its habitat requirements and identifying threats are proposed.</p> <ul style="list-style-type: none"> <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>	 <p>Camera Traps handed over to DH, DFO on 13.06.24 at Haflong.</p> <p>Preliminary findings of the Terrestrial monitoring are given in <a href="#">Annexure 18</a>.</p> <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, the 2<sup>nd</sup> meeting was held on 27.06.2023 and 3<sup>rd</sup> meeting was held on 12.12.23. No meeting conducted during the reporting period.</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 2024
				Slope protection in power House area. CP2 will undertake slope protection measures for reservoir rim (right and left bank), right bank downstream near diversion channel outlet, muck dumping slopes, cut slopes along road as per the inventory and recommendations given by PMC.
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>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>For hazardous chemical materials stores constructed. 20KL petrol pump station is established.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				
20	Noise nuisance	Construction schedules	During work near settlements construction activities only undertaken during the day and local communities will be informed of the construction schedule.	Construction scheduled for day only in the revenue land near villages. Construction during night are done in the areas away from the human habitation.  Local people were informed about the daily construction schedule and the blasting timings. Sign boards were also installed with the blasting timings.
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 sanitation, water supply and waste disposal facilities.</li> <li>Refer to Annex 17: Construction Camp Management Plan</li> </ul>	Housekeeping and Hygiene at workers camps and bathrooms/toilets to be improved. Drainage facilities to be constructed/completed at camps and facilities. Sedimentation tanks constructed near Tunnel in the adit (CP-2). Sedimentation tank also constructed in near the batching plant (Dam). 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).  Municipal Solid Waste Management facility developed.  6 no compost pit were filled and another 6 pit excavated. (CP-2)


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
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> </ul> 



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>- Will be followed if bunds are damaged.</p>
23	Social inequities	Encroachment into agricultural land	Compensation for temporary loss in agricultural production as per provisions of Resettlement and Tribal Development Plan	Followed
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> </ul>	<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</li> </ul>


Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
			<ul style="list-style-type: none"> <li>Avoidance of excavation in wet seasons.</li> <li>Water courses protected from siltation through use of bunds and sediment ponds.</li> </ul> Refer to Annex 26: Water Pollution Control Measures	bunds and sediment ponds. - Bund were prepared for construction of culverts. 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. Improvement of Grey water treatment from CP-2 camp is further required.
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> Refer to Annex 30: Dam Break Analysis And Disaster Management Plan	Natural drainages are not blocked through any kind of construction activity.
28	Contamination of receptors (land, water)	Equipment submerged under flood	Equipment stored at secure place above the high flood level (HFL) i.e. 185.34 m.	Complied. Storage facility are above the HFL.

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
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. (CP-2, CP3, CP-1)</li> </ul> <p>CP-2 Medical Health Check up Camp and AIDS awareness on dtd. 22/03/2024 (Friday, Subansiri Block, EHS Induction Room at Longku.</p> 



Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>CP-3: Safety awareness program &amp; mock quiz conducted &amp; prize distributed on dated 17-05-24</p>   

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>CP-4 The 2<sup>nd</sup> AIDS awareness camp will be organised on 26<sup>th</sup> April, 2024 at Store, Mandap, West Karbi Anglong.</p>  <p>Health Camp by CP-4 on 26.04.2024</p> <p>CP-2 (03.08.2024)-Dengue Awareness Program was organized in the Workmen Camp in collaboration with Umrangsu Community Health Center. Along with this, anti mosquito fogging was also sprayed in surrounding area of Workmen camp.</p>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <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 CP-1, CP-2, CP-3 &amp; CP-4.</li> <li>• Training were also given to the subcontractor personals.</li> <li>• PMC and PMU also arranged 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 2024
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Safety Month observed by XP-2 in January 2024.



CPR Demonstration and First aid training, CP-2, March 2024

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				 <p>Road Safety Awareness Programme by associating with the Longku &amp; Panimur Police Station, Assam Police at the Government High School, Longku. March 2024.</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> </ul>  <p>PMC Safety officer given TBT to PMC &amp; APGCL Staff. 12.3.24.</p>  <p>Training to workers and Staff at Hydro mechanical workshop on National Safety Day 4th March 2024</p> <ul style="list-style-type: none"> <li>• PMC and PIU carried out formal training on EHS and implementation of EMP on 15.06.24.</li> <li>• Check list prepared and implementation monitored.</li> <li>• Letters issued to the contractor on the contractual obligations of</li> </ul>

Sl.	Environmental Issue	Activity/ Location	Mitigation Measures	Compliance as on 30 <sup>th</sup> June 2024
				noncompliance and this will be continued.
<b>OPERATION PHASE</b>				<i>Operation phase monitoring will be carried out during operation.</i>

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

**Table 8: Corrective Actions taken till 30<sup>th</sup> June 2024**  
**ACTION TAKEN REPORT on the Corrective Action Plan**

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
<b>Key Actions for Pre-Financial Closure</b>						
1	EA was requested to issue the updated EIA addendum complete with assessment and commitment viz.	APGCL/RMSI/ College of Fisheries, Raha/ IIT Roorkee/ ecology impact modeler/EMC	<b>Prior to Financial Closure</b> Draft by 31 May 2024  Final for disclosure by 07 June 2024	First draft submitted on 31.05.2024 and after revision finally it was submitted to ADB on 02.06.2024 for disclosure.		Closed
	(a) environmental assessment of Project components under CP -1 that shall be further updated after finalization of design;			Additional Environment assessment for CP-1 is not required as rain water harvesting is not considered. Moreover there is no change or alteration in the design.		Closed
	(b) map of the extent of all rheophytes in the reservoir inundation area and the immediate downstream to establish the potential magnitude of impact; and elsewhere in			Mapping of the extent of all rheophytes in the reservoir inundation area and the immediate downstream completed and the assessment has been incorporated in the addendum to EIA -II.		Closed

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	(c) 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), and the two village roads likely to be submerged between Borolongku to Larelangsu;			Environmental assessment for Longku Nala stretch of NH- 627 that is proposed to be elevated by PWD, Assam is not initiated as design not yet available from PWD and construction yet to commence,  Design for two village roads are available and it will be completed before impounding.	Before impounding	Outstanding  Partially complied
	(d) dam break analysis confirmed by external monitor dam safety specialist;			Dam break analysis completed by IIT, Roorkee. Dam Safety Expert of EMC sought few clarification in the month of July, 2024 on the report and it was addressed within July, 2024 by IIT Roorkee. International Dam Safety Expert expressed his satisfaction on the reply prepared by IIT, Roorkee.	Site visit and final review of the dam will be done in September 2024 by Internal Dam Safety Expert of EMC.	Partially complied
	(e) downstream impact of flooding and disaster management and emergency preparedness and evacuation plan			Downstream impact assessment based on the 10 daily flow data completed and updated in the addendum to EIA -II.		Closed



Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	<p>including awareness raising and mock drills for the community for operations period, early warning system to ensure preparedness of the villagers that needs to be conducted in collaboration with the State disaster management authority and District administration (including disaster resilience plan for 5 pilot villages) and Pobitora wildlife sanctuary, if required;</p>			<p>Disaster management Plan and Emergency Action Plan prepared by IIT Roorkey.</p> <p>Mock drills for the community in 5 selected downstream villages completed.</p> <p>Further, awareness raising on early warning and mock drills for the communities in the downstream districts (including 5 pilot villages) for the operation period will be carried out with the help of ASDMA, DDMA and District authorities before commissioning of the project.</p> <p>Consultation with the Divisional Forest Officer of Pabitora wildlife Sanctuary has already been carried out and it was reflected in the addendum to EIA II.</p>		
	<p>(f) Kopili water quality trend including baseline condition, condition during closure of upper Kopili dam operations and condition post recommencement of upper Kopili dam operations.</p>			<p>Kopili water quality trend including baseline condition, during the closure of the upper two dams and during post operation were analyzed by the EMC water quality expert and the results were incorporated in the addendum to EIA II.</p>		Closed

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	(g) commitment to operate the hydropower plant only in baseflow mode is to be set out since it avoids diurnal downstream impact. The EA will reflect in the addendum the implications of this in terms of reservoir operations given the elevation that the headracetunnel has been set.			APGCL will run the plant in the baseflow mode till the hourly flow data and the optimum reservoir operation plan is available.		
	(h) Commitment to adopt necessary mitigation and offset to meet the ADB's Safeguard Policy Statement 2009 critical habitat requirements before reservoir inundation.			Outline for offset management incorporated in the EIA addendum.  It will be finalized after the preparation of Final Reservoir Operation Plan after hourly inflow data of one year by July 2025.	July 2025	Closed  Outstanding
	(i) External monitor's confirmation that all coffer dam and permanent dam safety risks including geological risks associated with the reservoir are being adequately addressed by the project			APGCL has requested EMC to deploy their dam safety expert after ADB's mission. CV of the New Dam Safety Expert has been approved by ADB and APGCL on 27.6.24. APGCL has requested EMC on 28.6.24 to review the Dam Break Analysis and provide his observation by		Open

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
				29.6.24. Further he was also requested to visit the site within July, 2024 and review the dam designs and investigation reports		
	(j) Commitment to ensure replacement culturally appropriate construction/development and alternative access arrangements in place before reservoir inundation to be set out in the final updated EIA addendum (see social safeguards).			Agreed and necessary measures taken by APGCL to shift the religious places with the consent from the Karbi Community and the Revenue Department of the Dima Hasao.		Outstanding
2	EA with support of PMC to map the extent of all rheophytes in the reservoir inundation area and the immediate downstream to establish the potential magnitude of impact with the results to be included in the final updated EIA addendum. The reservoir operation in base flow (not peaking power) mode and options for adjusting the reservoir operating levels needs to be studied to determine the	APGCL/RMSI/ College of Fisheries, Raha/ IIT, Roorkee/ ecology impact modeler/EMC	31 May 2024	The extent of all rheophytes in the reservoir inundation area and the immediate downstream was mapped.  The potential magnitude of impact with the 10 daily flow data included in the final updated EIA addendum.  Species wise distribution to be surveyed in August to Sept, 2024.  The habitat suitability in the	Sept, 2024	Closed  Closed  Outstanding  Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	<p>extent to which those rheophytes upstream will be permanently inundated or may survive under the fluctuating reservoir and downstream flow conditions, since they require rocky habitat with a fast-flowing watercondition.</p> <p>The habitat suitability in the area upstream of the reservoir and elsewhere in Assam in relation to offset potential</p>			<p>area upstream of the reservoir and elsewhere in Assam in relation to offset potential will also be surveyed.</p> <p>Final reservoir operation plan will be prepared after obtaining the hourly flow data by July 2025.</p> <p>Reservoir operation will be maintained at baseflow till the EMP and offset management plan for the rheophytes implemented.</p>	July 2025	<p>Outstanding</p> <p>Outstanding</p>
3	Dam break analysis to be completed	APGCL/RMSI/ College of Fisheries, Raha/ IIT Roorkee/ ecology impact modeler/EMC	31 May 2024	Completed by IIT Roorkee. Report has also been reviewed by the Dam Safety Expert of EMC.		Closed
4	Dam safety expert of the external monitor conduct a site visit to confirm that all coffer dam and permanent dam safety risks including geological risks associated with the reservoir are being adequately addressed by the	EMC/APGCL	7 June 2024	<p>Preliminary report submitted by 29.6.2024 by the new Dam Safety Expert of EMC.</p> <p>Site visit will be completed in August – October, 2024.</p>		<p>Closed</p> <p>Outstanding</p>

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	project. Their report is to be submitted to ADB.					
5	EA was requested to ensure contractors meet all post facto statutory requirements and obtain all post facto statutory permissions so that there are no outstanding permissions upon the financial closure still to be obtained.	Contractors/ PMC/EMC/AP GCL	30 June 2024	<p>Most of the statutory clearances obtained by the contractors. The following permissions are pending.</p> <p>CP-2 :-</p> <ol style="list-style-type: none"> <li>1. Change of Bhutan Registration No of 3 vehicles under process. Rest all the vehicles with Bhutan registration number has been changes.</li> <li>2. Authorization from PCBA on First Aid centre. (Tie up with state Govt. Hospital at Umrangso and also have bio medical waste disposal permission from Municipal Board, Umrangso).</li> </ol> <p>CP-3 :-</p> <ol style="list-style-type: none"> <li>1. CTO for RO Plants. (CTE obtained, CTO application submitted.)</li> <li>2. Authorization from PCBA on First Aid centre. (Tie up with state Govt. Hospital at Umrangso and also have bio medical waste disposal permission from Municipal</li> </ol>		Few Outstanding, but mostly closed.

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
				Board, Umrangso).		
6	The EA was requested to ensure the contractors address the time-bound corrective actions raised by the mission and provide an update in the January – June 2024 EMC verified EMR, due 15 July 2024 along with validation report by the external monitor.	Contractors/ PMC/EMC/AP GCL	15 July 2024 and 20 July respectively	EA to submit the SEMR of Jan June by 23.08.2024 and Validation report for the same period of EMC by 30 <sup>th</sup> Aug, 2024.	30 <sup>th</sup> August, 2024	Outstanding
7	Issue outstanding EMR and the January – June 2024 EMR, due 15 July 2024 with the validation by the external monitor.	PMC/EMC/AP GCL	15 July 2024 and 20 July respectively	Agreed		Outstanding
<b>Key Ongoing Construction and Pre-Inundation Commitments</b>						
1	(a) EA was requested to continue to remain vigilant over the contractor's environment, health and safety performance, continue to issue non-compliance reports and ensure they address the time-bound corrective actions raised by the mission, and continue to report to ADB post-financial closure in the semi-annual EMR.	APGCL/EMC/PMC/RMSI/ CoF, Raha	Ongoing	Agreed		Outstanding
	(b) EA was requested to ensure the environment			Agreed and will continue		Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	<p>expert of PMU, environment and H&amp;S expert of PMC and external monitor continue to remain engaged to oversee supervision and monitoring of the contractor's environment, health and safety performance.</p>					
	<p>(c) Mitigation and offset for the critical habitat rheophytes will need to be developed prior to reservoir inundation which maybe challenging given their niche habitat requirement, for this the extent of their distribution elsewhere in Assam needs to be determined. Complete rheophyte species specific surveys for the Lower Kopili and wider distribution during the appropriate flowering season since it is very challenging to identify them at other times of year and produce species extent maps</p>			<p>Mitigation and offset for the critical habitat rheophytes will be developed prior to reservoir inundation.</p> <p>Rheophyte species specific surveys for the Lower Kopili and wider distribution during the appropriate flowering season since will be carried out in Aug Sept 2024 and produce species extent maps.</p>		Outstanding
	<p>(d) Rheophytes assessment and management plan</p>			<p>Will be disclosed in the subsequent EMRs.</p>		Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	demonstrating how ADB's Safeguard Policy Statement 2009 critical habitat requirements will be met to be completed to the satisfaction of ADB and disclosed.					
	(e) Ensure the mitigation and offset is implemented since any inundation impacts will be irreversible.			Mitigation and offset is implemented for rheophytes before impounding		Outstanding
	(f) Ensure the hydropower plant will be operated only in baseflow mode unless the downstream and backwater impacts assessment has been completed to the satisfaction of ADB and disclosed.			Agreed and hydropower plant will be operated only in baseflow mode unless the downstream and backwater impacts assessment has been completed to the satisfaction of ADB and disclosed.		Outstanding
	(g) Provide certification of the dam safety expert of the external monitor that permanent dam design and construction have adequately addressed all risks including geological, and there are no outstanding pre-impoundment recommendations to ensure the dam safety of			EMC will be requested to deploy the Dam Safety Expert to ensure and certify that the dam design and construction have adequately addressed all risks including geological, and there are no outstanding pre-impoundment recommendations to ensure the dam safety of operation.		Outstanding



Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	operation.					
	(h) Conduct awareness campaigns consultations with downstream villagers in collaboration with the State disaster management authority and District administration to disseminate information on emergency response and disaster management plan.			Agreed and community awareness raising and mock drills were completed for the 5 villages.  Later, after finalization of EAP, APGCL will request DDMA and ASDMA to carryout the community awareness raising and mock drills prior to reservoir inundation		Closed  Outstanding
	(i) Ensure replacement of structures with culturally appropriate construction /development has taken place and alternative access arrangements in place before reservoir inundation (see social safeguards).			Agreed and necessary measures has been taken.		Outstanding
	(j) Continue to submit EMR which will be due on 15 January 2025, then 15 June 2025 etc. with validation by the external monitor since this is category A.			Agreed		Outstanding
2	EA was requested to ensure that (a) permission for tree felling and vegetation clearance is obtained for the	(a) APGCL (b) APGCL	(a) 31 Dec 2024 (b) 31 May 2025	(a) Agreed and it will be done prior to impounding (b) Agreed		Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	submergence area; and (b) submergence area is cleared (in such manner that sediment generation due to loosening of soil and methane emission due to composting of terrestrial plants under water is minimum) in phases in consultation with forest department.					
3	EA was requested to ensure slope protection measures of reservoir rim (both right and left bank), right bank slope at the downstream of main damis undertaken immediately so that adequate time is available for the slope to stabilize prior to impoundingof reservoir (status to be confirmed as part of pre impoundment report)	CP-2 Contr actor/ APGCL/PMC/ EMC	Prior to impounding (prior to monsoon preferable)	Agreed and the status will be confirmed as part of pre impoundment report		Outstanding
<b>Detailed Corrective Action</b>						
<b>APGCL and Actions Common to All Contractors</b>						
1	EA was requested to ensure timely submission of Form V on environmental statement to thecompetent authority as recommended in EC letter		Regularly asrequired	Submitted on 10.05.2024 and will be continued.		Closed and will be continued
2	EA was requested to ensure (a) labour conditions are assessed for allcontractors by	(a) EM C/A PG	20 May2024 andwhen applicable	(a) Agreed (b) Agreed		

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	EMC; and (b) corrective measures, recommended in any by the EMC are implemented by the contractors	CL (b) All contractors/ PMC/APGCL				b) Outstanding
3	EA was requested to ensure (a) the interim updated Environment Management Plan (EMP) including monitoring are made part of the contract document of CP1, CP-2 and CP-4;	All contractors/ PMC/EMC/APGCL	Immediately and as and when applicable	Already letter to all the contractor issued.		Closed
	(b) all contractor implements environment management and health and safety measures as per ADB disclosed interim updated EMP and measures recommended by EMC and PMC (NCRs) at construction site with special attention to the critical construction locations such as tunnels, dam site, power house, surge shaft etc; and			Agreed. Additional measures suggested in the addendum to EIA will also be implemented by all the contractors.		For additional measures it is Outstanding
	(c) that a report on action taken is included in the upcoming EMR that would reflect implementation of additional mitigation measures identified during interim EIA addendum			Agreed and will be reflected in the next SEMR of Jan to June 2024.		Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
4	EA was requested to ensure that all the contractors comply with the recommendations given under section "Implementation of Environmental Safeguards" and provide action taken report in subsequent EMR	All contractors/PMC/EMC/APGCL	15 June 2024	All the contractors were requested to submit the monthly environment report including the compliance of the EMP measures.		Outstanding
5	EA was requested to (a) evaluate the internal safety audit reports (through EMC and PMC) of the Contractors; and		20 May 2024	Safety audit completed for all the packages 27 <sup>th</sup> and 28 <sup>th</sup> May, 2024.		Closed
	(b) get an external audit conducted if found inadequate.		30 June 2024	Will be complied if required.		Not applicable in the present context
6	EA was requested to ensure that (a) permission for tree felling and vegetation clearance is obtained for the submergence area; and	(e) APGCL	31 Dec 2024	Will be obtained prior to clearing the reservoir area before impounding.		Outstanding
	(b) submergence area is cleared (in such manner that sediment generation due to loosening of soil and methane emission due to composting of terrestrial plants under water is minimum) in phases in consultation with forest department.		31 May 2025	Agreed		Outstanding




Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
7	EA was requested to get the bird divertors installed on recommended sections of (a) these will be done for 33kV; and		31 Dec 2024	Agreed and procurement process started through the CP-4 contractor.		Closed
	(b) 400 kV (in consultation with Indigrd during their maintenance period) as per CEA technical specification and updated EMP. Further EA was requested to		Prior to impounding	Indigrd also agreed to install the Bird divertors during annual maintenance.	March 2025	Outstanding
	(c) send prior information to ADB on the technical specification of bird divertors for guidance, if any required.		15 May 2024	Specifications sent to ADB and required guidance received.		Closed
8	EA was requested to ensure (a) terrestrial ecology monitoring is expedited (camera traps are provided to forest department as agreed by EA with the department);	APGCL	31 May 2024 Annually	10 camera traps were handed over to Forest Department, Dima Hasao for terrestrial monitoring.		Closed
	(b) annual bird count is continued to be conducted and results are incorporated into the environment monitoring reports (Please provide interpretation, past and present trend if any and incorporate the report along with the EMR of Jan-June 2024)			Agreed and will be reported in the SEMRs		Closed Annexure 17, and 19



Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
9	EA was requested to closely pursue with concerned government department and ensure timely implementation of all sub-plan measures such as CAT plan, BDM plan etc. as per ADB disclosed EIA and interim addendum.	APGCL/EMC/PMC	30 June 2024	Agreed		
10	EA was requested to ensure that all works for which permissions/ renewals were pending are stopped and shall be recommenced only after obtaining the requisite permissions.	APGCL/EMC/PMC/All contractors	Till closure of Project	Agreed. Pending statutory permissions : CTO for RO plant for CP-3, Change of registration number of remaining Bhutan Vehicles of CP-2, Authorization for the first aid center from PCBA by CP-2, Cp-3. CTO for STP will be applied by APGCL after completion of the STP construction.		Mostly complied few are outstanding.
11	EA was requested to ensure that (a) one qualified and well experienced H&S expert is appointed under PMU to assist the newly formed HSE unit and help APGCL staff build internal capacity as there is a distinct need observed by the Mission due to the critical nature of construction activities and serious health and safety	APGCL/EMC/PMC/All Contractors	30 June 2024 and continued till issuance of project closure report	Mr Sarbajit Bhattacharya is looking after the Health and Safety aspects at site from APGCL.		Closed

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	lapses reported and noted;					
	(b) Sr. Environment Expert is mobilized by the PMC to assist the Environment Safeguards Specialist in conducting day to day supervision and provide guidance to Contractors' staff to expedite the implementation of environmental safeguards at site as elaborated in the following sections; and			Continued with the existing experts.		Closed
	(c) all positions of environment and H&S under PMU, PMC, EMC, Grant funded consultant and all Contractors are renewed timely and continued till completion of the Project and are served by experts qualified on Environment, Health and Safety subjects.			Agreed		Closed
12	EA was requested to expedite submission of the outstanding (a) semi-annual validation report for EMC for reporting period January to June 2021 on retrospective basis;	EMC/PMC/AP GCL	15 May 2024	Requested EMC for submission of the same through letters. Following reports are pending :- 1. SEMR July to Dec 2023 (Validation Report) 2. QPR Jan to Mar 2024 3. SEMR Jan to June 2024 (Validation Report)		Few Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
				(required to be submitted by August 2024) 4. SEMR Jan to June 2024 (Verification Report) (required to be submitted by August 24)		
	(b) EMC's quarterly validation reports for July to September 2023;		15 May 2024	Submitted.		Closed
	(c) EMC's semi-annual validation report for July to December 2023		15 May 2024	Pending		Outstanding
	(d) EMC's Quarterly validation report for Jan to March 2024;		20 May 2024	Pending		Outstanding
	(e) EMC verified internal monitoring report for reporting period July to December 2023;		15 May 2024	Submitted.		Closed
	(f) EMC verified internal EMR and EMC's validation report for January –June 2024;		15 July 2024 and 20 July 2024 respectively	Will be submitted by 15 <sup>th</sup> August, 2024	APGCL will share the document soon.	Outstanding
	(g) EMC verified internal EMR and EMC's validation reports till the issuance of the ADB project completion report.		Ongoing until project completion report	Agreed.		
13	EMC was again requested to present and share site visit findings immediately after their visits with APGCL and ADB together so that	EMC/APGCL	As and when applicable	Intimated to EMC to share the site visit reports		Last visit report of June Outstanding





Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	timely actions could be taken on pending / critical issues.					
14	EA was requested to ensure (a) that community awareness campaigns are conducted by all contractors,	All contractors/ PMC/APGCL	Throughout the implementation period and contract period of respective contractors	<p>CP-2 has carried out community awareness. This covered CP-3 and CP-1 also as they are working in same area.</p>   <p>Environment Awareness</p> 		Outstanding for CP-4.

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
				 <p>Road Safety Awareness in Feb, 2024.</p>		
	(b) safety and fire mock drills, toolbox talks are continued to be conducted regularly by all contractors;			<p>All the contractors carryout Safety and Fire mock drills.</p>  <p>CP-2 carried out Mock Drills Mock Drill on 13.01.2024 and 06.05.2024. <a href="#">Annexure 21, 22</a></p>		Closed
	(c) workers under all CPs are trained and made aware regarding EHS, biodiversity conservation, HIV/AIDS, dos and don'ts as per local culture and customs etc. and records are appropriately incorporated in Monthly EHS reports			<p>Workers under all CPs are trained on EHS, HIV / AIDS. CP-2 carried out Biodiversity conservation awareness.</p>		Closed for CP-2, CP-4. Outstanding for CP-1, CP-3.


Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
15	EA was requested to ensure maintenance of dedicated storage of environment documents (including reports, minutes, communication letters, trackers etc.) with restricted access and liability to chosen members that can be used as a one stop location for future references.	APGCL	Till issuance of project closure report	Agreed and there is a dedicated space in the 15 GB gmail.		Closed
16	The EA was again requested to ensure (a) that all CPs conduct meaningful and gender responsive consultations covering environment safeguards aspects regularly and records of attendance sheet, photographs, minutes of meetings are	All contractors/PMC/APGCL	Regularly throughout implementation period	Contractors were instructed and record keeping of the meetings started.		
17	EA was requested to ensure (a) display of GRC focal persons' contact details at places accessible to both public and workers at all construction sites;	All contractors/PMC/APGCL	Regularly throughout implementation period	Displayed		Closed
	(b) GRC details are continued to be displayed in the nearby villages;			Agreed		Closed
	(c) disclosure of project documents and information are done as per ADB disclosed EIA requirements.			Agreed and done accordingly.		Closed

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
18	EA was requested to ensure that (a) interim EIA addendum and Assamese translation of the summary are disclosed on the website of APGCL and available at site offices; and	APGC L/PMC / Contractor	Immediately Regularly	Agreed and already displayed in Hindi as most people understand Hindi in both the districts (Dima Hasao and Karbi Anglong)		Closed
	(b) all Contractors disseminate information and leaflets in local language prior to the consultations or as and when required especially upstream villages of surface water sources for CP-1, CP-3 etc	Contractors/ PMC/APGCL		Will be done. Surface water from Longkuna are not collected presently by CP-1 and CP-3.		Outstanding Closed asr surface water not taken.
<b>Contract Package -1</b>						
19	EA was requested to ensure CP-1 contractor expedites the process for (a) Post facto tree felling permission;	CP-1 Contractor/ APGCL	31 May2024	Obtained		Closed
	(b) CTO for STP (CTE obtained) for permanent colony prior to commencement of operation. CTE and CTO for the WTP as and when applicable;		CTE prior to construction and CTO Prior to operations Prior to operations	Before commissioning of the STP CTO will be obtained by APGCL. CTE and CTO for the WTP will not be required as WTP will not be installed. Water filter will be installed.		
20	EA was requested to ensure CP-1 contractor (a) manages solid and liquid waste as per rules on an ongoing basis so that proper housekeeping is	CP-1 Contractor/ APGCL	Ongoing 15 May 2024	Solid and liquid waste management and housekeeping is yet to be improved.		Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	ensured;					
	(b) DG set stack height is increased to meet SPCB standards			Stack height will be increased.		Outstanding
21	EA was requested to ensure that one qualified H&S expert is appointed under CP-1.		30 June 2024	CP-1 is executing the contract with one officer Mr. Phatik Saikia, (Environment Officer).		Outstanding
<b>Contract Package -2</b>						
23	EA was requested to ensure slope protection measures are undertaken for the (a) cut slopes along the temporary and permanent roads in the project area; and	CP-2 Contractor/ APGCL/PMC/ EMC	31 December 2024	Areas has been identified by PMC and APGCL. Letter communicated to CP-2 for compliance.		Outstanding
	(b) muck dumping areas with special attention to PR-5 along permanent colony			Yet to initiate the gabion wall in PR-5 as contractor is still sorting out boulders from the site. 		Closed
24	EA to ensure that CP-2 contractor at all stages of tunnel works (a) has an implementable evacuation plan ready and workers are	CP-2 Contractor/	To be updated as and when required	CP-2- Workers are trained for tunnel work. Evacuation plan exists.		Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	trained well;	APGCL/PMC/EMC				
	(b) safety mock drill is conducted, and rescue time is recorded and optimized; and		immediately	Safety mock drills conducted.		Closed
	(c) tag in and tag out system is made operation for workers.		20 May 2024	Recording of the names of the workers during entry are maintained. But Tag in and Tag out system to be improved as there are 4 exit points. (Annexure 23)		
25	EA to ensure that CP-2 contractor immediately and regularly thereafter clears the dam site from construction waste and construction materials to avoid them being flown to downstream by flood water	CP-2 Contractor/ APGCL/PMC/EMC	Immediately	Situation improved and Dam sites are regularly cleaned. 		Closed
26	EA to ensure immediate measure is taken by CP-2 contractor to manage grey wastewater and dispose it	CP-2 Contractor/	20 June 2024	MBBR technology will be used for the treatment of waste water. After proper treatment the water will be used for		Outstanding

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	into environment only after treatment.	APGCL/PMC/EMC		gardening, fire fighting and car washing.		
27	EA was requested to ensure that CP-2 contractors conduct Pyrite testing for muck and slope area of powerhouse and collects sample in presence of environment experts of PMU/EMC/ PMC	CP-2 Contractor/ APGCL/PMC/EMC	31 May 2024	Will be initiated.		Outstanding
28	EA was requested to ensure that CP-2 contractor obtains authorization for the dispensary/ first aid center underBMW rules from SPCB	CP-2 Contractor/ APGCL/PMC/EMC	31 May 2024	Will be initiated.		Outstanding
29	EA to ensure that renewal of consent to operate for water neutralization plant and RO plant under CP-2 are expedited	CP-2 Contractor/ APGCL/PMC/EMC	31 May 2024	Obtained		Closed
30	EA was requested to ensure community access restriction of construction sites such as dam and surge shaft	CP-2 Contractor/ APGCL/PMC/EMC	31 May 2024	Security guards engaged at Dam site to restrict unauthorized access.		Closed
<b>Contract Package -3</b>						
31	EA was requested to ensure CP-3 contractor expedites the process for obtaining post facto (a) consent to establish (CTE); and	CP-3 Contractor/ APGCL/PMC/EMC	10 May 2024	CTE obtained		Closed

Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
	(b) operate (CTO) for reverse osmosis (RO) plant		10 June 2024	CTO applied		Outstanding
32	EA was requested to ensure CP-3 Contractor obtained authorization for first aid center from SPCB prior to commencement of operation of the center	CP-3 Contractor/ APGCL/PMC/ EMC	31 May 2024	Will be initiated.		Outstanding
33	EA was requested to ensure CP-3 Contractor constructs paved impermeable platform with 110% bund and roof for storage of hazardous/ inflammable oil along with spill kits and displays MSDS	CP-3 Contractor/ APGCL/PMC/ EMC	20 May 2024	Contractor has constructed impermeable platform with bund and roof for storage of hazardous/ inflammable oil along with spill kits and displays MSDS. 		Closed
34	EA was requested to ensure that CP-3 contractor obtains authorization for the dispensary/ first aid center under BMW rules from SPCB	CP-3 Contractor/ APGCL/PMC/ EMC	10 June 2024	Will be initiated.		Outstanding



Sn.	Agreed Actions	Responsibility	Agreed Dates	Status as on 30.06.2024	Revised date if not completed	Closed/Outstanding
35	EA was requested to ensure that one qualified environment expert is appointed under CP-3 contractor and till then HQ stationed Environment expert shall regularly visit the site for effective environment management	CP-3 Contractor/ APGCL/PMC/ EMC	31 May 2024	Communicated to CP-3 for this arrangement.		
Contract Package -4						
36	EA was requested to ensure permission for tree trimming while stringing of 220 kV transmission line in forest or non-forest areas are obtained timely	CP-4 Contractor/ APGCL/PMC/ EMC	Prior to trimming	Tree cutting permission obtained. Trimming not envisaged so far. <b>Annexure 14.</b>		Closed
37	EA was requested to get the bird divertors installed on recommended sections of (a) 220 kV as per CEA technical specification and updated EMP. Further EA was requested to	CP-4 Contractor/ APGCL/PMC/ EMC	30 June 2024	Procurement process initiated by CP-4.		Outstanding
	(b) send prior information to ADB on the technical specification of bird divertors for guidance, if any required.		15 May 2024	ADB has also commented on the bird divertor design.		Closed
38	EA was requested to ensure first aid refresher training and safety mock drills are conducted	CP-4 Contractor/ APGCL/PMC/ EMC	20 May 2024	Safety mock drill conducted. First aid refresher training will be carried out.		Closed Outstanding



## 7.0 Environmental Supervision and Monitoring Results

### 7.1 Environmental Supervision

Site inspections and audits completed during the reporting period July to December 2024. 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. Joint Site inspections were carried out on the following dates during January to June, 2024.

**Table 9 : Joint Environment site visits carried out by PMC**

Month	Dates	
January	5	21
February	6	18
March	10	29
April	2	19
May	2	30
June	18	29

### 7.2 Quantitative Environmental Monitoring

**Monitoring :** Test of ambient environment of Air, Water, Noise were carried out by the CP-3, CP-2 and CP-1 during Jan to June 2024.

**Table 10 : Test of Ambient Air, Water, Noise, etc carried out by the contractors**

Contract Packages	Air	Surface Water	Ground Water	Noise	Soil	WTP
CP-1	-	-	8 <sup>th</sup> to 16 <sup>th</sup> Apr	-	-	-
CP-2	-	-	-	-	-	10 <sup>th</sup> - 17 <sup>th</sup> Jan
CP-3	2 <sup>nd</sup> to 8 <sup>th</sup> Mar	2 <sup>nd</sup> Mar	4 <sup>th</sup> – 11 <sup>th</sup> Mar	3 <sup>rd</sup> – 5 <sup>th</sup> Mar	11 <sup>th</sup> Mar	2 <sup>nd</sup> Mar
CP-4	-	-	-	-	-	-

- Ambient Noise Monitoring in Table 11 and test reports in Annexure 24.
- Ambient Air Monitoring Results – in Table 12 and test reports are in Annexure 25.
- Surface water Monitoring Results in Table 13 and test reports in Annexure 26.
- Ground Water Monitoring Results in Table 14 and test reports in Annexure 27.
- Soil Monitoring Results in Annexure 15 and test reports are in Annexure 28

## 7.2.A. Ambient Noise Level Monitoring Results

**Table 11. Noise Test Results CP-3**  
(Noise Sampling 3-5 March 2024)  
(No area falls under Residential or Silence area)  
(Test Report in Annexure 24)

CPCB Standard Limit	[dB (A)]		WHO standard limit		Monitoring Dates	Day/ Night	Near Service Bay	Near Valve House	Near Project Camp
	Day 6AM-10 PM	Night 10AM-6PM	Day 6AM-10 PM	Night 10AM-6PM					
Industrial Area	75	70	70	70	Mar-24	Day	61.7	57.6	59.8
Commercial Area	65	55							
Residential Area	55	45	55	45					
Silence Zone	50	40	CPCB more stringent						



Noise Monitoring CP-3

Ambient Air Monitoring

## 7.2.A. Ambient Air Quality Monitoring Results

**Table 12. Ambient Air quality Monitoring Results of CP-3**  
(Air Quality Monitoring Sampling Dates 2-8 March, 2024)  
(Test Reports in Annexure 25)

Parameters	Unit	CPCB Standard Limit (IS 5182)	WHO/ WB/ IFC standard	Near Service Bay	Near Valve House	Near Project Camp
Start Date				02.03.24	03.03.24	04.03.24
End Date				06.03.24	07.03.24	08.03.24
PM 10	( $\mu\text{g}/\text{m}^3$ )	100	50	40.2	38.9	38.6
PM 2.5	( $\mu\text{g}/\text{m}^3$ )	60	25	22.9	27.7	27.8
NO2	( $\mu\text{g}/\text{m}^3$ )	80	NA	12.9	13.9	14.5
HC	( $\text{mg}/\text{m}^3$ )			BDL	BDL	BDL
CO	( $\text{mg}/\text{m}^3$ )	2		BDL	BDL	BDL
SO <sub>2</sub>	( $\mu\text{g}/\text{m}^3$ )	80	20	9.6	10.1	10.6

### 7.2.C. Surface Water Quality Monitoring Results

**Table 13. Surface water results CP-3**  
 CP-1- Sampling Date for 2<sup>nd</sup> March 2024.  
 (Test Results in Annexure 26)

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	Kopili River (Near Service Bay)
		Requirement (Acceptable limit)		River water
pH value		6.5-8.5	6.5-8.5	6.83
Turbidity	NTU, Max	1	1	1.23
TDS	mg/l	No health-based guideline value is proposed	500	19.5
TSS	mg/l			82.3
Oil & Grese	mg/l		0.5	<5
DO	mg/l	No health-based guideline value is recommended	5	4.8
Total Hardness as CaCO3	mg/l		200	57
Calcium as Ca	mg/l		75	23
Magnesium as Mg	mg/l		30	12
Total Alkalinity as CaCO3	mg/l		200	24.2
Sulphate as SO4	mg/l	No health-based guideline value has been derived	200	18.4
Nitrates as NO3	mg/l	50	45	6
Phosphate as PO4	mg/l			<0.02
Salinity	%			0.2
Conductivity	µs/cm			94
Arsenic as As	mg/l	0.01	0.01	BDL
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.95
Total Coliforms Organisms MPN/100 ml	MPN/100 ml		Shall not be detectable	2
Fecal Coliform	MPN/100 ml		Shall not be detectable	Nil
BOD (5 days 20 <sup>0</sup> C)	mg/l		2-3	6
COD	mg/l			47

### 7.2.D. Ground Water quality

**Table 14 : Ground Water Quality Monitoring Results CP-3**  
 Sampling Date for 2<sup>nd</sup> March, 2024 from Bore well.  
 (Test Reports in Annexure 27)

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	Camp
		Requirement (Acceptable limit)		Borewell
pH value		6.5-8.5	6.5-8.5	6.74
Turbidity	NTU, Max	1	1	4.5
TDS	mg/l	No health-based guideline value is proposed	500	59.2
TSS	mg/l			72.5
Oil & Grese	mg/l		0.5	<5
DO	mg/l	No health-based guideline value is recommended	5	5.1
Total Hardness as CaCO3	mg/l		200	137.5
Calcium as Ca	mg/l		75	28.4
Magnesium as Mg	mg/l		30	18.5
Total Alkalinity as CaCO3	mg/l		200	32.5
Sulphate as SO4	mg/l	No health-based guideline value has been derived	200	21.3
Nitrates as NO3	mg/l	50	45	45
Phosphate as PO4	mg/l			<0.02
Salinity	%			0.2
Conductivity	µs/cm			102.3
Arsenic as As	mg/l	0.01	0.01	BDL
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.52
Total Coliforms Organisms MPN/100 ml	MPN/100 ml		Shall not be detectable	2
Fecal Coliform	MPN/100 ml		Shall not be detectable	Nil
BOD (5 days 20 <sup>o</sup> C)	mg/l		2-3	5
COD	mg/l			48

**Table 15 : Ground Water Quality Monitoring Results CP-2**  
 Sampling Date for 8<sup>th</sup> April, 2024 from Borewell.  
 (Test Reports in Annexure 27)

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	Apr-24	Apr-24
		Requirement (Acceptable limit)		Borewell 1	Borewell 2
pH value		6.5-8.5	6.5-8.5	7.4	6.58
Turbidity	NTU, Max	1	1	2.3	4.1
TDS	mg/l	No health-based guideline value is proposed	500	187	28
Total Hardness as CaCO <sub>3</sub>	mg/l		200	180	24
Calcium as Ca	mg/l		75	54.5	6.4
Magnesium as Mg	mg/l		30	10.6	1.9
Total Alkalinity as CaCO <sub>3</sub>	mg/l		200	220	27.5
Chloride as Cl	mg/l	200-300	250	21.7	14.6
Sulphate as SO <sub>4</sub>	mg/l	No health-based guideline value has been derived	200	17.5	8.3
Nitrates as NO <sub>3</sub>	mg/l	50	45	4.3	3.4
Arsenic as As	mg/l	0.01	0.01		
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.165	0.141
TSS	mg/l				
Oil & Grease	mg/l		0.5		
Salinity	mg/l				
Copper as Cu	mg/l	2	0.05	0.038	0.031
Cadmium as Cd	mg/l	0.003	0.003	BDL	BDL
Lead as Pb	mg/l	0.01	0.01		BDL
Zinc as Zn	mg/l	No health-based guideline value is proposed	5	0.192	0.163
Total Chromium	mg/l	0.05		BDL	BDL
Manganese	mg/l	0.4	0.1	0.042	0.028
			<b>CPCB standard</b>		
BOD (5 days 20 <sup>o</sup> C)	mg/l		2-3	<2	<2
COD	mg/l			<5	<5

**Table 16. CP-2 : Quality of WTP**  
(Sampling done on 10.01.2024)  
(Test Results in Annexure 27)

Parameters	Units	Standard limits as per WHO Drinking Water Criteria (mg/L)	IS 10500:2012 Drinking water Specification	Water Treatment Plant Sedimentation Tank
pH value		6.5-8.5	6.5-8.5	7.72
Turbidity	NTU, Max	1	1	<1
TDS	mg/l	No health-based guideline value is proposed	500	45.2
Total Hardness as CaCO <sub>3</sub>	mg/l		200	35.7
Calcium as Ca	mg/l		75	10.8
Magnesium as Mg	mg/l		30	2.3
Total Alkalinity as CaCO <sub>3</sub>	mg/l			24.6
Chloride	mg/l	250	1000	25.1
Sulphate as SO <sub>4</sub>	mg/l	No health-based guideline value has been derived	200	12.4
Nitrates as NO <sub>3</sub>	mg/l	50	45	4.9
Fluoride	mg/l	1	1.5	0.34
Copper	mg/l	0.05	1.5	0.038
Arsenic as As	mg/l	0.01	0.01	BDL
Irons as Fe	mg/l	No health-based guideline value is proposed	0.3	0.156
Lead	mg/l	0.01	No Relaxation	BDL
			<b>CPCB standard</b>	
BOD (5 days 20 <sup>o</sup> C)	mg/l		2-3	<2
COD	mg/l			<5



## 7.2. E. Analysis of soil

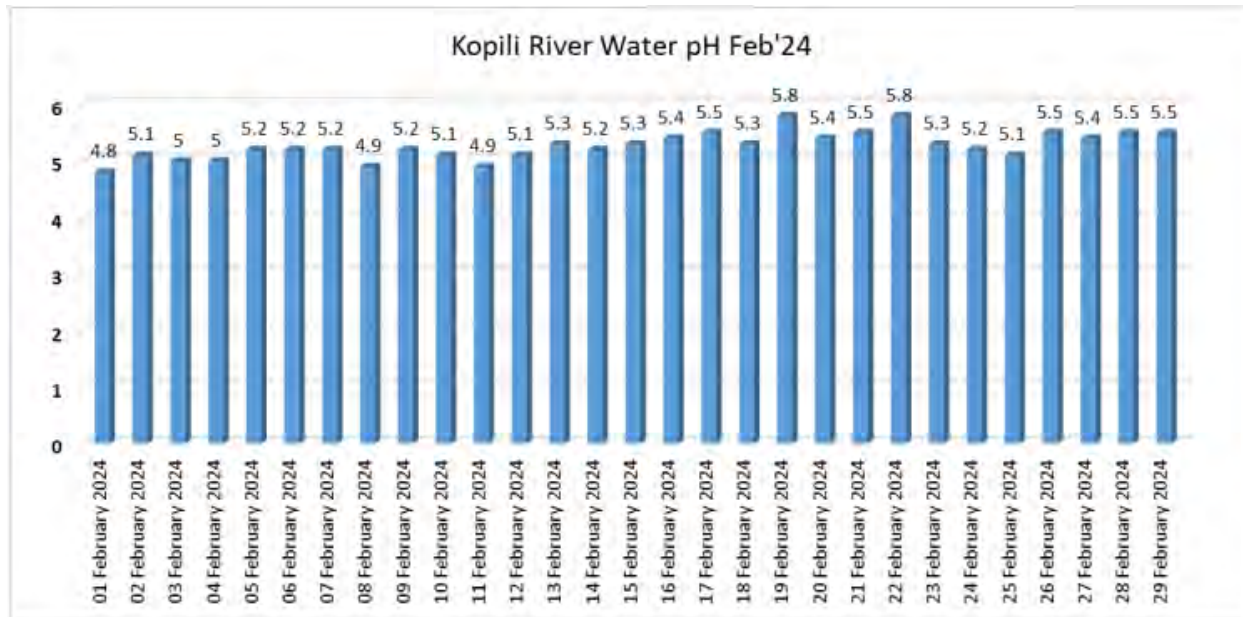
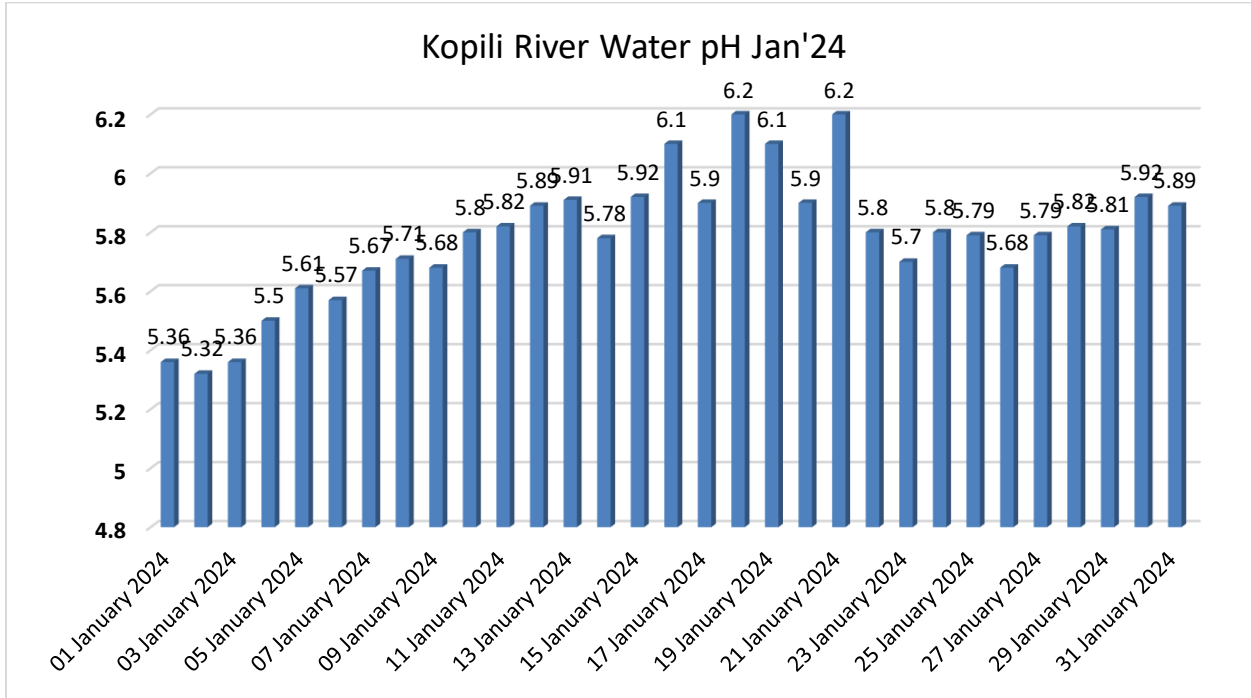
**Table 17 : CP-3 Soil testing results**  
(Date of Sampling : 02.03.2024)

Parameters	Unit	Results
		Near Servive Bay 20.08.2023
pH	--	6.24
Soil Type		Silt highly organic clay
Permeability	Cm/sec	$1.1 \times 10^{-6}$
Sand	%	63.5
Clay	%	13.6
Silt	%	22.9
Nitrogen	kg/ ha	0.068
Phosphorus	mg/kg	9.6
Potassium	mg/kg	12.2
Electrical conductivity	mS/cm	10
Water holding capacity	%	13.5
Organic matter	%	0.58
Organic Carbon	%	4.08
Iron	g/kg	81.5
Copper	mg/kg	3.12
Nickel	mg/kg	3.08
Manganese	g/kg	63.4
Zinc	mg/kg	8.3
Arsenic	mg/kg	4.8
Cadmium	mg/kg	0.02
Lead	mg/kg	0.002
Chromium	mg/kg	<0.02
Aluminium	mg/kg	BDL

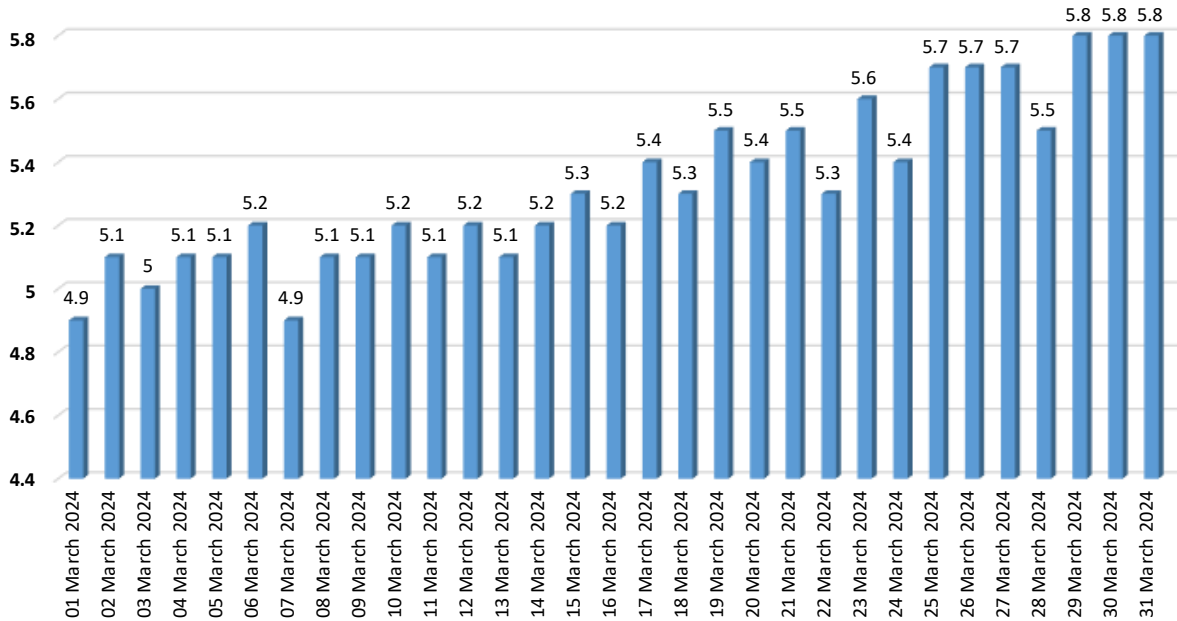
**7.2.F. Monitoring of river water quality :**

pH monitoring of the Kopili River water at dam site are shown in the figure 7.

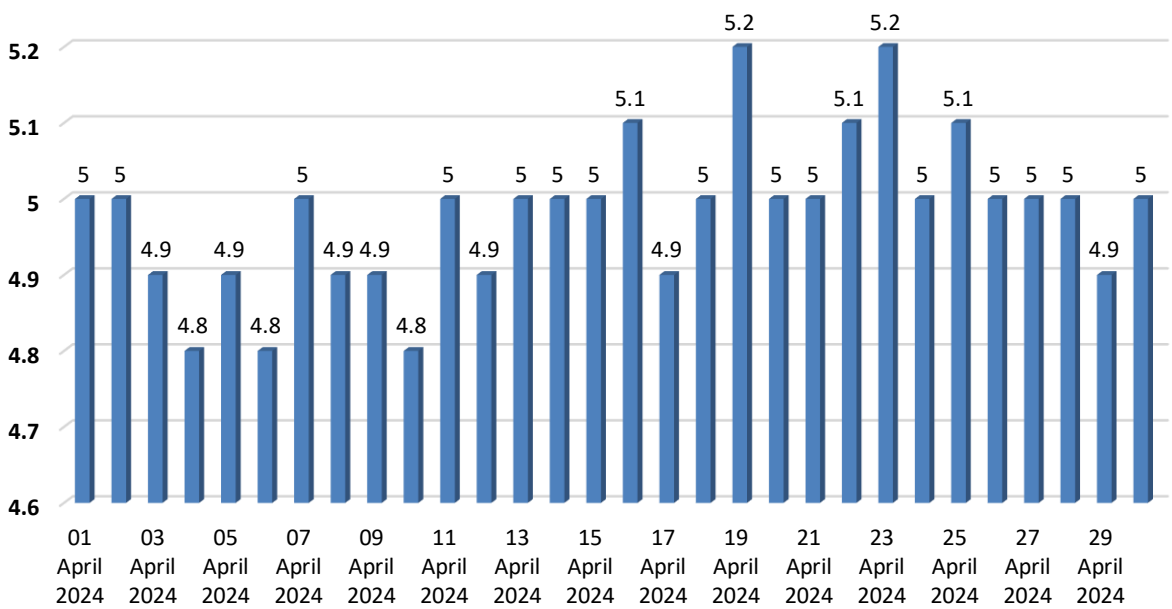
**Figure 7: Monitoring River water pH**



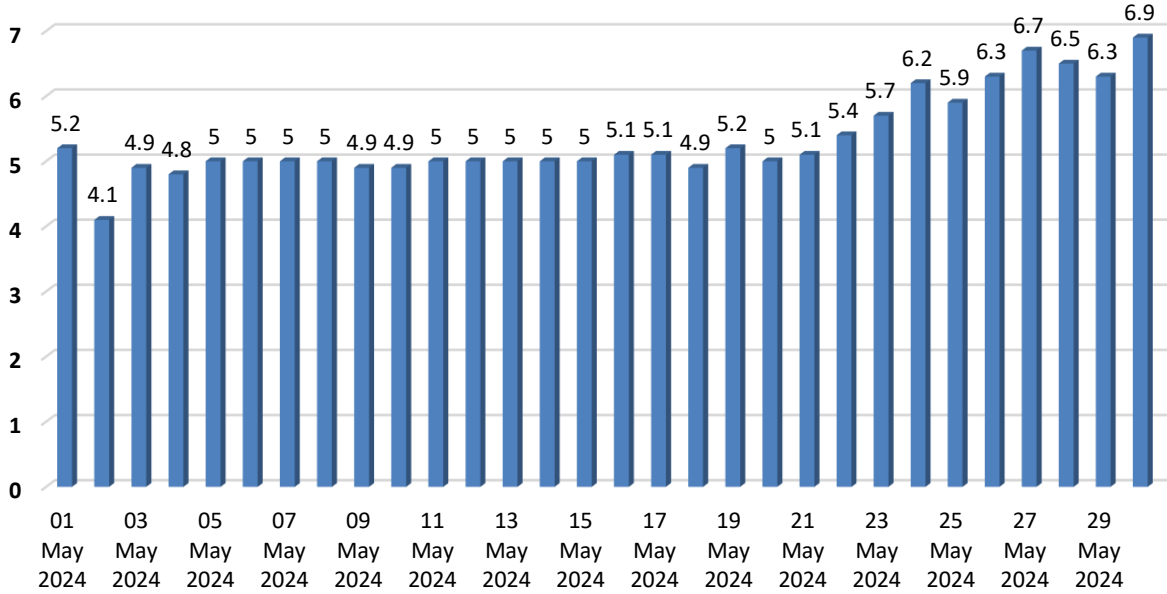
Kopili River Water pH Mar'24



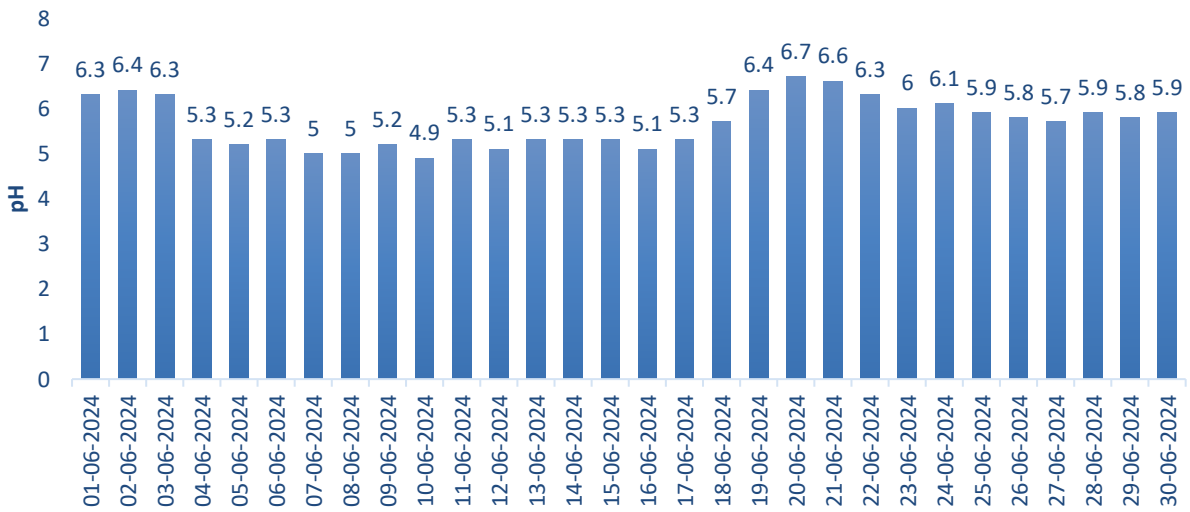
Kopili River Water pH Apr'24



Kopili River Water pH May'24



Kopili River Water pH Jun'24 pH



**Table 18: 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, February- April 2023; Nov to Dec 2023 (CP-1, CP-2, CP-4); January to April 2024 (CP-1, CP-2, CP-3).
		Ambient Air qualities are within prescribed limits of CPCB and IFC norms. Noise level are also within the prescribed limit.
		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; February- April 2023 (CP-1, Cp-2, CP-4) and March, 2024 (CP-3).
		The surface water quality of various sampling stations were found within the standard limits excluding the pH level. As such the water quality may be considered as suitable for various uses. Necessary permissions from the concerned authorities were obtained by the contractors. River water were treated in the water treatment plant before use. Water quality of the WTP is also within the prescribed limit.

## 7.4 Occupational and Community Health and Safety Monitoring

### 7.4. A. Safety Statistics

**Table 19 : Safety Statistics for the Month of January to June 2024**

Month	Work force	LTI	Safety observation	Closed	Non-Work Related Incident	First Aid Cases	Near Miss Reports
CP-1							
Jan 2024	35	0	9	3	0	3	0
Feb 2024	35	0	5	3	0	0	0
March 2024	60	0	3	3	0	1	0
April 2024	40	0	3	3	0	0	0
May 2024	40	0	3	2	0	0	0
June 2024	40	0	1	1	0	0	0
Total	250	0	24	15	0	4	0

<b>CP-2</b>							
Jan 2024	1,221	0	233	233	0	4	1
Feb 2024	1,452	0	272	272	0	6	4
March 2024	1,498	0	229	229	0	5	1
April 2024	1,324	0	187	187	0	5	1
May 2024	1,556	0	154	154	0	3	8
June 2024	1,314	0	158	158	0	4	4
<b>Total</b>	<b>8,365</b>	<b>0</b>	<b>1233</b>	<b>1233</b>	<b>0</b>	<b>27</b>	<b>19</b>
<b>CP-3</b>							
Jan 2024	69	0	12	12	0	01	03
Feb 2024	54	0	06	06	0	01	03
March 2024	65	0	06	06	0	01	01
April 2024	81	0	06	06	0	0	01
May 2024	78	0	06	06	0	0	01
June 2024	84	0	12	12	0	0	0
<b>Total</b>	<b>431</b>	<b>0</b>	<b>48</b>	<b>48</b>	<b>0</b>	<b>03</b>	<b>09</b>
<b>CP-4</b>							
Jan 2024	48	0	8	8	0	0	0
Feb 2024	32	0	5	5	0	0	0
March 2024	30	0	6	6	0	0	0
April 2024	34	0	3	3	0	0	0
May 2024	18	0	3	3	0	0	0
June 2024	12	0	0	0	0	0	0
<b>Total</b>	<b>174</b>	<b>0</b>	<b>25</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>G. Total</b>	<b>9,220</b>	<b>0</b>	<b>1,330</b>	<b>1,321</b>	<b>0</b>	<b>34</b>	<b>28</b>

#### 7.4 B. Non Work Related Accident :-

2 non-work-related accident occurred 16.01.24 and on 17.02.24.

Note :Naresh Oraon died due to Cardio Vascular Accident as per PM report.

On 17.02.24 Mr Bistor Teron met an accident outside the project premises, After treatment he is at home.

#### 7.4. C Safety monitoring through App (CP-2)

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

#### 7.4. D. Fire Extinguisher

**Table 20 : 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.	Lehit 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.	Dju 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.	Kuise 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



Sl .no	Location	Type	Capacity (kg)	No's
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
		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 CP-2



**Measuring bright ness in Lux**



**Gas Monitoring in tunnels**



**Anemometer measure wind speed**



**Speed braker installed all road**

**7.4.E. PUC of the vehicles.**

**Table 21: PUC of the vehicles of CP-2.**

SL No	Asset Description	Old Regn No	New Regn No	PUCC Valid Upto
1	SCORPIO - 2196	BP 2B 4984	AS 08A 2196	31-01-2025
2	SCORPIO - 2540	BP 2B 4981	AS 08A 2540	07-12-2024
3	AMBULANCE	BP 2A 8820	AS 08C 1769	04-09-2024
4	WATER TANKER - 10KL	BP 2A 8339	AS 08C 1778	04-09-2024
5	BUS - 32 SEATER	BP 2A 5197	AS 08C 1779	04-09-2024
6	Bolero Camper	BP 2A 5038	AS08C1855	04-09-2024
7	Bolero Camper	BP 2A 5039	AS08C1854	04-09-2024
8	BUS-57 Seater	BP 2A 5693	AS08C1856	04-09-2024
9	SCORPIO	NA	AS01EP8908	07-06-2025
10	SCORPIO	NA	AS01EP8909	14-11-2024
11	SCORPIO	NA	AS01EP5996	14-11-2024
12	SCORPIO	NA	AS01EQ1244	14-11-2024
13	SCORPIO	NA	AS01EP7097	05-11-2024
14	TIPPER-DIESEL-28T	NA	AS 08C 1794	06-07-2024
15	TIPPER-DIESEL-28T	NA	AS 08C 1797	06-07-2024
16	TIPPER-DIESEL-28T	NA	AS 08C 1793	06-07-2024
17	TIPPER-DIESEL-28T	NA	AS 08C 1791	06-07-2024
18	TIPPER-DIESEL-28T	NA	AS 08C 1808	05-07-2024
19	TIPPER-DIESEL-28T	NA	AS 08C 1807	05-07-2024
20	TIPPER-DIESEL-28T	NA	AS 08C 1795	06-07-2024
21	TIPPER-DIESEL-28T	NA	AS 08C 1790	06-07-2024
22	TIPPER-DIESEL-28T	NA	AS 08C 1812	05-07-2024
23	TIPPER-DIESEL-28T	NA	AS 08C 1796	06-07-2024
24	Bolero Jeep	NL 02CA 0245	NL 02CA 0245	20-08-2024
25	Transit Mixture - 1	WB893187	Under Process	07-05-2025
26	Transit Mixture - 2	WB893188	Under Process	07-05-2025
27	AMBULANCE-2	NA	AS 08C 2276	07-05-2025
28	BUS - 32 SEATER	NL 02B 2626	AS 08C 2619	08-11-2024
29	Wheel Loader	BP 2A 8353	AS 08A 5179	04-09-2024
30	Eicher DCM Truck	BP 2A 8097	AS 08C 3134	04-03-2025
31	Bolero Camper	BP 2A 5040	AS 08C 3135	04-03-2025
32	DIESEL TANKER	BP 2A 5206	AS 08C 3136	04-09-2024
33	Motor Grader	RJ09EA3087	Under Process	22-08-2024
34	BACKHOLE LODER	MH-01- EF-3418	Under Process	07-11-2024
35	LODER	KA04MZ4442	Under Process	03-12-2024
36	TRANSIT MIXTURE	MH-08AP3831	Under Process	20-07-2024
37	TRANSIT MIXTURE	MH-08AP-3832	Under Process	15-07-2024
38	TRANSIT MIXTURE	AP31TFC6286	Under Process	18-02-2025
39	TRANSIT MIXTURE	MH46CM6744	Under Process	15-07-2024
40	BOOM PLASER	MH08BE0050	Under Process	16-10-2024

## 8. Training

Details of the Trainings are given below.

**Table 22: 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)

**Table 23: CP-2 - Training done during January, 2024**

Sl. No.	Date of Training	Topic/Subject
1	04.01.2024	Refresher EHS Leadership and Risk management training
2	05.01.2024	Refresher EHS Leadership and Risk management training
3	06.01.2024	Refresher EHS Leadership and Risk management training
4	10.01.2024	Work at Height
5	13.01.2024	Dam Construction Safety for Staff
6	13.01.2024	Dam Construction Safety for site appointed supervisors, JV partner, sub-contractor supervisors
7	13.01.2024	Tunnel Safety (staff)
8	13.01.2024	Tunnel Safety (Workman)
9	16.01.2024	Rigger and Crane Safety Training
10	18.01.2024	Electrical Safety
11	20.01.2024	Front Line Supervisor EHS Training (site appointed supervisors, JV partner, sub-contractor supervisors)
12	25.01.2024	P&M Safety
13	28.01.2024	Welding and Cutting Training (Staff)
14	28.01.2024	Welding and Cutting Training (Workmen)
15	28.02.2024	Safety on Radiography (Staff)
16	28.02.2024	Safety on Radiography (Workmen)

**Table 24: CP-2 Training done during February, 2024**

Sl. No.	Training Date	Topic
1	02.02.2024	Electrical Safety
2	03.02.2024	Underground / Tunnel Safety for staff, Supervisors, etc.
3	06.02.2024	Work at Height for Staff, Supervisor, etc.
4	08.02.2024	Underground Safety for Workmen
5	10.02.2024	Work at Height Workmen
6	12.02.2024	Dam Construction Safety for staff, site appointed supervisors, JV partner, sub-contractor supervisors
7	14.02.2024	Dam Construction Safety for Workmen
8	16.02.2024	P&M Safety
9	18.02.2024	Rigger and Crane Safety Training
10	20.02.2024	Safety on Bar bending and Bar Cutting
11	22.02.2024	Comprehensive Waste Management Training (Hazardous Waste & Food Waste)
12	24.02.2024	Work at Height for workmen
13	26.02.2024	Environment Management
14	28.02.2024	Welding and Cutting Training
15	29.02.2024	Fire Safety Measures

**Table 25 : CP-2 Training done during March, 2024**

Sl. No.	Training Date	Topic
1	01.03.2024	Comprehensive Waste Management Training
2	02.03.2024	Underground/Tunnel Safety
3	05.03.2024	Construction Safety
4	07.03.2024	Work at Height
5	07.03.2024	Safety on Crusher Plant operation
6	08.03.2024	Safety on Bar bending and Bar Cutting
7	10.03.2024	Electrical Safety
8	12.03.2024	P&M Safety
9	18.03.2024	Rigger and Crane Safety Training
10	20.03.2024	Environment Management
11	21.03.2024	Emergency Responding and AED Demonstration
12	24.03.2024	Electrical Safety
13	28.03.2024	Work at Height
14	29.03.2024	Work at Height
15	30.03.2024	Welding and Cutting Training

**Table 26 : CP-2 Training done during April, 2024**

EHS Training Details		
Sl. No.	Training Date	Topic
1	03.04.2024	Work at Height
2	05.04.2024	Safety on Dam Construction
3	06.04.2024	Welding and Cutting Training (Workmen)
4	08.04.2024	Work at Height
5	09.04.2024	Safety on Bar bending and Bar Cutting
6	11.04.2024	Underground Electrical Safety
7	14.04.2024	Safety while Tunnel Lining Gantry Concreting
9	16.04.2024	Formwork
10	24.04.2024	Formwork
13	28.04.2024	Work at Height

**Table 27 : CP-2 Training done during May, 2024**

EHS Training Details		
Sl. No.	Training Date	Topic
I.	02.05.2024	Rigger and Crane Safety Training
II.	03.05.2024	Work at Height
III.	04.05.2024	Safety Measures on Dam Construction
IV.	06.05.2024	Grinding, Welding and Cutting Training
V.	08.05.2024	Electrical Safety
VI.	09.05.2024	Safety on Bar bending and Bar Cutting
VII.	11.05.2024	Fire Safety Measures
VIII.	13.05.2024	P&M Safety
IX.	14.05.2024	Safety while Tunnel Lining Gantry Concreting
X.	16.05.2024	Material Handling & Crane safety
XI.	20.05.2024	Environment Management
XII.	21.05.2024	Comprehensive Waste Management Training (Hazardous Waste and Food Waste)
XIII.	24.05.2024	Formwork
XIV.	27.05.2024	Use of PPEs & Housekeeping

**Table 28 : CP-2 Training done during June, 2024**

Sl. No.	Training Date	EHS Training Topic / Program Details
I.	01.06.2024	Usage of PPEs
II.	03.06.2024	Environment Management
III.	04.06.2024	EHS-Subcontractor Management Training
IV.	06.06.2024	Training on Hot working like Grinding, Welding, Cutting, etc.
V.	08.06.2024	Electrical Safety
VI.	10.06.2024	Safety measures during Bar bending, Bar Cutting, etc.
VII.	11.06.2024	Housekeeping
VIII.	13.06.2024	P&M Safety
IX.	14.06.2024	Fire Safety Measures
X.	17.06.2024	Material Handling, Rigging & Crane safety
XI.	20.06.2024	Work at Height
XII.	21.06.2024	Comprehensive Waste Management Training (Hazardous Waste and Food Waste)
XIII.	24.06.2024	Safety measures during working inside Tunnel
XIV.	27.06.2024	About New procedures & standards briefing



Conducting Several Training Programs



CPR Demonstration and First aid training



Onsite Training – Construction Safety Measures



Prestart Briefing at site



Environment Awareness training (Mar, 24)



Virtual Reality training

Training attendance sheets CP-2:

L&T Construction New City Managers		Environment, Health & Safety Integrated Management System Manual		IM Format No.11K	
Trainer:		Training Activity: <i>Welding &amp; Gas Cutting</i>			
Venue: <i>Ind Hall</i>		Date: <i>30.09.2029</i>			
		Duration: <i>2 hr</i>			
S.No	Ps No	Name	Dept	Department	Signature
1		<i>Hemant Shaktin</i>			<i>Hemant Shaktin</i>
2		<i>Dulabhai Daga</i>	<i>H/PS</i>		<i>[Signature]</i>
3		<i>Navrajit Dale</i>	<i>H/PS</i>		<i>[Signature]</i>
4		<i>Vishal Dale</i>			<i>[Signature]</i>
5		<i>Lakshmi Dandekar</i>			<i>[Signature]</i>
6		<i>Daburpurnika</i>			<i>[Signature]</i>
7		<i>Rajesh Desai</i>			<i>[Signature]</i>
8		<i>Bhadranshwar Jangam</i>			<i>[Signature]</i>
9		<i>Rajiv Marak</i>			<i>[Signature]</i>
10		<i>Paharaj Rastogi</i>			<i>[Signature]</i>
11		<i>Kanki Patil</i>			<i>[Signature]</i>
12		<i>Jaydeep Bhatnagar</i>			<i>[Signature]</i>
13		<i>Bhikraj Kumbhar</i>			<i>[Signature]</i>
14		<i>Hirak Jadhav</i>			<i>[Signature]</i>
15		<i>Mihir Patil</i>			<i>[Signature]</i>
16		<i>Anil Patil</i>			<i>[Signature]</i>
17					
18					
19					
20					
Signature of Trainer		Signature of DSO			



Training ID: 202307  
 Trainer: N. Devi  
 Task: Walk of Sight  
 Venue: J. and Hill  
 Date: 22.05.2023  
 Duration: 2 hrs

S.No	PL No	Name	Designation	Department	Signature
1		Arundhan Namb	Helper		Arundhan Namb
2		Krishnan	Helper		Arundhan Namb
3		Arundhan Namb	Helper		Arundhan Namb
4		Pratik Thakur	Supervisor		Arundhan Namb
5		Leban Namb	Helper		Arundhan Namb
6		Arundhan Namb	Helper		Arundhan Namb
7		Arundhan Namb	Helper		Arundhan Namb
8		Arundhan Namb	Helper		Arundhan Namb
9		Arundhan Namb	Helper		Arundhan Namb
10		Arundhan Namb	Helper		Arundhan Namb
11		Rajan Taid	Helper		Rajan Taid
12		Narasimhan Taid	Helper		Narasimhan Taid
13		Arundhan Namb	Helper		Arundhan Namb
14		Rajesh Patti	Helper		Rajesh Patti
15		Arundhan Namb	Helper		Arundhan Namb
16		Arundhan Namb	Helper		Arundhan Namb
17		Arundhan Namb	Helper		Arundhan Namb
18		Arundhan Namb	Helper		Arundhan Namb
19		Arundhan Namb	Helper		Arundhan Namb
20		Arundhan Namb	Helper		Arundhan Namb

Signature of Trainer: \_\_\_\_\_ Signature of OHS: \_\_\_\_\_

Training Attendance  
 Trainer: N. Devi  
 Task: Walk of Sight  
 Venue: J. and Hill  
 Date: 28.05.2023  
 Duration: 5 hrs

S.No	PL No	Name	Designation	Department	Signature
1		Rajendra Pappu	Crane	Arundhan Namb	Rajendra Pappu
2		Manikandan Patti	Helper	Arundhan Namb	Manikandan Patti
3		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
4		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
5		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
6		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
7		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
8		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
9		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
10		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
11		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
12		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
13		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
14		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
15		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
16		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
17		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
18		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
19		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb
20		Arundhan Namb	Helper	Arundhan Namb	Arundhan Namb

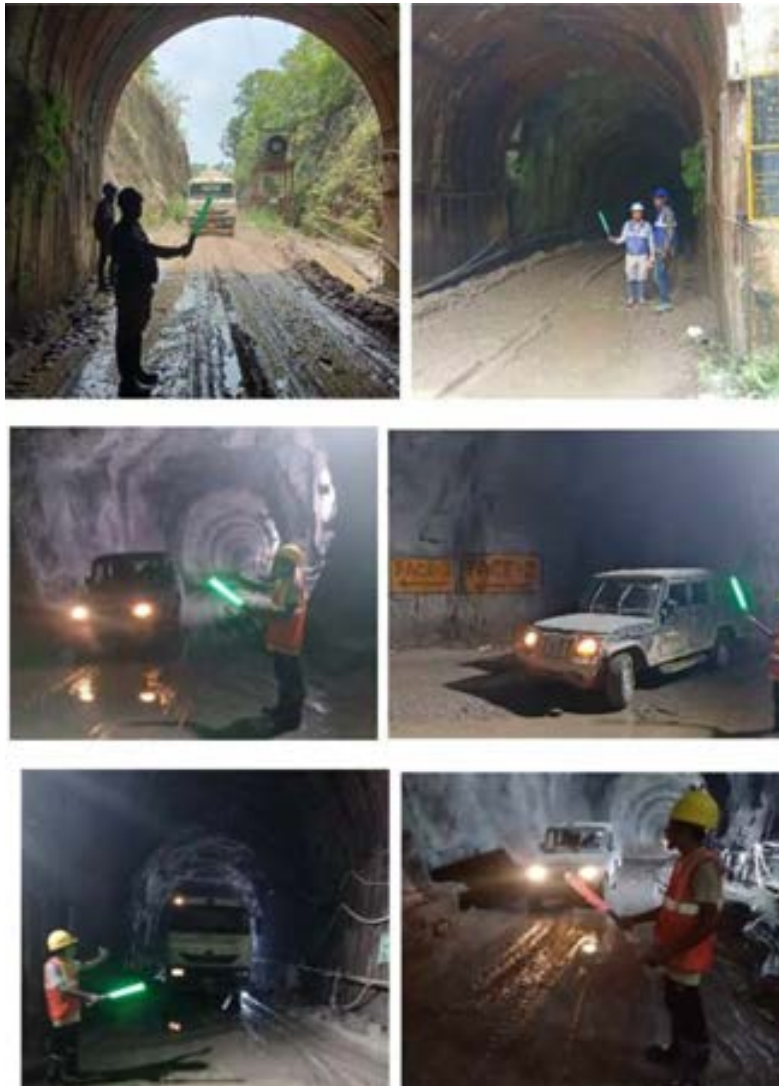
Signature of Trainer: \_\_\_\_\_ Signature of OHS: \_\_\_\_\_

**CP-2 Safety Good Practices**

Daily Pre-deployment alcohol consumption checking of the workers, operators, etc. by the Breathalyzer



Vehicle Control Measures inside Tunnels



Transportation facilities between Project sites & Colony



For identification and to avoid unauthorized operation, Job specific reflective jackets are being using for different workmen categories like welder, gas cutter, grinder, etc.



Mock drill conducted “Worker blocked inside UPS tunnel” on 6th May 2024 to review the followings:

- Response of workers.
- Emergency preparedness
- Evacuation time taken, etc.

Lastly “on spot training” had been organized above the purpose of Mock drill



Mock drill on Fall from height at Powerhouse Site



Third Party Inspections are being carried out for all kinds of Lifting appliances, Tools & tackles, Man baskets, etc. to fulfill the legal requirements (sample TPI attached).

**Sarapan K. Datta**, 8, East-Block, 401  
 Chartered Engineer (Regd. No. 4434705-4)  
 Competent Person Approved by  
 Chief Inspector of Factories, Assam

Ad: 20/07/2024/2104/ERT-4/24/01 Date: 22/07/24

**STRENGTH CERTIFICATE**

The Man Basket, ID. No - Man Basket - 1 of LARSEN AND TOUBRO LIMITED, 120 MW LOWER, Kapti HEF, Langtu, Pin - 788331, Dist. - Dimahasoo (Assam). Made from ISAB 100, load bearing cap- 300 kg has been verified & Checked by us on 01.03.2024. & found in order as per material strength and load holding capacity as follows:-

- 1. Load holding capacity - 300 kg
- 2. Bottom-plate - 4mm
- 3. Channel - 75mm x 75mm
- 4. Basket dimension - 2500mm x 1500mm x 2000mm.

This Certificate is valid for Six (06) Months i.e. 01.03.2024.

Annexure Drawing - 1 (Attached).

Conditions:-

- 1. Man Basket to be fixed rigidly with adequate strength of Wire Rope / Sling when it is hoisted with structure with taking proper safety guideline.
- 2. Person safety precaution to be take top priority.

(Er. Sarapan K. Datta)  
 Chartered Engineer  
 (Regd. No. - 4434705-4)

M. S. S. Seng & Co. Chartered Engineers  
 8, East-Block, 401  
 20/07/2024/2104/ERT-4/24/01  
 Chief Inspector of Factories, Assam

OFFICE - House No. 275A, Cross-Corridor, Zoo-Road, Dispur, Assam 781002  
 E-mail: sarapank@rediffmail.com  
 Website: sarapank.com

Regular Fogging for mosquitos' control



EHS Initiative – Eye Wash Facility



First aid Box installed all site location



AED Facility provided



CP-3: Hazard Report Card (Sample)



R SE HSE 002/8

**Hazard Report Card**

**Filled out by everyone:**

Please use this card to report any hazard, near-miss incident or unsafe practice that you have observed on this site.	
Date and time:	31-01-2024, 09:40 PM
Name:	Site Observation (UA/UC)
Location on site:	EOT Crane (Power house) unit#01 and unit#02
Observation:	<ol style="list-style-type: none"> <li>1. The high voltage wire has been cut by another agency and wire at a similar put on site which is very high risk</li> <li>2. Pressurized gas cylinders laying on ground without any fall protection for cylinders, No trolley, No covered location:: power house.</li> <li>3. Empty wooden box are found at workplace area at in front of unit-1</li> <li>4. Found electrical DB not free from obstruction with proper working space , without lock , Rubber matt missing</li> <li>5. Disposed the wastage segregation</li> <li>6. Flammable materials kept inside of site store</li> <li>7. Empty wooden box are found at workplace area at in front of unit-1</li> <li>8. Fail to maintain housekeeping.</li> <li>9. While working at height two workers were seen working without full body harness at height.</li> <li>10. Electrical power supply cable found laying on water and poor insulation on cable joints at U2 DT Cone entrance area</li> </ol>

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<p>The high voltage wire has been cut by another agency and wire at a similar put on site which is very high risk</p>	<p>Pressurized gas cylinders laying on ground without any fall protection for cylinders, No trolley, No covered location:: power house.</p>	<p>Found electrical DB not free from obstruction with proper working space , without lock , Rubber matt missing</p>
---	---	---





Empty wooden box are found at workplace area at in front of unit-1



According to supervision fail to maintain house keeping poor housekeeping at working at site.



Flammable materials kept inside of site store



according to supervision without lifeline workers are engaged in job at height of 10 M.



Without estimating the weight while unloading hen the load was lifted the sling were slipped.



Two workers found without helmet strip at working area



Electrical power supply cable found laying on water and poor insulation on cable joints at U2 DT Cone entrance area.



While working at height two workers were seen working without full body harness at height.



Non-standard laddar engaged in job unit-2.

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### Root Cause Analysis and Improvement

Filled out by Safety Officer: Vikram kumar roy

Cause of accident / incident		
<input type="checkbox"/>	Defective machine, equipment	<input checked="" type="checkbox"/> Lack of attention
<input type="checkbox"/>	Sudden fracture of a component	<input type="checkbox"/> Lack of resources
<input type="checkbox"/>	Missing / defective protective equipment	<input type="checkbox"/> Lack of information
<input type="checkbox"/>	Unexpected chemical reactions	<input type="checkbox"/> Stress, fatigue, pressure of time
<input type="checkbox"/>	Lack of coordination	<input type="checkbox"/> Loss of attention
<input type="checkbox"/>	Lack of communication	<input type="checkbox"/> Order / Cleanliness
<input type="checkbox"/>	Over-estimation of own capabilities	<input type="checkbox"/> Phenomena of nature
<input checked="" type="checkbox"/>	Wrong process / method	<input type="checkbox"/> Cause unknown
<input type="checkbox"/>	Wilful intent	<input type="checkbox"/> Others
Detail:		
Safety measure:	Person responsible:	Date:
<ol style="list-style-type: none"> <li>immediately inform electric department to take corrective action</li> <li>Immediately removed from the site</li> <li>Immediately inform electric department to take corrective action</li> <li>Machine guard &amp; tagged must be ensured before starting work</li> <li>Immediately stop the work and provided housekeeping</li> </ol>	Mr. R Ram Kumar/ Mr. Anurag Sharma	31.01..2024

ENGINEERED SUCCESS

Distribution List

Supervisor : Mr.Anurag Sharma

Site Manager : Mr.R.Ramkumar





### SAFETY INDUCTION FOR NEW WORKER

Project Name	Lower Kopili Hydro power project, Lanku (Assam)		
Date	02/01/24 - to 20/01/24.	Time	9:00 am.

S. No.	Topic	S. No.	Topic
1	Emergency alarm procedure/assembly point.	12	Welfare: No eating at site, site canteen and toilet arrangement.
2	Smoking Policy & designated smoking place	13	Basic PPEs requirement, Safety Shoes, helmet & reflective jacket.
3	First Aid arrangement at site.	14	No music while at site.
4	Access restrictions detail any areas which are out of bounds.	15	Security arrangements and right of search etc.
5	Prohibition Rules (Child labor, alcohol, arms, drugs)	16	Material storage & waste disposal arrangements and housekeeping.
6	Hazard reporting procedure.	17	Permit to work describe procedure
7	Entry routes to site gives detail for both pedestrian/vehicle routes.	18	Use of PPEs as PPE matrix. (Safety harness, gloves, mask, glasses)
8	Accident and incident reporting procedure including near miss incident.	19	Fire prevention location and type of fire fighting equipment
9	Disciplinary action for safety related failing.	20	No use of mobile while working at site.
10	Use of scaffolding only after approval	21	Client specific rules, if any.
11	Basic Safety Rules (no horse play, no damaged wire, no naked wire, no cable tray as ladder, and guard at grinder.)	22	Authorization required for hydra operation, lifting and electrical power tools etc.

Safety Induction training imparted by:

Name & Signature:

Vijayan Kumar Roy.

## CHECK LIST FOR GAS CUTTING SET

PROJECT: - *POCOASTHOURC* LOCATION: *UKHEP (HSSM)* DATE: *22/01/24*



SL NO	CHECK ITEMS	Y	N
1	Protective valve cap firmly fixed for both cylinder(Check for damage/crack in the valve cap)	Y	
2	Pressure gauges two for each cylinder(inlet & out)are in working condition(both Oxygen & Acetylene gas)	Y	
3	Flash back arrestor (FBAs) is provided for acetylene & oxygen cylinders	Y	
4	Non return valves (NRVs) is provided for both acetylene & oxygen cylinders.	Y	
5	Tight Crimping of hoses with jubilee clamps.	Y	
6	Hose free from damage(cut and cracks )	Y	
7	Cylinder secured by chain to the trolley.	Y	
8	Trolley tire shall be free from damages.	Y	
9	Availability of industrial type lighter (no match box / commercial lighters).	Y	
10	Cutting area Should be barricaded and warning boards to be displayed.	Y	
11	Cutting area shall be free from debris and flammable materials.	Y	
12	Availability of PPE (Cutting Goggles, Leather gloves Etc.)	Y	

Comments If any:

Signature of site safety incharge

Signature of site engineer/incharge

## CHECK LIST FOR FIRE EXTINGUISHER

PROJECT: LKHEP

LOCATION: Power H. Unit-2 DATE: 29/01/24



SL NO	CHECK ITEMS	Y	N
1	Condition of the extinguisher (Clean and Tidy)	Y	
2	Physical appearance for corrosion.	Y	
3	Safety pin in position	Y	
4	Condition of discharge nozzle (any blockage/damage)	Y	
5	Condition of hose (any leakage/broken)	Y	
6	Weight of the extinguisher (Should be match with actual weight written in the body)	Y	
7	Availability of visual board.	Y	
8	All the indicator gages (where fitted) in green segment (not to be red)	Y	
9	Extinguisher is not expired or refilled before refilled date	Y	

Comments If any:

All observation has been clear.

Signature of site safety incharge  
 29/01/24

Signature of site engineer/incharge



R SE HSE 002/9

### HSE Training / Tool Box Talk

Site:	LKHEP, Lanku (Assam)	Date:	02/01/24 <del>02/01/24</del>
Company / Department:	AHPL/ MKS Engineering	Duration:	25 minutes.
Location	site office.		
Subject:	Electrical hazards.		
Trainer / Supervisor:	Moujal Panig.	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.

Company	Name	Designation	Signature
MKS eng-	Shiva Kurami	Rigger	
	Jadei Dihingpa	A	J.D
	Debdal wawisa		
	Rajesh Sharma	Fitter	Rajesh
	SURAJAM PRAKASH	Fitter	
	Ashut -u	scmiser	Ashu
	Siman Soti Boro		
	Finas Koo		F. Koo
	Hemanti Taton		
	Aprijit Langthasa	Office Asst.	A. Langthasa
	Baredeb Jhanj	Rigger	B. Jhanj
	Buddhadev Karan	'	B. Karan
	Gouram Adhikari	'	G. Adhikari
	VJAY Singh	welder	Vijay Singh
	AJAY SINGH	welder	Ajay Singh

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R SE HSE 002/9

Company	Name	Designation	Signature
	Dhanraj Singh		
MKS	Arish Singh	Filter	
	Bobul Babha		Bobul Babha
	Ankur Deka	Electrician	
	Mithun Roy	Hydropt	

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R SE HSE 002/9

### HSE Training / Tool Box Talk

Site:	LKHEP, Lanku (Assam)	Date:	08/06/2024
Company / Department:	AHPL/ MKS Engineering	Duration:	10 minutes
Location	Switch Yard.		
Subject:	Manual handling.		
Trainer / Supervisor:	Lipman Raj	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.

Sl no	Company	Name	Designation	Signature
1	M/S	Gopinath Deka	G. MAN	
2	M/S	Rishi Chhabra		
3	Co. ID	Bhupendra Deka	S.S.	
4	"	Wilton Sangma	S.S.	Wilton
5	"	Suman Basumatary	welder	Suman
6	"	Jiten Ronggar	"	Jiten Ronggar
7	"	Utpal Wason	office Ast.	
8	"	Bikash Thozar	Helper	
9	"	Aprojit Langthasa	Store Asst	
10	"	Mithun Raj	O.R.T	
11				
12				
13				
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15				
16				
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20				
21				

ENGINEERED SUCCESS



Location: Lower Kopili HEP (55X2)		Product and Components: Hydro Statics Test (up to 27.2 Bar)								
Location: PH Unit-1		Hydrostatic Test								
Processes:		4 + 8								
Number of employees: (Andritz+MKS)		Pressure Gauges, Hydraulic pump machine, Water inject								
Machinery / equipment / tools:		Hydro statics Test, Work at height								
Hazardous substances:										
Author: Rohit Rajbhar		Date: 06.02.2024	Revision:					Review HSE Advisor: Mr. R. Ram kumar		
Abbreviations: App (Applicable) = Hazards Identified Impl. (Implemented) = measures implemented										
App.	Hazard	What potential harm and to whom	Likelihood	Potential Consequences	Initial Risks	Standard Safety Measures according R/HY HSM 001/1 Basic Health, Safety and Environmental Rules/ Local implementation and details to the safety measures, comments, applicable tool & templates	Likelihood	Potential Consequences	Residual Risks	Impl.
√	Unsafe Workspaces	Major injuries, Fatal death due to insufficient safety measurements	Likely	Major	High	Create safety plan for the location Utilize Andritz basic safety rules Working areas and traffic zones must be barrier-free Clean and organized workspaces First aid equipment within reach Emergency plan and emergency numbers within reach Instruction for workers Emergency vehicle must be available to control any emergency condition Emergency Contact number must be displayed. Risk assessment strictly followed.	Unlikely	Moderate	Low	<input type="checkbox"/>
√	Catastrophic rupture or leak sudden violent movement	Major injuries, Fatal accident due to insufficient safety measurements	Likely	Severe	High	Safety plans (if necessary) Access control to the work areas Supervision of an area situation Only the involve personal should be at testing area Adhere the proper personal protective equipment as per the PPE's matrix. Issue the work permit, & follow the advise which are mentioned. Mechanical connection must be installed and tightened complete as	Likely	Moderate	Medium	<input type="checkbox"/>
√	Machines/machining activities	Injury due to damaged equipment	Likely	Moderate	Medium	Check for obvious faults before usage Repeat tests regarding legal requirements Cautioned off the testing areas. Gauges must be periodically, and this calibration must be documented. Method of calibration should be with a calibrated master gauge or standard deadweight tester. The gauge must have an indication range of not less than 1.5 and not more than 4 times the test pressure	Unlikely	Minor	Low	<input type="checkbox"/>
√	Leakage may immediate catastrophic	Death or serious injuries	Likely	Major	High	Keep the all employees at safe distance & away from the test area Non essential personnel should be kept clear of test area During test No over head work should be execute. During test there should no sound or hammering, jarring work execute.	Unlikely	Moderate	Low	<input type="checkbox"/>

0				
<b>Project name: LKHEP 120MW, Lanku (Assam)</b>				<b>ANDRITZ Hydro</b>
<b>MINUTES OF MEETING</b>				
Subject	HSE Monthly Committee Meeting		Meeting No.	3
Date	28.06.2024/18:00	Venue	Project office Andritz	
Conducted By : Sh. R Ram Kumar (Site Manager)				
Sr.	Discussion Point	Action by	Responsibility	Remarks
1	Requires tag for fire extinguisher which must be water proof	MKS Site Manager	HSE Representative (Vikram, MKS)	open
2	Must arrangements proper ladder/scaffolding for Servicebay/power house working area purposes. (10Meter height mobile scaffolding moveable aluminium ladder)	MKS Site manager	Pradeesh Nair (MKS Site manager)	open.
3	An emergency vehicle must be on site as long as workers are on the job	MKS Site Manager	MKS Site Supervisor, MKS Site Manager	Pending.
4	First aid box must available at site as per standard with all items ASAP.	MKS Site Manager	MKS, HSE Officer	Immediate Basic.
5	There is no rubber mat (1m x 1m) under the electrical main panel and use power cable protection must be implements	MKS Site Manager	MKS Site Supervisor	Pending.
6	Must provided proper PPE to working crew and report submitted by the contractor HSE monthly basis. Its also visually check by AHPL. Concern authority.	MKS Store Incharge	Store incharge and HSE Officer, MKS	Pending
7	Site time table should be fixed. workers should reach the site at 8.am.	MKS Site Manager	MKS Site manager	open
8	Fire Blankets should be used on hot job to protect the site from fire.	MKS Site Manager	MKS Site manager	open
9	List of holiday update	MKS Site Manager	MKS Site manager	open

For MKS

For AHPL





# CP-4 : Health and Safety

Health Check-up Camp :- (16-04-2024) (Record with photographs will attach):- 15 Nos..



**SALABAR** Certificate of Medical Examination  
T/L Projects

**CERTIFICATE OF MEDICAL EXAMINATION**

Name: Mohit Mohsain Date: 26/04/24  
 Address: Mt. Egul, Mayur Gender: M  
 Occupation: Contractor in Civil Eng. Work Age: 28  
 Residential Address: Mohda (W.B.) Contact No: 9890781339

**DECLARATION**

I hereby declare that I have voluntarily submitted myself for medical examination and I have given all the necessary information and details as asked for in the above form and I have given all the necessary information and details as asked for in the above form and I have given all the necessary information and details as asked for in the above form.

**EXAMINATION**

Heart Disease	<input type="checkbox"/>	Eye, Nose and Throat Exam	<input type="checkbox"/>
Diabetes	<input type="checkbox"/>	Respiratory System Exam	<input type="checkbox"/>
Hypertension	<input type="checkbox"/>	Circulatory System Exam	<input type="checkbox"/>
Arterio Sclerosis / Lung Disease	<input type="checkbox"/>	Nervous System Exam	<input type="checkbox"/>
Tuberculosis	<input type="checkbox"/>	Genitourinary System Exam	<input type="checkbox"/>
Cholelithiasis / Gall Stones	<input type="checkbox"/>	Genitally-urinary System Exam	<input type="checkbox"/>
Cholelithiasis / Pancreatic / Cholelithiasis	<input type="checkbox"/>	Any other injury	<input type="checkbox"/>
Cholelithiasis / Digestive System	<input type="checkbox"/>	Any other injury	<input checked="" type="checkbox"/>
Respiratory	<input type="checkbox"/>	Any physical disability	<input type="checkbox"/>
Other Diseases	<input type="checkbox"/>	Any other	<input type="checkbox"/>

**EXAMINATION**

Height: 160 cm Weight: 72 kg Blood Pressure: 120/80 mmHg Sugar Level: 115  
 Heart Rate: 72 / min Vision: 6/6

**Remarks:**

1. No abnormality detected in the above examination.  
 2. No abnormality detected in the above examination.  
 3. No abnormality detected in the above examination.

Signature of the Candidate: Mohit Mohsain  
 Signature of the Medical Officer: Mohit Mohsain

**NOTE:**

- Each candidate of above physical disability should be clearly marked.
- Functional / productive disability should also be stated if disability is present.

**LABORATORY CHANDNI**  
KHEROMA, KARBIANGLONG ASSAM

Lab. No: 9078018403 Date: \_\_\_\_\_

Name: Nisim Hostrain Sex: M Age: 41 Yrs

Address: \_\_\_\_\_

Referred by Dr: \_\_\_\_\_

**BLOOD REPORT**

DIAGNOSIS RESULT	NORMAL REPORT
<b>HAMEMATOLOGY</b>	<b>SEROLOGY</b>
T.C (WBC) 4000-10000 /cumm	1 A.S.D. Grouping
D.L.C	2 RAI (I) Factor
Polys 55-65%	3 VORL
Lympho 25-35%	4 A.S.O. Test
Monos 3-8%	5 C.R.P
Eosin 0-1%	6 Rheumatoid Factor
Baso 2-7%	7 HIV
E.S.R. M 0-5mm in 1st hour	8 Widal Test
F 0-20mm in 1st hour	
Hb% M 12-16 gm%	
F 11.5-15.5 gm%	
Platelets 1.5-3.5 lakh/cumm	
T.R.S.C 40-55 million /cumm	
S.T 2-5 Mnt	
C.T 3-8 Mnt	

**BIO-CHEMISTRY**

S. Glucose (Fasting)	70-110 mg/dl
S. Glucose (PPV)	80-140 mg/dl
S. Glucose (Random)	80-150 mg/dl
S. Cholesterol	150-250 mg/dl
S. Bilirubin (Total)	upto 1.00 mg/dl
S. Bilirubin (Direct)	upto 0.25 mg/dl
S. Urea	upto 15-40 mg/dl
S. Uric Acid	M 3.4 - 7.8 mg/dl F 2.4 - 5.0 mg/dl
S. Creatine	M 0.8 - 1.4 mg/dl F 0.6 - 1.2 mg/dl
S. S.P.T	9-13 Units / ml
S. Q.O.T	8-40 Units / ml
S. Protein	8.5 - 8.2 g/dl
S. Albumin	3.7-5.2 g/dl

**PARASITOLOGY**

- Widal parasite
- Par Test P.V.

**REMARKS:**

1. No abnormality detected in the above examination.  
 2. No abnormality detected in the above examination.  
 3. No abnormality detected in the above examination.

Signature of the Candidate: Nisim Hostrain  
 Signature of the Medical Officer: Nisim Hostrain

**SALASAR** **Toolbox Task Report**

Project: 100% Safety & Health Improvement - High 5/20

Client Name: U.S. S&S

Activity: 100% Safety & Health Improvement

Date: 12/15/2014 Time: 10:15 Am Duration (Hr): 1.5

Activity: Exam team safety Risk: High Precaution: 100% Safety

Hazard: Fall from height

Risk: High

Precaution: Conductor PPE, Fall Safety

S. No	Name	Designation	Health Condition OK/Not OK	Signature
1	Mr. Poojith	F	OK	[Signature]
2	Mr. Sankar	F	OK	[Signature]
3	Mr. Sankar	F	OK	[Signature]
4	Mr. Sankar	F	OK	[Signature]
5	Mr. Sankar	F	OK	[Signature]
6	Mr. Sankar	F	OK	[Signature]
7	Mr. Sankar	F	OK	[Signature]
8	Mr. Sankar	F	OK	[Signature]
9	Mr. Sankar	F	OK	[Signature]
10				
11				
12	Mr. Sankar	F	OK	[Signature]
13	Mr. Sankar	F	OK	[Signature]
14	Mr. Sankar	F	OK	[Signature]
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Signature of Site Supervisor: [Signature] Name: Mr. Poojith

Signature of HSE Officer: [Signature] Name: Mr. Anshul Singh

**SALASAR** **Training Attendance**

Subject: 100% Safety & Health Improvement - High 5/20

Client Name: U.S. S&S

Activity: 100% Safety & Health Improvement

Date: 12/15/2014 Time: 10:15 Am Duration (Hr): 1.5

Activity: Exam team safety Risk: High Precaution: 100% Safety

Hazard: Fall from height

Risk: High

Precaution: Conductor PPE, Fall Safety

S. No	Name	Designation	Health Condition OK/Not OK	Signature
1	Mr. Poojith	F	OK	[Signature]
2	Mr. Sankar	F	OK	[Signature]
3	Mr. Sankar	F	OK	[Signature]
4	Mr. Sankar	F	OK	[Signature]
5	Mr. Sankar	F	OK	[Signature]
6	Mr. Sankar	F	OK	[Signature]
7	Mr. Sankar	F	OK	[Signature]
8	Mr. Sankar	F	OK	[Signature]
9	Mr. Sankar	F	OK	[Signature]
10	Mr. Sankar	F	OK	[Signature]
11	Mr. Sankar	F	OK	[Signature]
12				
13				
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19				
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21				
22				
23				
24				

Signature of Site Supervisor: [Signature] Name: Mr. Poojith

Signature of HSE Officer: [Signature] Name: Mr. Anshul Singh

<b>SALASAR</b>		Toolbox Talk Report		Doc No: T-SALASAR-HSE-01-02 Rev: 004 (14/03/2023)	
Project: PKB-102PKV-DK-LKHEP10-SAMBARDY		Location: NABAR GEE		1/0	
Channel Partner: Sinaras Pvt. Ltd.					
Activity: 15/03/24		Time: 12:00 PM		Duration (Hr): 1 Hr.	
Date: 5/6/24		Time: 12:00 PM		Duration (Hr): 1 Hr.	
Activity	Hazard	Risk	Precautions		
Sl.No.	Name	Designation	Health Condition OK/Not OK	Signature	
1	Joshi AU	GL	OK	[Signature]	
2	Akbar Hussain	F	OK	[Signature]	
3	Faymanara Haque	F	OK	[Signature]	
4	Imtehas Rabi	F	OK	[Signature]	
5	Ahmad Haque	F	OK	[Signature]	
6	Jalauddin	L	OK	[Signature]	
7	Jamil Akbar	F	OK	[Signature]	
8	Sajid Akbar	F	OK	[Signature]	
9	Jalauddin	L	OK	[Signature]	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
Signature of Site Supervisor Name: [Signature]			Signature of HSE Officer Name: [Signature]		
Signature: [Signature]			Signature: [Signature]		

VIVO Y200



**CP-1 : Health and Safety**

Date: 9/4/24 TBT Attendance  
Time: 9:30 am

Sl No.	Name of Employee	Designation	Sign
1	Sajid Akbar	Labour	[Signature]
2	Rashid Osman	Labour	[Signature]
3	Saba Das	Labour	[Signature]
4	Kamal Ray	Labour	[Signature]
5	Abdul Saka	Electrician	[Signature]
6	Muhammad Farid	Electrician	[Signature]
7	Arif Khan	Electrician	[Signature]
8	Arif Khan	Electrician	[Signature]
9	Rashid Osman	Labour	[Signature]
10	Muhammad Farid	Labour	[Signature]
11	Arif Khan	Labour	[Signature]
12	Kamal Ray	Labour	[Signature]

Tajma: Safe Environment during work.

[Signature] E. HSE  
[Signature] Site Engineer

Date: 15/05/2021 TBS Attendance

Name: S. S. S. S. S.

Sl.	Name of Employee	Designation	Office
1.	Budha Boro	Electrician	Office
2.	Amiya Deka	Electrician	Office
3.	Himal Deka	Electrician	Office
4.	Abinayon Barua	Electrician	Office
5.	Chiranjit Barua	Electrician	Office
6.	Sanjay Deka	Electrician	Office
7.	Prasanna Mishra	Electrician	Office
8.	Rajendra Deka	Electrician	Office
9.	Sabari Kumar	Electrician	Office
10.	Abhijit Barua	Electrician	Office

Tops: Heat stress affect during work hour.

*(Signature)*  
S. S. S. S. S.

*(Signature)*  
S. S. S. S. S.





CP-4. Height pass issues to all the tower workers

<p><b>SALASAR</b> Building a stronger future</p>  <p><b>HEIGHT PASS</b></p> <p>Name: <u>Aitesh Kumar</u>            Father's Name: <u>SARITA KUMAR</u>            Age: <u>19</u> Blood Group: _____            Permanent Address: <u>KANKAR, Fateh</u>            Issue Date: <u>18/12/24</u>            Valid Date: <u>18/12/24</u>            Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            Signature Of Issued Authority: _____</p>	<p><b>SALASAR</b> Building a stronger future</p>  <p><b>HEIGHT PASS</b></p> <p>Name: <u>Ram Naresh</u>            Father's Name: <u>Ramcharan</u>            Age: <u>42</u> Blood Group: _____            Permanent Address: <u>Gadakh, Chitkora</u>            Issue Date: <u>18/12/24</u>            Valid Date: <u>18/12/24</u>            Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            Signature Of Issued Authority: _____</p>	<p><b>SALASAR</b> Building a stronger future</p>  <p><b>HEIGHT PASS</b></p> <p>Name: <u>Rajesh Kumar</u>            Father's Name: <u>Maharajwan</u>            Age: <u>20</u> Blood Group: _____            Permanent Address: <u>Ganda, UP</u>            Issue Date: <u>18/12/24</u>            Valid Date: <u>18/12/24</u>            Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            Signature Of Issued Authority: _____</p>	<p><b>SALASAR</b> Building a stronger future</p>  <p><b>HEIGHT PASS</b></p> <p>Name: <u>Shaktesh</u>            Father's Name: <u>Ramrajwan</u>            Age: <u>38</u> Blood Group: _____            Permanent Address: <u>Bhain, UP</u>            Issue Date: <u>18/12/24</u>            Valid Date: <u>18/12/24</u>            Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            Signature Of Issued Authority: _____</p>
<p><b>Safety Instruction:</b></p> <ol style="list-style-type: none"> <li>1. Full body harness should be checked before use &amp; only good condition with double low yard harness should be used.</li> <li>2. Full body harness must be anchored at all the line at height.</li> <li>3. Don't carry any tool or material in hand while working on tower.</li> <li>4. Safety helmet with Chin strap must be worn all the time.</li> <li>5. Don't climb on tower when you are not well.</li> </ol> <p>Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            I<sup>m</sup> violation: <input type="checkbox"/> Warning (No Training) <input type="checkbox"/> Suspend from height work for 3days <input type="checkbox"/> Height work Pass Cancel &amp; Collect</p> <p>Emergency Contact Site Engineer: <u>6388380485</u></p>	<p><b>Safety Instruction:</b></p> <ol style="list-style-type: none"> <li>1. Full body harness should be checked before use &amp; only good condition with double low yard harness should be used.</li> <li>2. Full body harness must be anchored at all the line at height.</li> <li>3. Don't carry any tool or material in hand while working on tower.</li> <li>4. Safety helmet with Chin strap must be worn all the time.</li> <li>5. Don't climb on tower when you are not well.</li> </ol> <p>Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            I<sup>m</sup> violation: <input type="checkbox"/> Warning (No Training) <input type="checkbox"/> Suspend from height work for 3days <input type="checkbox"/> Height work Pass Cancel &amp; Collect</p> <p>Emergency Contact Site Engineer: <u>6388380485</u></p>	<p><b>Safety Instruction:</b></p> <ol style="list-style-type: none"> <li>1. Full body harness should be checked before use &amp; only good condition with double low yard harness should be used.</li> <li>2. Full body harness must be anchored at all the line at height.</li> <li>3. Don't carry any tool or material in hand while working on tower.</li> <li>4. Safety helmet with Chin strap must be worn all the time.</li> <li>5. Don't climb on tower when you are not well.</li> </ol> <p>Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            I<sup>m</sup> violation: <input type="checkbox"/> Warning (No Training) <input type="checkbox"/> Suspend from height work for 3days <input type="checkbox"/> Height work Pass Cancel &amp; Collect</p> <p>Emergency Contact Site Engineer: <u>6388380485</u></p>	<p><b>Safety Instruction:</b></p> <ol style="list-style-type: none"> <li>1. Full body harness should be checked before use &amp; only good condition with double low yard harness should be used.</li> <li>2. Full body harness must be anchored at all the line at height.</li> <li>3. Don't carry any tool or material in hand while working on tower.</li> <li>4. Safety helmet with Chin strap must be worn all the time.</li> <li>5. Don't climb on tower when you are not well.</li> </ol> <p>Medical Fitness Certificate Obtained: Yes/No _____            Trained and Inducted about Hazard at Height: Yes/No _____            I<sup>m</sup> violation: <input type="checkbox"/> Warning (No Training) <input type="checkbox"/> Suspend from height work for 3days <input type="checkbox"/> Height work Pass Cancel &amp; Collect</p> <p>Emergency Contact Site Engineer: <u>6388380485</u></p>

Photo: Training on Handling and Storage of Oil/Paints (28-6-24)

Training on Fire Hazards and Prevention

Page 5 of 10/24  
17/06/24

Sl. No.	Name of Employees	Designation
1.	Muhammad Duta	Officer
2.	Abdulazizullah	Site Supervisor
3.	Yasir	Site Engineer
4.	Amp Duta	Electrician
5.	Muhammad Benia	Electrician
6.	Gustan Duta	Electrician
7.	Rahmat Rajang	Site Supervisor
8.	Silva Duta	Electrician
9.	Guntha Duta	Electrician
10.	Kali Duta	Electrician
11.	Muhammad Duta	Electrician
12.	Rahmat Duta	Electrician
13.	Krisna Duta	Electrician
14.	Jayant Duta	Electrician
15.		
16.		

(Signature)  
17/06/24  
Site Supervisor

Monthly Water Log Maintained

WATER LOG

Date	Day (KL) Reading	Cummulative Reading (KL)	Date	Day (KL) Reading	Cummulative Reading (KL)
12/03/24	16	5288	14/04/24	9	5790
13/03/24	14	5302	15/04/24	10	5750
14/03/24	15	5317	16/04/24	11	5761
15/03/24	18	5335	17/04/24	12	5773
16/03/24	14	5349	18/04/24	10	5783
17/03/24	17	5366	19/04/24	11	5794
18/03/24	19	5385	20/04/24	8	5802
19/03/24	16	5401	21/04/24	7	5809
20/03/24	15	5416	22/04/24	8	5817
21/03/24	19	5435	23/04/24	10	5827
22/03/24	14	5449	24/04/24	9	5836
23/03/24	15	5464	25/04/24	11	5847
24/03/24	17	5481	26/04/24	9	5856
25/03/24	15	5496	27/04/24	10	5866
26/03/24	18	5514	28/04/24	12	5878
27/03/24	16	5530	29/04/24	10	5888
28/03/24	17	5547	30/04/24	8	5896
29/03/24	16	5563	01/05/24		
30/03/24	13	5576	02/05/24		
31/03/24	15	5591	03/05/24		
01/04/24	8	5599	04/05/24		
02/04/24	10	5609	05/05/24		
03/04/24	11	5620	06/05/24		
04/04/24	12	5632	07/05/24		
05/04/24	15	5647	08/05/24		
06/04/24	13	5660	09/05/24		
07/04/24	10	5670	10/05/24		
08/04/24	10	5680	11/05/24		
09/04/24	12	5692			
10/04/24	9	5709			
11/04/24	9	5709			
12/04/24	10	5719			
13/04/24	12	5731			

\*\* Reading of water meter is in kilolitres (KL)

## Water Log

D	Date	Day Reading (KL)	Cumulative Reading (KL)	Date	Day Reading (KL)	Cumulative Reading (KL)
	17/05/24	14	6113	17/05/24	12	6125
	18/05/24	17	6130	20/05/24	15	6145
	19/05/24	18	6148	21/05/24	14	6162
	20/05/24	16	6164	22/05/24	13	6177
	21/05/24	17	6181	23/05/24	14	6191
	22/05/24	14	6195	24/05/24	15	6210
	23/05/24	16	6211	25/05/24	17	6227
	24/05/24	12	6223	26/05/24	14	6237
	25/05/24	18	6241	27/05/24	14	6251
	26/05/24	15	6256	28/05/24	16	6271
	27/05/24	16	6272	29/05/24	19	6291
	28/05/24	18	6290	30/05/24	20	6310
	29/05/24	16	6306			
	30/05/24	13	6319			
	31/05/24	20	6339			
	01/06/24	14	6353			
	02/06/24	12	6365			
	03/06/24	18	6383			
	04/06/24	16	6400			
	05/06/24	18	6418			
	06/06/24	14	6432			
	07/06/24	12	6444			
	08/06/24	13	6457			
	09/06/24	14	6471			
	10/06/24	20	6491			
	11/06/24	15	6506			
	12/06/24	17	6523			
	13/06/24	16	6539			
	14/06/24	14	6553			
	15/06/24	13	6566			
	16/06/24	17	6583			
	17/06/24	18	6601			
	18/06/24	20	6621			

\* \* Reading of water meter is in kilolitre.



## Safety Committee Meeting

### Minutes of Meeting

Health & Safety Committee meeting

Date: 07/01/2024

Time: 3:30 PM

Venue: EKHEP, Package-1, Office

Present members: Photic Sainia (Environment & Health Safety Officer), Vivekananda More (Site Engineer), Yasin Ali (Site Engineer), Biswajit Boria (Labour Supervisor), and Jaydip Kr Nath (Site Manager)

**Meeting Purpose:** Discussion on Safety Observation at Package-1.

Following points are discussed at the meeting

- 1) Labour Supervisor and site manager is asked to make necessary arrangement for repair of damaged iron cutting machines.
- 2) The used bamboo scaffold needs to be removed and store properly for safe working condition at site.
- 3) The entrance road needs to be sprinkle water to avoid dust.
- 4) Labor Supervisor is told to report Labor misusing the PPE provided.
- 5) The committee has asked Site Manager and Labor Supervisor to ensure Labor clean their own room at Labor Camp once a week.

The meeting ended with vote of thanks by Shri Vivekananda More.

Signature of Member Present:

1. Photic Sainia  
EHS Officer



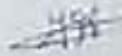
2. Vivekananda More  
Site Engineer



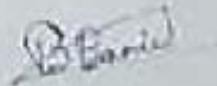
3. Jaydip Kr Nath  
Site Manager



4. Yasin Ali  
Site Engineer



5. Biswajit Boria  
Labour Supervisor



## 9. EMP Expenditure :

EMP Expenditure table (Table 29, 30) 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 29: EMP Expenditure**

Sl. No.	Item Cost	Original	Revised	Remarks	Expenditure so far (₹ Million)
		(INR million)	(INR million)		
1a	Compensatory Afforestation (CA), and Biodiversity Conservation (BC), etc	191.035	469.969	CA-159.42, OH- 79.71, BC- 190.979, SMC-39.86	469.969
1b	Net Present Value, Boundary pillar of Forest diverted area, Tree extraction / cutting cost (in Forest land)		537.19	NPV- 491.14, BP-1.59, TE- 44.46	537.19
1c	Additional biodiversity conservation measures as part of CHA		1.84	(USD 25000)	Partly under EPC contract (USD 300 expenditure so far by CP-2 after Disclosure of EIA -1 addendum)
2	Catchment Area Treatment	122.370	282.96		282.960
3	Public health delivery system	42.360	42.36		CP-2 carried our health camps after regular interval for the villagers and give support for transporting patients to the nearby hospitals.
4	Muck management	34.000	34		Covered under EPC contract (Expenditure so far by CP-2 is around 11 million INR)
5	Stabilization of quarry sites	11.500	11.5		
6	Restoration and Landscaping of construction sites	10.000	10		
7	Environmental management in road construction	16.952	16.952		* details in table 30
8	Greenbelt development	2.000	2		

Sl. No.	Item Cost	Original	Revised	Remarks	Expenditure so far (₹ Million)
		(INR million)	(INR million)		
9	Solid Waste Management	23.484	23.484		* details in table 30 item No 21, 23.
10	Water pollution control	18.500	18.5		[DRDO Bio tank 4000 litre (2 no.) 8.56 L+ Prefab container toilet (2 no.) 7.71 L + Portable bio toilet , (4 no.) 2.8 L + Portable prefab toilet , (2 no.) 2.8 L + Settling tank for batching plant (2) 10.5 L + Sanitation facility for the Office, labour colony 35 L + WPC measures 7 L= Total 74.37 L] Total- 7.437 million INR
11	Energy Conservation measures	10.000	10		
12	Disaster Management Plan	37.000	37		
13	Local Area Development (LAD) Plan	58.100	37.4	As per approved CRDTP (May 2017)	
14	Plan to preserve cultural identity of the locals	12.286	12.286		
15	Environmental Monitoring during construction phase	10.992	10.992		* details in table 30
16	Monitoring and Evaluation Aspects	6.000	6		
17	Purchase of meteorological instruments	1.000	1		Covered under EPC contract
18	Purchase of noise meter	0.100	0.1		
19	Water Quality Restoration Plan	65.000	65		
20	Training and Awareness Building	2.000	2		Mostly Covered under EPC contract
21	External Monitor	94.510	159.8	As per PAM	22.9
22	Pre-construction baseline monitoring	50.000	50		0.300 (& rest covered under

Sl. No.	Item Cost	Original	Revised	Remarks	Expenditure so far (₹ Million)
		(INR million)	(INR million)		
					EPC contract) (CP-1- 0.06 million INR + CP-3- 0.08 million INR+ CP-4 – 0.15 million INR) Total = 0.59 million INR
23	Environmental Monitoring during operation phase (for initial three years)	6.849	6.849		
	Expenditure from Table No 30.				57.287
	<b>Total</b>	<b>826.038</b>	<b>1849.182</b>		1389.333 (75.1323%)

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 is pursuing the matter with the Forest Department for implementation.
2. 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.
3. Bird diverters are incorporated in the EPC contract of CP-4.
4. Pyrites testing, pyrite neutralization in water and muck will be covered under EPC contract of CP 2.

**Table 30 : Details of the \*EMP Expenditure till June 2024 (CP-2).**

S.I	Item	Amount (Rs. lakh)
1	Expenditure for Environmental Monitoring (Air, Water & Noise)	13.5
2	Expenditure for DG Stake Monitoring	2.1
3	Implementation of EMP during internal Road construction.	0.25
4	Cement bag Provided for community toilet construction	1.2
5	Plantation on spoil tips (plain area) including bio-fertilizer cost & tree guard cost	2.1
6	Fencing cost for 5000 sqm	20.41

S.I	Item	Amount (Rs. lakh)
7	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
8	Watch & Ward for tree plantation	14.5
9	Safety Supervision & monitoring cost	48.8
10	Regular water sprinkling through water tanker on entire roads and NH (water tank capacity 20000 Litter & 12000 litter)	42
11	Fire extinguisher DCP 1KG 50 no./ 2KG 50 no./6KG 30 no./ 9 KG 20 no./BUCKET 20no.	7.2
a)	Fire extinguisher CO2 6.5 KG 20 no.	13.2
12	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)	129
13	First Aid medicine	7.2
14	Four First aider	37.6
15	Water Processing unit	126
16	Operation Maintenance and Chemical consumption for Water Processing Unit	7.2
17	Vermi Compost Pit for food waste	2
a	Food waste composite pit construction and making	2.1
18	Batching Plant Sedimentation tank construction cost	5.3
19	Solid Waste Segregation Yard	4.2
20	Slurry removal and pit cleaning cost of batching plant sedimentation tank	5.4
21	Mosquito fogging machine cost	0.67
a	Mosquito fogging O&M cost	0.40
22	Toilet Block Making	7.9
	<b>TOTAL</b>	<b>572.87</b>

## 10. Meaningful Consultation and Grievance Redress

Few consultations were carried out during the reporting period January to June 2024.

### 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.

#### **11.0 Initiatives for the Community or Good Engineering Practices :**

##### **1. International Yoga Day on 21st June 2024 at L&T Lower Kopili HEP**






2. **100% of RO wastewater recycling and reusing** for nondomestic purpose such as washroom cleaning and utensil cleaning.





3. Recyclable wastes sent to vendors



# WASTE OIL

PDF - 373 KB






**Larsen & Toubro Limited Infrastructure Vertical**

Tax Invoice

Original for recipient   
  Duplicate for transporter   
  Triplicate for supplier

---

**Supplier's Address (Dispatch from)**  
 M/s Larsen & Toubro Limited Infrastructure Vertical  
 9  
 LARSEN & TOUBRO LIMITED, 120 MW LOWER  
 KOPILI HEP, LONGKUL, DIMA HASAO-788931  
 Longkhu, Not Available, Assam, India, 788931  
 GSTIN : 85AAACL0140P3ZG  
 IRN No.:D504665a891ed875c98be864f2440522c8e3486b24c9578e78040cbad0d79c1  
 Ack No.:1182418045369171  
 Ack Date.:24-Apr-2024



---

**Details of Receiver (Billed to)**  
 OM INDUSTRIES  
 7 K.M. Jind Road, Talil, Rohtak, Rohtak, Haryana,  
 124001  
 Rohtak, Haryana, India, 124001  
 GST Reg no : 06AGJPG5782A1ZL

**Details of Consignee (Shipped to)**  
 OM INDUSTRIES  
 7 K.M. Jind Road, Talil, Rohtak, Rohtak, Haryana,  
 124001  
 Rohtak, Haryana, India, 124001  
 GST Reg no : 06AGJPG5782A1ZL

**Invoice No** LEASLE24IN000033  
**Invoice Date** 24-Apr-2024  
**Order / LGA Ref** LE200685/XE/00004  
**Order / LGA Date** 28-Mar-2024  
**Order Ref No.** LE200685/XE/00004  
**Job Order Ref** LE200685/XE/00004  
**Ref Doc No** LE/LE200685/EDC/04/000014

---

Place of Supply	Place of Delivery	Job Ref	IC Ref	Site Doc Ref No	Client Code
Haryana	Haryana	LE200685	HC	00/XE/000021	PG101085094000

---

Sl No	HSN/SAC - BQO & Description						Tax Amount (INR)
	UOM	Qty	Rate	Taxable Value (INR)	Tax Item - Rate		
1	27101990 - 7SRPM0048000000-51-00 - SCRAP, WASTE OIL WITH DRUM;						
	L	3000.000	27.00	81400.00	IGST - 18.00	15552.00	
<b>Items Total</b>				81400.00		15552.00	

---

Transport details				Total Taxable Value	81400.00
<b>Mode</b>	<b>Vehicle No</b>	<b>AWBL/R/R No</b>	<b>Transporter Name</b>	<b>Total Tax Amount</b>	15552.00
Road	HR38Y4960	16822	OM INDUSTRIES	<b>Add. IT Collected at Source</b>	1020.00
			23-Apr-2024	<b>Add. Total</b>	1020.00
Tax Break up					
<b>IGST %</b>	<b>IGST</b>	<b>CGST %</b>	<b>CGST</b>	<b>SGST %</b>	<b>SGST</b>
18.00	15552.00				
				<b>UTGST %</b>	<b>UTGST</b>

---

<b>Total Tax</b>	15552.00	<b>Amount Payable</b>	0.00
Indian rupee : Zero INR and Zero Paise Only			
<b>EWay Bill</b>	<b>EWay Bill Generated Date</b>	<b>EWay Bill Validity Date</b>	

For Larsen & Toubro Limited Infrastructure Vertical

Authorized Signatory

Principal Place of Business: LARSEN & TOUBRO LIMITED, 1st and 2nd Floor, L and T Ltd, Industrial Estate Baramulla, Kamrup, Assam, 781021 - India  
 Registered Office: L&T House, Ballard Estate, Mumbai, Maharashtra, 400001 - India CIN : L39999MH1340PLC004768 - PAN : AAACL0140P

Page 1 of 2 (of document 00/XE/000021)





# Battery

PDF - 373 KB



Larsen & Toubro Limited Infrastructure Vertical

Tax Invoice

Original for recipient  Duplicate for transporter  Triplicate for supplier

**Supplier's Address (Dispatch from)**

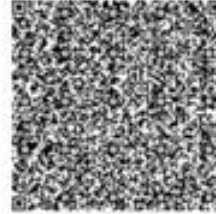
M/s Larsen & Toubro Limited Infrastructure Vertical  
 LARSEN & TOUBRO LIMITED, 120 MW LOWER  
 KOPILI HEP, LONGKU, DIMA HASAO-788931

Longku, Not Available, Assam, India, 788931  
 GSTIN : 18AAACL0140P3ZG

IRN No.:078fdadca2b75daf1c3b97c41fbd35a2e2443ad965dfcd28f41d1c4c22eb13a

Ack No.:182416271322818

Ack Date.:23-May-2024



**Details of Receiver (Billed to)**

GREEN WEB RECYCLING  
 84.85 Web Plaza, First floor, Shyam Nagar, Benaar  
 Road, Jaipur Rajasthan

Jaipur, Rajasthan, India, 302012  
 GST Reg no : 08ANXPY7796A1ZX

**Details of Consignee (Shipped to)**

GREEN WEB RECYCLING  
 84.85 Web Plaza, First floor, Shyam Nagar, Benaar  
 Road, Jaipur Rajasthan

Jaipur, Rajasthan, India, 302012  
 GST Reg no : 08ANXPY7796A1ZX

Invoice No LEASLE24IN000132

Invoice Date 23-May-2024

Order / LQA Ref LE200685/XE/00006

Order / LQA Date 13-May-2024

Order Ref No. LE200685/XE/00006

Job Order Ref LE200685/XE/00006

Ref Doc No LELE200685/EDC/24/000017

Place of Supply Rajasthan	Place of Delivery Rajasthan	Job Ref LE200685	IC Ref HC	Site Doc Ref No 00/XE/000025	Client Code P92201010584000
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Sl No	HSN/SAC - BOQ & Description					
	UOM	Qty	Rate	Taxable Value (INR)	Tax Item - Rate	Tax Amount (INR)
1	85489000 - 75RPM004A000000-S1-00 - SCRAP, BATTERY (VARIOUS SIZE): FROM - WORKS / PRODUCTS:					
	Nos	50.00	2300.00	115000.00	IGST - 18.00	20700.00
Items Total				115000.00		20700.00

Transport details				Total Taxable Value	115000.00
Mode Vehicle No AWB/LI/RR No	Road AS23DC1245 16825	Transporter Name AWB/LI/RR Date	GREEN WEB RECYCLING 12-May-2024	Total Tax Amount	20700.00
Tax Break up				Add: IT Collected at Source	1357.00
IGST %	IGST	CGST %	CGST	Add. Total	1367.00
18.00	20700.00			Grand Total	137057.00
				Deductions	
				Less: Scrap disposal	137057.00
				Ded. Total	137057.00
				Net Total	0.00
				Rounding off	0.00

<b>Total Tax</b>	20700.00	<b>Amount Payable</b>	0.00
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Indian rupee : Zero INR and Zero Paise Only

EWay Bill	EWay Bill Generated Date	EWay Bill Validity Date

For Larsen & Toubro Limited Infrastructure Vertical

Authorized Signatory


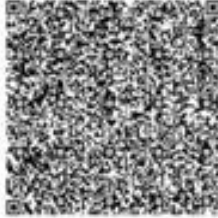
Principal Place of Business: LARSEN & TOUBRO LIMITED, 1st and 2nd Floor, L and T Ltd, Industrial Estate Bamsuni Maidan, Kamrup, Assam, 781021 - India  
 Registered Office: LAT House, Ballard Estate, Mumbai, Maharashtra, 400001 - India CIN : L89999MH1946PLC004766 - PAN : AAACL0140P



# Barrel 1

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 <b>Larsen &amp; Toubro Limited</b> <b>Infrastructure Vertical</b>		Tax Invoice					
<input type="checkbox"/> Original for recipient <input type="checkbox"/> Duplicate for transporter <input type="checkbox"/> Triplicate for supplier							
<b>Supplier's Address (Dispatch from)</b> M/s Larsen & Toubro Limited Infrastructure Vertical 0 LARSEN & TOUBRO LIMITED, 120 MW LOWER KOPILI HEP, LONGKUI, DIMA HASAO-788931  Longkui, Not Available, Assam, India, 788931 GSTIN : 18AAACL0140P3Z0 <b>IRN No.:</b> a9fa5bdc990ec665b852759578d988421fe5e2f2ab014784d324e8644ad0539 <b>Ack No.:</b> 182416878792106 <b>Ack Date:</b> 08-Aug-2024							
<b>Details of Receiver (Billed to)</b> WASTE PRO RECYCLING KHASRA NO.35 & 36, UDAYRAMPUR, NAGLA, DASNA HAPUR  Ghaziabad, Uttar Pradesh, India, 201015 GSTIN : 09AADFW5646K1ZK		<b>Details of Consignee (Shipped to)</b> WASTE PRO RECYCLING KHASRA NO.35 & 36, UDAYRAMPUR, NAGLA, DASNA HAPUR  Ghaziabad, Uttar Pradesh, India, 201015 GSTIN : 09AADFW5646K1ZK					
<b>Invoice No</b> LEASLE24IN000373 <b>Invoice Date</b> 08-Aug-2024 <b>Order / LOA Ref</b> LE200685/XE/00008 <b>Order / LOA Date</b> 18-Jul-2024 <b>Order Ref No.</b> LE200685/XE/00008 <b>Job Order Ref</b> LE200685/XE/00008  <b>Ref Doc No</b> LELE200685/EDC/24000112							
<b>Place of Supply</b> Uttar Pradesh	<b>Place of Delivery</b> Uttar Pradesh	<b>Job Ref</b> LE200685	<b>IC Ref</b> HC	<b>Site Doc Ref No</b> 00/XE/000029	<b>Client Code</b> P12101093578000		
HSN/SAC	BOQ *	UOM	Qty	Rate	Taxable Amt (INR)	IGST	
						Rate	Amount
39153090	75RPM001M000001-S1 -00 - SCRAP,EMPTY BARREL,PVC,FRM:- W	NOS	35.00	222.00	7770.00	18.00	1398.60
72041000	75RPM007A000000-S1 -00 - SCRAP, MS BARREL - 200 LTR, FR	NOS	50.00	222.00	11100.00	18.00	1998.00
Items Total					18870.00	3396.60	
<b>Transport details</b>				<b>Total Taxable Value</b> 18870.00 <b>Total Tax Amount</b> 3396.60 <b>Add. IT Collected at Source</b> 222.66 <b>Add. Total</b> 222.66 <b>Grand Total</b> 22489.26 <b>Deductions</b> <b>Less: Scrap disposal</b> 22489.26 <b>Ded. Total</b> 22489.26 <b>Net Total</b> 0.00 <b>Rounding off</b> 0.00			
<b>Mode</b>	<b>Road</b>	<b>Transporter Name</b>		<b>WASTE PRO RECYCLING</b>			
<b>Vehicle No</b>	<b>AS31C0512</b>	<b>AWB/LRRR No</b>		<b>AWB/LRRR Date</b>			
	<b>GATE PASS NO 16827</b>			<b>08-Aug-2024</b>			
Tax Break up							
IGST %	IGST	CGST %	CGST	SGST %	SGST	UTGST %	UTGST
18.00	3396.60						
<b>Total Tax</b>					<b>3396.60</b>	<b>Amount Payable</b>	
						<b>0.00</b>	

Indian rupee : Zero INR and Zero Paise Only

Principal Place of Business: LARSEN & TOUBRO LIMITED, 1st and 2nd Floor, L and T Ltd, Industrial Estate Bamsuni Meidan, Kamrup, Assam, 781021 - India  
 Registered Office: L&T House, Ballard Estate, Mumbai, Maharashtra, 400001 - India CIN : L29989MH1946PLC004768 - PAN : AAACL0140P

\* Refer Annexure for BOQ long description and DC Ref.

Page 1 of 4 (of digitally signed invoice 30/XE/000029)

**L&T Lower Kopili Assam - Revenue scrap available (Lot-02) - Annexure**

Sr No	Material Code	Material Description	UOM	Qty
1	75RPM001000011	SCRAP; REINFORCEMENT STEEL; MS; FROM - WORKS / PRODUCTS; SMALL CUT PIECES; TMT OFF CUTS	Metric Tonne	10
2	75RPM001A000000	SCRAP; STRUCTURAL STEEL; FROM - WORKS / PRODUCTS	Metric Tonne	20
3	75RPM001A000001	SCRAP; MANGANESE; FROM - WORKS / PRODUCTS; END BITS / CUT PIECES; BROKEN / DDMANTLED; USED CRUSHER JAW PLATES MANGANESE STEEL SCRAP	Metric Tonne	10
4	75RPM0084000049	SCRAP; FROM - WORKS / PRODUCTS; SCRAP MS MISCELLANEOUS	Metric Tonne	25
5	75RPM0086000129	SCRAP; BUTTON BIT, SHANK ADAPTER, COUPLING VARIOUS SIZE	Metric Tonne	3
6	75RPM009C000001	SCRAP; STRUCTURAL STEEL; MS; FROM - WORKS / PRODUCTS; BORING / DRILLING; Factory / Site Waste; EXTENSION ROD	Metric Tonne	3
7	75RPM0086000170	SCRAP; P&M OM Scrap Spares MS	Metric Tonne	5
8	75RPM0048000000	SCRAP; WASTE OIL WITH DRUM;	liter	5000
9	75RPM001W000000	SCRAP; TYRE; MOC - RUBBER; FROM - ENABLING WORKS (1100-20 & 1000-20)	No.	300
10	75RPM004A000000	SCRAP; BATTERY; VARIOUS SIZE	No.	50

*[Signature]*  
SITE ACCOUNTANT

*[Signature]*  
SITE WORKING MANAGER

*[Signature]*  
SITE PROJECT MANAGER

*[Signature]*  
SITE ACCOUNTANT

Annexure - L&T Lower Kopili Assam

L&T Lower Kopili Assam - Revenue scrap available (Lot-03)					
Sr No	Material Code	Material Description	UOM	Qty	Photos
1	7SRPM001I000011	SCRAP; REINFORCEMENT STEEL; MS; FROM :- WORKS / PRODUCTS; SMALL CUT PIECES; TMT OFF CUTS	Metric Tonne	25	
2	7SRPM00I3000001	SCRAP; STRUCTURAL STEEL; CS; FROM :- WORKS / PRODUCTS; LARGER SECTIONS UNUSED; PLATE; ASTM A537; GRADE :- CLASS 2	Metric Tonne	60	
3	7SRPM00AP000001	SCRAP; MANGANESE; FROM :- WORKS / PRODUCTS; END BITS / CUT PIECES; BROKEN / DISMANTLED; USED CRUSHER JAW PLATES MANGANESE STEEL SCRAP	Metric Tonne	10	
4	7SRPM009C000002	SCRAP; STRUCTURAL STEEL; MS; FROM :- WORKS / PRODUCTS; BORING / DRILLING; Factory / Site Waste; DRIFTER ROD	Metric Tonne	6	
5	7SRPM00AD000001	SCRAP; EMPTY CEMENT BAG; PLASTIC; FROM :- WORKS / PRODUCTS; Knife cut opened;	Metric Tonne	250	
6	7SRPM00FV000002	SCRAP; SAFETY ITEMS; Gum Boot / Shoes / Gloves; FROM :- WORKS / PRODUCTS; pvc sole	Numbers (Pairs)	8000	
7	7SRPM007A000000	SCRAP; MS BARREL - 200 LTR; FROM :- WORKS / PRODUCTS;	Numbers	50	
8	7SRPM001M000001	SCRAP;EMPTY BARREL;PVC;FROM:-WORKS / PRODUCTS;210 LTR CAP.	Numbers	100	

## 12.0 Corrective Actions

Corrective actions are listed in the table 8 for compliance.

## 13.0 Status of implementation of the sub plans of the EMP

### 13.1 BIODIVERSITY CONSERVATION AND MANAGEMENT PLAN

Target Areas	Compliance status
Establishing Biodiversity Management Committee	Constituted and 3 meeting were conducted.
<b>Conservation Plan for Floral Species</b>	
Rescue of Flora	
Up-gradation of a recreational area at Panimur forest ranger station	
<b>Wildlife and Avifauna Conservation</b>	
Rescue and Release Program	
Promote Wildlife Surveys and Monitoring in and around the Project Area, and river fords for elephants	Complied and 10 camera traps given to DH Forest Department for Terrestrial Monitoring.
Compensatory afforestation program for restoring habitat for avian fauna	Covered under CA Plan and CAT Plan
<b>Anti-Poaching Measures</b>	
Awareness Raising Program	Awareness done through contractor of CP-2
Strengthen Patrolling - Construction of check posts watch towers	

### 13.2 COMPENSATORY AFFORESTATION PLAN

Through the Forest Department and for that Rs 23,91,35,775.00 has been already transferred in CAMPA. Eight Nurseries has been raised by the Forest Department in plantation activities are going on as per AOP 2023-2024 in Hamren and Dima Hasao West Forest Division vide letter no. FG/27/CAMPA/CA Pitn/2022-23 dated 11<sup>th</sup> Oct, 2023 from CEO, CAMPA, Assam.

### 13.3 CATCHMENT AREA TREATMENT PLAN

Rs 28,29,64,000.00 for CAT Plan and Rs. 3,98,55,962.00 for Soil and Moisture Conservation Plan was deposited in CAMPA. Implementation of CAT and S&MC Plan not initiated so far but it may be included in the AOP OF 2024-2025 vide letter no. FG/27/CAMPA/CA Pitn/2022-23 dated 11<sup>th</sup> Oct, 2023 from CEO, CAMPA, Assam.

### 13.4 FISH HABITAT MANAGEMENT PLAN

As the water quality has not improved to sustain fish population in the Kopili river or in the Lower Kopili reservoir (in future), the plan has not been developed. It was also not suggested in the MDC meetings by the Fisheries experts. Moreover, aquatic and migratory fish study has been initiated by engaging the College of Fisheries, Raha as per the stipulation of MoEF&CC during the EC amendment. After the study, if any fish habitat management plan suggested by the above Government Institute, APGCL will implement that plan.

### 13.5 PUBLIC HEALTH DELIVERY PLAN

Improvement of exiting Government medical facility will be covered under LAD. Disposal of treated bio medical wastes will be in designated site in Umrangso.

S.No.	Item	Compliance status
1.	Commissioning and operation of public health facilities	Covered under LAD
2.	Disposal of bio-medical waste	After treatment, Umrangso site will be used for disposal and necessary permission taken.
	<b>Total</b>	

### 13.6 MUCK DISPOSAL PLAN

Will be implemented by CP-2.

S.No.	Items	Compliance status
1.	Plantation on spoil tips (plain area) including bio-fertilizer cost	Dumping sites are utilized for contractors' camp and other activities, After completion of the construction works it will be restored as per the plan.
2.	Turfing on slopes (@ Rs. 100,000/- per ha taking into account 40% of total area of muck disposal i.e. 45 ha to be earmarked for turfing)	
3.	Fencing cost for 4400 m (@ 500/- per running m)	
4.	Retaining Wall (lump sum)	
5.	Cost of two portable water pumps, (flow 20 cum/hr, 20m head, along with 200 m pipe, 100 mm dia, HDPE)	
6.	Watch & Ward (2 persons @ Rs. 10,000/month/for 8 years considering 10% escalation per year)	

### 14.7 RESTORATION PLAN FOR QUARRY AREAS

Will be implemented by CP-2. Quarry is being operated as per the quarry management plan.

#### Quarry Management Plan

Attributes	Requirements
Access road	<ul style="list-style-type: none"> <li>Only approved access road shall be used</li> </ul>
Top soil preservation	<ul style="list-style-type: none"> <li>Top soil, if any, should be stripped and stored at designated area before start of quarry material collection;</li> <li>Top soil should be re-used / re-laid as per agreed plan</li> </ul>

Controlled blasting & safety	<ul style="list-style-type: none"> <li>• Storage of explosive magazine as per threshold quantity with all the safety measures;</li> <li>• Handling of explosive by licensed blaster only;</li> <li>• Use low intensity explosive;</li> <li>• Check unfired explosive, if any, before drilling;</li> <li>• Carryout blasting at lean time only;</li> <li>• Cordoned the area within 500m radius with flagmen having whistle for signaling preparedness;</li> <li>• Using properly designed audio visual signal system i.e. siren and flagmen for blasting;</li> <li>• Keep ready an emergency vehicle near blasting area with first aid facility and with active emergency response system.</li> </ul>
Damage to surrounding land	<ul style="list-style-type: none"> <li>• Movement of man &amp; machinery should be regulated to avoid damage to surrounding land.</li> </ul>
Drainage control	<ul style="list-style-type: none"> <li>• The surface drainage in and around the area should be merged with surrounding drainage;</li> </ul>
Dust control	<ul style="list-style-type: none"> <li>• Haul road should be made metallic;</li> <li>• Suitable dust arrester for drilling;</li> <li>• Water spraying at quarry complex, if required.</li> </ul>
Covering material transport vehicle	<ul style="list-style-type: none"> <li>• Material transport vehicle should be provided with tail board, and cover</li> </ul>
Personal Protective Equipment	<ul style="list-style-type: none"> <li>• Workers shall be provided with helmet, safety shoes, ear muffler and air musk and their use should be strictly enforced.</li> </ul>
Redevelopment	<ul style="list-style-type: none"> <li>• The area should be redeveloped within two months (or as agreed) on completion of material collection as per agreed plan.</li> </ul>

#### Quarry Restoration Plan

S. No.	Remedial measures proposed	Compliance status
1.	Plantation	Quarry under operation and will be restored as per plan after extraction.
2.	Turfing over 33 ha	
3.	Retaining Wall	
4.	Training of slopes including labor cost and laying down of top soil	
5.	Fencing over quarry areas (4,000 rm)	

### 13.8 LANDSCAPING AND RESTORATION OF CONSTRUCTION AREAS

Landscaping of the permanent colony will be done by CP-1.

Landscaping and restoration of the construction site will be done by CP-2 (mostly) and CP-3 (partly) after the construction works.

#### Landscaping and restoration plan

S.No.	Item of Work	Compliance status
<b>A</b>	<b>Colony Area, Office Complexes</b>	
	(i) Engineering measures	Will be executed by CP-1
	(a) Retaining Walls	
	(b) Levelling the area	
	(ii) Bio-engineering measures	
	(a) Covering the slopes with geo-textiles	
	(b) Mulching	
	(iii) Biological measures	
	(a) Planting of trees and shrubs	
	(b) Planting of flowering plants and other herbs	
	<b>Sub-total (A)</b>	
<b>B</b>	<b>Post project construction landscaping</b>	Will be executed by CP-2 and CP-3.

### 13.9 ENVIRONMENTAL MANAGEMENT IN ROAD CONSTRUCTION

Following roads were constructed for the LKHEP by CP-2.

Internal Road				
Road No	Road Name	Road Name	Length (m)	Type of the Road
1	PR1	NH to Dam Top	2487.84	Permanent Road
2	PR8	NH to Main Power House	1552.45	Permanent Road
3	PR5	NH to Permanent / Temporary Colony	397.12	Permanent Road
4	PR7	NH to Dumping yard and Magazine	584.44	Temporary Road
5	PR4 / PR4A	NH to Adit to Head race tunnel	1326.97	Permanent Road
6	PR8A	PR8 to power house	96	Permanent Road
7	PR2	Dam Top to Auxiliary Power House	804	Permanent Road
8	PR3 (T)	NH to Helipad	310	Temporary Road
9	PR9	PR8 to Switchyard	165.39	Permanent Road
10	PR10	PR9 to Valve House	188.44	Permanent Road
11	TR1	NH to DT Inlet Top	1645.05	Temporary Road
12	TR1A	TR1 to DT inlet	346.33	Temporary Road
13	TR3	Auxiliary PH to D/S Cofferdam and DT Outlet	167.76	Temporary Road
14	TR5	NH to Dumping area (2)	1099.41	Temporary Road
15	TR6	NH to Surge Shaft	254.3	Temporary Road
16	TR4	PR1 to crusher plant	252.2	Temporary Road
17	TR7	PR7 to Magazine store	188.32	Temporary Road
18	PR6	NH to Msc. Area	613.13	Permanent Road (not yet Planned)



Internal Road			
			12479.15 (PR-7912.65 m; TR-4566.5 m)

#### Provisions in the EMP

S.No.	Item	Compliance status)
1.	Clearing @ Rs.2 lakh per km for 13.04	Completed by CP2
2.	Provision of breast walls, construction of catch water and interceptor drains @Rs.5 lakh per km for 13.04 km	Completed by CP-2
3.	Provision of drainage system along roads @Rs.5 lakh per km for 13.04 km	Completed by CP-2
4.	Roadside plantation, Jute matting etc. @ Rs.1 lakh per km for 13.04 km	Roadside Plantation initiated

### 13.10 GREEN BELT DEVELOPMENT PLAN

#### EMP measures

	Items	Compliance status
1	The tree plantation will be done at a spacing of 2.5 x 2.5 m.	Initiated by APGCL, CP2, CP-3
2	About 1600 trees per ha will be planted.	Ongoing
3	The treated waste water and the manure generated by composting of solid waste generated for labor camps will be used for the greenbelt development.	Treated waste water will be used for gardening in the permanent colony after STP is operational. Treated RO waste water is used in gardening by CP-2.

### 13.11 SOLID WASTE MANAGEMENT PLAN

S. No.	Item	Compliance status	
		Construction phase	Operation phase
1.	Cost of land for land filled vermin-composting sites	Ongoing by CP-2 under EPC contract	Will be implemented by APGCL
2.	Reclamation and stabilization cost of landfill and vermin-composting sites		
3.	Two covered trucks for conveyance of solid waste to landfill and vermin-composting site @ Rs. 3 million per truck		
4.	Manpower cost for 5 persons @ Rs. 10,000/ month for 4 years including 10% escalation/year		
5.	03 tractors with trolleys @ Rs. 500,000/ per tractor with trolley		
6.	Awareness programme	Ongoing by CP-2 under EPC contract	
7.	Water facility & Toilet facilities at landfill and vermin-composting site		
8.	Tools & Implements	Ongoing by	

		CP-2 under EPC contract	
9.	Yard lighting maintenance store room lighting, Monitoring station @5000/ fixture x 40'		
10.	Periodical Training & Medical Checkup	Ongoing by CP-2 under EPC contract	

### 13.12 Energy Conservation Management Plan

S. No.	Particulars	Compliance status
1.	Distribution of Kerosene oil stoves	Not initiated by APGCL so far
2.	Distribution of Pressure Cookers	
3.	Distribution of Solar Cookers	
4.	Distribution of Improved Chullhas	

### 13.13 FIRE PROTECTION IN LABOUR CAMP AND STAFF COLONIES

S. No.	Provision	Compliance status
1	Provision of fire extinguishers in labor camps and staff colony	Initiated by CP-1, CP-2, CP-3, CP-4
a)	Fire extinguisher DCP 5KG / 10 KG / 30 KG	
b)	Fire Extinguisher CO2 10 KG	
c)	Fire extinguisher Foam Type 30 KG	
2	Refilling and maintenance	
3	Inspection Charges	
4	Training, Campaign and poster installation	

### 13.14 DAM BREAK ANALYSIS AND DISASTER MANAGEMENT PLAN

Dam break analysis is being carried out by IIT Roorkee after recommendation of Internal Dam Safety Expert of EMC. Earlier it was done by WAPCOS during EIA through IIT Roorkee.

#### EMP measures

S. No.	Particular	Compliance Status
1.	Installation of alert system in control room	Will be done by APGCL before commissioning
2.	Setting up of communication system in various villages	
3	Setting up of communication system between dam and d/s settlements	
4	Public information system	
5	Setting up of a seismic observatory at dam site	Already installed
6	Flood Forecasting Arrangements	Being prepared by RMSI
7	Training and miscellaneous	Will be done by APGCL before commissioning with DDMA

### Disaster Management Plan

#### Construction phase :

Emergency Action Plan is prepared by CP-2 for the construction phase within the project area. APGCL has coordination with NEEPCO and District Disaster Management Authority for the impacts beyond the project area for the construction related disasters.

**Operation Phase :**

Village DMP has been prepared for 5 villages by RMSI under JFPR grant. Emergency Action Plan is being prepared by IIT Roorkee.

**14. Compliance of Output 3.** Resource Management and community resilience initiatives (under JFPR) implemented.

Output 2 : Institutional capacity of APGCL strengthened. Through capacity building on construction, operations and maintenance and safeguards for 30 staff (including 6 women). Training Summary in Table 31.

**Table 31 : Capacity building Training of the APGCL Employees**

	Training	From	To	Male	Female	Total	Remarks
1	3 Days online Training on STAAD Pro Advanced Software	8th April, 24	10th April, 24	7	1	8	
2	Gas Turbine Operations and Mechanical Maintenance	27th April, 24	1st May, 2024	25	3	28	
3	One day workshop on Internal Communication and Team Building for the Employees of APGCL	27th May, 24		22	9	31	
4	Gas Turbine Operations with Mark VI & VIe Speedtronic Control Systems	22nd April, 24	26th April, 24	28	3	31	
5	15 days training by CBIP	16th Jan, 24	31st Jan, 24	20	3	23	12 APGCL officials and 10 Students of JEC College
	Topics covered :-						
	a. Challenges in Selection, Operation and Maintenance of Large Pumping and hydro turbine plants						
	b. Hydraulic and mathematical modelling of spillway and other hydraulic structures.						
	c. Modern bathymetry survey techniques and data analysis.						
	d. Review of Safety of Hydro Power Projects.						
	e. Non-Contact Measurement techniques and DAM instrumentation using SCADA.						
	f. Repair and Rehabilitation of Hydro Power Projects.						
	g. Role of Hydraulic Modelling in River Engineering.						
	h. Instrumentation of existing DAM.						
6	14 days Training Programme on Fire Safety and Disaster Management	15th Feb, 24	28th Feb, 24	8	0	8	
7	Site Visit at Lower Subansiri Hydro Electric Project	19th Mar, 24	20th Mar, 24	12	2	14	
				122	21	143	

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.

**Community Training in 5 selected villages (by RMSI)**

Under the output 2 of the Resource Management and Disaster Resilience on Kopili River Project, community training on Disaster Management (DM) for the flood vulnerable communities in the study

area. As part of output 2, the team has identified five villages, one in each district for undertaking needs assessment and later develop village Disaster management plan.

Following are the villages identified and VDMP prepared.

**Table 32: List of villages considered for preparing Village Disaster Management Plan**

S. No	District	Village name
1	Hojai	Dakhin Kenduguri
2	Nagaon	Kakotigaon
3	Karbi Anglong	Namtaradubi
4	Dima Hasao	Phanglangso
5	Morigaon	Thengbhanga

The village DM plan was prepared on participatory approach engaging communities and following the framework of ASDMA and NDMA.

Training of communities on disaster risk management was conducted between 27 Jan 2024 to 2 Feb 2024. The details of the training at different locations along with number of people participated in given in the Table 2.

**Table 33: Summary of community training**

S. No	District	Village name	Male	Female
1	Hojai	Dakhin Kenduguri	53	108
2	Nagaon	Kakotigaon	36	112
3	Karbi Anglong	Namtaradubi	66	50
4	Dima Hasao	Phanglangso	42	42
5	Morigaon	Thengbhanga	60	37
	<b>Total</b>		<b>257</b>	<b>349</b>
	<b>Total</b>		<b>42%</b>	<b>57%</b>

Communities were invited from the above mention 5 flood vulnerable and adjacent villages. The communities were identified and invited with the support of village head, Field Officers (FO) and District Disaster Management Officers (DDMOs) and of respective districts. We ensured adequate female participation.

To make the training effective in addition to the core team members – Community Expert, National DM expert and Gender Expert of the project, we took the support of local civil defence team who are master trainers for disaster management. The training was conducted at 8 different locations to ensure community participation.

**The training topic covered includes:**

1. Presentation of the VDMP prepared for the village including the DM committees formed and their roles and responsibilities during different phases of disaster - normal time, post warning, during flood and post flood
2. Distribution of print outs of SOP of DM committees prepared in Assamese language
3. Observing water levels and flood warnings during rainy season
4. Preparedness during rainy season (including storing of essentials and easy to eat food and medicine, store important document in safe place, listen to news particularly radio, keep mobile charges, keep essentials like torch light and medicines handy, etc)
5. Indigenous life jacket
6. How to administer CPR and first aid for choked person
7. First aid for drowned person
8. First aid for snake bites
9. First aid in case of bone fracture and how to carry injured person in the absence of stretcher
10. First aid for injury like stabbed or pierced by metal rod.

**Training Photos:**



## 15.0 Conclusions and Recommendations

This is the 6<sup>th</sup> six monthly Environment Monitoring Report for the period January to June 2024. 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 Jan to June 2024. Regarding safety there were no work-related incident between January to June 2024. Two non-work-related accident was reported at Lanka and after treatment one worker survived and other succumbed to death during this reporting period. 28 number of near miss cases and 34 First aid cases were reported during this reporting period. All the contractors submitted the monthly environment and safety reports. 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 and additional studies on the down stream impact assessment were also done and reflected in the EIA addendum (I and II). APGCL obtained the final EC amendment letter on the changes made during detail engineering design from MoEF&CC. Multi Disciplinary Committee meeting and Biodiversity Management Committee meeting were not held during this period. Six monthly Environment Monitoring Report was submitted to MoEF&CC as per the EC stipulation and Annual Compliance Report Submitted to MoEF&CC as per FC compliance in April 2024. 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 Copy of the Amendment of EC.



File No.: J-12011/26/2012-IA.I  
Government of India  
Ministry of Environment, Forest and Climate Change  
IA Division  
\*\*\*



Dated 03/01/2024



To,

The Chief General Manager (Hydro)  
M/s Assam Power Generation Corporation Ltd  
2nd Floor, Bijulee Bhawan, Paltanbazar, Guwahati, Guwahati, KAMRUP METRO, ASSAM,  
Paltanbazar, 781001  
cgmh2010@yahoo.in

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

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/AS/RIV/441844/2023 dated 23/10/2023 for grant of an amendment in prior Environmental Clearance (EC) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A0505AS5877865A
(ii) File No.	J-12011/26/2012-IA.I
(iii) Clearance Type	Amendment in EC
(iv) Category	A
(v) Schedule No./ Project Activity	1(c) River Valley/Irrigation projects
(vi) Sector	River Valley and Hydroelectric Projects
(vii) Name of Project	Lower Kopili HEP (120MW) in Karbi Anglong & Dima Hasao, Assam, by M/s Assam Power Generation Corporation Ltd.
(viii) Location of Project (District, State)	DIMA HASAO, ASSAM
(ix) Issuing Authority	MoEF&CC
(x) EC Date	04/09/2019
(xi) Applicability of General Conditions	NO
(xiii) Status of implementation of the project	

1. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A, B and C) were submitted to the MoEF&CC for an appraisal by the Expert Appraisal Committee EAC under the provision of EIA notification 2006 and its subsequent amendments.
2. The above-mentioned proposal has been considered by Expert Appraisal Committee (EAC) in the meeting held on 26/10/2023. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above.
3. The brief about the reasons for an amendment requested along with comparison table illustrating the details of amendments are annexed to this letter as **Annexure (2)**.
4. The EAC, in its meeting held on 26.10.2023, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of amendment in Environment Clearance under the provision of EIA Notification, 2006 and as amended thereof.
5. The MoEF&CC has examined the proposal in accordance with the extant provisions of the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the Expert Appraisal Committee hereby accords amendment in Environment Clearance dated 4.09.2019 for the instant proposal to **M/s Assam Power Generation Corporation Ltd** under the provisions of EIA Notification, 2006 and as amended thereof subject to compliance of EC conditions, general instructions issued vide EC letter dated and EC identification number IA/AS/RIV/441844/2023 and following certain additional specific conditions.
6. The details of amendment sought is at Annexure (2).
7. This issues with the approval of the Competent Authority

**Copy To**

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi - 110 001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R. K. Puram, New Delhi - 110 066.
3. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office Law-U-Sib, Lumbatngon, Near MTC Workshop, Shillong
4. The Principal Chief Conservator of Forests, Head of Forest Force, Aranya Bhawan, Panjabari, Guwahati, 781037, Assam.
5. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.
6. The Member Secretary, Assam Pollution Control Board, Bamunimaidam, Guwahati – 21
7. Guard file/Monitoring file
8. Website of MoEF&CC.

**Annexure 1**

**Specific EC Conditions for (River Valley/Irrigation Projects)**

**1. Additional Condition**

S. No	EC Conditions
1.1	Aquatic study specially, migratory aquatic species concerning occurrence of fishes /habitat impact studies shall be carried out from recognised govt. Institutes and prepared mitigation measures, with provision of financial budget revised in the EMP. The outcome of the said study shall be



S. No	EC Conditions
	implemented.
1.2	Submit undertaking that R&R scenario /habitat of flora and fauna of project are not change due to modification of the project components.
1.3	All the conditions mentioned in the EC dated 4.09.2019 shall remain unchanged.



## Annexure (2)

### The details of amendment sought

The Project Proponent and the accredited Consultant made a detailed presentation on the salient features of the project and informed that:

- i. The Lower Kopili HEP (120 MW) is downstream development of existing Kopili HEP stage I and is located in east of Karbi Anglong and west of Dima Hasao districts of Assam.
- ii. The project is situated in the West Karbi Anglong and Dima Hasao (also known as North Cachar Hills) Autonomous District Council (ADC) areas of Central Assam. The Project location (dam site) is defined by 25°39'57.39"N latitude and 92°46'53.62"E longitude
- iii. The dam structure is located on Kopili River (a major tributary of the Brahmaputra River) and the main powerhouse and auxiliary power house structures are located on right bank of Kopili River.
- iv. The project envisages utilization of the regulated discharge from Kopili HEP, spills of Khandong and Umrang Dam and the discharge from the intermediate catchment by creation of a reservoir and utilizing a gross head of about 114m.
- v. This is a run-of-the-river scheme.
- vi. The scheme has been conceived to run at full potential in monsoon season and operate as a peaking station in non-monsoon season.
- vii. **Land requirement:** The total land requirement of the project is **1577** ha. The forest land to be acquired for the project is 523 ha. The private land to be acquired for the project is 1054 ha.
- viii. **Forest Clearance:** In principle approval of Stage 1 Forest Clearance for the diversion of 523.046 ha of forest land was accorded on 27.03.2019.
- ix. **Environment clearance** for the project was accorded **on 04.09.2019**
- x. **E flow** will be maintained as per stipulation of EC.
- xi. **Salient features of the project:**
  - a. Land Area: 1577 Ha (Forest land 523.0 Ha, Revenue land 1054.0 Ha)
  - b. Power generation capacity: 120 MW (MPH – 2 X 55 MW; APH – 2 X 2.5 + 1 X 5 MW)
  - c. Location of Dam Axis: 25°39'57.39"N; 92°46'53.62"E
  - d. Location of MPH: 25°41'5 4.02"N; 92°48'15.98"E
  - e. Concrete Gravity Dam: Across the river Kopili at Longku
  - f. Dam Height 66.5 m
  - g. water conductor system comprising of an intake structure, head race tunnel along with surge shaft and pen stock.
  - h. **Project cost: 1031.58 Cr excluding the R&R land cost 84.33 Cr.**
  - i. **EMP cost: 26147.5077 lakh**
  - j. **CER cost: 5.81 Cr**
- xii. **The details of amendment sought is as under: -**

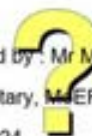
S. No.	Para/ details of EC issued by MoEF&CC	Details as per EC	To be revised/ read as	Justification/ reasons
--------	---------------------------------------	-------------------	------------------------	------------------------

1	Dam Height (m)	70.13	66.5	El. 228.00 m – El. 162.50 m = 66.50m. Change in dam design alters consumption of construction materials (e.g., concrete) and the volume of muck generated for disposal on-site.
2	Length of the Dam (m) Total width of dam structure including overflow & non overflow blocks	345.05	335.0	As per revised arrangement of NOF and OF section.
3	No of Spillways	8	6	10 m x 12.50 m. The discharging capacity of proposed spillway arrangement is verified on the physical hydraulic model study carried out in IRI, Roorkee and gate opening was found adequate to pass the PMF at N-1 condition. Same is approved by CEA
4	HRT Diameter (m)	6.65	7.0	Diameter of HRT is increased to ensure CEA approved head losses of 6m.
5	HRT length (m)	3619.62	3641.22	As per revised arrangement.
6	Tail Race Channel width (m)	26.3	26.0	Arrangement is revised to provide better hydraulic condition at the outlet of tail race.
7	Tail Race Channel length (m)	52.0	40.0	
8	Submergence area with the Reservoir spread (Ha)	552 submergence area	552 submergence area with reservoir spread of 620 Ha	Submergence area remains same i.e. 552 Ha within the reservoir spread of 620 Ha to accommodate plantation area as per EC and FC stipulation, Reservoir rim treatment, safety area for human and wildlife, within the existing land area of 1577 ha.

\*\*\*

Digitally Signed by: Mr Munna Kumar Shah  
Member Secretary, MEFCC (EC)

Date: 03/01/2024



## Annexure 2 : Approval of Mining Plan



খনিজ সম্পদৰ  
অন্বেষণত

GOVERNMENT OF ASSAM  
DIRECTORATE OF GEOLOGY AND MINING  
BHU-BIGYAN BHAWAN  
DAKHINGAON,KAHILIPARA,GUWAHATI-19  
Email: [dgmassam@gmail.com](mailto:dgmassam@gmail.com)  
[dgm.assam@gov.in](mailto:dgm.assam@gov.in)

No. GM/MM/86-B (40)/ Pt.VII/716-19 Dtd. Guwahati, the 3<sup>rd</sup> Sep, August, 2024.  
From : - Sri N. Anand, IFS,  
Director,  
Directorate of Geology & Mining, Assam,  
Kahilipara, Guwahati-19.  
To : - The Divisional Forest Officer,  
Dima Hasao Forest Division (West), Haflong  
Sub : - Approval of Mining Plan along with progressive Mine Closure Plan  
In respect of **Lower Kopili HEP Stone Quarry (Area 4.61 Ha.)** in Dima  
Hasao Dist. under The Divisional Forest Officer, Dima Hasao Forest  
Division (West) of Assam State submitted under Rule 51 & 52 of Assam  
Minor Mineral Concession Rules, 2013.  
Ref :- Your letter No. FRS/ G/ 101 (a)/ Stone-Chips/ L&T/ 2021-24/ 949-50, dtd.  
24.06.2024 **Mining Plan No.5126**

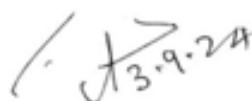
Sir/ Madam,

In exercise of the power conferred under Rule 51 & 52 of Assam Minor Mineral Concession Rules,2013, the aforesaid Mining Plan (including Progressive Mine Closure Plan) prepared by RQP Dr. Abhijit Bora in favour of the consenting applicant/project proponent Hi – Tech Rock Products & Aggregates Limited is approved subject to the conditions below:

- 1) The Map of the proposed stone quarry is based on the lease map/sketch submitted by the lessee and verified by RQP is applicable from the date of approval.
- 2) It is to clarify that the approval of the aforesaid Mining Plan along with the Progressive Mine Closure Plan is in accordance with the powers conferred by sub-section (1) of section 15 and section 23C of the Mines & Minerals (Development & Regulation) Act,1957 (67 of 1957).
- 3) The GPS coordinates of the said Mining Plan are provided from the DFO, Dima Hasao Forest Division (West) and the RQP prepared the plan keeping in view of the given coordinates. Any extraction from any area outside the Geo-coordinates will entail the Mining Plan to be cancelled.
- 4) At any stage, if it is observed that the information furnished data incorporated in the documents are incorrect or misrepresented facts, the approval of the document shall be revoked with immediate effect.
- 5) This approval is restricted in respect of the proposals contained within the mining lease area and the maximum quantity of **Stone** recommended for extraction is 209857 CuM. within 2 years from the date of approval of EC to be used for construction purposes subject to all statutory compliance and clearances for the mining activities to be carried out within the mining leasehold area.
- 6) "Safety Berm" of adequate dimension shall be kept at all the places in the vicinity of statutory barrier, bench/escarpment. Lessee shall take all necessary steps time to time so as to ensure the stability of ground, barrier, bench/escarpment to safe and stable condition within first year itself & DFO, Dima Hasao Forest Division (West) shall supervise the same, so that land subsidence or erosion does not happen.

- 7) Violations of any kind regarding the provisions of the Mining Plan will lead to the cancellation of the Mining Plan.
- 8) A safety barrier of 7.5m surrounding the mining area with shelter belt of trees/ plantation is to be maintained surrounding the area. No mining is allowed in this area.
- 9) The applicant is suggested to approach the competent authority to take proper permission for use of explosives with controlled blasting. It is advised to fix a thick cover of a safety net over the blasting site to prevent the splitting out of rock fragments during blasting.
- 10) Adequate drainage facility with settling tank has to be maintained.
- 11) The Permit holder has to strictly follow the Progressive Mine Closure Plan as mentioned in the mining plan. RE-GREENING of the mining area after ceasing of mining operation and restoration of the land to a condition which is fit for growth of flora, fauna and fodder are suggested.
- 12) The Divisional Forest Officer, Dima Hasao Forest Division (West), Haflong should see to that the lease area does not fall under any RF, PRF, USF/ Un-classed Revenue Area, National Park, Wild Life Sanctuary, Bird Sanctuary etc. including Eco-sensitive zones and, in such cases, appropriate clearance shall be obtained from the competent authority.
- 13) Environmental clearance must be obtained from the competent authority before execution.
- 14) The Divisional Forest Officer, Dima Hasao Forest Division (West) should ensure that no additional quantity is to be extracted.
- 15) Semi-mechanized extraction shall only be done.

Encl: Approved Mining Plan along with Progressive Mine Closure Plan.

 3.9.24

Director,  
Directorate of Geology & Mining, Assam.

No. GM/MM/86-B (40)/ Pt.V/  
Copy to :- 1) The Deputy Commissioner, Dima Hasao, Haflong for information and necessary action.

Dtd. Guwahati, the August, 2024.

2) Hi – Tech Rock Products & Aggregates Limited (subsidiary company of Larsen & Toubro Limited), Longku Gaon, P.O. Umrangso, P.S. Umrangso, District: Dima Hasao (Assam)

3) Office copy.

  
Director,  
Directorate of Geology & Mining, Assam

GPS Coordinates:

S. No	Easting	Northing
1	480965.5910	2842295.5940
2	480917.2680	2842267.7180
3	480912.7340	2842227.8330
4	480952.3940	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	2842257.0930
10	481187.7550	2842274.1650
11	481200.4650	2842295.0830
12	481209.5660	2842319.6650
13	481223.2550	2842348.6830
14	481241.5470	2842371.5250
15	481266.6900	2842413.1400
16	481240.8950	2842440.9850
17	481234.6870	2842448.0520
18	481203.9310	2842448.0480
19	481149.7050	2842426.9370
20	481125.8150	2842418.6650

### Annexure 3 : NOC from PESO for 20 KLD Fuel dispensing unit



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 : 05/12/2023

सेवा में  
/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

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

महोदय  
/Sir(s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या OIN1532901 दिनांक 02/12/2023 का संदर्भ ग्रहण करें।  
Please refer to your letter No. OIN1532901 dated 02/12/2023 on the subject.

अनुज्ञापि सं P/EG/AS/14/1630 (P502141) दिनांक 06/12/2021 दिनांक 31/12/2024 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 31/12/2024.

कृपया पेट्रोलियम नियम, 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें। अनुज्ञापि के नवीकरण हेतु समस्त दस्तावेजों को दिनांक  
31/12/2024 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 31/12/2024.

कृपया प्रावृती दें। Please acknowledge the receipt.

भवदीय /Yours faithfully,

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

(अधिक जानकारी जैसे अवेदन 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 4 : NOC from Jt. Controller of Explosives for 20 Kl Diesel.**

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

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

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

फीस रूपए (Fee Rs.) 5000/- per year

पेट्रोलियम अधिनियम, 1934 के उपबंधों और उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए 20.00 KL of Petroleum class B को टैंक/टैंकों में भण्डारण मात्र के लिए M/s. Larsen & Toubro Limited, Vill- Longku, P.O. Longku BO, P.S. Umrangso, Longku, Longku, Taluka: Umrangso, District: DIMA HASAO, State: Assam, PIN: 788931 को नीचे वर्णित अनुज्ञप्त परिसरों में जो कि इससे उपबद्ध नक्शा संख्या P/EG/AS/14/1630(P502141) तारीख 05/12/2023 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 05/12/2023 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 2024 तक विधिमान्य रहेगी।

The Licence shall remain in force till the 31st day of December 2024

December 6, 2021

For Jt. Chief Controller of Explosives  
EG, Assam

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

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

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

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

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

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

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

ग एक विक्रय कक्ष/कियोस्क

c A sales room/kiosk

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

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

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



Annexure 5 : CTO RO Plant renewal



**Pollution Control Board:: Assam**  
**Regional Laboratory cum Office, Silchar**  
(Department of Environment & Forests: Government of Assam)  
(1<sup>st</sup> Floor of Silchar Development Authority Building; P.W.D. Road,  
P.O: Silchar; Dist.: Cachar Phone No. – (03842262205)  
E- mail: ro\_silchar@pcbassam.org



No. RLO/SLC/T-3291/22-23/44

Dated Silchar, the 18<sup>th</sup> June 2024

**"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 : LARSEN & TOUBRO LTD.
- ii) Name of the Occupier / Applicant and Designation : 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 KLD)  
(Green Category).

Sl. No.	Product	Quantity/ Capacity
1	Water Treatment Plant	15 Kilo Litres/Day

**TERMS AND CONDITIONS**

1. This CTO has been granted based on the information & particulars furnished by the applicant vide **Application ID: 2758415** 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 **31.03.2026**.
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.

*(Signature)*

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# Environmental Monitoring Report

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**PUBLIC**

Semestral Report: January 2024 – June 2024  
December 2024

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

Part 2 of 3: Annexure 5 (Continued) and Annexure 6 - 29

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

**Asian Development Bank**

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

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-A).
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 at least 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 discharge from Effluent Treatment system, and/or R.O. rejects shall meet the specific discharge standard as mentioned herein under:

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 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.**

PA

**D) Hazardous Waste Aspects:**

1. The unit shall obtain Authorization under the HOW Rule.
2. The containers containing chemical should be stored and disposed as per Hazardous and Other Waste (Management & Trans-boundary Movement) Rules, 2016.
3. Adequate facility shall be provided for collection and storage of used oil, which shall be sent to registered recyclers for recycling. The unit shall maintain a record of generation of hazardous wastes in Form-III of the Rules.
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 HOW Rule including Notification, Guidelines issued there under.
5. 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.

Regional Executive Engineer (i/c)

RLO: -Silchar

Dated Guwahati, the 18th June, 2024

Memo No. RLO/SLC/T-3291/22-23/44-A

Copy to:

1. ✓ M/S. LARSEN & TOUBRO LTD. C/O Santanu Majumdar, Project Manager, 120 MW Lower Kopili Hydro Electric Project, Vill: Longku, P.O.: Umrangso, Dist: Dima Hasao, Assam, PIN: 788931 for information & compliance of CTO conditions.

Regional Executive Engineer (i/c)

RLO: -Silchar

Annexure-6 : Renewal of CTO OF WTP -6KLD



Pollution Control Board:: Assam  
Regional Laboratory cum Office, Silchar  
(Department of Environment & Forests: Government of Assam)  
(1<sup>st</sup> Floor of Silchar Development Authority Building; P.W.D. Road,  
P.O: Silchar; Dist.: Cachar Phone No. - (03842263205)  
E- mail: ro\_silchar@pcbassam.org



No. RLO/SLC/T-3289/22-23/48

Dated Silchar, the 18<sup>th</sup> June, 2024

**"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 : LARSEN & TOUBRO LTD.
- ii) Name of the Occupier / Applicant and Designation : 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).

Sl. No.	Product	Quantity/ Capacity
1	Water Treatment Plant	600 Kilo Litres/Day

**TERMS AND CONDITIONS**

1. This CTO has been granted based on the information & particulars furnished by the applicant vide **Application ID: 2741396** 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. 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.

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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-A).
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 at least 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 discharge from Effluent Treatment system, and/or R.O. rejects shall meet the specific discharge standard as mentioned herein under:

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 HOW Rule.
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.

Regional Executive Engineer (i/c)

RLO: :Silchar

Dated Guwahati, 18th June, 2024

Memo No. RLO/SLC/T-3289/22-23/48-A *101*  
Copy to:

1. ✓ M/S. LARSEN & TOUBRO LTD. C/O Santanu Majumdar, Project Manager, 120 MW Lower Kopili Hydro Electric Project, Vill: Longku, P.O.: Umrangso, Dist: Dima Hasao, Assam, PIN:788931 for information & compliance of CTO conditions.

*18/06/24*  
Regional Executive Engineer (i/c)

RLO: :Silchar



Annexure 7: Explosive license renewal from PESO



भारत सरकार | Government of India
व्यक्तिगत और उद्योग मंत्रालय | Ministry of Commerce & Industry
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पेसो) | Petroleum & Explosives Safety Organisation (PESO)
पूर्व नाम: विस्फोटक विभाग | Formerly: Department of Explosives
पर कमरेक. २१६, दुसरी मंजिल, इमास बिल्डिंग के ऊपर, चांदमारी | House No. 216, 2nd Floor, above IDMI, Chandmari,
गुवाहाटी, असम - ७८१०२२ गुवाहाटी | Guwahati, Assam Guwahati 781021
फोन (Phone): २६५२७६३ | फैक्स (Fax): २६५२५०३
ई-मेल Email: dyocepawahati@peso.gov.in

संख्या (No.): E/EG/AS/22-6/NE/134742)

दिनांक (Date): 28/03/2024

सेवा में | To,

M: R L PODDAR,

Smt. Kanchan Poddar (Partner), House No. 14, Poddar Complex, Forest Gate, M. T. Road, Nirangti, Town/Village - Guwahati
District KAMRUP (METRO), State-Assam, Pincode - 781038

विषय | Survey No Land Measuring 231.25 Hectare (1884.375 Bighas) at Lower Kopli HEP, Longla, Dist Longla, जिला DIMA HASAO, राज्य Assam में विस्फोटक के पैराडीज में उपयोग के लिए कक्षा हेतु विस्फोटक निगम, २००९ के अंतर्गत LE-3 में जारी अनुमति सं E/EG/AS/22-6/NE/134742) के नवीनीकरण संबंध में।

Subject: Possession for Use of Explosives from magazine situated at Survey No. Land Measuring 231.25 Hectare (1884.375 Bighas) at Lower Kopli HEP, Longla, Longla, Dist. DIMA HASAO, Assam - Licence No.: E/EG/AS/22-6/NE/134742) granted in Form LE-3 of Explosives Rules, 2009 - Renewal regarding

महोदय | Sir,

अनुरोध अनुसार विषय पर पाठ संख्या 116541 दिनांक 28/03/2024 का संदर्भ प्रदान करें। विस्फोटक निगम, २००९ के अंतर्गत प्रत्येक (LE-3) में जारी अनुमति दिनांक 31/03/2024 तक नवीनीकृत कर दस पाठ के साथ भेजी जा रही है।

Reference to your letter No.: 116541 dated: 28/03/2024, the subject licence duly renewed upto 31/03/2024 and issued in Form LE-3 of Explosives Rules, 2009 is forwarded herewith.

अनुमति के अगामी नवीकरण हेतु कुपण निम्नलिखित दस्तावेज दिनांक 31/03/2024 से पहले इस कार्यालय को भेजे जाएं।

For further renewal of licence, please submit the following documents so as to reach this office on or before 31/3/2024.

- प्रत्येक आर्द-1 में निम्नलिखित पूर्ण एवं दस्तावेजित आवेदन।
Application in Form RE-1 duly filled in and signed.
एक से पांच वर्ष के अनुमति शुल्क का, विस्फोटक निगम, २००९ के तहत ऑनलाइन आवेदन पोर्टल पर उपलब्ध ई-प्रदान सुविधा के माध्यम से तदनुसार शुल्क ऑनलाइन जमा किया जान दे।
Licence fees payable for one to five years, to be submitted online through e-payment facility available on online application portal under the Explosives Rules, 2009.
अनुमति पत्र के साथ मूल अनुमति।
Original licence with approved plan.
कुपण इस संबंध में विस्फोटक निगम, २००९ के नियम 112 का भी संदर्भ प्रदान करें।
In this connection, please also refer to Rule 112 of Explosives Rules, 2009.
विस्फोटक के क्रय हेतु आर्द-11 में संपूर्ण (स्टॉक) अनुमतिकर्ता को दिया जाए और उसी की एक प्रति इस कार्यालय को भेजी जाए (अतिरिक्त की आवश्यकता के लिए लागू नहीं)।
Indent for purchase of explosives shall be placed in RE-11 with the supplier and copy of the same shall be sent to this office. (Not applicable for fireworks store house)
कुपण विस्फोटक के जमा करने वाले निमाही के अंत में आर्द-7 में प्रस्तुत की जाए। विस्फोटक इस कार्यालय के कार्यालय में आगामी तिमाही के 10 तारीख से पहले पहुंच जाने चाहिए (अतिरिक्त की आवश्यकता के लिए लागू नहीं)। Please submit quarterly status of explosives in RE-7 at the end of every quarter so as to reach this office by 10th of the succeeding quarter. (Not applicable for fireworks store house)
सभी ब्लास्टिंग ऑपरेशन एक सक्षम द्वारा की जाएगी जो उपरोक्त नियमों के तहत एक वैध शॉट फायर पैसाट्रिज के तहत है। हालांकि, सख्त अधिनियम 1952 के अधीन आने वाले सख्त में ब्लास्टिंग ऑपरेशन करने वाले ब्लास्टर की योग्यता उसी अधिनियम से निर्धारित हो।
All blasting operations shall be carried out by a competent person holding a valid shot fire's permit granted under above rules. However, blasting operations at mines coming under the purview of the Mines Act 1952, the blaster shall have qualifications prescribed in the regulations framed under the said Act.

भवदीय | Your's faithfully

(यू. एस. शंकर) | UJWAL SHANKAR BHANGE
विस्फोटक नियंत्रक | Controller of Explosives
कुने संयुक्त मुख्या विस्फोटक नियंत्रक | For Joint Chief Controller of Explosives
गुवाहाटी | Guwahati

प्रतिलिपि प्रेषित | Copy Forwarded to:

- 1. जिला मजिस्ट्रेट (District Magistrate), DIMA HASAO (Assam)- सूचना के लिए (for information.)

कुने संयुक्त मुख्या विस्फोटक नियंत्रक | For Joint Chief Controller of Explosives
गुवाहाटी | Guwahati

(अधिक जानकारी के लिए आवेदन की तिथि, शुल्क आदि 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 physical signature. Applicant may take printout for their records.

**Annexure 8: NOC from DC for Explosive handling and operation**



GOVT. OF ASSAM

OFFICE OF THE DISTRICT MAGISTRATE :: DIMA HASAO DISTRICT :: HAFLONG

ECF No. 18136/298116

**NO OBJECTION CERTIFICATE**

Seen letter No. LKHEP-PKG2/LNT/153/GL/422 dated 05/06/2024 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 ECF No. 18136/190347 dated 03/02/2024 for permitting explosive handling and its operation application for construction 120 MW-Lower Kopili Hydroelectric Project which was valid up to 13/07/2024.

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 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, Govt. 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 when required.
5. Local Police Station Officer-in-Charge is to be intimated of timings and dates of blasting activities.
6. Village authorities of villages adjacent to the blasting sites are to be intimated in advance before blasting activities are initiated.

This NOC shall be valid till **13/07/2025**. However, if the stated conditions are not met, this conditional NOC stands cancelled and authority shall cause an immediate cessation of blasting activities.

Signed by

Simanta Kumar Das

District Magistrate  
Dima Hasao District, Haflong.

Date: 13-06-2024 11:24:40

Memo ECF No. 18136/298116-A

Copy to:

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

**e-Signed**

District Magistrate,  
Dima Hasao District, Haflong.

**Annexure 9: License for use of explosives**

**अनुमति प्रारूप एच. ई.-3 | LICENCE FORM LE-3**

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (घ) देखिए।)

(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)

(ग) उपयोग के लिए एक समय पर वर्ग 1, 2, 3, 4, 5 या वर्ग 7 के विस्फोटक या किसी मैगजीन में वर्ग 6 के विस्फोटक रखने के लिए अनुमति

License to possess : (c) for use explosives of class 1, 2, 3, 4, 5 or 7 in a magazine

अनुमति सं. (Licence No.) : E/EG/AS/22-69(E134742)

वार्षिक फीस (Annual Fee Rs.) : 16500/-

1. License is hereby granted to

**M & R L PODDAR (अधिभोगी / Occupier) : Smt. Kanchan Poddar, Smt. Kanchan Poddar(Farmer), House No. 14, Poddar Complex, Forest Gate, M. T. Road, Narangi, Town/Village - Gwahati, District-KAMRUP (METRO), State-Assam, Pincode - 781024**



जो अनुमति अनुदान की जाती है।

2. अनुमतिधारी की प्रकृति | Status of licensee - **Partnership Firm**

3. अनुमति निम्नलिखित प्रयोजनों के लिए विधिवत है।

possess for use of Nitrate Mixture, Detonator, Detonating Fuse, - के उपयोग के लिए

License is valid only for the following purpose.

4. अनुमति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिवत है।

License is valid for the following kinds and quantity of explosives: - (अ) (ख)

क्र. सं. (Sl. No.)	नाम और विवरण (Name and Description)	वर्ग और भाग (Class & Division)	उप-भाग (Sub-division)	मात्रा किसी एक समय में (Quantity at any one time)
1	Nitrate Mixture	3.0	0	10000 Kg
2	Detonator	6.3	0	44000 Nos.
3	Detonating Fuse	9.2	0	100000 Mts

(ख) किसी एक कैलेंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा (अनुच्छेद 3(क) और (ग) के अधीन अनुमति के लिए)

(b) Quantity of explosives to be purchased in a calendar month (applicable for license under article 3(b) and (c)) :

**L1 times as above.**

5. निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुमति धारिता की पुष्टि होती है।

रेखाचित्र सं. (Drawing No.) E/EG/AS/22-69(E134742)

The licensed premises shall conform to the following drawing(s):

दिनांक (Dated) 25/11/2021

6. अनुमति धारिता निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address:

Survey No. Land Measuring 251.25 Hectare (1884.375 Bighas) at Lower Kopli HEP, Longku, गाँव (Town/Village) : Longku

जिला (District)	DIMA HASAO	राज्य (State)	Assam	पिनकोड (Pincode)	788932
फ़ोन (Phone)		ई-मेल (E-Mail)	nsexplo@gmail.com	फैक्स (Fax)	

7. अनुमति धारिता में निम्नलिखित सुविधाएँ अंतर्भूत हैं।

Blasting Works at 1105MW, Lower Kopli Hydroelectric Project, Assam

The licensed premises consist of following facilities.

8. अनुमति समान - समान पर लागू/संबंधित विस्फोटक अधिनियम, 1984 और उसके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपबंधों के अधीन रहने हुए अनुदान की जाती है।

The license is granted subject to the provisions of Explosives Act 1984 as amended from time to time and the Explosives Rules, 2004 framed there under and the conditions, additional conditions and the following Annexures.

- उपरोक्त क्रम सं. 1 में दत्त रेखाचित्र (समान, संशोधन संबंधी और अन्य विवरण दर्शाते हुए)।  
Drawings (showing site, constructional and other details) as stated in serial No. 5 above.
- अनुमति धारिता के तहत दत्त शर्तों और अतिरिक्त शर्तों।  
Conditions and Additional Conditions of this license signed by the licensing authority.
- दूरी प्रारूप DE-2 / Distance Form DE-2.

9. यह अनुमति तारीख 31 मार्च 2024 तक विधिवत रहेगी। This license shall remain valid till 31st day of March 2024.

यह अनुमति, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा उपरोक्त दत्त अनुमति की शर्तों का अतिक्रमण करने या यदि अनुमति धारिता योजना या उसके संबंधित उपबंध में दर्शाए गए विवरण के अतिक्रमण नहीं करे जाने पर निलंबित या प्रलयाजित की जा सकती है, बशर्त लागू हो।

This license is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this license as set forth under Ser VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plan and Annexure attached hereto.

तारीख | The Date - 25/11/2021

संयुक्त मुख्य विस्फोटक नियंत्रक | Joint Chief Controller of Explosives  
Gwahati Circle, Gwahati

**Amendments :**

- Amendment of Quantity of Explosives Monthly Purchase Limit dated : 11/03/2022
- Amendment of Quantity of Explosives Monthly Purchase Limit dated : 13/01/2023

पुनरीक्षण के पुरातन के लिए स्थान  
Space for Endorsement of Renewal

पुनरीक्षण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry	अनुमति प्राधिकारी के हस्ताक्षर और मसूदा Signature of licensing authority and stamp
25/03/2024	31/03/2025	It Chief Controller of Explosives, Gwahati Circle, Gwahati

**सावधानी चेतावनी : विस्फोटकों को गलत ढंग से सभाने या उनका दुरुपयोग विधि के अधीन गंभीर दण्डित अपराध होगा।  
Statutory Warning : Mishandling and misuse of explosives shall constitute serious criminal offence under the law.**

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

Annexure 10 : Fire NOC renewal



सत्यमेव जयते

GOVT. OF ASSAM  
OFFICE OF THE DIRECTOR  
FIRE AND EMERGENCY SERVICES, ASSAM  
PANBAZAR, GUWAHATI



UBIN : 299/566476/AAACL0140P/11/2022

UAIN : FIRNOCXIII/2024/00908

**ACKNOWLEDGEMENT OF RENEWAL NO OBJECTION CERTIFICATE**

To,

SANTANU MAJUMDAR  
120MW LOWER KOPILI HEP, LONGKU, DIMA HASAO,  
DIMA HASAO, Pin 788931

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 & Letter No. HMB.362/2019/72 dated 08.07.2022 and Self Declaration received in prescribed form on dated 22/03/2024, 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) 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.

**DETAILS OF APPROVED OCCUPATION**

S. No.	Floor	Floor Area	Purpose of Utilization
1.	GROUND FLOOR	28.2 SQM	EXPLOSIVE MAGAZINE

Hazard Category: **High Hazard**

THIS NOC IS VALID UP TO **29/3/2025**

Place of issue: **GUWAHATI**

Date of issue : **30/03/2024**

Director of Fire and Emergency Services,  
Assam, Guwahati.

CONDITIONS :

1. This N.O.C. is not transferable in respect of name, place and purpose of utilization.
2. There should not be any change or alteration of Trade/purpose of utilization for which this N.O.C. has been issued.
3. There should not be any structural change in the building either horizontally or vertically. There should not also be any change in the existing arrangements.
4. It will be compulsory to obtain fresh Fire Safety No Objection Certificate from Assam Fire & Emergency Services prior to any change in occupation or alteration to building or premises.
5. The Fire Fighting equipments should be in serviceable condition at all times.

6. Water reservoir should always be kept full up to brim.
7. The entrance and exit and the water reservoir should always be free from any obstruction/projection.
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.

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

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

UBIN : 618/889396/NOPAN/2/2024  
UAIN : LCFORMIVCL/2024/01927  
License No. : CLL/2024/8517079021337370B  
Date of Issue : 14/02/2024

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 **24/02/2025** .

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

5. VALID FOR ALL OVER ASSAM, and only for the purpose mentioned in this certificate.

6. Payment Details:

GRN AS008085629202324P  
CIN 10004672024021402397  
Txn Date 14/02/2024  
Amount 500.00  
Status Y



(Scan the QR Code for authentication)

Office of the Commissionerate of Labour  
Licensing Officer

\*\*\* This is a computer generated certificate and it does not require a Signature/Seal.\*\*\*  
\*\*\*Terms & Conditions of this Certificate is enclosed as Annexure-L\*\*\*

◆ **The Payment of Bonus Act, 1965 and the Rules framed thereunder-**  
**(Application to only where 10 or more persons are employed on any day in the preceding 12 months)**

the employer has to-

- Maintain in Form A the record in respect of computation of the Available Surplus in respect of any accounting year.
- Maintain the set on and set off allocable surplus in form B.
- Maintain the record of the bonus paid to the employees for any accounting year in form C.
- Submit Annual return in form D.
- Pay the bonus to the employees within 8 months of the close of the accounting year.

◆ **Contract Labour (Regulation & Abolition) Act, 1970 and the Rules framed thereunder-**

The contractor of the establishment shall provide the following facilities to the contract labour and in case of failure on the part of the contractor to do so the principal employer that is the establishment shall provide the same and may recover the expenses from the contractor as a debt payable by the contractor as let down under section 20 of the Act.

- the licence shall be non-transferable;
- the number of workmen employed as contract labour in the establishment shall not, on any day, exceed the maximum number specified in the licence;
- save as provided in these rules, the fees paid for the grant or as the case may be, for renewal of the licence, shall be non-refundable;
- the rates of wages payable to the workmen by the contractor shall not be less than the rates prescribed under the Minimum Wages Act, 1948 (II of 1948), for such employment where applicable, and where the rates have been fixed by agreement, settlement or award, not less than the rates so fixed;
- in cases where the workmen employed by the contractor perform the same or similar kind of work as the workmen directly employed by the principal employer of the establishment, the wage rates, holidays, hours of work and other conditions of service of the workmen of the contractor shall be the same as applicable to the workmen directly employed by the principal employer of the establishment on the same or similar kind of work :

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

(b) in other cases the wage rates, holidays, hours of work and conditions of service of the workmen of the contractor shall be such as may be specified in this behalf by the Labour Commissioner (Assam):

- (a) in every establishment where twenty or more women are ordinarily employed at contract labour, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years;
- (b) one of such rooms shall be used as a play room for the children and the other as bed room for the children;
- (c) the contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the sleeping room;
- (d) the standard of construction and maintenance of the creches shall be such as may be specified in this behalf by the Labour Commissioner (Assam);
- the licensee shall notify any change in the number of workmen or the conditions of work to the licensing officer;
- the Licensee shall within fifteen days of the commencement and completion of each contract work submit a return to the Inspector of the area appointed under Section 28 of the Act, intimating the actual date of the commencement or as the case may be, completion of such work in Form VI A.

◆ **Payment of Gratuity Act, 1972 and the Rules framed thereunder:-**  
(Applicable where 10 or more persons are employed on any day in the preceding twelve months).

The employer has to:-

- Give a notice of opening in Prescribed Form to the Controlling Authority within 30 days.
- Give a notice in Prescribed Form to the Controlling Authority in case of any change in the name, address, employer or nature of business.
- Give a notice in Prescribed Form to the Controlling Authority in case of close down business at least sixty days before the intended closure.
- Ensure that a notice is displayed near the main entrance in bold letter in Hindi and in a language understood by at least one third of the employees specifying the name of the officer with designation authorized by the employer to receive on his behalf notice under the Acts or the Rules.
- Ensure that the employees who have rendered continuous service for not less than five years are being paid/shall be paid gratuity on superannuation/retirement/resignation and the nominees of an employee who dies during the service are also being paid/shall be paid gratuity even though five years of service has not been rendered.
- Ensure that the amount of gratuity is/shall be determined by the employer and the notice writing is/shall be given to the person to whom the gratuity is payable and also to the Controlling Authority.
- Ensure that the amount of gratuity is/shall be paid within 30 days from the date it becomes payable as has been laid down under the Act and the Rules.
- Ensure that an abstract of the Act and the Rules made thereunder in Prescribed Form in English and Hindi has been displayed at a conspicuous place.

◆ **The Maternity Benefits Act, 1961 and the Rules framed thereunder:-**

The employer has to-

Ensure to comply to all the provisions under the **Maternity Benefits Act (as amended) 1961.**

◆ **The Child and Adolescent Labour (Prohibition and Regulation) Act, 1986 and the Rules framed thereunder:-**

- Engagement of Child and Adolescent Labour is strictly prohibited as per provisions of the U/s 3 and 3A of the Child and Adolescent labour (Prohibition and Regulation) Act, 1986.

\*\* **Revocation, suspension of licences/registration.—**

- If the licensing officer is satisfied, either on a reference made to him in this behalf or otherwise, that—

(a) a licence/registration granted has been obtained by misrepresentation or suppression of any material fact, or  
(b) the holder of a licence/registration has, without reasonable cause, failed to comply with the conditions subject to which the licence has been granted or has contravened any of the provisions of applicable Labour Acts or the rules made thereunder, then, without prejudice to any other penalty to which the holder of the licence may be liable under applicable Labour Acts, the licensing officer may, after giving the holder of the licence an opportunity of showing cause, revoke or suspend the licence.

(Full Signature of the Employer/ Director/ Occupier/ Contractor )

STOP CHILD LABOUR



Annexure 12. Labour license of CP-4

STOP CHILD LABOUR

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

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

UBIN : 708/267449/NOPAN/5/2023  
UAIN : LCFORMIVCL/2024/01874  
License No. : CLL/2024/FY1707811845411OC  
Date of Issue : 13/02/2024

1. Licence is hereby granted to **Salasar Techno Engineering 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 **ELECTRICAL WORKS**, in the Establishment of **Chief general manager PP AND I APGCL ,C/O. Govt. of Assam at PALTANBAZAR, , GUWAHATI, KAMRUP METRO - 781001, ASSAM**.

3. The Licence shall remain in force till **10/02/2025** .

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

5. **VALID FOR ALL OVER ASSAM**, and only for the purpose mentioned in this certificate.

6. Payment Details:

GRN AS008060503202324P  
CIN 10004672024021303375  
Txn Date 13/02/2024  
Amount 450.00  
Status Y



(Scan the QR Code for authentication)

Office of the Commissionerate of Labour  
Licensing Officer

\*\*\* This is a computer generated certificate and it does not require a Signature/Seal.\*\*\*  
\*\*\*Terms & Conditions of this Certificate is enclosed as Annexure-I.\*\*\*

STOP CHILD LABOUR

Annexure-I  
**Terms and Conditions of Auto Generation of Certificate Licenses under EoDB**  
**(GUIDELINES TO THE EMPLOYERS UNDER DIFFERENT LABOUR LAWS, AS APPLICABLE)**

The provisions of different labour laws given below are illustrative and not exhaustive and are meant for general guidance.  
**(For details please refer to the respective Act and Rules framed thereunder)**

◆ **The Minimum Wages Act, 1948 and the Rules framed thereunder.**

The employer has to-

- The wage period with respect to any scheduled employment for which wages have been fixed shall not exceed one month and the wages of a worker in such employment shall be paid on a working day before the expiry of the seventh day after the last day of the wage period.
- Where the employment of any person is terminated by or on behalf of the employer, the wages earned by him shall be paid before the expiry of the second working day after the day on which his employment is terminated.
- The wages of an employed person shall be paid to him without deduction of any kind except those authorised by or under the rules framed thereunder.
- Every employer shall send annually a return in Form III so as to reach the Inspector not later than the 1st February, following the end of the year to which it relates.
- Subject to the provisions of this rule, an employee in a scheduled employment in respect of which minimum rates of wages have been fixed under the Act, shall be allowed a day of rest every week (hereinafter referred to as the 'rest day') which shall ordinarily be Sunday, but the employer may fix any other day of the week as the rest day for any employee or class of employees in that scheduled employment.
- Ensure fixation no. of daily working hours as per provisions of the Act
- Ensure payment to workmen at double the rate of their ordinary wages and to maintain a register of overtime in prescribed format.

**Form of registers and records-**

A Register of wages shall be maintained by every employer at the establishment and kept in such form as may be notified by the Government.

◆ **The Payment of Wages Act, 1936 and the Rules framed thereunder-**

The employer has to-

- Responsibility for and method of payment- The manager of the Factory/Industrial Establishment is responsible for the payment under the Act of wages to persons employed under him, and any contractor employing persons is responsible for payment of persons he employs.
- Wage-periods shall be fixed for the payment of wages at intervals not exceeding one month.
- Wages shall be paid on a working day within 7 days of the end of the wage-period (or within 10 days if 1,000 or more persons are employed). The wages of person discharged shall be paid not later than the second working day after his discharge.
- Wages in kind are prohibited.
- Fines and deductions- No deduction shall be made from wages except those authorised under the Act.

◆ **The Payment of Bonus Act, 1965 and the Rules framed thereunder-**  
**(Application to only where 10 or more persons are employed on any day in the preceding 12 months)**

the employer has to-

- Maintain in Form A the record in respect of computation of the Available Surplus in respect of any accounting year.
- Maintain the set on and set off allocable surplus in form B.
- Maintain the record of the bonus paid to the employees for any accounting year in form C.
- Submit Annual return in form D.
- Pay the bonus to the employees within 8 months of the close of the accounting year.

◆ **Contract Labour (Regulation & Abolition) Act, 1970 and the Rules framed thereunder-**

The contractor of the establishment shall provide the following facilities to the contract labour and in case of failure on the part of the contractor to do so the principal employer that is the establishment shall provide the same and may recover the expenses from the contractor as a debt payable by the contractor as let down under section 20 of the Act.

- the licence shall be non-transferable;
- the number of workmen employed as contract labour in the establishment shall not, on any day, exceed the maximum number specified in the licence;
- save as provided in these rules, the fees paid for the grant or as the case may be, for renewal of the licence, shall be non-refundable;
- the rates of wages payable to the workmen by the contractor shall not be less than the rates prescribed under the Minimum Wages Act, 1948 (II of 1948), for such employment where applicable, and where the rates have been fixed by agreement, settlement or award, not less than the rates so fixed;
- in cases where the workmen employed by the contractor perform the same or similar kind of work as the workmen directly employed by the principal employer of the establishment, the wage rates, holidays, hours of work and other conditions of service of the workmen of the contractor shall be the same as applicable to the workmen directly employed by the principal employer of the establishment on the same or similar kind of work :

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

(b) in other cases the wage rates, holidays, hours of work and conditions of service of the workmen of the contractor shall be such as may be specified in this behalf by the Labour Commissioner (Assam):

- (a) in every establishment where twenty or more women are ordinarily employed at contract labour, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years;
- (b) one of such rooms shall be used as a play room for the children and the other as bed room for the children;
- (c) the contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the sleeping room;
- (d) the standard of construction and maintenance of the creches shall be such as may be specified in this behalf by the Labour Commissioner (Assam);
- the licensee shall notify any change in the number of workmen or the conditions of work to the licensing officer;
- the Licensee shall within fifteen days of the commencement and completion of each contract work submit a return to the Inspector of the area appointed under Section 28 of the Act, intimating the actual date of the commencement or as the case may be, completion of such work in Form VI A.

◆ **Payment of Gratuity Act, 1972 and the Rules framed thereunder:-**  
(Applicable where 10 or more persons are employed on any day in the preceding twelve months).

The employer has to:-

- Give a notice of opening in Prescribed Form to the Controlling Authority within 30 days.
- Give a notice in Prescribed Form to the Controlling Authority in case of any change in the name, address, employer or nature of business.
- Give a notice in Prescribed Form to the Controlling Authority in case of close down business at least sixty days before the intended closure.
- Ensure that a notice is displayed near the main entrance in bold letter in Hindi and in a language understood by at least one third of the employees specifying the name of the officer with designation authorized by the employer to receive on his behalf notice under the Acts or the Rules.
- Ensure that the employees who have rendered continuous service for not less than five years are being paid/shall be paid gratuity on superannuation/retirement/resignation and the nominees of an employee who dies during the service are also being paid/shall be paid gratuity even though five years of service has not been rendered.
- Ensure that the amount of gratuity is/shall be determined by the employer and the notice writing is/shall be given to the person to whom the gratuity is payable and also to the Controlling Authority.
- Ensure that the amount of gratuity is/shall be paid within 30 days from the date it becomes payable as has been laid down under the Act and the Rules.
- Ensure that an abstract of the Act and the Rules made thereunder in Prescribed Form in English and Hindi has been displayed at a conspicuous place.

◆ **The Maternity Benefits Act, 1961 and the Rules framed thereunder:-**

The employer has to-

Ensure to comply to all the provisions under the **Maternity Benefits Act (as amended) 1961.**

◆ **The Child and Adolescent Labour (Prohibition and Regulation) Act, 1986 and the Rules framed thereunder:-**

- Engagement of Child and Adolescent Labour is strictly prohibited as per provisions of the U/s 3 and 3A of the Child and Adolescent labour (Prohibition and Regulation) Act, 1986.

**\*\* Revocation, suspension of licences/registration.—**

- If the licensing officer is satisfied, either on a reference made to him in this behalf or otherwise, that—

(a) a licence/registration granted has been obtained by misrepresentation or suppression of any material fact, or  
(b) the holder of a licence/registration has, without reasonable cause, failed to comply with the conditions subject to which the licence has been granted or has contravened any of the provisions of applicable Labour Acts or the rules made thereunder, then, without prejudice to any other penalty to which the holder of the licence may be liable under applicable Labour Acts, the licensing officer may, after giving the holder of the licence an opportunity of showing cause, revoke or suspend the licence.

(Full Signature of the Employer/ Director/Occupier/ Contractor )

STOP CHILD LABOUR

Annexure 13: Additional 30 Labour License of CP-4

STOP CHILD LABOUR

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

LO Office(Hojai )  
LICENSE UNDER CONTRACT LABOUR (REGULATION & ABOLITION) ACT, 1970

UBIN : 709(267449/aaics6856k/5/2023  
UAIN : LCFORMIVCL/2024/05761  
License No. : CLL/2024/AQ17159522850823Y  
Date of Issue : 17/05/2024

1. Licence is hereby granted to **SALASAR TECHNO ENGINEERING 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 **EPD MANUFACTURING**, in the Establishment of **LOWER KOPILI HYDRO ELECTRIC PROJECT APGCL LONGKU ,C/O. at DIMA HASAO, DIMA HASAO, DIMA HASAO - 788931, ASSAM** .

3. The Licence shall remain in force till **23/05/2025** .

4. Maximum No of contract labour proposed to be employed in the establishment on any date : **30 nos.**

5. VALID FOR **DIMA HASAO ONLY** and only for the purpose mentioned in this certificate.

6. Payment Details:

GRN AS000939007202425P  
CIN 10004672024051702906  
Txn Date 17/05/2024  
Amount 500.00  
Status Y



(Scan the QR Code for authentication)

LO Office(Hojai )  
Licensing Officer

\*\*\* This is a computer generated certificate and it does not require a Signature/Seal.\*\*\*  
\*\*\*Terms & Conditions of this Certificate is enclosed as Annexure-I.\*\*\*

STOP CHILD LABOUR

Annexure-I  
**Terms and Conditions of Auto Generation of Certificate/licenses under EoDB**  
**(GUIDELINES TO THE EMPLOYERS UNDER DIFFERENT LABOUR LAWS, AS APPLICABLE)**

The provisions of different labour laws given below are illustrative and not exhaustive and are meant for general guidance.  
**(For details please refer to the respective Act and Rules framed thereunder)**

◆ **The Minimum Wages Act, 1948 and the Rules framed thereunder.**

The employer has to-

- The wage period with respect to any scheduled employment for which wages have been fixed shall not exceed one month and the wages of a worker in such employment shall be paid on a working day before the expiry of the seventh day after the last day of the wage period.
- Where the employment of any person is terminated by or on behalf of the employer, the wages earned by him shall be paid before the expiry of the second working day after the day on which his employment is terminated.
- The wages of an employed person shall be paid to him without deduction of any kind except those authorised by or under the rules framed thereunder.
- Every employer shall send annually a return in Form III so as to reach the Inspector not later than the 1st February, following the end of the year to which it relates.
- Subject to the provisions of this rule, an employee in a scheduled employment in respect of which minimum rates of wages have been fixed under the Act, shall be allowed a day of rest every week (hereinafter referred to as the 'rest day') which shall ordinarily be Sunday, but the employer may fix any other day of the week as the rest day for any employee or class of employees in that scheduled employment.
- Ensure fixation no. of daily working hours as per provisions of the Act
- Ensure payment to workmen at double the rate of their ordinary wages and to maintain a register of overtime in prescribed format.

**Form of registers and records-**

A Register of wages shall be maintained by every employer at the establishment and kept in such form as may be notified by the Government.

◆ **The Payment of Wages Act, 1936 and the Rules framed thereunder-**

The employer has to-

- Responsibility for and method of payment- The manager of the Factory/Industrial Establishment is responsible for the payment under the Act of wages to persons employed under him, and any contractor employing persons is responsible for payment of persons he employs.
- Wage-periods shall be fixed for the payment of wages at intervals not exceeding one month.
- Wages shall be paid on a working day within 7 days of the end of the wage-period (or within 10 days if 1,000 or more persons are employed). The wages of person discharged shall be paid not later than the second working day after his discharge.
- Wages in kind are prohibited.
- Fines and deductions- No deduction shall be made from wages except those authorised under the Act.

◆ **The Payment of Bonus Act, 1965 and the Rules framed thereunder-**  
**(Application to only where 10 or more persons are employed on any day in the preceding 12 months)**

the employer has to-

- Maintain in Form A the record in respect of computation of the Available Surplus in respect of any accounting year.
- Maintain the set on and set off allocable surplus in form B.
- Maintain the record of the bonus paid to the employees for any accounting year in form C.
- Submit Annual return in form D.
- Pay the bonus to the employees within 8 months of the close of the accounting year.

◆ **Contract Labour (Regulation & Abolition) Act, 1970 and the Rules framed thereunder-**

The contractor of the establishment shall provide the following facilities to the contract labour and in case of failure on the part of the contractor to do so the principal employer that is the establishment shall provide the same and may recover the expenses from the contractor as a debt payable by the contractor as let down under section 20 of the Act.

- the licence shall be non-transferable;
- the number of workmen employed as contract labour in the establishment shall not, on any day, exceed the maximum number specified in the licence;
- save as provided in these rules, the fees paid for the grant or as the case may be, for renewal of the licence, shall be non-refundable;
- the rates of wages payable to the workmen by the contractor shall not be less than the rates prescribed under the Minimum Wages Act, 1948 (II of 1948), for such employment where applicable, and where the rates have been fixed by agreement, settlement or award, not less than the rates so fixed;
- in cases where the workmen employed by the contractor perform the same or similar kind of work as the workmen directly employed by the principal employer of the establishment, the wage rates, holidays, hours of work and other conditions of service of the workmen of the contractor shall be the same as applicable to the workmen directly employed by the principal employer of the establishment on the same or similar kind of work :

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

(b) in other cases the wage rates, holidays, hours of work and conditions of service of the workmen of the contractor shall be such as may be specified in this behalf by the Labour Commissioner (Assam):

- (a) in every establishment where twenty or more women are ordinarily employed at contract labour, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years;
- (b) one of such rooms shall be used as a play room for the children and the other as bed room for the children;
- (c) the contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the sleeping room;
- (d) the standard of construction and maintenance of the creches shall be such as may be specified in this behalf by the Labour Commissioner (Assam);
- the licensee shall notify any change in the number of workmen or the conditions of work to the licensing officer;
- the Licensee shall within fifteen days of the commencement and completion of each contract work submit a return to the Inspector of the area appointed under Section 28 of the Act, intimating the actual date of the commencement or as the case may be, completion of such work in Form VI A.

◆ **Payment of Gratuity Act, 1972 and the Rules framed thereunder:-**  
(Applicable where 10 or more persons are employed on any day in the preceding twelve months).

The employer has to:-

- Give a notice of opening in Prescribed Form to the Controlling Authority within 30 days.
- Give a notice in Prescribed Form to the Controlling Authority in case of any change in the name, address, employer or nature of business.
- Give a notice in Prescribed Form to the Controlling Authority in case of close down business at least sixty days before the intended closure.
- Ensure that a notice is displayed near the main entrance in bold letter in Hindi and in a language understood by at least one third of the employees specifying the name of the officer with designation authorized by the employer to receive on his behalf notice under the Acts or the Rules.
- Ensure that the employees who have rendered continuous service for not less than five years are being paid/shall be paid gratuity on superannuation/retirement/resignation and the nominees of an employee who dies during the service are also being paid/shall be paid gratuity even though five years of service has not been rendered.
- Ensure that the amount of gratuity is/shall be determined by the employer and the notice writing is/shall be given to the person to whom the gratuity is payable and also to the Controlling Authority.
- Ensure that the amount of gratuity is/shall be paid within 30 days from the date it becomes payable as has been laid down under the Act and the Rules.
- Ensure that an abstract of the Act and the Rules made thereunder in Prescribed Form in English and Hindi has been displayed at a conspicuous place.

◆ **The Maternity Benefits Act, 1961 and the Rules framed thereunder:-**

The employer has to-

Ensure to comply to all the provisions under the **Maternity Benefits Act (as amended) 1961.**

◆ **The Child and Adolescent Labour (Prohibition and Regulation) Act, 1986 and the Rules framed thereunder:-**

- Engagement of Child and Adolescent Labour is strictly prohibited as per provisions of the U/s 3 and 3A of the Child and Adolescent labour (Prohibition and Regulation) Act, 1986.

\*\* **Revocation, suspension of licences/registration.—**

- If the licensing officer is satisfied, either on a reference made to him in this behalf or otherwise, that—

(a) a licence/registration granted has been obtained by misrepresentation or suppression of any material fact, or  
(b) the holder of a licence/registration has, without reasonable cause, failed to comply with the conditions subject to which the licence has been granted or has contravened any of the provisions of applicable Labour Acts or the rules made thereunder, then, without prejudice to any other penalty to which the holder of the licence may be liable under applicable Labour Acts, the licensing officer may, after giving the holder of the licence an opportunity of showing cause, revoke or suspend the licence.

(Full Signature of the Employer/ Director/Occupier/ Contractor )

STOP CHILD LABOUR



Annexure 14 : NOC from Respective Forest Divisions

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

No. FRS/D/10/LKHEP/APGCL/2024/ \_\_\_\_\_ /Dated, Haflong the \_\_\_\_\_

To,

The General Manager, i/c  
LKHEP,APGCL, Longku,  
Dima Hasao.


Sub:- Accord permission for construction 200KV Line corridor from Sankardev Nagar, Hojai to Longku, Dima Hasao

Ref:- 1. Your No.APGCL/GM/LKHEP/PKG-4/23/303, dt.27/10/23.  
2. T.O. FRS/D/10/LKHEP/APGCL/2023/2113-16, dt.09/11/23.  
3. R.O.Panimur, No.PNR/FRS/P-44/2023-24/1, dt.20/02/24.  
4. R.O.Diyungbra, No.DYB/FRS/10?Misc/2023-24/5, dt.26/02/24.

Sir,

With reference to the letters and subject cited above, asper joint enquiry report submitted by the Range Forest Officers, Panimur Range and Diyungbra Range, the undersigned has accord permission for constructing 220KV line corridor from Sankardev Nagar, Hojai to Longku, Dima Hasao without any damage of forest produces. If found any illegal activities/illegal occurrence on constructing of this line, then the undersigned will take needful steps asper AFR.1891 and AFR(Amendment) Act, 1995 against the culprits.


This is for information and necessary action.

Yours faithfully,  
  
Divisional Forest Officer,  
Dima Hasao Forest Division (West),  
Haflong.

Memo No. FRS/D/10/LKHEP/APGCL/2024/2981-83 /Dated, Haflong the 29/02/2024

Copy to:-

1. The Chief Conservator of Forests, Dima Hasao, Assam, Haflong for favour of his kind information.
2. The Secretary, Revenue, North Cachar Hills Autonomous Council, Haflong for favour of his kind information.
- ✓ 3. The Range Forest Officer, Panimur/Diyungbra Range for information and necessary action. He is asked to vigil the entire spot till the 220KV line construction is going on under his respective jurisdiction.

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



GOVT. OF ASSAM  
KARBI ANGLONG AUTONOMOUS COUNCIL  
OFFICE OF THE RANGE FOREST OFFICER SOUTHERN RANGE,  
K. H. E. R. O. N. J.

Letter No. SK/2023-24/PGCL/67/798

Dated Kheroni, the-25-01-2024

To : The i/c-Divisional Forest Officer  
Hamren Division, Hamren.

Sub : Submission of survey report for felling of trees in 220 KV line corridor from Sankardev nagar, Hojai to Longku, Dima Hasao.

Ref : Your letter No.B/HRN/LKHEP/2023-24/1957-58, did.31-10-2023.

Sir,

With reference to the subject cited above, I have the honour to submit herewith the survey report for felling & trimming of trees in 220 KV line corridor from Sankardev nagar, Hojai to Longku, Dima Hasao Dist. In this case I have entrusted to Sri Khonsi-im Terang, FR(A), accordingly he and other staff along with APGCL staffs survey within the District of West Karbi Anglong at all sites where the tower foundation works are going. As per his report all the corridors have not falls any RF, PRF, DCRF etc. all are falling in private land, so some floras going to be felled or trimmed in private land which are to be used for stringing of the 220 KV line as estimated below.

Sl. No.	Species	No. species	Felling/Trimming
1	Bamboo	2 clumps (Approx. 600 per clumps)	Felling
2	Papaya	5 nos.	Felling
3	Betelnut	6 nos.	Felling
4	Koroi	5 nos.	Trimming
5	Aam/Mango	3 nos.	Trimming
6	Jack fruit	2 nos.	Trimming

This is submitted for favour of your kind information and necessary action.

Enclosed: - 1. Report of Sri Khonsi-im Terang, FR(A).

Yours faithfully

  
25/01/2024  
Asstt. Conservator of Forest  
I/C-Southern Range  
Asstt. Conservator of Forest  
I/C-Southern Range, Kheroni.

\*\*\*\*\*



Government of Assam  
Department of Environment & Forest

E-mail ID: dfo.nagaonsouth@gmail.com

Office of the Divisional Forest Officer, Nagaon South Division, Hojai

Letter No. FNST/B/ Non R.F. area/Trees/2024/

2301

Dated: 13/5/2024

To,

The General Manager,  
LKHEP, APGCL,  
Longku, Dima Hasao

Sub: Permission and remuneration for felling of trees along the 220KV TL corridor.

Ref: (1) Your letter No.. APGCL/GM/LKHEP/P/T-45/23/362 dtd.19-02-2024.  
(2) The Circle Officer, Lanka's letter No. LKRC (Misc)/6/2021-22/4776  
dtd.06-05-2024.

Sir,

With reference to the subject cited above, it is inform you that as per the joint verification report conducted by the Range Officer, Lanka Range, Lanka and Range Officer, Kapili Valley Range, Hojai along with the Circle Officer, Lanka Revenue Circle, Lanka. It has found that none of the location falls under R.F. area under this Division.

This is for your information and necessary action.

Yours faithfully,

  
Divisional Forest Officer  
Nagaon South Division, Hojai



## Pollution Control Board, Assam

(Department of Environment & Forests, Government of Assam)

অসম প্ৰদূষণ নিয়ন্ত্ৰণ পৰিষদ

(অসম চৰকাৰৰ বন আৰু পৰিৱেশ বিভাগ)

NABL Accredited Testing Laboratory : Certificate No. TC-11384



No. WB/SLC/T-1403/24-25/07

Dated Guwahati, the 10<sup>th</sup> April, 2024

### CONSENT TO ESTABLISH

"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 there under, is granted to:

- i) Name of Unit : M/s Assam Power Generation Corporation Limited.  
(Sewage Treatment Plant-70 KLD)
- ii) Name of the Occupier/  
Applicant & Designation : Shri Akshay Talukdar, Project Director.
- iii) Address of the unit : Lower Kopili Hydro Electric Project, Lanka-Umrangsho Road (NH-627), Longkhu, Dist: Dima Hasao, Assam-788832.
- iv) Cost of the Project : Rs. 32.00 Lakhs
- v) Type / Category of the project : Sewage Treatment Plant (STP) project
- vi) Details of the project :

Sl No.	Unit	Capacity
1	Sewage Treatment Plant	70 KLD

### TERMS AND CONDITIONS:

1. The Consent to Establish (CTE) has been accorded based on the particulars furnished by the applicant vide Application ID- 2558283 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 is made in actual practice without prior permission of the Board.
2. The 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 public complaint against the unit is received;
4. The unit shall obtain prior "Consent to Establish" from the Board, for any expansion, modification, modernization of the project,

*(Handwritten signature)*

5. **The project Authority shall install a display Board as per the Board's Notification No. PCBA/LGL-95/20-21/Notification/01 dtd.11.11.2021 (Appendix-A).**
6. Proper housekeeping shall be maintained within unit premises. **Burning of any Waste within the premises is strictly prohibited.**
7. **The unit shall start its activities after obtaining 'Consent to Operate' from the Board.**
8. As per provisions of Water (Prevention & Control of Pollution) Act, 1974, any officer, employed by this Board on its behalf shall without any interruption, shall have the right at  
Any time to enter the unit for inspection, to take samples for analysis and any call for any information etc. Violation of this right will lead to the withdrawal of this order.

**SPECIFIC CONDITIONS:**

**A) Siting criteria for STP :-**

1. STP should be located under the driveway, play area or clubhouses and far away from the residential housings to not cause any nuisance to the people living.
2. STP should not be installed in the basement of any building. Access to the STP room should be from the Ground level or Upper Basement through well-designed walkways or headroom, and not from the lowest basement to avoid nuances that may happen due to rain flooding, smell or sound.
3. For Low lying areas, special care is to be taken by the unit to prevent any overflow, seepage and leakage of sewage.
4. Adequate trees should be planted and maintained in the vacant space of the premises and all around the unit.
5. Selected/ proposed site should be able to accommodate present and anticipated future requirements.

**B) Air / Emission Aspect :-**

1. The unit shall comply with the ambient noise level standards notified by **MoEF&CC, Govt. of India; vide G S R 7, dtd. Dec, 1998**, as mentioned herein under:

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

2. The Ambient Air Quality within the Plant premises shall be maintained as per the **National Ambient Air Quality Standards as notified by the Govt. of India vide G.S.R.826(E) dtd.16.11.2009**, as per **Appendix – B**;
3. A thick green belt shall be developed around the STP.

**C) Water Aspect:-**

1. **The unit shall comply with the specific Effluent discharge standard parameters for STP notified by the MoEF&CC, Govt. of India, vide G S R 1265 (E), dtd. 13.10.2017 (Appendix – C)**
2. It is mandatory to install sensors for monitoring parameters like BOD, COD, TSS, Flow and pH.
3. The treated water should be mandatorily used for flushing purposes that should have a dual plumbing system.
4. The unit shall not discharge any wastewater outside the campus without treatment.
5. There shall be no mixing of effluent with storm water.

*Handwritten signature*

6. The treated waste water, after meeting the prescribed standards, shall be used for toilet flushing, gardening inside the premises.
7. There should be clear and easy access to the Bar Screen Chamber and Oil & Grease Chamber of STP installed. Also, the equipments should be of the submersible type with an easy removal / dismantling option whenever maintenance is required.
8. Proper cautionary signboards should be displayed and safety protocols should be followed at the STP locations.

**D) Solid Waste Aspect :-**

1. Adequate facility should be created for collection, storage, transportation, treatment & disposal of non-hazardous solid waste generated from the unit.
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 the **Solid Waste Management Rules, 2016**.

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

Sd/-  
(Shantanu Kr. Dutta)  
Member Secretary

Memo No. WB/SLC/T-1403/24-25/07

Dated Guwahati, the 10<sup>th</sup> April, 2024

Copy to :

✓ M/s Assam Power Generation Corporation Limited (Sewage Treatment Plant), Lower Kopili Hydro Electric Project, Lanka-Umrangsho Road (NH-627), Longkhu, Dist: Dima Hasao, Assam-788832 for information and 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.pcbassam.org](http://www.pcbassam.org)), PCBA.

  
**Member Secretary**

**MINISTRY OF ENVIRONMENT AND FORESTS NOTIFICATION**

**New Delhi, the 16th November, 2009**

G.S.R. 826(E).— In exercise of the powers conferred by section 6 and section 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:—

1. (1) These rules may be called the Environment (Protection) Seventh Amendment Rules, 2009.  
(2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Environment (Protection) Rules, 1986 (hereinafter referred to as the said rules), in rule 3, in sub-rule (3B), for the words, brackets, figures and letters, "in columns (3) to (5) of Schedule VII", the words, brackets, figures and letters "in columns (4) and (5) of Schedule VII" shall be substituted.
3. For Schedule VII to the said rules and entries relating thereto, the following Schedule and entries shall be substituted, namely:—

**[SCHEDULE VII]**

[Sec rule 3(3B)]

**NATIONAL AMBIENT AIR QUALITY STANDARDS**

Sl No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO <sub>2</sub> ) µg/m <sup>3</sup>	Annual* 24 hours**	50 80	20 80	- Improved West and Gaeke - Ultraviolet fluorescence
2	Nitrogen Dioxide (NO <sub>2</sub> ) µg/m <sup>3</sup>	Annual* 24 hours**	40 80	30 80	- Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence
3	Particular Matter (size less than 10 µm) or PM <sub>10</sub> µg/m <sup>3</sup>	Annual* 24 hours**	60 100	60 100	- Gravimetric - TOEM - Beta attenuation
4	Particulate Matter (size less than 2.5 µm), or PM <sub>2.5</sub> µg/m <sup>3</sup>	Annual* 24 hours**	40 60	40 60	- Gravimetric - TOEM - Beta attenuation



(1)	(2)	(3)	(4)	(5)	(6)
5	Ozone (O <sub>3</sub> ) µg/m <sup>3</sup>	8 hours** 1 hour**	100 180	100 180	- UV photometric - Chemiluminescence - Chemical Method
6	Lead (Pb) µg/m <sup>3</sup>	Annual* 1 hour**	0.50 1.0	0.50 1.0	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon
7	Carbon Monoxide(CO) mg/m <sup>3</sup>	8 hours** 1 hour**	02 04	02 04	- Non Dispersive Infra Red (NDIR) spectroscopy
8	Ammonia(NH <sub>3</sub> ) µg/m <sup>3</sup>	Annual* 24 hour**	100 400	100 400	- Chemiluminescence - Indophenol blue method
9	Benzene (C <sub>6</sub> H <sub>6</sub> ) µg/m <sup>3</sup>	Annual*	05	05	- Gas chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10	Benzo(a) Pyrene(BaP) – particulate phase only, ng/m <sup>3</sup>	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m <sup>3</sup>	Annual*	06	06	- AAS ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m <sup>3</sup>	Annual*	20	20	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper

\* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

\*\* 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

**Note.**— Whenever and wherever monitoring results on two constitutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation\*.

[F.No –Q-15017/43/2007-CPW]  
RAJNEESH DUBE, Jt. Secy.

**Note.**— The principal rules were published in the Gazette of India, Extraordinary vide number S.O.844(E), dated the 19<sup>th</sup> November, 1986; and subsequently amended vide numbers S.O. 433(E), dated the 18<sup>th</sup> April, 1987; G.S.R. 176 (E) dated the 2<sup>nd</sup> April 1996; and were recently amended vide numbers G.S.R. 97(E), dated the 18<sup>th</sup> February, 2009; G.S.R. 149(E), dated the 4<sup>th</sup> March, 2009; G.S.R 512(E), dated the 9<sup>th</sup> July, 2009; G.S.R. 543(E), dated the 22<sup>nd</sup> July, 2009; G.S.R. 595(E), dated the 21<sup>st</sup> August, 2009; and G.S.R. 794(E), dated the 4<sup>th</sup> November, 2009.

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

## NOTIFICATION

New Delhi, the 13th October, 2017

G.S.R. 1265(E).—In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:—

1. Short title and commencement.—(1) These rules may be called the Environment (Protection) Amendment Rules, 2017.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in Schedule - I, after serial number 104 and the entries relating thereto, the following serial number and entries shall be inserted, namely:—

Sl. No.	Industry	Parameters	Standards
1	2	3	4
		Effluent discharge standards (applicable to all mode of disposal)	
			Location
			Concentration not to exceed
			(a) (b)
105	Sewage Treatment Plants (STPs)	pH	Anywhere in the country 6.5-9.0
		Bio-Chemical Oxygen Demand (BOD)	Metro Cities*, all State Capitals except in the State of Arunachal Pradesh, Assam, Manipur, Meghalaya Mizoram, Nagaland, Tripura Sikkim, Himachal Pradesh, Uttarakhand, Jammu and Kashmir, and Union territory of

4

THE GAZETTE OF INDIA: EXTRAORDINARY

[PART II—SEC. 3(1)]

			Andaman and Nicobar Islands, Dadar and Nagar Haveli Daman and Diu and Lakshadweep	
			Areas/regions other than mentioned above	30
		Total Suspended Solids (TSS)	Metro Cities*, all State Capitals except in the State of Arunachal Pradesh, Assam, Manipur, Meghalaya Mizoram, Nagaland, Tripura Sikkim, Himachal Pradesh, Uttarakhand, Jammu and Kashmir and Union territory of Andaman and Nicobar Islands, Dadar and Nagar Haveli Daman and Diu and Lakshadweep	<50
			Areas/regions other than mentioned above	<100
		Fecal Coliform (FC) (Most Probable Number per 100 milliliter, MPN/100ml)	Anywhere in the country	<1000

\*Metro Cities are Mumbai, Delhi, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad and Pune.

Note:

- All values in mg/l except for pH and Fecal Coliform.
- These standards shall be applicable for discharge into water bodies as well as for land disposal/applications.
- The standards for Fecal Coliform shall not apply in respect of use of treated effluent for industrial purposes.
- These Standards shall apply to all STPs to be commissioned on or after the 1<sup>st</sup> June, 2019 and the old/existing STPs shall achieve these standards within a period of five years from date of publication of this notification in the Official Gazette.
- In case of discharge of treated effluent into sea, it shall be through proper marine outfall and the existing shore discharge shall be converted to marine outfalls, and in cases where the marine outfall provides a minimum initial dilution of 150 times at the point of discharge and a minimum dilution of 1500 times at a point 100 meters away from discharge point, then, the existing norms shall apply as specified in the general discharge standards.
- Reuse/Recycling of treated effluent shall be encouraged and in cases where part of the treated effluent is reused and recycled involving possibility of human contact, standards as specified above shall apply.
- Central Pollution Control Board/State Pollution Control Boards/Pollution Control Committees may issue more stringent norms taking account to local condition under section 5 of the Environment (Protection) Act, 1986\*.

[F. No. Q-15017/2/2008-CPW]

ARUN KUMAR MEHTA, Addl. Secy.

Note: The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (1) vide number S.O. 844 (E), dated the 19<sup>th</sup> November, 1986 and subsequently amended vide the following notifications, namely:—

S.O. 433 (E), dated the 18<sup>th</sup> April 1987; G.S.R. 176(E) dated the 2<sup>nd</sup> April, 1996; G.S.R. 97 (E), dated the 18<sup>th</sup> February, 2009; G.S.R. 149 (E), dated the 4<sup>th</sup> March, 2009; G.S.R. 543(E), dated the 22<sup>nd</sup> July, 2009; G.S.R. 739 (E), dated the 9<sup>th</sup> September, 2010; G.S.R. 809(E), dated the 4<sup>th</sup> October, 2010, G.S.R.

# 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 BYG India Limited	Policy Number	D145756884		
Address	Midas Touch, 4th Floor, Rajiv Gandhi Infotech Park, Phase 1, Hinjawadi, Pune, 411057	Receipt Number	RA161158542	Policy Issue Date	29-Apr-2024
GST State Code	27	Policy Period	From	29-Apr-2024	15:20:51
City / Location	Pune		To	28-Apr-2025	23:59:59
Contact No	+917002886683	Partner Code and Name	1000090 Salasar Services Insurance Brokers Private Limited		
Email ID	deebecorporation2016@gmail.com	Partner Contact and Email ID			
GSTIN Number	27AACC0943N1ZK	Address of Insured Premises / Location covered	Anywhere in india		
Policy Form	Table A				

## Coverage Details

Work Description	No. of Employees	Maximum Estimated Monthly wages	Declared wages	Classification No.	Endorsement No.	work category
Engineering, Procurement, construction of Building	1	25,000.00	3,00,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	2	25,000.00	6,00,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	1	25,000.00	3,00,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	1	25,000.00	3,00,000.00	157A		Engineers not otherwise classified
Unskilled	12	15,000.00	21,60,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	12	15,000.00	21,60,000.00	157A		Engineers not otherwise classified
Skilled	8	21,000.00	20,16,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	2	16,000.00	3,84,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	3	15,000.00	5,40,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	1	25,000.00	3,00,000.00	157A		Engineers not otherwise classified
Engineers, Procurement, construction of Building	1	30,000.00	3,60,000.00	157A		Engineers not otherwise classified

Engineers Procurement, construction of Building	1	25,000.00	3,00,000.00	157A	Engineers not otherwise classified
Engineers Procurement, construction of Building	1	25,000.00	3,00,000.00	157A	Engineers not otherwise classified
Engineers Procurement, construction of Building	8	21,000.00	20,16,000.00	157A	Engineers not otherwise classified
Engineers Procurement, construction of Building	1	25,000.00	3,00,000.00	157A	Engineers not otherwise classified
Total Monthly Wages	55	10,28,000.00	1,23,36,000.00		
<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

	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, Live transmission lines including the impact of residual current, offshore work, underground/ under waterwork, 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.
- Exclusion : Any employee involved in cleaning of Sewers and/or any underground/overground pipelines and/or any underground Services.
- Exclusion : Ship crews on inland vessels or boats or Yatch or vessels of any kind operating within and/or outside territorial waters.
- Exclusion : Fire brigades other than those formed privately for loss prevention purposes.
- Exclusion : Employees employed on a permanent basis in USA and/or Canada.
- Exclusion : Pandemics/epidemics as declared by WHO and /or Government of India.

15. Losses suffered while manufacturing and /or supplying and/or producing storing, filling, breaking down, transporting of :
- (a) Fireworks, ammunition, fuses, cartridges, powder, nitro-glycerine, or any explosives.
  - (b) Gases and/or air under pressure in containers.
  - (c) Butane, methane, propane, and other liquefied gases.
  - (d) Celluloid and pyroxylin
  - (e) Petrochemicals and also chemicals of a toxic (as defined under India's Public Liability Act 1991), noxious, explosive and/or highly flammable nature.
  - (f) Asbestos and/or asbestos products.

(It is understood and agreed, however, that the storage, transport and/or handling if any of the substances above mentioned other than f) which is merely incidental to the operation and/or trade of the insured's not otherwise excluded, is covered)

16. Work Description-

17. **Work Description warranty:**

- Nature of work in which employees are involved during policy period shall be clearly mentioned on work description.
- Nature of work shall have correlation with work description for which policy has been issued and rates shall be charged in accordance with the same.
- Work description shall not fall under any of the policy exclusions mentioned on policy schedule as well as wording. Notwithstanding any provision to the contrary within this insurance, the above-mentioned Work description (if any) will be read together with the terms & conditions of this policy and in no instance shall supersede the policy provisions and exclusions stated, unless specifically agreed and endorsed on the policy by the underwriter.
- "Work Description" field is meant to describe the nature of work that the covered employees are involved in. Any other information mentioned here will be null and void."

### Premium and Payment Details

Total Net Premium	42782.38	
CGST rate and amount		0.00
SGST/UTGST rate and Amount		
IGST rate and Amount	18%	7700.83
Final Premium	50483.21	

### Endorsement Details

Invoice Number	Invoice Date	Net Premium	Igst	Cgst	Sgst	Utgst	Cess	Gross Premium
IA132411619	2024-04-29	42782.38	7700.83	0.00	0.00	0.00	0.00	50483.21

### 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 [1800-900-9000](tel:1800-900-9000)

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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.

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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:18001034448) 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, 2nd Fir, Unit No202, Royal Centre, Ulubari, GS Rd, Opp S.B Deorah Collage, Revenue Village, Mouza- Ulubari, Guwahati, Assam, PIN-781007. Website: [www.godigit.com](http://www.godigit.com)

**Annexure 17** : Reoport of the Annual Bird Count carried out in February, 2024.

*Aaranyak*

*Technical Report, Aaranyak*

Technical Summary Report

Study of avifauna of 120 MW LKHEP area of Dima Hasao, Assam, India

**Report Prepared by**

Dipankar Lahkar, PhD  
Abidur Rahman  
Nitul Kalita

March 2024

Executed by-

*Aaranyak*

*A Society for Biodiversity Conservation in NE India*

13 Tayab Ali Byelane

Bishnu Rabha Path, Beltola Tinali

Guwahati 781 028, Assam, India

[www.aaranyak.org](http://www.aaranyak.org)





**Contact Person:**

Dr. Bibhab Kumar Talukdar, Email: [bibhab@aaranyak.org](mailto:bibhab@aaranyak.org)

**Suggested Citation:**

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The successful execution of this project needed extensive direction, support, and cooperation from many people of Dima Hasao. We thank Shri Muanthang Tungnung, IFS, CCF, and Head of the Forest and Environment Department at Dima Hasao Autonomous Council for his kind permission to conduct the field surveys. We would like to thank Shri Tuhin Langthasa, AFS, DFO, West Division, Dima Hasao, for his consistent guidance during the survey activities. We would also like to thank Shri Donmai Thousen, Range Officer, Garampani Range, and other frontline forest staff of West Division, Dima Hasao, for providing us with the essential direction and logistics throughout the project activity.

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**Introduction**

According to Ali and Ripley (1987), India is home to 1263 bird species, accounting for about 13% of the world's total of 9600. According to Javed and Kaul (2000), the revised categorization could result in a total of 1300 species. Assam is home to roughly 500 bird species, however many regions, such as Dima Hasao, remain largely unrecorded, necessitating extensive surveys for species account.

As part of the Assam Power Generation Corporation Limited (APGCL) project, we conducted this rapid survey in the Krungming Reserve Forest and its surrounding areas of Dima Hasao district of Assam with the goal of creating a bird checklist and its present status.

### Study Area

Krungming Reserve Forest is one of three reserve forests in Assam's Dima Hasao district (Figure-1). The entire estimated area is 11446.81 hectares (124.42 square kilometers). The Krungming Reserve Forest is made up of semi-evergreen forests, evergreen forests, and mixed bamboo, with the remainder covered in shrubs, non-forest areas, and water bodies. Except for a few patches of *Schima Wallichii* and young trees of *Quercus sp.*, the Reserve Forest is entirely made up of mixed species. The mix-bamboo provides suitable habitat for the bamboo dependent bird species. The grassland along the streams and riparian riverine areas are important habitats for the grass birds.

The climate is typically tropical to subtropical. The average annual rainfall ranges from 2200 to 2700 mm, while the typical mean maximum temperature is from 24 to 30°C. There are eight wetlands in the restricted forest area. The main rivers of the Dima Hasao include Kapili, a channel called *Umrao nalah* that flows through the Reserve Forest. The Garampani-Panimur area, which includes Krungming RF, may be the last bastion for elephants in the North Cachar Hills. Panimur is located 46 kilometers northeast of Umrangso. Panimur is blessed with picturesque beauty and a tranquil natural landscape.

In terms of local component availability, the area's resources score high among the state's top attractions. Umrangso is the only industrial area in the district. Umrangso is especially recognized for its stunning terrain and skyscape, which is located at the dam site on the Kapili River built by NEEPCO.



Figure-1. Map of survey sites encompassing Krungming Reserve Forest and neighbouring forested areas located in Umrangso, Dima Hasao, Assam, India (2024).

**Methods**

Observation of the birds in Krungming Reserve Forest and its adjoining areas were made between 09 February to 12 February 2024 using direct visual count (Figure-1). The observations were made in the morning hours between 4:30 to 11 am and again 2.30 to 5.00 pm during the survey period. However, observations were done at different hours to suit convenience, particularly to document nocturnal birds at night. Birds were sighted using binoculars (Nikon 8x40), telescope (Zeiss) and on the spot identification using the field guide Grimmett et al., 1999. For nomenclature and classification was followed according to Praveen et al. (2016).

The following formula was used to determine the percentage of occurrence of families by dividing the number of species belonging to each family by the total number of distinct species seen (Basavarajappa 2006). Additionally, the food habits were listed using the existing literature.

### Observations

During the survey period, 164 bird species were recorded from 15 families and 56 orders (Annexure- 1), with one categorized as Vulnerable and six as Near Threatened by the IUCN Red List. Psittaciformes were found highest (n=99), followed by Piciformes (n=14), Columbiformes (n=8), Pelecaniformes (n=7), Strigiformes (n=7) and Accipitriformes (n=5). Because the survey was only conducted during the winter, the documented species were primarily resident and winter migrants.

The area is particularly important for the bamboo species like Hodgson's Frogmouth *Batrachostomus hodgsoni*, Pale-headed Woodpecker *Gecinulus grantia* and White-cheeked Hill Partridge *Arborophila atrogularis*. During the survey, we were unable to document a substantial number of carnivore species, particularly from the family Falconiformes. We suggest a thorough systematic survey to document more carnivore species in the landscape.

Again, we went expecting to see a large number of water birds, but we found relatively few species in the dam tank. This is possible due to the high-water depth, which does not provide enough feeding ground for waders and ducks, reducing their diversity. Species such as Hodgson's Frogmouth, Pale-capped Woodpecker, White-cheeked Hill Partridge and Brown Wood Owl could be significant in developing bird tourism in the area.

The presence of Bhelu *Tetrameles nudiflora* and other large tree species may provide an ideal environment for Hornbill nesting. During the survey, we observed Great Hornbill *Buceros bicornis* and Oriental Pied Hornbill *Anthracoceros albirostris*, but no nests were seen.

Maximum percent occurrence was found in the Families Psittaciformes (60.36), followed by Piciformes (8.53), Columbiformes (4.87) and Pelecaniformes (4.26) (Figure-2).

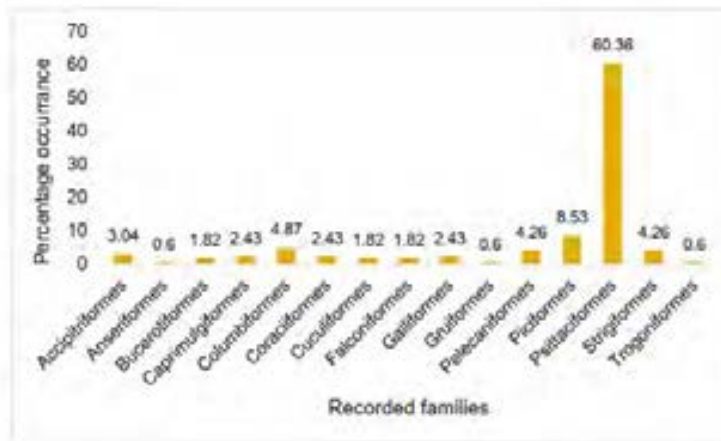


Figure-2. Family wise percentage occurrence of bird species recorded in and around Krungming Reserve Forest and neighbouring areas, Umrangsu, Dima Hasao, Assam (2024).

Based on the feeding behaviour from the present data it is apparent that the avifauna of the study sites are dominated by insectivore (67.07%), Carnivorous (12%), and Granivorous (4.86%) (Figure-3).

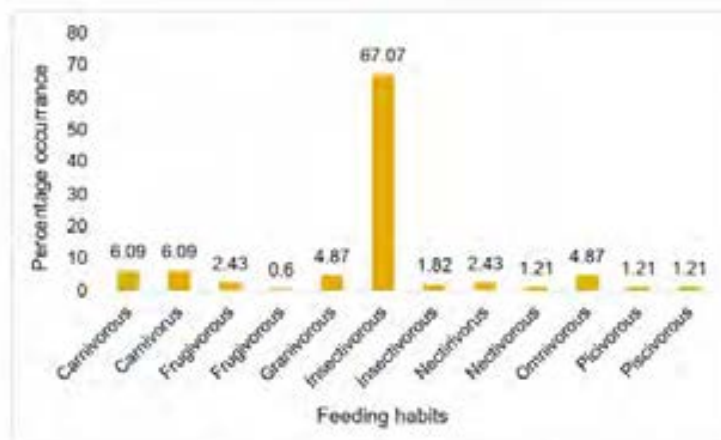


Figure-3. Percentage occurrence of bird species in regards to feeding habits recorded in and around Krungming Reserve Forest and neighbouring areas, Umrangsu, Dima Hasao, Assam (2024)



Our research shows that the Krungming Reserve Forest and its surroundings have a diverse avifauna. This is the first updated avifaunal survey in these areas. Further surveys need to be undertaken especially to document the species variation in different seasons, nesting species and their association with different forest types. Fragmentation and over exploitation of forest resources of these forested areas led to becoming blinkered and isolated. The intensive human use and potential hunting of these regions could be a major challenge on the composition and distribution of bird species.

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Annexure-1: Checklist of the birds recorded between 09 February to 12 February 2024 in and around Krungmung Reserve Forest and neighbouring areas, Umrangsu, Dima Hasao, Assam (2024).

Sl No	Family	Order	English Name	Scientific Name	IUCN Status	WPA	Status
1	Anseriformes	Anatidae	Ferruginous Duck	<i>Aythya nyroca</i>	NT	II	M
2	Galliformes	Phasianidae	White-checked Hill Partridge	<i>Arborophila atrogularis</i>	NT	II	R
3	Galliformes	Phasianidae	Grey Peacock Pheasant	<i>Polyplectron bicalcaratum</i>	LC	I	R
4	Galliformes	Phasianidae	Red Junglefowl	<i>Gallus gallus</i>	LC	II	R
5	Galliformes	Phasianidae	Kalij Pheasant	<i>Lophura leucamelanos</i>	LC	I	R
6	Columbiformes	Columbidae	Oriental Turtle Dove	<i>Streptopelia orientalis</i>	LC	II	R
7	Columbiformes	Columbidae	Spotted Dove	<i>Streptopelia chinensis</i>	LC	II	R
8	Columbiformes	Columbidae	Barred Cuckoo Dove	<i>Macropygia unchall</i>	LC	II	R
9	Columbiformes	Columbidae	Red Collared Dove	<i>Streptopelia tranquebarica</i>	LC	II	R
10	Columbiformes	Columbidae	Pin-tailed Green Pigeon	<i>Treron apicalis</i>	LC	II	R
11	Columbiformes	Columbidae	Wedge-tailed Green Pigeon	<i>Treron sphenurus</i>	LC	II	R
12	Columbiformes	Columbidae	Emerald Dove	<i>Chalcophaps indica</i>	LC	II	R
13	Columbiformes	Columbidae	Green Imperial Pigeon	<i>Ducula aenea</i>	NT	II	R
14	Caprimulgiformes	Podargidae	Hodgson's Frogmouth	<i>Batrachochroma hodgsoni</i>	LC	I	R
15	Caprimulgiformes	Caprimulgidae	Large-tailed Nighthawk	<i>Caprimulgus macurus</i>	LC	II	R
16	Caprimulgiformes	Apothidae	Asian Palm Swift	<i>Cypselurus balacensis</i>	LC	II	R
17	Caprimulgiformes	Apodidae	Himalayan Swiftlet	<i>Aerodramus brevirostris</i>	LC	II	R
18	Cuculiformes	Cuculidae	Greater Coucal	<i>Centropus sinensis</i>	LC	II	R
19	Cuculiformes	Cuculidae	Green-billed Malkoha	<i>Phaenicophaeus tristis</i>	LC	II	R
20	Cuculiformes	Cuculidae	Banded Bay Cuckoo	<i>Cacomantis sonnerati</i>	LC	II	R
21	Gruidae	Rallidae	White-breasted Waterhen	<i>Amasornis phoeniceus</i>	LC	II	R
22	Pelecaniformes	Ciconiidae	Asian Openbill	<i>Anatomanes asiatans</i>	LC	II	R
23	Pelecaniformes	Ardeidae	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	LC	II	R
24	Pelecaniformes	Ardeidae	Indian Pond Heron	<i>Ardeola grayii</i>	LC	II	R
25	Pelecaniformes	Ardeidae	Cattle Egret	<i>Bubulcus ibis</i>	LC	II	R
26	Pelecaniformes	Phalacrocoracidae	Little Cormorant	<i>Microcarbo niger</i>	LC	II	R
27	Pelecaniformes	Anhingaidae	Oriental Darter	<i>Anhinga melanogaster</i>	NT	II	R
28	Pelecaniformes	Charadriidae	Red-wattled Lapwing	<i>Vanellus indicus</i>	LC	II	R
29	Accipitriformes	Accipitridae	Oriental Honey Buzzard	<i>Pernis ptilorhynchus</i>	LC	II	R
30	Accipitriformes	Accipitridae	Crested Serpent Eagle	<i>Spilornis cheela</i>	LC	I	R
31	Accipitriformes	Accipitridae	Mountain Hawk Eagle	<i>Nisaetus nipalensis</i>	LC	I	R
32	Accipitriformes	Accipitridae	Crested Goshawk	<i>Accipiter trivirgatus</i>	LC	I	R
33	Accipitriformes	Accipitridae	Besa	<i>Accipiter virgatus</i>	LC	I	R
34	Strigiformes	Strigidae	Brown Hawk Owl	<i>Ninox scutulata</i>	LC	II	R
35	Strigiformes	Strigidae	Collared Owlet	<i>Glaucidium brodiei</i>	LC	II	R
36	Strigiformes	Strigidae	Asian Banded Owlet	<i>Glaucidium cuculoides</i>	LC	II	R
37	Strigiformes	Strigidae	Mountain Scops Owl	<i>Otus spilocephalus</i>	LC	II	R
38	Strigiformes	Strigidae	Collared Scops Owl	<i>Otus bakkamoena</i>	LC	II	R
39	Strigiformes	Strigidae	Brown Wood Owl	<i>Strix leptogrammica</i>	LC	I	R
40	Strigiformes	Strigidae	Spotted Owlet	<i>Athene brama</i>	LC	II	R

Sl No	Family	Order	English Name	Scientific Name	IUCN Status	WPA	Status
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41	Trogoniformes	Trogonidae	Red-headed Trogon	<i>Harpactes erythrocephalus</i>	LC	II	R
42	Buceroniformes	Bucerotidae	Great Hornbill	<i>Buceros bicornis</i>	VU	I	R
43	Buceroniformes	Bucerotidae	Oriental Pied Hornbill	<i>Antracoceros albitrochis</i>	LC	I	R
44	Buceroniformes	Upupidae	Common Hoopoe	<i>Upupa epops</i>	LC	II	R
45	Piciformes	Picidae	Lesser Golden-backed Woodpecker	<i>Dinopium bengalense</i>	LC	II	R
46	Piciformes	Picidae	Greater Golden-backed Woodpecker	<i>Chrysocolaptes lucidus</i>	LC	II	R
47	Piciformes	Picidae	Rufous Woodpecker	<i>Micropternis brachyurus</i>	LC	II	R
48	Piciformes	Picidae	Greater Yellow-naped Woodpecker	<i>Chrysoplegma flavinucha</i>	LC	II	R
49	Piciformes	Picidae	Lesser Yellow-naped Woodpecker	<i>Picus chlorolophus</i>	LC	II	R
50	Piciformes	Picidae	Grey-headed Woodpecker	<i>Dendropicus podiceps</i>	LC	II	R
51	Piciformes	Picidae	Bay Woodpecker	<i>Bhythipicus pyrrhonis</i>	LC	II	R
52	Piciformes	Picidae	Pale-headed Woodpecker	<i>Gecinulus granta</i>	LC	II	R
53	Piciformes	Picidae	Grey-capped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i>	LC	II	R
54	Piciformes	Ramphastidae	Great Barbet	<i>Psilopogon virens</i>	LC	II	R
55	Piciformes	Ramphastidae	Lineated Barbet	<i>Psilopogon lineatus</i>	LC	II	R
56	Piciformes	Ramphastidae	Blue-throated Barbet	<i>Psilopogon asiaticus</i>	LC	II	R
57	Piciformes	Ramphastidae	Blue-eared Barbet	<i>Psilopogon australis</i>	LC	II	R
58	Piciformes	Ramphastidae	Coppersmith Barbet	<i>Psilopogon haemacephalus</i>	LC	II	R
59	Coraciiformes	Motropidae	Blue-bearded Bee-eater	<i>Nyctornis aethiops</i>	LC	II	R
60	Coraciiformes	Coraciidae	Indian Roller	<i>Coracias bengalensis</i>	LC	II	R
61	Coraciiformes	Alcedinidae	Common Kingfisher	<i>Alcedo amita</i>	LC	II	R
62	Coraciiformes	Alcedinidae	White-throated Kingfisher	<i>Halcyon zeylanica</i>	LC	II	R
63	Falconiformes	Falconidae	Pied Falconet	<i>Microbsteres melanoleucos</i>	LC	II	R
64	Falconiformes	Falconidae	Peregrine Falcon	<i>Falco peregrinus</i>	LC	I	M
65	Falconiformes	Falconidae	Amur Falcon	<i>Falco amurensis</i>	LC	I	M
66	Psittaciformes	Psittaculidae	Alexandrine Parakeet	<i>Psittacula eupatria</i>	NT	II	R
67	Psittaciformes	Psittaculidae	Rose-ringed Parakeet	<i>Psittacula krameri</i>	LC	II	R
68	Psittaciformes	Psittaculidae	Vernal Hanging Parrot	<i>Loriculus vernalis</i>	LC	II	R
69	Psittaciformes	Psittaculidae	Red-breasted Parakeet	<i>Psittacula alexandri</i>	NT	IV	R
70	Psittaciformes	Campophagidae	Long-tailed Minivet	<i>Pericrocotus ethologus</i>	LC	II	R
71	Psittaciformes	Campophagidae	Scarlet Minivet	<i>Pericrocotus flammeus</i>	LC	II	R
72	Psittaciformes	Campophagidae	Large Cuckoosrike	<i>Coraxna javanica</i>	LC	II	R
73	Psittaciformes	Campophagidae	Black-winged Cuckoosrike	<i>Lalage melaschistos</i>	LC	II	M
74	Psittaciformes	Vireonidae	White-bellied Eriopnis	<i>Eriopnis cantholeuca</i>	LC	II	R
75	Psittaciformes	Oriolidae	Black-hooded Oriole	<i>Oriolus xanthornis</i>	LC	II	R
76	Psittaciformes	Oriolidae	Maroon Oriole	<i>Oriolus traillii</i>	LC	II	R
77	Psittaciformes	Vangidae	Large Woodshrike	<i>Tephrodornis virgatus</i>	LC	II	R
78	Psittaciformes	Vangidae	Bar-winged Flycatcher-shrike	<i>Hemipus picinus</i>	LC	II	R
79	Psittaciformes	Aegithinidae	Common Iora	<i>Aegithina tityus</i>	LC	II	R
80	Psittaciformes	Dicruridae	Black Drougo	<i>Dicrurus macrocerus</i>	LC	II	R

Sl No	Family	Order	English Name	Scientific Name	IUCN Status	WPA	Status
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81	Psittaciformes	Dicruridae	Ashy Drongo	<i>Dicrurus leucophaea</i>	LC	II	R
82	Psittaciformes	Dicruridae	Bronzed Drongo	<i>Dicrurus aeneus</i>	LC	II	R
83	Psittaciformes	Dicruridae	Lesser Racket-tailed Drongo	<i>Dicrurus remifer</i>	LC	II	R
84	Psittaciformes	Dicruridae	Hair-crested Drongo	<i>Dicrurus hottentotus</i>	LC	II	R
85	Psittaciformes	Dicruridae	Greater Racket-tailed Drongo	<i>Dicrurus paradiseus</i>	LC	II	R
86	Psittaciformes	Rhipuridae	White-throated Fantail	<i>Rhipidura albicollis</i>	LC	II	R
87	Psittaciformes	Laniidae	Brown Shrike	<i>Lanius cristatus</i>	LC	II	M
88	Psittaciformes	Laniidae	Grey-backed Shrike	<i>Lanius tephronotus</i>	LC	II	M
89	Psittaciformes	Corvidae	Rufous Treepie	<i>Dendrocyta vagabunda</i>	LC	II	R
90	Psittaciformes	Corvidae	Common Green Magpie	<i>Cissa chinensis</i>	LC	II	R
91	Psittaciformes	Corvidae	House Crow	<i>Corvus splendens</i>	LC	V	R
92	Psittaciformes	Corvidae	Large-billed Crow	<i>Corvus macrorhynchos</i>	LC	II	R
93	Psittaciformes	Monarchidae	Black-naped Monarch	<i>Hypothymis azurea</i>	LC	II	R
94	Psittaciformes	Dicaeidae	Scarlet-backed Flowerpecker	<i>Dicaeum everettianum</i>	LC	II	R
95	Psittaciformes	Dicaeidae	Fire-breasted Flowerpecker	<i>Dicaeum ignicapitum</i>	LC	II	R
96	Psittaciformes	Nectarinidae	Little Spiderhunter	<i>Arachnothera longirostris</i>	LC	II	R
97	Psittaciformes	Nectarinidae	Streaked Spiderhunter	<i>Arachnothera magna</i>	LC	II	R
98	Psittaciformes	Nectarinidae	Purple Sunbird	<i>Cinnyris asiaticus</i>	LC	II	R
99	Psittaciformes	Nectarinidae	Black-throated Sunbird	<i>Aethopyga zosterata</i>	LC	II	R
100	Psittaciformes	Nectarinidae	Crimson Sunbird	<i>Aethopyga siparaja</i>	LC	II	R
101	Psittaciformes	Nectarinidae	Ruby-cheeked Sunbird	<i>Chalcoparia singalensis</i>	LC	II	R
102	Psittaciformes	Irenidae	Golden-fronted Leafbird	<i>Chloropsis aurifrons</i>	LC	II	R
103	Psittaciformes	Irenidae	Orange-bellied Leafbird	<i>Chloropsis hardwickii</i>	LC	II	R
104	Psittaciformes	Irenidae	Blue-winged Leafbird	<i>Chloropsis malaccensis</i>	LC	II	R
105	Psittaciformes	Estrinidae	Scaly-breasted Munia	<i>Lonchura punctulata</i>	LC	II	R
106	Psittaciformes	Passeridae	House Sparrow	<i>Passer domesticus</i>	LC	II	R
107	Psittaciformes	Passeridae	Eurasian Tree Sparrow	<i>Passer montanus</i>	LC	II	R
108	Psittaciformes	Motacillidae	Olive-backed Pipit	<i>Anthus hodgsoni</i>	LC	II	M
109	Psittaciformes	Motacillidae	Grey Wagtail	<i>Motacilla cinerea</i>	LC	II	M
110	Psittaciformes	Motacillidae	White Wagtail	<i>Motacilla alba</i>	LC	II	M
111	Psittaciformes	Stenostiridae	Grey-headed Canary-flycatcher	<i>Culicicapa ceylonensis</i>	LC	II	R
112	Psittaciformes	Paridae	Sultan Tit	<i>Melanochlora sultanea</i>	LC	II	R
113	Psittaciformes	Paridae	Cinereous Tit	<i>Parus cinereus</i>	LC	II	R
114	Psittaciformes	Paridae	Green-backed Tit	<i>Parus monticolus</i>	LC	II	R
115	Psittaciformes	Cisticolidae	Common Tailorbird	<i>Orthotomus sutorius</i>	LC	II	R
116	Psittaciformes	Cisticolidae	Dark-necked Tailorbird	<i>Orthotomus atrogularis</i>	LC	II	R
117	Psittaciformes	Cisticolidae	Rufescens Prinia	<i>Prinia rufescens</i>	LC	II	R
118	Psittaciformes	Phoenicidae	Pygmy Wren Babbler	<i>Phoenyga pusilla</i>	LC	II	R
119	Psittaciformes	Pycnonotidae	White-throated Bulbul	<i>Aliphopus flaviceps</i>	LC	II	R
120	Psittaciformes	Pycnonotidae	Black Bulbul	<i>Hypsipetes leucocephalus</i>	LC	IV	R

Sl No	Family	Order	English Name	Scientific Name	IUCN Status	WPA	Status
121	Psittaciformes	Pycnonotidae	Black-crested Bulbul	<i>Pycnonotus melaniceps</i>	LC	II	R
122	Psittaciformes	Pycnonotidae	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	LC	II	R

123	Psittaciformes	Pycnonotidae	Red-vented Bulbul	<i>Pycnonotus cafer</i>	LC	II	R
124	Psittaciformes	Phylloscopidae	Yellow-browed Warbler	<i>Abroscopus moerhousi</i>	LC	II	M
125	Psittaciformes	Phylloscopidae	Greenish Leaf Warbler	<i>Seiurus trochiloides</i>	LC	II	R
126	Psittaciformes	Phylloscopidae	Grey-hooded Leaf Warbler	<i>Seiurus xanthochristus</i>	LC	II	R
127	Psittaciformes	Phylloscopidae	Tickell's Leaf Warbler	<i>Phylloscopus affinis</i>	LC	II	M
128	Psittaciformes	Scotocercidae	Grey-bellied Tasia	<i>Tasia cyaniventris</i>	LC	II	R
129	Psittaciformes	Vangidae	Bar-winged Flycatcher-shrike	<i>Hemipus picatus</i>	LC	II	R
130	Psittaciformes	Zosteropidae	Oriental White-eye	<i>Zosterops palpestris</i>	LC	II	R
131	Psittaciformes	Timaliidae	White-browed Scumtar Babbler	<i>Pomatorhinus schneeii</i>	LC	II	R
132	Psittaciformes	Timaliidae	Grey-throated Babbler	<i>Scolecophagus nigriceps</i>	LC	II	R
133	Psittaciformes	Timaliidae	Striped Tit Babbler	<i>Mivornis guttata</i>	LC	II	R
134	Psittaciformes	Timaliidae	Buff-chested Babbler	<i>Cyanoderma ambiguus</i>	LC	II	R
135	Psittaciformes	Pellorneidae	Puff-throated Babbler	<i>Pellorneum ruficeps</i>	LC	II	R
136	Psittaciformes	Pellorneidae	Abbott's Babbler	<i>Malacocincla abbotti</i>	LC	II	R
137	Psittaciformes	Leiothrichidae	Silver-eared Mesia	<i>Leiothrix argentauris</i>	LC	II	R
138	Psittaciformes	Leiothrichidae	Nepal Tit Babbler	<i>Alcippe nipalensis</i>	LC	II	R
139	Psittaciformes	Leiothrichidae	Greater Necklaced Laughingthrush	<i>Garrulus pectoralis</i>	LC	II	R
140	Psittaciformes	Leiothrichidae	Lesser Necklaced Laughingthrush	<i>Garrulus monticola</i>	LC	II	R
141	Psittaciformes	Leiothrichidae	Blue-winged Minla	<i>Sitta cyanura</i>	LC	II	R
142	Psittaciformes	Sittidae	Chestnut-bellied Nuthatch	<i>Sitta castanea</i>	LC	II	R
143	Psittaciformes	Sturnidae	Chestnut-tailed Starling	<i>Sturnia malabarica</i>	LC	II	R
144	Psittaciformes	Sturnidae	Common Myna	<i>Acridothera tristis</i>	LC	II	R
145	Psittaciformes	Sturnidae	Jungle Myna	<i>Acridothera fuscus</i>	LC	II	R
146	Psittaciformes	Sturnidae	Hill Myna	<i>Gracula religiosa</i>	LC	I	R
147	Psittaciformes	Sturnidae	Asian Pied Starling	<i>Gracupica contra</i>	LC	II	R
148	Psittaciformes	Sturnidae	Great Myna	<i>Acridothera grandis</i>	LC	II	R
149	Psittaciformes	Muscicapidae	Oriental Magpie Robin	<i>Coppychus saularis</i>	LC	II	R
150	Psittaciformes	Muscicapidae	White-rumped Shama	<i>Kittacincus malabarica</i>	LC	II	R
151	Psittaciformes	Muscicapidae	Pale Blue Flycatcher	<i>Cyanitis uicolor</i>	LC	II	R
152	Psittaciformes	Muscicapidae	Pale-chinned Flycatcher	<i>Cyanitis polioptera</i>	LC	II	R
153	Psittaciformes	Muscicapidae	Rufous-bellied Niltava	<i>Niltava sundara</i>	LC	II	R
154	Psittaciformes	Muscicapidae	Small Niltava	<i>Niltava macgregoriae</i>	LC	II	R
155	Psittaciformes	Muscicapidae	Large Niltava	<i>Niltava grandis</i>	LC	II	R
156	Psittaciformes	Muscicapidae	Black-backed Forktail	<i>Encicmus immaculatus</i>	LC	II	R
157	Psittaciformes	Muscicapidae	Taiga Flycatcher	<i>Ficedula albicilla</i>	LC	II	M
158	Psittaciformes	Muscicapidae	Little Pied Flycatcher	<i>Ficedula westermanni</i>	LC	II	R
159	Psittaciformes	Muscicapidae	White-capped Water Redstart	<i>Chamaeaerona leucocapilla</i>	LC	IV	R
160	Psittaciformes	Muscicapidae	Siberian Rubythroat	<i>Calliope calliope</i>	LC	II	R
161	Psittaciformes	Muscicapidae	Slaty-blue Flycatcher	<i>Ficedula tricolor</i>	LC	II	R
162	Psittaciformes	Muscicapidae	Verditer Flycatcher	<i>Emysia thalassina</i>	LC	II	M
163	Psittaciformes	Muscicapidae	Grey Bushchat	<i>Saxicola ferrous</i>	LC	I	R
164	Psittaciformes	Turdidae	Orange-headed Thrush	<i>Geothlypis trichas</i>	LC	II	R

Abbreviations: R= Resident, M= Migratory

Annexure-2: Photo-plates of the selected birds recorded between 09 February to 12 February 2024 in and around Krungming Reserve Forest and neighbouring areas, Unrangsu, Dima Hasao, Assam (2024).



Drongo



Besra



Pied Falconet



Golden-fronted Leafbird



Little Pied Flycatcher



Sultan Tit



Little Spiderhunter



Little Spiderhunter



Blue-eared Barbet



Greater Racket-tailed Drongo



Rufous Woodpecker



Large Woodshrike



Black-crested Bulbul



Ruby-cheeked Sunbird



Brown Wood Owl



White-rumped Shama



White-rumped Shama



Pale-headed Woodpecker



Pin-tailed Green Pigeon



Verditer Flycatcher



Streaked Spiderhunter



Wedge-tailed Green Pigeon



Grey headed canary flycatcher



Yellow-browed Warbler



Red-breasted Parakeet



Maroon Oriole



Great Barbet



Hodgson's Frogmouth



Annexure-3: Field activities during the bird survey between 09 February to 12 February 2024 in and around Krungming Reserve Forest and neighbouring areas, Umrangsu, Dima Hasao, Assam (2024).



Annexure-3: Population estimates of some of the birds observed between 09 February to 12 February 2024 in and around Krungming Reserve Forest and neighbouring areas, Umrangsu, Dima Hasao, Assam (2024).

SI No	Family	Order	English Name	Population
1	Anseriformes	Anatidae	Ferruginous Duck	8
2	Galliformes	Phasianidae	Red Junglefowl	35
3	Galliformes	Phasianidae	Kalij Pheasant	13
4	Columbiformes	Columbidae	Oriental Turtle Dove	23
5	Columbiformes	Columbidae	Spotted Dove	56
6	Columbiformes	Columbidae	Red Collared Dove	5
7	Columbiformes	Columbidae	Pin-tailed Green Pigeon	6
8	Columbiformes	Columbidae	Wedge-tailed Green Pigeon	4
9	Columbiformes	Columbidae	Emerald Dove	10
10	Columbiformes	Columbidae	Green Imperial Pigeon	26
11	Caprimulgiformes	Podargidae	Hodgson's Frogmouth	1
12	Caprimulgiformes	Apodidae	Asian Palm Swift	14
13	Caprimulgiformes	Apodidae	Himalayan Swiftlet	15
14	Cuculiformes	Cuculidae	Greater Coucal	3
15	Cuculiformes	Cuculidae	Green-billed Malkoha	8
16	Gruiformes	Rallidae	White-breasted Waterhen	6
17	Pelecaniformes	Ciconiidae	Asian Openbill	30
18	Pelecaniformes	Ardeidae	Indian Pond Heron	50
19	Pelecaniformes	Ardeidae	Cattle Egret	70
20	Pelecaniformes	Phalacrocoracidae	Little Cormorant	43
21	Pelecaniformes	Anhingidae	Oriental Darter	6
22	Pelecaniformes	Charadriidae	Red-wattled Lapwing	16
23	Accipitriformes	Accipitridae	Oriental Honey Buzzard	2
24	Accipitriformes	Accipitridae	Crested Serpent Eagle	10
25	Accipitriformes	Accipitridae	Mountain Hawk Eagle	2
26	Accipitriformes	Accipitridae	Besra	7
27	Strigiformes	Strigidae	Brown Hawk Owl	1
28	Strigiformes	Strigidae	Collared Owlet	8
29	Strigiformes	Strigidae	Asian Barred Owlet	5
30	Strigiformes	Strigidae	Brown Wood Owl	1

SI No	Family	Order	English Name	Population
31	Strigiformes	Strigidae	Spotted Owlet	10
32	Bucerotiformes	Bucerotidae	Great Hornbill	4
33	Bucerotiformes	Bucerotidae	Oriental Pied Hornbill	12
34	Bucerotiformes	Upupidae	Common Hoopoe	15
35	Piciformes	Picidae	Rufous Woodpecker	6
36	Piciformes	Picidae	Greater Yellow-naped Woodpecker	8
37	Piciformes	Picidae	Pale-headed Woodpecker	4
38	Piciformes	Picidae	Grey-capped Pygmy Woodpecker	5
39	Piciformes	Ramphastidae	Great Barbet	10
40	Piciformes	Ramphastidae	Lineated Barbet	6
41	Piciformes	Ramphastidae	Blue-throated Barbet	18
42	Piciformes	Ramphastidae	Blue-eared Barbet	10
43	Piciformes	Ramphastidae	Coppersmith Barbet	8
44	Coraciiformes	Meropidae	Blue-bearded Bee-eater	8
45	Coraciiformes	Coraciidae	Indian Roller	18
46	Coraciiformes	Alcedinidae	Common Kingfisher	25
47	Coraciiformes	Alcedinidae	White-throated Kingfisher	21
48	Falconiformes	Falconidae	Pied Falconet	1
49	Falconiformes	Falconidae	Peregrine Falcon	1
50	Falconiformes	Falconidae	Amur Falcon	100000
51	Psittaciformes	Psittaculidae	Alexandrine Parakeet	16
52	Psittaciformes	Psittaculidae	Rose-ringed Parakeet	20
53	Psittaciformes	Campephagidae	Long-tailed Minivet	20
54	Psittaciformes	Campephagidae	Scarlet Minivet	60
55	Psittaciformes	Campephagidae	Large Cuckooshrike	8
56	Psittaciformes	Vireonidae	White-bellied Erpornis	5
57	Psittaciformes	Oriolidae	Black-hooded Oriole	20
58	Psittaciformes	Oriolidae	Maroon Oriole	8
59	Psittaciformes	Vangidae	Large Woodshrike	10
60	Psittaciformes	Vangidae	Bar-winged Flycatcher-shrike	2
61	Psittaciformes	Aegithinidae	Common Iora	20
62	Psittaciformes	Dicruridae	Black Drongo	50
63	Psittaciformes	Dicruridae	Ashy Drongo	32
64	Psittaciformes	Dicruridae	Bronzed Drongo	40
65	Psittaciformes	Dicruridae	Lesser Racket-tailed Drongo	10

Sl No	Family	Order	English Name	Population
66	Psittaciformes	Dicruridae	Hair-crested Drongo	16
67	Psittaciformes	Dicruridae	Greater Racquet-tailed Drongo	8
68	Psittaciformes	Rhipiduridae	White-throated Fantail	4
69	Psittaciformes	Laniidae	Brown Shrike	25
70	Psittaciformes	Laniidae	Grey-backed Shrike	10
71	Psittaciformes	Corvidae	Rufous Treepie	20
72	Psittaciformes	Corvidae	Common Green Magpie	40
73	Psittaciformes	Corvidae	House Crow	20
74	Psittaciformes	Corvidae	Large-billed Crow	15
75	Psittaciformes	Monarchidae	Black-naped Monarch	3
76	Psittaciformes	Dicaeidae	Scarlet-backed Flowerpecker	4
77	Psittaciformes	Dicaeidae	Fire-breasted Flowerpecker	5
78	Psittaciformes	Nectariniidae	Little Spiderhunter	10
79	Psittaciformes	Nectariniidae	Streaked Spiderhunter	8
80	Psittaciformes	Nectariniidae	Purple Sunbird	12
81	Psittaciformes	Nectariniidae	Black-throated Sunbird	6
82	Psittaciformes	Nectariniidae	Crimson Sunbird	14
83	Psittaciformes	Nectariniidae	Ruby-cheeked Sunbird	10
84	Psittaciformes	Irenidae	Golden-fronted Leafbird	15
85	Psittaciformes	Irenidae	Orange-bellied Leafbird	12
86	Psittaciformes	Irenidae	Blue-winged Leafbird	16
87	Psittaciformes	Estrildidae	Scaly-breasted Munia	10
88	Psittaciformes	Passeridae	House Sparrow	30
89	Psittaciformes	Passeridae	Eurasian Tree Sparrow	50
90	Psittaciformes	Motacillidae	Olive-backed Pipit	4
91	Psittaciformes	Motacillidae	Grey Wagtail	10
92	Psittaciformes	Motacillidae	White Wagtail	8
93	Psittaciformes	Stenostiridae	Grey-headed Canary-flycatcher	6
94	Psittaciformes	Paridae	Sultan Tit	8
95	Psittaciformes	Paridae	Cinereous Tit	5
96	Psittaciformes	Paridae	Green-backed Tit	3
97	Psittaciformes	Cisticolidae	Common Tailorbird	15
98	Psittaciformes	Cisticolidae	Dark-necked Tailorbird	20
99	Psittaciformes	Cisticolidae	Rufescent Prinia	4
100	Psittaciformes	Pycnonotidae	White-throated Bulbul	20

Sl No	Family	Order	English Name	Population
101	Psittaciformes	Pycnonotidae	Black Bulbul	15
102	Psittaciformes	Pycnonotidae	Black-crested Bulbul	30
103	Psittaciformes	Pycnonotidae	Red-whiskered Bulbul	40
104	Psittaciformes	Pycnonotidae	Red-vented Bulbul	25
105	Psittaciformes	Scotocercidae	Grey-bellied Tesia	3
106	Psittaciformes	Vangidae	Bar-winged Flycatcher-shrike	8
107	Psittaciformes	Zosteropidae	Oriental White-eye	10
108	Psittaciformes	Leiothrichidae	Greater Necklaced Laughingthrush	3
109	Psittaciformes	Leiothrichidae	Lesser Necklaced Laughingthrush	4
110	Psittaciformes	Sturnidae	Chestnut-tailed Starling	15
111	Psittaciformes	Sturnidae	Common Myna	30
112	Psittaciformes	Sturnidae	Jungle Myna	15
113	Psittaciformes	Sturnidae	Hill Myna	10
114	Psittaciformes	Sturnidae	Asian Pied Starling	20
115	Psittaciformes	Sturnidae	Great Myna	5
116	Psittaciformes	Muscicapidae	Oriental Magpie Robin	15
117	Psittaciformes	Muscicapidae	White-rumped Shama	6
118	Psittaciformes	Muscicapidae	Pale Blue Flycatcher	6
119	Psittaciformes	Muscicapidae	Pale-chinned Flycatcher	3
120	Psittaciformes	Muscicapidae	Rufous-bellied Niltava	4
121	Psittaciformes	Muscicapidae	Small Niltava	3
122	Psittaciformes	Muscicapidae	Large Niltava	2
123	Psittaciformes	Muscicapidae	Black-backed Forktail	2
124	Psittaciformes	Muscicapidae	Taiga Flycatcher	4
125	Psittaciformes	Muscicapidae	Little Pied Flycatcher	6
126	Psittaciformes	Muscicapidae	White-capped Water Redstart	5
127	Psittaciformes	Muscicapidae	Siberian Rubythroat	3
128	Psittaciformes	Muscicapidae	Slaty-blue Flycatcher	4
129	Psittaciformes	Muscicapidae	Verditer Flycatcher	10
130	Psittaciformes	Muscicapidae	Grey Bushchat	2
131	Psittaciformes	Turdidae	Orange-headed Thrush	4

# Photograph Of The Terrestrial Mammalian fauna of Dima-Hasao



Asian Elephant (*Elephas Maximum*)



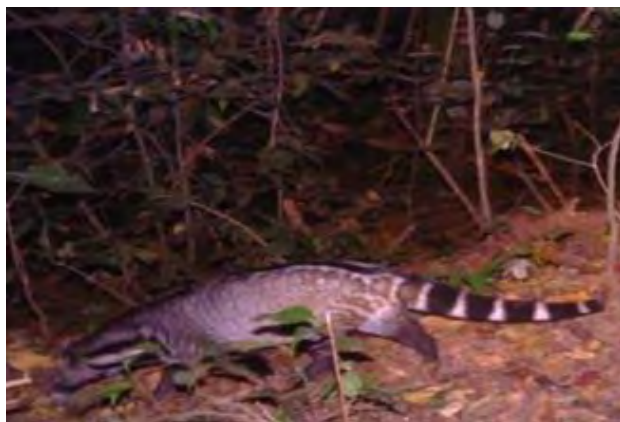
Barking Deer (*Muntiacus vaginatus*)



Red Serow (*Capricornis rubidus*)



Wild Boar



Large Indian Civet



Yellow Throated Marten



**Ferret Badger**



**Marvellous Cat**



**Clouded Leopard**



**Leopard**

## Annexure 19 : Past and present trend of Avian Diversity

Biodiversity baseline was updated in the Interim EIA addendum. During the Annual Bird count in February, 2024 more avian species were recorded.

### Avian species

Annual Bird count carried out by AARANYK for APGCL recorded additional species of birds from the project impacted area. Combining the studies for LKHEP in the years 2016 (68 species), 2021 (89 species), 2023 (61 species) and the current one 2024 (162 species) recorded 258 avifauna species (Table 27). Great Hornbill *Buceros bicornis* and Beautiful Nuthatch *Sitta Formosa* are vulnerable as per IUCN. Seven species are Near Threatened like Oriental Darter *Anhinga melanogaster*, White-cheeked Hill Partridge *Arborophila atrogularis*, Ferruginous Duck *Aythya nyroca*, Green Imperial Pigeon *Ducula aenea*, Red-breasted Parakeet *Psittacula alexandri*, Alexandrine Parakeet *Psittacula eupatria*, Ashy-headed Green Pigeon *Treron phayrei*. Thirteen migratory species were also recorded near LKHEP (Table 1).

**Table 1: Migratory Birds of LKHEP Project Impacted Area**

Sl No	Scientific Name	Species	IUCN Status	WPA Status as per Amendment Act, 2022
1	<i>Abromis inornatus</i>	Yellow-browed Warbler	LC	II
2	<i>Anthus hodgsoni</i>	Olive-backed Pipit	LC	II
3	<i>Aythya nyroca</i>	Ferruginous Duck	NT	II
4	<i>Eumyias thalassinus</i>	Verditer Flycatcher	LC	II
5	<i>Falco amurensis</i>	Amur Falcon	LC	II
6	<i>Falco peregrinus</i>	Peregrine Falcon	LC	II
7	<i>Ficedula albicilla</i>	Taiga Flycatcher	LC	II
8	<i>Lalage melaschistos</i>	Black-winged Cuckooshrike	LC	II
9	<i>Lanius cristatus</i>	Brown Shrike	LC	II
10	<i>Lanius tephronotus</i>	Grey-backed Shrike	LC	II
11	<i>Motacilla alba</i>	White Wagtail	LC	II
12	<i>Motacilla cinerea</i>	Grey Wagtail	LC	II
13	<i>Phylloscopus affinis</i>	Tickell's Leaf Warbler	LC	II



**Table 2: List of Avifauna in the project area**

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
1	<i>Abornis inornatus</i>	Yellow-browed Warbler	LC	II				M				ü
2	<i>Accipiter trivirgatus</i>	Crested Goshawk	LC	I				R				ü
3	<i>Accipiter virgatus</i>	Besra	LC	I				R				ü
4	<i>Aceros undulatus</i>	Wrethed Hornbill	LC	IV				R	ü			
5	<i>Acridotheres fuscus</i>	Jungle Myna	LC	IV	II	-	-	R		ü	ü	ü
6	<i>Acridotheres grandis</i>	Great Myna	LC	II				R		ü		ü
7	<i>Acridotheres tristis</i>	Indian Myna	LC	IV				R	ü			
8	<i>Acridotheres tristis</i>	Common Myna	LC	II				Wr. R		ü	ü	ü
9	<i>Acrocephalus dumetorum</i>	Reed Warbler	LC	IV				W	ü			
10	<i>Acrocephalus dumetorum</i>	Blyth's Reed Warbler	LC	IV				R	ü	ü		
11	<i>Acrocephalus stentoreus</i>	Clamorous Reed Warbler	LC	IV		II	-	Wr		ü		
12	<i>Aegithina tiphia</i>	Common Iora	LC	II				R		ü		ü
13	<i>Aerodramus brevirostris</i>	Himalayan Swiftlet	LC	II				R				ü
14	<i>Aethopyga nipalensis</i>	Green-tailed Sunbird	LC	IV				R	ü			
15	<i>Aethopyga saturata</i>	Black-throated Sunbird	LC	II				R				ü
16	<i>Aethopyga siparaja</i>	Crimson Sunbird	LC	II				R			ü	ü
17	<i>Alcedo atthis</i>	Common Kingfisher	LC	II				R		ü		ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
18	<i>Alcippe nipalensis</i>	Nepal Tit Babbler	LC	II				R				ü
19	<i>Alexandrinus krameri</i>	Rose-ringed Parakeet	LC	IV	II	-	-	Wr				
20	<i>Alophoixus flaveolus</i>	White-throated Bulbul	LC	II				R				ü
21	<i>Amaurornis phoenicurus</i>	White-breasted Water Hen	LC	IV				R	ü			
22	<i>Anas platyrhynchos</i>	Mallard	LC	IV				RW	ü	ü	ü	
23	<i>Anastomus oscitans</i>	Asian Openbill Stork	LC / IV					R	ü	ü		ü
24	<i>Anhinga melanogaster</i>	Oriental Darter	NT	II				R				ü
25	<i>Anthracoceros albirostris</i>	Oriental Pied Hornbill	LC	I				R	ü	ü		ü
26	<i>Anthus hodgsoni</i>	Olive-backed Pipit	LC	II				M		ü		ü
27	<i>Arachnothera longirostra</i>	Little Spiderhunter	LC	II				R		ü		ü
28	<i>Arachnothera magna</i>	Streaked Spiderhunter	LC	II				R	ü			ü
29	<i>Arborophila atrogularis</i>	White-cheeked Hill Partridge	NT	II				R				ü
30	<i>Ardea alba</i>	Great Egret	LC	IV		-	-	Wr	ü	ü		
31	<i>Ardeola grayii</i>	Indian Pond Heron	LC	II				R		ü	ü	ü
32	<i>Artamus fuscus</i>	Ashy Wood swallow	LC	IV	II	-	II	R		ü		
33	<i>Athene brama</i>	Spotted Owlet	LC	II				R		ü	ü	ü
34	<i>Aviceda leuphotes</i>	Black Baza	LC	I				R	ü			
35	<i>Aythya nyroca</i>	Ferruginous Duck	NT	II				M	ü			ü
36	<i>Batrachostomus hodgsoni</i>	Hodgson's Frogmouth	LC	I				R				ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
37	<i>Blythipicus pyrrhotis</i>	Bay Woodpecker	LC	II				R				ü
38	<i>Brachypteryx stellata</i>	Gould's Shortwing	LC	IV				R	ü			
39	<i>Bubulcus ibis</i>	Cattle Egret	LC	II	II			R	ü	ü	ü	ü
40	<i>Buceros bicornis</i>	Great Hornbill	VU	I		I		R				ü
41	<i>Cacomantis merulinus</i>	Plaintive Cuckoo	LC	IV		-	-	Wr		ü		
42	<i>Cacomantis sonneratii</i>	Banded Bay Cuckoo	LC	II				R				ü
43	<i>Calliope calliope</i>	Siberian Rubythroat	LC	II				R				ü
44	<i>Caprimulgus macrurus</i>	Large-tailed Nightjar	LC	II				R				ü
45	<i>Casmerodius albus</i>	Great Egret	LC	IV				RW	ü	ü		
46	<i>Centropus bengalensis</i>	Lesser Coucal	LC	IV		-	-	Wr		ü		
47	<i>Centropus sinensis</i>	Greater Coucal	LC	II	II			R		ü	ü	ü
48	<i>Cettia brunnifrons</i>	Grey Bush Warbler	LC	IV				R	ü			
49	<i>Chaimarrornis leucocephalus</i>	White-capped Water Redstart	LC	IV				R		ü	ü	ü
50	<i>Chalcoparia singalensis</i>	Ruby-cheeked Sunbird	LC	II				R				ü
51	<i>Chalcophaps indica</i>	Emerald Dove	LC	II	II			R		ü	ü	ü
52	<i>Chloropsis aurifrons</i>	Golden-fronted Leafbird	LC	II	II			R		ü	ü	ü
53	<i>Chloropsis hardwickii</i>	Orange-bellied Leafbird	LC	II				R				ü
54	<i>Chloropsis moluccensis</i>	Blue-winged Leafbird	LC	II				R		ü		ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
55	<i>Chrysococcyx maculatus</i>	Asian Emerald Cuckoo	LC	IV	II	-	-	SM			ü	
56	<i>Chrysocolaptes guttacristatus</i>	Greater Flameback	LC	IV	II	-	-	R			ü	
57	<i>Chrysocolaptes lucidus</i>	Greater Golden-backed Woodpecker	LC	II				R				ü
58	<i>Chrysophlegma flavinucha</i>	Greater Yellow-naped Woodpecker	LC	II				R				ü
59	<i>Cinnyris asiaticus</i>	Purple Sunbird	LC	II	II			R		ü	ü	ü
60	<i>Cissa chinensis</i>	Common Green Magpie	LC	II				R				ü
61	<i>Columba livia</i>	Rock Pigeon	LC	IV				R	ü	ü		
62	<i>Copsychus malabaricus</i>	White-rumped Shama	LC	IV		-	II	Wr		ü		
63	<i>Copsychus saularis</i>	Oriental Magpie Robin	LC	II				R		ü	ü	ü
64	<i>Coracias affinis</i>	Indochinese Roller	LC	IV		-	-	SM				
65	<i>Coracias benghalensis</i>	Indian Roller	LC	II	II			R	ü	ü	ü	ü
66	<i>Coracina javensis</i>	Large Cuckooshrike	LC	II	II			R		ü	ü	ü
67	<i>Corvus culminatus</i>	Indian Jungle Crow	Not evaluated	IV	II	-	-	R		ü	ü	
68	<i>Corvus leuallantii</i>	Eastern Jungle Crow	-	Not listed	Not listed	-	-	R			ü	
69	<i>Corvus macrorhynchos</i>	Large-billed Crow	LC	II				R				ü
70	<i>Corvus splendens</i>	House Crow	LC	V				R	ü	ü		ü
71	<i>Culicicapa ceylonensis</i>	Grey-headed Canary Flycatcher	LC	IV	II	-	-	R			ü	ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
72	<i>Cyanoderma ambiguum</i>	Buff-chested Babbler	LC	II				R				ü
73	<i>Cyornis poliolegens</i>	Pale-chinned Flycatcher	LC	II				R				ü
74	<i>Cyornis unicolor</i>	Pale Blue Flycatcher	LC	II				R				ü
75	<i>Cypsiurus balasiensis</i>	Asian Palm Swift	LC	II				R				ü
76	<i>Dendrocitta vagabunda</i>	Rufous Treepie	LC	II				R		ü	ü	ü
77	<i>Dendrocopos canicapillus</i>	Grey-capped Pygmy Woodpecker	LC	II				R				ü
78	<i>Dendrocopos macei</i>	Fulvous-breasted Woodpecker	LC	IV	II	-	-	R		ü	ü	
79	<i>Dendropicos spodocephalus</i>	Grey-headed Woodpecker	LC	II				R				ü
80	<i>Dicaeum cruentatum</i>	Scarlet-backed Flowerpecker	LC	II				R				ü
81	<i>Dicaeum erythrorhynchos</i>	Pale-billed Flower packer	LC	IV				Wr	ü			
82	<i>Dicaeum ignipectus</i>	Fire-breasted Flowerpecker	LC	II				R				ü
83	<i>Dicrurus adsimilllis</i>	North Indian Black Drongo	LC	IV				R	ü			
84	<i>Dicrurus aeneus</i>	Bronzed Drongo	LC	II				R		ü		ü
85	<i>Dicrurus hottentottus</i>	Spangled Drongo	LC	IV				R	ü			
86	<i>Dicrurus hottentottus</i>	Hair-crested Drongo	LC	II				R			ü	ü
87	<i>Dicrurus leucophaeus</i>	Ashy Drongo	LC	II				R		ü		ü
88	<i>Dicrurus macrocercus</i>	Black Drongo	LC	II	II			R		ü	ü	ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
89	<i>Dicrurus paradiseus</i>	Greater Racquet-tailed Drongo	LC	II				R		ü		ü
90	<i>Dicrurus remifer</i>	Lesser Racket-tailed Drongo	LC	II				R				ü
91	<i>Dicrus leucophaeus</i>	Assam Grey Drongo	LC	IV				R	ü			
92	<i>Dinopium benghalense</i>	Lesser Golden-backed Woodpecker	LC	II				R		ü		ü
93	<i>Ducula aenea</i>	Green Imperial Pigeon	NT	II				R				ü
94	<i>Enicurus immaculatus</i>	Black-backed Forktail	LC	II				R				ü
95	<i>Enicurus scouleri</i>	Little Forktail	LC	IV		-	II	Wr		ü		
96	<i>Erpornis zantholeuca</i>	White-bellied Erpornis	LC	II				R				ü
97	<i>Eudynamis scolopaceus</i>	Asian Koel	LC	IV		-	-	Wr	ü	ü		
98	<i>Eumyias thalassinus</i>	Verditer Flycatcher	LC	II				M	ü	ü		ü
99	<i>Falco amurensis</i>	Amur Falcon	LC	I				M				ü
100	<i>Falco peregrinus</i>	Peregrine Falcon	LC	I				M				ü
101	<i>Ficedula albicilla</i>	Taiga Flycatcher	LC	II	II	-	II	M			ü	ü
102	<i>Ficedula hyperythra</i>	Snowy-browed Flycatcher	LC	IV				R	ü			
103	<i>Ficedula parva</i>	Red-throated Flycatcher	LC	IV		-	II	WM	ü			
104	<i>Ficedula tricolor</i>	Slaty-blue Flycatcher	LC	II				R				ü
105	<i>Ficedula westermanni</i>	Little Pied Flycatcher	LC	II				R				ü
106	<i>Gallus gallus</i>	Red Junglefowl	LC	II	II			R		ü	ü	ü
107	<i>Gallus sonneratii</i>	Jungle Fowl	LC	IV		II	-	Wr	ü			

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
108	<i>Garrulax caerulatus</i>	Grey-sided Laughingthrush	LC	IV		-	II	Wr	ü			
109	<i>Garrulax monileger</i>	Lesser Necklaced Laughingthrush	LC	II				R				ü
110	<i>Garrulax pectoralis</i>	Greater Necklaced Laughingthrush	LC	II				R				ü
111	<i>Gecinulus grantia</i>	Pale-headed Woodpecker	LC	II				R				ü
112	<i>Geokichla citrina</i>	Orange-headed Thrush	LC	II				R				ü
113	<i>Glaucidium brodiei</i>	Collared Owlet	LC	II				R				ü
114	<i>Glaucidium cuculoides</i>	Asian Barred Owlet	LC	II				R		ü		ü
115	<i>Gracula religiosa</i>	Jungle Myna	LC	IV				R	ü			
116	<i>Gracula religiosa</i>	Hill Myna	LC	I		II		R	ü	ü		ü
117	<i>Gracupica contra</i>	Asian Pied Starling	LC	II	II			R		ü	ü	ü
118	<i>Halcyon smyrnensis</i>	White-throated Kingfisher	LC	II				R	ü		ü	ü
119	<i>Harpactes erythrocephalus</i>	Red-headed Trogon	LC	II				R				ü
120	<i>Hemipus picatus</i>	Bar-winged Flycatcher-shrike	LC	II	II	-	II	R			ü	ü
121	<i>Heteroxenicus stellatus</i>	Gould's Shortwing	LC	IV		-	II	R	ü			
122	<i>Hierococcyx varius</i>	Common Hawk Cuckoo	LC	IV		-	-	Wr		ü		
123	<i>Hirundo rustica</i>	Barn Swallow	LC	IV		-	-	Wr		ü		
124	<i>Hypothymis azurea</i>	Black – naped Monarch	LC / IV					RW		ü		
125	<i>Hypothymis azurea</i>	Black-naped Monarch	LC	IV	II	-	II	Wr			ü	

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
126	<i>Hypothymis azurea</i>	Black-naped Monarch	LC	II				R				ü
127	<i>Hypsipetes leucocephalus</i>	Black Bulbul	LC	IV				R				ü
128	<i>Kittacincla malabarica</i>	White-rumped Shama	LC	II				R				ü
129	<i>Lalage melaschistos</i>	Black-winged Cuckooshrike	LC	II				M				ü
130	<i>Lanius cristatus</i>	Brown Shrike	LC	II				M		ü		ü
131	<i>Lanius schach</i>	Long-tailed Shrike	LC	IV		-	-	Wr		ü		
132	<i>Lanius tephronotus</i>	Grey-backed Shrike	LC	II				M				ü
133	<i>Leiothrix argentauris</i>	Silver-eared Mesia	LC	II				R				ü
134	<i>Liocichla phoenicea</i>	Red-faced Liocichla	LC	IV		-	II	R	ü			
135	<i>Lonchura punctulata</i>	Scaly-breasted Munia	LC	II	II	-	-	R			ü	ü
136	<i>Lophura leucomelanos</i>	Kalij Pheasant	LC	I				R	ü	ü		ü
137	<i>Loriculus vernalis</i>	Vernal Hanging Parrot	LC	II				R				ü
138	<i>Macronous gularis</i>	Yellow breasted Babbler	LC	IV				R	ü			
139	<i>Macronous gularis</i>	Pin-striped Tit-babbler	Not evaluated	IV	II	-	-	R			ü	
140	<i>Macropygia unchall</i>	Barred Cuckoo Dove	LC	II				R				ü
141	<i>Malacocincla abbotti</i>	Abbott's Babbler	LC	II				R				ü
142	<i>Megalaima asiatica</i>	Blue-throated Barbet	Not evaluated	IV	II	-	-	R	ü	ü	ü	
143	<i>Megalaima haemacephala</i>	Coppersmith Barbet	LC	IV		-	-	Wr	ü	ü		



SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
144	<i>Megalaima lineata</i>	Lineated Barbet	LC	IV	II	-	-	R		ü	ü	
145	<i>Melanochlora sultanea</i>	Sultan Tit	LC	II				R				ü
146	<i>Merops leschenaulti</i>	Chestnut-headed Bee Eater	LC	IV	II	-	-	R & SM	ü		ü	
147	<i>Merops orientalis</i>	Green Bee Eater	LC	IV		-	-	Wr		ü		
148	<i>Microcarbo niger</i>	Little Cormorant	LC	II				R				ü
149	<i>Microhierax melanoleucos</i>	Pied Falconet	LC	II				R				ü
150	<i>Micropternus brachyurus</i>	Eastern Rufus Woodpecker	LC	IV		-	-	Wr	ü			
151	<i>Micropternus brachyurus</i>	Rufous Woodpecker	LC	II				R				ü
152	<i>Milvus migrans</i>	Black Eared Kite	LC	IV		II	II	Wr	ü			
153	<i>Mixornis gularis</i>	Striped Tit Babbler	LC	II				R				ü
154	<i>Monticola solitaries</i>	Blue Rock Thrush	LC	IV		-	II	Wr	ü			
155	<i>Motacilla alba</i>	White Wagtail	LC	II			II	M	ü	ü		ü
156	<i>Motacilla cinerea</i>	Grey Wagtail	LC	II				M		ü		ü
157	<i>Motacilla maderaspatensis</i>	White-browed Wagtail	LC	IV	II	-	-	R			ü	
158	<i>Muscicapa dauurica</i>	Asian Brown Flycatcher	LC	IV		-	II	RM	ü			
159	<i>Myophonus caeruleus</i>	Blue Whistling Thrush	LC	IV	II	-	II	R & WM		ü	ü	
160	<i>Niltava grandis</i>	Large Niltava	LC	II				R				ü
161	<i>Niltava macgrigoriae</i>	Small Niltava	LC	II				R	ü	ü		ü
162	<i>Niltava sundara</i>	Rufous-bellied Niltava	LC	II				R				ü
163	<i>Ninox scutulata</i>	Brown Hawk Owl	LC	II				R				ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
164	<i>Nisaetus nipalensis</i>	Mountain Hawk Eagle	LC	I				R				ü
165	<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	LC	II				R				ü
166	<i>Nyctyornis athertoni</i>	Blue-bearded Bee-eater	LC	II				R				ü
167	<i>Oriolus traillii</i>	Maroon Oriole	LC	II				R				ü
168	<i>Oriolus xanthornus</i>	Black-hooded Oriole	LC	II				R		ü	ü	ü
169	<i>Orthotomus atrogularis</i>	Dark-necked Tailorbird	LC	II				R				ü
170	<i>Orthotomus sutorius</i>	Common Tailorbird	LC	II	II			R		ü	ü	ü
171	<i>Otus bakkamoena</i>	Collared Scops Owl	LC	II				R				ü
172	<i>Otus lettia</i>	Collared Scops-owl	LC	IV	II	II	-	R			ü	
173	<i>Otus spilocephalus</i>	Mountain Scops Owl	LC	II				R				ü
174	<i>Parus cinereus</i>	Cinereous Tit	LC	II	II			R			ü	ü
175	<i>Parus major</i>	Great Tit	LC	IV		-	-	Wr		ü		
176	<i>Parus monticolus</i>	Green-backed Tit	LC	II				R				ü
177	<i>Passer domesticus</i>	House Sparrow	LC	II				R	ü	ü		ü
178	<i>Passer montanus</i>	Eurasian Tree Sparrow	LC	IV	II	-	-	R			ü	
179	<i>Passer montanus</i>	Eurasian Tree Sparrow	LC	II				R				ü
180	<i>Pavo cristatus</i>	Peacock	LC	I		-	-	Wr	ü			
181	<i>Pellorneum albiventre</i>	Assam brown Babbler	LC	IV			II	R	ü			
182	<i>Pellorneum ruficeps</i>	Puff-throated Babbler	LC	II	II	-	II	R			ü	ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
183	<i>Pericrocotus flammeus speciosus</i>	Scarlet Minivet	LC / IV					RW		ü		
184	<i>Pericrocotus ethologus</i>	Long-tailed Minivet	LC	II				R				ü
185	<i>Pericrocotus flammeus</i>	Scarlet Minivet	LC	II				R				ü
186	<i>Pericrocotus speciosus</i>	Scarlet Minivet	Not evaluated	IV	II	-	-	R			ü	
187	<i>Pernis ptilorhynchus</i>	Oriental Honey Buzzard	LC	II				R				ü
188	<i>Phaenicophaeus tristis</i>	Green-billed Malkoha	LC	II	II			R			ü	ü
189	<i>Phalacrocorax carbo</i>	Great Cormorant	LC	IV				RW	ü	ü		
190	<i>Phoenicurus coeruleocephala</i>	Blue-capped redstart	LC	IV			II	Wr		ü		
191	<i>Phylloscopus affinis</i>	Leaf Tickell's Warbler	LC	II	II	-	II	M	ü	ü		ü
192	<i>Phylloscopus fulgiventis</i>	Leaf Smoky Warbler	LC	IV			II	RM	ü			
193	<i>Phylloscopus fuscatus</i>	Dusky Warbler	LC / IV				II	Wr		ü		
194	<i>Phylloscopus trochiloides</i>	Greenish Warbler	LC	IV		-	II	Wr		ü		
195	<i>Picus canus</i>	Grey-faced Woodpecker	LC	IV				Wr	ü			
196	<i>Picus chlorolophus</i>	Lesser Yellow-naped Woodpecker	LC	II				R				ü
197	<i>Ploceus philippinus</i>	Baya Weaver	LC	IV	II	-	-	Wr			ü	
198	<i>Pnoepyga pusilla</i>	Pygmy Wren Babbler	LC	II				R				ü
199	<i>Polyplectron bicalcaratum</i>	Grey Peacock Pheasant	LC	I				R	ü			ü



SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
200	<i>Pomatorhinus horsfieldii</i>	Slaty-headed Scimitar-babbler	LC	IV			II	R	ü			
201	<i>Pomatorhinus schisticeps</i>	White-browed Scimitar Babbler	LC	II				R				ü
202	<i>Prinia hodgsonii</i>	Grey-breasted Prinia	LC	IV	II	-	II	Wr			ü	
203	<i>Prinia inornata</i>	Plain Prinia	LC	IV	II	-	II	Wr			ü	
204	<i>Prinia rufescens</i>	Rufescent Prinia	LC	II				R				ü
205	<i>Psilopogon asiaticus</i>	Blue-throated Barbet	LC	II				R				ü
206	<i>Psilopogon australis</i>	Blue-eared Barbet	LC	II				R				ü
207	<i>Psilopogon haemacephalus</i>	Coppersmith Barbet	LC	II				R				ü
208	<i>Psilopogon lineatus</i>	Lineated Barbet	LC	II				R				ü
209	<i>Psilopogon virens</i>	Great Barbet	LC	II				R				ü
210	<i>Psittacula alexandri</i>	Red-breasted Parakeet	NT	IV	I	II		R		ü	ü	ü
211	<i>Psittacula cyanocephala</i>	Blossom headed Parakeet	LC	IV		II		Wr	ü			
212	<i>Psittacula eupatria</i>	Alexandrine Parakeet	NT	II		II		R		ü		ü
213	<i>Psittacula krameri</i>	Rose-ringed Parakeet	LC	II				R				ü
214	<i>Pycnonotus atriceps</i>	Black headed Bulbul	LC	IV				Wr	ü			
215	<i>Pycnonotus cafer</i>	Red-vented Bulbul	LC	II	II			R		ü	ü	ü
216	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	LC	II	II			R		ü	ü	ü
217	<i>Pycnonotus melanicterus</i>	Black-crested Bulbul	LC	II				R				ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
218	<i>Pycnonotus striatus</i>	Striated green Bulbul	LC	IV				Wr	ü			
219	<i>Rhipidura albicollis</i>	White-throated Fantail	LC	II			II	R		ü		ü
220	<i>Rhyacornis fuliginosa</i>	Plumbeous Water Redstart	LC / IV				II	Wr		ü		
221	<i>Rhyticeros undulatus</i>	Wreathed Hornbill	LC	IV		II	Not listed	R	ü			
222	<i>Riparia paludicola</i>	Plain Martin	LC / IV					R		ü		
223	<i>Rubigula flaviventris</i>	Black-crested Bulbul	LC	IV	II	-	-	R			ü	
224	<i>Saxicola caprata</i>	Pied Bushchat	LC	IV	II	-	II	Wr			ü	
225	<i>Saxicola ferreus</i>	Grey Bushchat	LC	I				R				ü
226	<i>Saxicola torquatus</i>	Common Stonechat	LC / IV					RW		ü		
227	<i>Seicercus burki</i>	Golden Spectacled Warbler	LC	IV			II	R	ü			
228	<i>Seicercus trochiloides</i>	Greenish Leaf Warbler	LC	II				R				ü
229	<i>Seicercus xanthoschistos</i>	Grey-hooded Leaf Warbler	LC	II				R				ü
230	<i>Sitta castanea</i>	Chestnut-bellied Nuthatch	LC	II				R				ü
231	<i>Sitta cinnamoventris</i>	Chestnut-bellied Nuthatch	LC	IV	II	-	-	R			ü	
232	<i>Sitta Formosa</i>	Beautiful Nuthatch	VU	IV				R	ü			
233	<i>Siva cyanouroptera</i>	Blue-winged Minla	LC	II				R				ü
234	<i>Spilopelia chinensis</i>	Spotted Dove	LC	IV	II	-	-	R			ü	
235	<i>Spilornis cheela</i>	Crested Serpent Eagle	LC	I		II	II	R		ü		ü

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
236	<i>Spizixos canifrons</i>	Finch billed Bulbul	LC	IV				R	ü			
237	<i>Stachyris nigriceps</i>	Grey-throated Babbler	LC	II				R				ü
238	<i>Streptopelia chinensis</i>	Spotted Dove	LC	II				R	ü	ü		ü
239	<i>Streptopelia decaocto</i>	Eurasian Collared Dove	LC	IV	II	-	-	R			ü	
240	<i>Streptopelia orientalis</i>	Oriental Turtle Dove	LC	II				R				ü
241	<i>Streptopelia tranquebarica</i>	Red Collared Dove	LC	II				R				ü
242	<i>Strix leptogrammica</i>	Brown Wood Owl	LC	I				R				ü
243	<i>Sturnia malabarica</i>	Chestnut-tailed Starling	LC	II				R		ü		ü
244	<i>Tephrodornis gularis</i>	Large Woodshrike	Not evaluated	IV	II	-	-	R			ü	
245	<i>Tephrodornis pondicerianus</i>	Indian wood Shrike	LC	IV			II	Wr	ü			
246	<i>Tephrodornis virgatus</i>	Large Woodshrike	LC	II				R				ü
247	<i>Tesia cyaniventer</i>	Grey-bellied Tesia	LC	II				R		ü		ü
248	<i>Timalia pileata</i>	Red capped Babbler	LC	IV			II	Wr	ü			
249	<i>Treron apicaud</i>	Pin-tailed Green Pigeon	LC	II				R				ü
250	<i>Treron phayrei</i>	Ashy-headed Green Pigeon	NT	IV	II	-	-	R			ü	
251	<i>Treron phoenocoptera</i>	Bengal green Pigeon	LC	IV				R	ü			
252	<i>Treron sphenurus</i>	Wedge-tailed Green Pigeon	LC	II				R		ü		ü
253	<i>Tringa glareola</i>	Spotted Sandpiper	LC	IV			II	WM	ü			

SI No.	Scientific Name	English Name	IUCN Status	WPA, 1972 Schedule	WPA Amendment Act, 2022	CITES Appendix	CMS Appendix	Migratory status	2016	2021	2023	2024
254	<i>Turdoides striata</i>	Jungle Babbler	LC	IV		-	II	Wr		ü		
255	<i>Tyto alba</i>	Barn Owl	LC	IV		II	-	Wr		ü		
256	<i>Upupa epops</i>	Common Hoopoe	LC	II				R		ü		ü
257	<i>Vanellus indicus</i>	Red-wattled Lapwing	LC	II	II	-	II	R	ü	ü	ü	ü
258	<i>Zosterops palpebrosus</i>	Oriental White-eye	LC	II				R		ü		ü

Annexure 20 : Safety Audit Report of CP-2

 <b>L&amp;T Construction</b> <small>Group Ltd &amp; Subsidiaries</small>		<b>Environment, Health and Safety</b> Integrated Management System Manual		 <b>L&amp;T</b> <small>Group Ltd &amp; Subsidiaries</small>	
L&T HSE SURVEILLANCE RATING (HSR) SUMMARY					
K / S1 / S2C / H1 / H2 / DRUM			Title: <u>L&amp;T MW Lower Right MEP</u>		
Contract No. <u>LE200045</u>			Site / Facility: <u>L&amp;T MW</u>		
Date: <u>24.05.2024</u>			Project Completion (%): <u>71.80%</u>		
Manager/ Headroom: <u>J&amp;T</u>					
<b>B HIGH RISK ACTIVITIES</b>					
					TOTAL
Group I. Working in & around (Existing utilities) Underground & Overhead Services / Working adjacent to operational facilities / Working with electricity (Brown field risks / Electrocuting/ Unauthorised shutdown works)/ Working adjacent to or near Public Areas					85.9%
I A. Working in & around Underground & Overhead Services Safety and adjacent to operational facilities					86.4%
I B. Site Entry & Traffic Management					85.7%
I C. Environment					86.01%
Total					86.01%
Group II. Collapse of lifting machines and Cranes & Lifting / Vehicles, Plant & Equipment / Commissioning of Heavy Structures/ equipment					86.84%
II A. Crane and Lifting Devices					86.84%
II B. Hand and Power Tools & Equipment					86.44%
II C. Heavy Equipment, Plant & Machinery					87.50%
II D. Vehicle Safety					85.71%
II E. Commissioning of Heavy Structures/ equipment					88.27%
Total					88.27%
Group III. Hot work/Fire /Explosion / Handling and storage of explosives/ Blasting / Radiography Works					87.50%
III A. Hot work					88.46%
III B. Compressed Gases					86.11%
III C. Fire / Explosion					85.71%
III D Housekeeping and Waste Management					85.00%
III E Chemical / Hazardous Substance Management					90.00%
III F. Handling and storage of explosives					87.50%
III G. Abrasive Blasting & Coating & Compressors					85.71%
III H. Radiography Works					87.00%
Total					87.00%
Group IV. Temporary Works/ Formwork/ Scaffold / Work at Height / Precast Elements Lifting / Demolition works / Major dismantling works / Falling Objects					88.89%
IV A. Temporary Works / Formwork					88.46%
IV B. Scaffold					87.50%
IV C. Work at Height					N/A
IV D. Demolition works / Major dismantling works					88.28%
Total					88.28%
Group V. Material Transportation & Erection / Material Handling					87.50%
Total					87.50%
Group VI. Excavation / Piling					86.36%
VI A. Excavation					N/A
VI B. Piling					86.36%
Total					86.36%
Group VII. Working over or adjacent to water / Barge Movement					87.50%
VII A. Work over or adjacent to water					N/A
VII B. Barge Movement					87.50%
Total					87.50%
Group VIII. Tunnel / Confined Space					85.71%
VIII A. Tunnel					N/A
VIII B. Confined Space					87.50%
VIII C. Work Permit System					86.61%
Total					86.61%
Group IX. Behaviour Based Safety, Systems & Facilities					88.89%
IX A. PPE Usage (Behavioural)					85.71%
IX B. Positions of People (Behavioural)					91.67%
IX C. Safety Rules & Procedures Compliance (Behavioural)					86.36%
IX D. Project Management and Contractor Project Support Facilities					85.71%
IX E. Workman Habitat / camp					88.46%
IX F. Health and Welfare					86.11%
IX G. Contractor Safety Management					87.54%
Total					87.54%
Overall HSR (%) <b>87.13%</b>					
Auditor: <u>Tushar Gangopadhyay</u>			Signature: <u>[Signature]</u> 26/5/24		
Auditee: <u>Santosh Majumdar</u>			Signature: <u>[Signature]</u>		

HSR Score	87.13%	Excellent Rating
80-90%		Good
70-80%		Average
Less than 70%		Needs Improvement



**Annexure 21 : CP-2 Mock Drill 13.1.24**



IM Format No.: 28 B

**MOCK DRILL OBSERVATION REPORT**

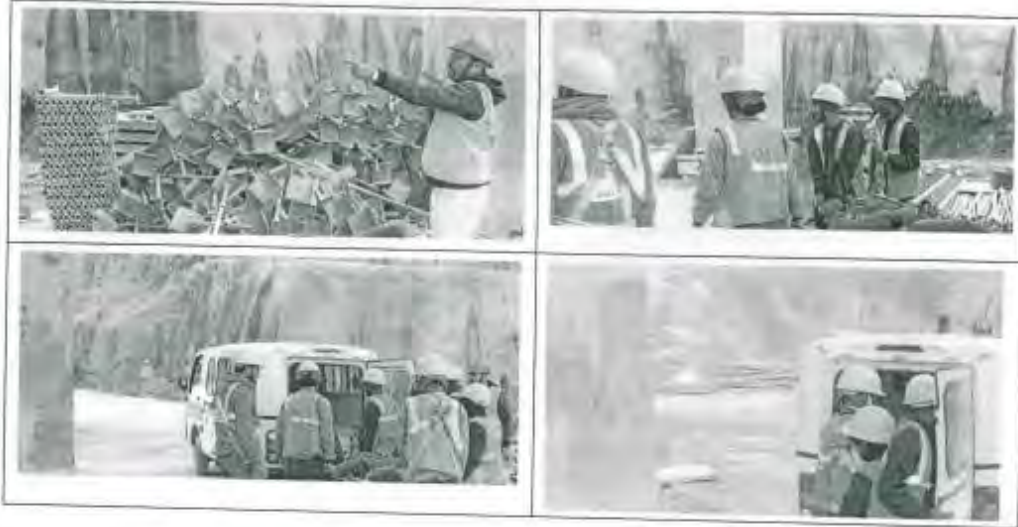
Name of the Project : LKHEP Date: 13/01/2024  
 Location of Mock drill : Powerhouse Site  
 Type of Emergency simulated : Medical Emergency due to fall from Height  
 Observation Team Members (Mr) : Tushar Gangopadhyay, Aadeep Kumar & Nabajyoti Bera


S No	Parameters	Requirement	Observations / Recommendations
1.	Response of workers	Calm & immediate evacuation	Around 11:10 am, one worker of Powerhouse (service bay) informed the Site Engineer (who was located at Powerhouse site office) that one worker fallen down from height of the service-bay scaffolding platform and now he has noticed unconscious. Immediately the site engineer arrived on the spot and at the same time, he was arranged to shift the victim to the first aid center using the Ambulance of Powerhouse. The site-engineer also informed his section in charge, First aid centre and EHS dept. The First aider was ready to give him (victim) medical care immediate after reaching at first aid centre.
2.	Emergency preparedness	Satisfactory role of Response Team, Fire extinguishers accessible for use, Assembly point known to all, Clear exit way	Equipped ambulance with ambulance driver was readily available at the Powerhouse location
3.	Evacuation time taken	Complete evacuation at the earliest	Total time was required from Powerhouse location to First aid centre : 12 minutes
4.	Head count procedure	Assembling only at assembly point, Accounting for all including visitors	NA
5.	Involvement of external agency E.g., Emergency services	Prompt response, Arrival time within 15 minutes*	NA
6.	Emergency communication system E.g., Siren, Public address system	Distinctive, audible & recognized by all personnel	Mobile communication & walky-talky were available.

Sensitivity: LNT Construction Internal Use

7.	Others (If any) / Shortfalls & subsequent corrective action.		Shortfalls: Ambulance was not facing towards direction, as a result, the extra time taken for turning the ambulance. Corrective Measures: On-spot instructions have been given the ambulance driver to keep the ambulance towards road direction.
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PHOTOGRAPH



Name and Signature:   
(Incident Controller)

**Annexure 22 : CP-2. Mock Drill 06.05.2024**



IM Format No.: 28 B

**MOCK DRILL OBSERVATION REPORT**



Name of the Project : LKHEP Date: 06/05/2024  
 Location of Mock drill : UPS – Tunnel  
 Type of Emergency simulated - Worker blocked inside the UPS Tunnel  
 Observation Team Members (Mr): Tushar Gangopadhyay, Zakir Hussain Hazarika & NABAJYOTI Bera

S. No.	Parameters	Requirement	Observations / Recommendations
1.	Response of workers	Calm & Immediate evacuation	On 06.05.24 around 11:10 am, one worker of UPS Tunnel informed the area Site Engineer that one worker blocked inside UPS tunnel and now he has noticed almost unconscious. Immediately the site engineer and area safety supervisor arrived on the spot and at the same time, he was arranged to shift the victim to the first aid center using the Ambulance (stationed in between Powerhouse & UPS). The site-engineer also informed his section in charge, First aid centre and EHS dept. The First aider was ready to provide the victim necessary First aid medical treatment.
2.	Emergency preparedness	Satisfactory role of Response Team, Fire extinguishers accessible for use, Assembly point known to all, Clear exit way	An equipped ambulance with ambulance driver was readily available and reached.
3.	Evacuation time taken	Complete evacuation at the earliest	Total time was required from UPS to First aid center including rescue operation: 10 minutes
4.	Head count procedure	Assembling only at assembly point, Accounting for all including visitors	All were reached at the assembly point.
5.	Involvement of external agency E.g., Emergency services	Prompt response, Arrival time within 15 minutes*	NA
6.	Emergency communication system, i.e., Siren, Public address system	Distinctive, audible & recognized by all personnel	Walky-talky waw available.
7.	Others (if any) / Shortfalls & subsequent corrective action.		On-spot training has been given about the purpose of the Mock drill and specific measures during working inside tunnel.

**PHOTOGRAPH**



Name and Signature:

  
  
\_\_\_\_\_  
(Incident Controller)

Annexure 23 : CP2 Tag in Tag Out Register maintained

Date = 01/08/24 DAY SHIFT HRT

Name	Designation	In Time	Signature
1. Alok	LM/	7:5am	Juan
2. Ram Prakash	(C)	7:6 Am	Prakash
3. Birendra Kumar	Flm	07:07 AM	Birendra
4. Harish Prasad	(EHE)	07:10 AM	P. Prasad
5. Divyanshu Prasad	operator	07:20 AM	Divyanshu
6. Anand	MLP/	"	P. Anand
7. Saksham	MLP/	"	Saksham
8. Ram Kumar	MLP/	"	R. Kumar
9. Anand Prasad	"	"	B. Prasad
10. Subham	"	"	Subham
11. Rajul Prasad	"	"	Rajul
12. Prakash Prasad	"	"	P. Prakash
13. Dilip Kumar Prasad	"	"	Dilip Kumar Prasad
14. Ganesh Prasad	"	"	Ganesh
15. Charan Prasad	"	"	Charan Prasad
16. Manoj	"	"	Manoj
17. Prakash Prasad	"	"	Prakash
18. Bulbul	4 men	"	Bulbul
19. Mofazzal	4 men	"	Mofazzal
20. Yash Prasad	"	"	Yash
21. Mahibul	"	"	Mahibul
21. Baharul	"	"	Baharul
22. Me Samrat	"	"	Me Samrat

# Night Shift

31/05/2024

Name	Designation	Signature
1. (Amirulhaki) Rezakul Fok	welder	T-00 professul Hoque
2. Abdul Rezak	Masson	" Abdul Rezak
3. Nazrul Fok	welder	" Najmul Hoque
4. Abdul Akim	Helper	" Abdul Akim
5. Amir ali	Helper	" Amir Ali
6. Amir ali	Helper	" Amir Ali
7. Amir Fok	Helper	" Amir Hoque
8. Zaidulahi	Helper	" Zaidulahi
9. Raiful Islam	Helper	" Raiful Islam
10. (Rabul Hossain) Samad	Supv.	" Samad
11. Biga	wel	" Biga
12. Lavik	R/F	" Lavik
13. Babig	R/F	" Babig
14. Seema	H	" Seema
15. daitan	H	" DITAN
16. Azak	H	" AZUL DEVI
17. Sebak	H	" Subol Basma
18. Ashok	H	" Ashok Basma
19. Hakim	H	" STAN
20. Abd		"
21. Hamidur Rahman	Plm Civil	" Hamidur Rahman
22. Parul Kumar Das	Civil Engrs.	" Parul Kumar Das
23. Debajyoti Bose	Sub Engrg	" Debajyoti Bose

Dang Shift HRT  
Date - 31/07/2024

Name	Designation	Shift	Signature
26. Babal Lakshmi			
27. Saran			<i>[Signature]</i>
28. Dalem			<i>[Signature]</i>
29. Raja Kumar			OP-Raja Kumar
30. Pantam Prakash			<i>[Signature]</i>
41. Mojit Komfros			Mojit K.
42. Gulerathi Singh			
43. Balakrishna Kasumath	Sr		<i>[Signature]</i>
44. Balijang	H		<i>[Signature]</i>
45. Mizing	H		<i>[Signature]</i>
46. Dairam	H		<i>[Signature]</i>
47. Ratan Muchary	Manan		Ratan Man
48. Anja Kasumath	H		Anja Kasumath
49. Lakshman Pulavar	W		Lakshman Pul
50. Bishang Kasumath	H		Bishang Kasumath
51. Seel	H		<i>[Signature]</i>
52. Bicham	H		Bicham Kasumath
53. Alangbar	H		Alangbar
54. Rukin Kochary	W		Rukin Kochary
55. Gobinda Kasumath	H		Gobinda Kasumath
56. Ajit	H		Ajit Kasumath
57. Milan Muchary	H		Milan Muchary
58. Anan Dairam	H		Anan Dairam
59. Jit Bahadur	Asst. Sr		<i>[Signature]</i>
60. Mahesh	Helf. Sr		<i>[Signature]</i>
61. Anant Singh	Asst. (7:58am)		<i>[Signature]</i>
62. Anil Raj	C.P. Opt (8:00 am)		<i>[Signature]</i>
63. Anil Singh	Asst. (8:00 am)		<i>[Signature]</i>
64. Rajat	Senior		Rajat
65. Rajendra Prasad Jain	Asst. 8:00 am		<i>[Signature]</i>
66. Chandan Kumar	Senior		Chandan
67. Anant Singh	Asst. 8:12		<i>[Signature]</i>
68. Anant Singh	Senior 8:18		<i>[Signature]</i>
69. Anant Singh	H 11		Anant Singh

**Annexure 24 : Ambient Noise Monitoring Results**  
**CP-3**



Recognized by Pollution Control Board, Assam

<b>TEST REPORT</b>				
<b>AMBIENT NOISE LEVEL MEASUREMENT REPORT</b>				
Rep.No. ANLMR_1503163_06A_572			Date: 03/03/2024	
Sample ID: EETNE/MAR/04/24			ULR NO.: TC766924000000131F	
Issued to : M/s. Andritz Hydro Pvt. Ltd., LKHEP Project, village - Langku, Dist. Dima Hasao, Pin - 788931				
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)	03/03/24	Near Service Bay	61.7	46.1
ii)	04/03/24	Near Valve House	57.6	44.9
iii)	05/03/24	Near Project Camp	59.8	47.8

Remarks: Noise level is carried out during 75% of the Day Time & Night Time.  
 Method of analysis : CPCB July 2015 guideline.  
 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

  
**Khairul Islam Sheikh**  
 (Environmental Chemist)

  
**Authorized Signatory /Reviewed by**

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.

-----END OF REPORT-----



**Annexure 25 : Ambient Air Monitoring Results**



Recognized by Pollution Control Board, Assam

TC-7669

**TESTREPORT**

**AMBIENT AIR ANALYSIS REPORT**  
 Rep.No. AAAR\_1503163\_01\_571  
 Sample ID: EETNE/MAR/04/24

Date: 08/03/2024  
 UTR NO.: TC766924000000134F

Issued to : M/s. Andritz Hydro Pvt. Ltd., LKHEP Project, village - Longku, Dist. Dima Hasao,  
 Pin - 788931

Sample Drawn By : UTPAL BEZBARUAH  
 Sampling Plan & Procedure : EETNE/SOP/01  
 Analysis Duration : 02/03/24 TO 06/03/24, 03/03/24 TO 07/03/24, 04/03/24 TO 08/03/24  
 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> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	HC ( $\text{mg}/\text{m}^3$ )	CO ( $\text{mg}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )
i)	02/03/24	Near Service Bay	Clear	40.2	22.9	12.9	BDL	BDL	9.6
ii)	03/03/24	Near valve house		38.9	27.7	13.9	BDL	BDL	10.1
iii)	04/03/24	Near project Camp		38.6	27.8	14.5	BDL	BDL	10.6

Remarks: - Sampling were done within the annual based.

**NATIONAL AMBIENT AIR QUALITY STANDARDS:**

Sl. No.	Pollutant	Test Method	Time Averaged	Weighted	Concentration in Ambient Air Industrial, Residential, Rural and Other Area
1	Particulate Matter (PM <sub>10</sub> ), $\mu\text{g}/\text{m}^3$	IS:5182 Part-XXIII/ CPCB	Annual		50
			24 hours		100
2	Particulate Matter (PM <sub>2.5</sub> ), $\mu\text{g}/\text{m}^3$	EETNE/SOP/01/2017	Annual		40
			24 hours		60
3	Nitrogen Dioxide (NO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$	IS:5182 Part-VI/ CPCB	Annual		40
			24 hours		20
4	Carbon Monoxide (CO), $\text{mg}/\text{m}^3$		5 hours		2.0
5	Sulphur Dioxide (SO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$	IS:5182 Part-II/ CPCB	Annual		50
			24 hours		80

For Envision Enviro Technologies North East, Guwahati

Khairul Islam Sheikh  
 (Environmental Chemist)

Utpal Bezbaruah  
 (Technical Manager)  
 Authorized Signatory / Reviewed by

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.

-----END OF REPORT-----

Page: 1 of 1

**Annexure 26 : Surface water Monitoring Results**



RECOGNIZED BY POLLUTION CONTROL BOARD, ASSAM



**TEST REPORT:**

Report No: 240311\_1503164\_01  
 ULR No: TC766924000000252P  
 Sample ID No: EETNE/MARCH/02/24  
 Test Starting Date: 04/03/2024

Date of Report: 11/03/24  
 Date of sample receipt: 04/03/2024  
 Test completion Date: 11/09/23

Name & Address of Client	M/s. ANDRITZ HYDRO PVT. LTD., LKHEP PROJECT, village- longku, Dist- Dima Hasao, Pin-788931					
Sample Description	Type: Surface Water (Service Bay)				Source: Kopli River	
Sample collected by	M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars	Date	Time	Temperature	p <sup>H</sup>	Quantity Drawn:	Sampling Method:
	02/03/2024	11:15 A.M	31°C	6.95	2L	EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012
					Permissible Limit
1	p <sup>H</sup>	—	6.83	APHA 23 <sup>rd</sup> Edition, 4500 H <sup>+</sup> , Page:4-95	6.5-8.5
2	Turbidity	NTU	1.23	APHA 23 <sup>rd</sup> Edition, 2150, Page:2-13	5
3	TDS	mg/L	19.5	APHA 23 <sup>rd</sup> Edition, 2540 C, Page :2-69	2000
4	TSS	mg/L	82.3	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	4.8	APHA 23 <sup>rd</sup> Edition, 4500-O C, Page:4-146	6
7	Total hardness	mg/L	57	APHA 23 <sup>rd</sup> Edition, 2340 B, Page:2-48	600
8	Calcium	mg/L	23	APHA 23 <sup>rd</sup> Edition, 3500-Ca B, Page:3-69	200
9	Magnesium	mg/L	12	APHA 23 <sup>rd</sup> Edition 3500-Mg B, Page:3-86	100
10	Total Alkalinity	mg/L	24.2	APHA 23 <sup>rd</sup> Edition, 2320, Page:2-37	600
11	Sulphate	mg/L	18.4	APHA 23 <sup>rd</sup> Edition, 4500-SO <sub>4</sub> <sup>2-</sup> E, Page:4-199	400
12	Nitrates	mg/L	6	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	2503
15	Conductivity	µS/cm	94	APHA 23 <sup>rd</sup> Edition, 2520B, Page:2-60	—



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Sample ID No: EETNE/MARCH/02/24  
Test Starting Date: 04/03/2024

Date of sample receipt: 04/03/2024  
Test completion Date: 11/03/2024

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	-----
17	Iron(as Fe)	mg/L	0.95	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80	-----
18	Total Coliform	MPN/100	2	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81	Shall not be detectable in any 100 ml Sample
19	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
20	BOD	mg/L	8	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6	-----
21	COD	mg/L	47	APHA 23 <sup>rd</sup> Edition,5220 b,Page:5-18	-----

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

For Envision Enviro Technologies North East, Guwahati

**KHAIRUL ISLAM SHEIKH**  
Environmental Chemist  
Test Done By



**UTRAJ BEZBARUAH**  
Technical 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  
End of report

**Annexure 27 : Ground Water Monitoring Results**  
CP-3

**en-vision**

Enviro. Technologies North East

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RECOGNIZED BY POLLUTION CONTROL BOARD, ASSAM



TC-7669

**TEST REPORT:**

Report No: 240311\_1503163\_2  
ULR No: TC76692400000254P  
Sample ID No: EETNE/MARCH/04/2024  
Test Starting Date: 04/03/2024

Date of Report: 11/03/2024  
Date of sample receipt: 04/03/2024  
Test completion Date: 11/03/2024

Name & Address of Client	M/s. ANDRITZ HYDRO PVT. LTD., LKHEP Project ,village- Longku ,Dist- Dima Hasao, Pin- 788931.					
Sample Description	Type: Raw water	Source: borewell				
Sample collected by	M/s. En-vision Enviro Technologies North East					
Sample Collection Particulars	Date 02/03/2024	Time 12:50 P.M	Temperature 32°C	pH 6.82	Quantity Drawn:4L	Sampling Method: EETNE/SOP/02

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500:2012
					Permissible Limit
1	pH	—	6.74	APHA 23 <sup>rd</sup> Edition,4500 H <sup>+</sup> ,Page:4-95	6.5-8.5
2	Turbidity	NTU	4.5	APHA 23 <sup>rd</sup> Edition,2130,Page:2-13	5
3	TDS	mg/L	59.2	APHA 23 <sup>rd</sup> Edition,2540 C, Page:2-69	2000
4	TSS	mg/L	72.5	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	5.1	APHA 23 <sup>rd</sup> Edition,4500-O C,Page:4-146	6
7	Total hardness	mg/L	137.5	APHA 23 <sup>rd</sup> Edition,2340 B,Page:2-48	600
8	Calcium	mg/L	28.4	APHA 23 <sup>rd</sup> Edition,3500-Ca B,Page:3-69	200
9	Magnesium	mg/L	18.5	APHA 23 <sup>rd</sup> Edition,3500-Mg B,Page:3-86	100
10	Total Alkalinity	mg/L	32.5	APHA 23 <sup>rd</sup> Edition,2320,Page:2-37	600
11	Sulphate	mg/L	21.3	APHA 23 <sup>rd</sup> Edition,4500-SO <sub>4</sub> <sup>2-</sup> E,Page:4-199	400
12	Nitrates	mg/L	45	APHA 23 <sup>rd</sup> Edition,4500-NO <sub>3</sub> <sup>-</sup> B,Page:4-127	70
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	102.3	APHA 23 <sup>rd</sup> Edition,2520B,Page:2-60	2500

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Sample ID No: EETNE/MARCH/04/24  
Test Starting Date: 04/03/2024

Date of sample receipt: 04/03/2024  
Test completion Date: 11/03/2024

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	-----
17	Iron(as Fe)	mg/L	0.52	APHA 23 <sup>rd</sup> Edition,3500-Fe B,Page:3-80	-----
18	Total Coliform	MPN/100	2	APHA 23 <sup>rd</sup> Edition,9222B,Page:9-81	Shall not be detectable in any 100 ml Sample
19	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
20	BOD	mg/L	5	APHA 23 <sup>rd</sup> Edition,5210B,Page:5-6	-----
21	COD	mg/L	48	APHA 23 <sup>rd</sup> Edition,5220 b,Page:5-18	-----

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

For Envision Enviro Technologies North East, Guwahati

  
**KHAIRUL ISLAM SHEIKH**  
Environmental Chemist  
Test Done By

  
**UTRAJ BEZBARUAN**  
Technical 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  
**End of report**

CP-1- Ground water monitoring Results (Borewell 1)



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TC-7669

**TEST REPORT:**

ULR No: TC766924000000281  
 Report No: 240416\_14080047\_0  
 Sample ID No:EETNE/APRIL/12/24/D  
 Test Starting Date: 09/04/24

NABL ACCREDITED  
 Date of Report: 16/04/24  
 Date of sample receipt: 08/04/24  
 Test completion Date: 16/04/24

Name & Address of Client	BVG India Ltd. Midas Tower, 4 <sup>th</sup> Floor, Phase-I, Rajiv Gandhi Infotech Park, Hinjawadi, Pune 411057 Maharashtra, India.				
Sample Description	Type: Ground Water	Source : Borewell 1 Location: (At the back side of Type 1 Building) Depth:740 feet			
Sample collected by	M/s. En-vision Enviro Technologies North East				
Sample Collection Particulars	Date 08/04/2024	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	---	7.40	APHA 23 <sup>rd</sup> Edition 2017,4500 H <sup>+</sup> B, Page:4-95 / IS 3025 (Part 11) Electrometric Method	6.5-8.5	No relaxation
2	Turbidity	NTU	2.3	IS 3025 (Part 10) Nephelometric Method	1.0	5.0
3	TDS	mg/L	187	IS 3025 (Part 16)	500	2000
4	Total hardness	mg/L	180	IS 3025 (Part 21)	200	600
5	Calcium	mg/L	54.5	IS 3025 (Part 40) EDTA Titrimetric Method	75	200
6	Magnesium	mg/L	10.6	IS 3025 (Part 46)	30	100
7	Total Alkalinity	mg/L	220	IS 3025 (Part 23)	200	600
8	Chloride	mg/L	21.7	APHA 23 <sup>rd</sup> Edition 2017,4500-Cl <sup>-</sup> B,Page:4-75	250	1000
9	Sulphate	mg/L	17.5	APHA 23 <sup>rd</sup> Edition 2017,4500-SO <sub>4</sub> <sup>2-</sup> E,Page:4-199	200	400
10	Nitrates	mg/L	4.3	APHA 23 <sup>rd</sup> Edition 2017,4500-NO <sub>3</sub> <sup>-</sup> B,Page:4-127	45	No relaxation
11	Residual Chlorine	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017,4500-Cl <sub>2</sub> B,Page:4-53	0.2	1.0



TC-7669

NABL ACCREDITED

Report No: 240416\_14080047\_0  
Sample ID No: EETNE/APRIL/12/24

Date of Report: 16/04/24  
Date of sample receipt: 08/04/24

Sl No	Parameters	Unit	Result	Reference Method	IS 10500:2012	
					Acceptable limit	Permissible limit
12	Fluoride	mg/L	0.36	APHA 23 <sup>rd</sup> Edition 2017,4500-F D,Page:4-90	1.0	1.5
13	Copper	mg/L	0.038	APHA 23 <sup>rd</sup> Edition 2017,3111 B,Page:3-20	0.05	1.5
14	Iron(as Fe)	mg/L	0.165	APHA 23 <sup>rd</sup> Edition 2017,3500-Fe B,Page:3-80	0.3	No relaxation
15	Cadmium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.003	No relaxation
16	Lead	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.01	No relaxation
17	Zinc	mg/L	0.192	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	5	15
18	Total Chromium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.05	No relaxation
19	Manganese	mg/L	0.042	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.1	0.3
20	Selenium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3114 B,Page:3-36	0.01	No relaxation
21	BOD	mg/L	<2	APHA 23 <sup>rd</sup> Edition 2017,5210B,Page:5-6 / IS 3025 (Part 44)	---	---
22	COD	mg/L	<5	APHA 23 <sup>rd</sup> Edition 2017, 5220-B, Page No: 5-18	---	---

NOTE: (BOD) Biochemical Oxygen Demand, (COD) Chemical Oxygen Demand, (TDS) Total Dissolved Solids, (BDL) Below Detection Limit.

For Envision Enviro Technologies North East

*Signature*

**KHAIRUL ISLAM SHEIKH**  
Environmental Chemist  
Test Done By



**UTPAL BEZBAROAH**  
Technical 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 laborator

END OF REPORT

CP-1- Ground water monitoring Results (Borewell 2)



Enviro Technologies North East

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TC-7669

**TEST REPORT:**

ULR No: TC76692400000282  
 Report No: 240416\_14080047\_1  
 Sample ID No:EETNE/APRIL/13/24/D  
 Test Starting Date: 09/04/24

Date of Report: 16/04/24  
 Date of sample receipt: 08/04/24  
 Test completion Date: 16/04/24

NABL ACCREDITED

Name & Address of Client	BVG India Ltd. Midas Tower, 4 <sup>th</sup> Floor, Phase-I, Rajiv Gandhi Infotech Park, Hinjawadi, Pune 411057 Maharashtra, India.				
Sample Description	Type: Ground Water	Source : Borewell-2 Location:(At the back side of Type 2 Building) Depth:530 feet			
Sample collected by	M/s. En-vision Enviro Technologies North East				
Sample Collection Particulars	Date 08/04/2024	Time 11:50 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	---	6.58	APHA 23 <sup>rd</sup> Edition 2017,4500 H <sup>+</sup> B, Page:4-95 / IS 3025 (Part 11) Electrometric Method	6.5-8.5	No relaxation
2	Turbidity	NTU	4.1	IS 3025 (Part 10) Nephelometric Method	1.0	5.0
3	TDS	mg/L	28	IS 3025 (Part 16)	500	2000
4	Total hardness	mg/L	24	IS 3025 (Part 21)	200	600
5	Calcium	mg/L	6.4	IS 3025 (Part 40) EDTA Titrimetric Method	75	200
6	Magnesium	mg/L	1.9	IS 3025 (Part 46)	30	100
7	Total Alkalinity	mg/L	27.5	IS 3025 (Part 23)	200	600
8	Chloride	mg/L	14.6	APHA 23 <sup>rd</sup> Edition 2017,4500-Cl <sup>-</sup> B,Page:4-75	250	1000
9	Sulphate	mg/L	8.3	APHA 23 <sup>rd</sup> Edition 2017,4500-SO <sub>4</sub> <sup>2-</sup> E,Page:4-199	200	400
10	Nitrates	mg/L	3.4	APHA 23 <sup>rd</sup> Edition 2017,4500-NO <sub>3</sub> <sup>-</sup> B,Page:4-127	45	No relaxation
11	Residual Chlorine	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017,4500-Cl <sup>-</sup> B,Page:4-63	0.2	1.0





TC-7669

Report No: 240416\_14080047\_0  
Sample ID No:EETNE/APRIL/13/24

NABL ACCREDITED  
Date of Report: 16/04/24  
Date of sample receipt: 08/04/24

Sl No	Parameters	Unit	Result	Reference Method	IS 10500:2012	
					Acceptable limit	Permissible limit
12	Fluoride	mg/L	0.32	APHA 23 <sup>rd</sup> Edition 2017,4500-F D,Page:4-90	1.0	1.5
13	Copper	mg/L	0.031	APHA 23 <sup>rd</sup> Edition 2017,3111 B,Page:3-20	0.05	1.5
14	Iron(as Fe)	mg/L	0.141	APHA 23 <sup>rd</sup> Edition 2017,3500-Fe B,Page:3-80	0.3	No relaxation
15	Cadmium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.003	No relaxation
16	Lead	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.01	No relaxation
17	Zinc	mg/L	0.163	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	5	15
18	Total Chromium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.05	No relaxation
19	Manganese	mg/L	0.028	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.1	0.3
20	Selenium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3114 B,Page:3-36	0.01	No relaxation
21	BOD	mg/L	<2	APHA 23 <sup>rd</sup> Edition 2017,5210B,Page:5-6 / IS 3025 (Part 44)	---	---
22	COD	mg/L	<5	APHA 23 <sup>rd</sup> Edition 2017, 5220-B, Page No: 5-18	---	---

NOTE: (BOD) Biochemical Oxygen Demand, (COD) Chemical Oxygen Demand, (TDS) Total Dissolved Solids, (BDL) Below Detection Limit.

For Envision Enviro Technologies North East

**KHAIRUL ISLAM SHEIKH**  
Environmental Chemist  
Test Done By



**UTPAL BEZBARUAH**  
Technical Manager  
Authorized Signatory/Reviewed By

Page 2 of 2

CP-2 Water Treatment Plant



TEST REPORT  
 Report No: 240117\_1503163\_0  
 ULR No: TC76692300000212P  
 Sample ID No: EETNE/JAN/02/24  
 Test Starting Date: 10/01/24

Date of Report: 17/01/24  
 Date of sample receipt: 10/01/24  
 Test completion Date: 17/01/24

Name & Address of Client	M/s. Lower Kopli HEP Project, Lanku, District – Dima Hasao, Assam				
Sample Description	Source: Water Treatment Plant Dam Top				
Sample collected by	M/s. L&T Staff of Kopli project				
Sample Collection Particulars	Date 09/01/2024	Time 12:20 P.M	Temperature 30°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	---	7.72	APHA 23 <sup>rd</sup> Edition 2017,4500 H <sup>+</sup> B Page-4-95 / IS 3025 (Part 11) Electrometric Method	6.5-8.5	No relaxation
2	Turbidity	NTU	<1	IS 3025 (Part 4) Nephelometric Method	1.0	5.0
3	TDS	mg/L	45.2	IS 3025 (Part 16)	500	2000
4	Total hardness	mg/L	35.7	IS 3025 (Part 21)	300	600
5	Calcium	mg/L	10.8	IS 3025 (Part 40) EDTA Titrimetric Method	75	200
6	Magnesium	mg/L	2.3	IS 3025 (Part 46)	30	100
7	Total Alkalinity	mg/L	24.6	IS 3025 (Part 23)	200	600
8	Chloride	mg/L	25.1	APHA 23 <sup>rd</sup> Edition 2017,4500-Cl <sup>-</sup> B Page-4-75	250	1000
9	Sulphate	mg/L	12.4	APHA 23 <sup>rd</sup> Edition 2017,4500-SO <sub>4</sub> <sup>2-</sup> E Page-4-199	200	400
10	Nitrate	mg/L	4.9	APHA 23 <sup>rd</sup> Edition 2017,4500-NO <sub>3</sub> <sup>-</sup> B Page-4-127	45	No relaxation



TC-7669

Test Starting Date: 10/01/24  
Sample ID No: EETNE/JAN/02/24

Date of report: 17/01/24  
Date of sample receipt: 10/01/24

Sl No.	Parameters	Unit	Result	Reference Method	IS 10500: 2012	
					Acceptable limit	Permissible limit
11	Fluoride	mg/L	0.34	APHA 23 <sup>rd</sup> Edition 2017,4500-F D,Page:4-90	1.0	1.5
12	Copper	mg/L	0.038	APHA 23 <sup>rd</sup> Edition 2017,3111 B,Page:3-20	0.05	1.5
13	Iron(as Fe)	mg/L	0.156	APHA 23 <sup>rd</sup> Edition 2017,3500-Fe B,Page:3-80	0.3	No relaxation
14	Cadmium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.003	No relaxation
15	Lead	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.01	No relaxation
16	Zinc	mg/L	0.198	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	5	15
17	Total Chromium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.05	No relaxation
18	Manganese	mg/L	0.047	APHA 23 <sup>rd</sup> Edition 2017, 3111 B,Page:3-20	0.1	0.3
19	Selenium	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3114 B,Page:3-36	0.01	No relaxation
20	Arsenic	mg/L	BDL	APHA 23 <sup>rd</sup> Edition 2017, 3114 B,Page:3-36	0.01	No relaxation
21	BOD	mg/L	<2	APHA 23 <sup>rd</sup> Edition 2017,5210B,Page:5-6 / IS 3025 (Part 44)	--	--
22	COD	mg/L	<5	APHA 23 <sup>rd</sup> Edition 2017, 5220-B, Page No: 5-18	--	--

NOTE: BDL (Below Detection Limit), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand)

For En-vision Enviro Technologies North East, Guwahati

  
**KHAIRUL ISLAM SHEIKH**  
Environmental Chemist  
Test done by

  
**UTPAL BEZBARUAH**  
Technical 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. 8 to 20 are analyzed by Department of Chemistry, B.Boroach College as per our MOU.

End of report

Page 2 of 2

Annexure 28 : Soil Monitoring Results CP-3



**Enviro Technologies North East**

*Technologies for better tomorrow*

Recognized by Pollution Control Board, Assam

**SOIL ANALYSIS REPORT**

Rep.No: 240311\_1503164\_1

Date: 11/03/24

Name & Address of Client	M/s. ANDRITZ HYDRO PVT. LTD., LKHEP Project ,village-Longku ,Dist- Dima Hasao, Pin- 788931.
Sample Description	NEAR SERVICE BAY
Date of Sampling	02/03/24
Sample collected by	M/s. En-vision Enviro Technologies North East

Sl No.	Soil Parameters	Unit	Result	Reference Method
1	p <sup>H</sup>	---	6.24	Potentiometric
2	Soil type	---	Silt highly organic clay	Hydrometer
	Permeability of soil	Cm/sec	$1.1 \times 10^{-6}$	Constant head test method
	Sand	%	63.5	Hydrometer
	Clay	%	13.6	Hydrometer
	Silt	%	22.9	Hydrometer
3	Nitrogen	kg/ha	0.068	Alkaline KMnO <sub>4</sub>
4	Phosphorus	mg/kg	9.6	Olsen method
5	Potassium	mg/Kg	12.2	NH <sub>4</sub> -acetate extraction
6	Electrical conductivity	mS/cm	10	Conductivity Meter
7	Water holding capacity	%	13.5	Standard method
8	Organic matter	%	0.58	Titrimetric

Sl No.	Parameters	Unit	Result	Reference Method
9	Organic Carbon	%	4.08	Rapid Dichromate Oxidation Technique
10	Iron	g/kg	81.5	Flame AAS(mg/kg)
11	Copper	mg/kg	3.12	Flame AAS
12	Nickel	mg/kg	3.08	Flame AAS
13	Manganese	g/kg	63.4	Flame AAS(mg/kg)
14	Zinc	mg/kg	8.3	Flame AAS
15	Arsenic	mg/kg	4.8	HG- AAS
16	Cadmium	mg/kg	0.02	Flame AAS
17	Lead	mg/kg	0.002	Flame AAS
18	Chromium	mg/kg	<0.02	Flameless AAS
19	Aluminum	mg/kg	BDL	Flameless AAS

For En-vision Enviro Technologies North East, Guwahati



UTPAK DEBBARUAH  
(Technical Manager)

Authorised Signatory/ Reviewed by

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.

**End of Report**





Validation of Semi-annual Environmental Monitoring Report  
for  
Environmental Safeguards Implementation from January to June 2024  
120 MW Lower Kopili Hydroelectric Project

Submitted to  
Assam Power Generation Corporation Limited

Annexure 29



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





# Validation of Six-Monthly Environmental Monitoring Report (Jan-June-2024)




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

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

**CONTRACT No 01  
DATED: 24<sup>th</sup> December 2021**

**PURPOSE:**

**External Monitoring for implementation of Environment Safeguards for the period January to June 2024.**

1	Submission to Client (Draft)	25.11.2024	AW, JK, LC, DS, FR,SM	SM	SM
<b>Rev.</b>	<b>Description</b>	<b>Date</b>	<b>Prepared</b>	<b>Checked</b>	<b>Approved</b>
		<b>Assam Power Generation Corporation Ltd, Bijulee Bhawan, Paltan Bazar, Guwahati - 781001</b>			
		<b>Feedback Infra Private Limited</b> First Floor, Tower East 77A, Sector 18, IFFCO Road, Gurugram 122 015, India. <b>AQUALOGUS – Engenharia e Ambiente, Lda.</b> Rua do Mar da n.º 1, Office 2.4, 1990-137 Lisbon, Portugal . <b>Jade Consult Pvt. Ltd.</b> 42/34 – Kabil Marg, Thapathali, Kathmandu, Nepal			
Doc. No: FIPL/ED/APGCL/Semi Annual Summary-Jan-June 24/Nov/02			Size : ISO-A4 /A3	No of Pages: 115	<b>REV</b> 

<b>List of Abbreviations</b>	
ADB	Asian Development Bank
APGCL	Assam Power Generation Corporation Limited
APO	Assistant Personnel Officer
APSIP	Assam Power Sector Investment Program
CAP	Corrective action plan
CATP	Catchment Area Treatment Plan
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CEMP	Contractor Environmental Management Plan
CGWB	Central Groundwater Board
CTE	Consents to establish
CTO	Consents to operate
DEOC	District Emergency Operation Centre
DC	Double Circuit
DDMA	District Disaster Management Authority
DMC	Disaster Management Committee
DMT	Disaster Management Team
EA	Executing Agency
EAC	Expert Appraisal Committee
EC	Environment Clearance
EDS	Essential Details Sought
EHS	Environment Health and Safety
EIA	Environment Impact Assessment
EMC	External Monitoring Consultant
EMP	Environmental Management plan
FC	Forest Clearance
FIPL	Feedback Infra Private limited
GOI	Government of India
GOA	Government of Assam
GRM	Grievance Redress Mechanism
IWRMP	Integrated Water Resources Management Plan
L&T	Larsen & Toubro
LKHEP	Lower Kopili Hydroelectric Project
MOC	Memorandum of Change
MoEF & CC	Ministry of environment Forest and Climate Change
MPR	Monthly Progress Reports
MSL	Mean Sea Level
NCHAC	North Cachar Hills Autonomous Council
NOC	No Objection Certificate
NGO	Non-Governmental Organisation
PESO	Petroleum and Explosives Safety Organization

PMC	Project Management Contractor
PMU	Project Management Unit
SEMR	Six-Monthly Environment Monitoring report
SRC	Sulphate Resistant Cement
SPS 2009	Safeguard Policy Statement
VLCC	Village Land Management and Conservation Committee
WQRP	Water Quality Restoration Plan

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## 1.0 PROJECT BACKGROUND

1. Assam Power Generation Corporation Limited (APGCL), is in the process of building a 120 MW Lower Kopili Hydroelectric Project. The Lower Kopili H.E. Project (LKHEP or "project") involves the construction of 120 MW hydroelectric power plants and an associated 50 km long 220 kV transmission line in Karbi Anglong and Dima Hasao Districts in the north-eastern State of Assam, India. The project will use the hydropower potential of the Kopili River, a south bank tributary of the Brahmaputra River, at Longku, utilising the regulated discharge from Kopili HEP, spills from Khandong and Umrong Dams in the upstream, and the discharge from the intermediate catchment. The project is designed to operate as a run-of-river power plant with diurnal storage with a total capacity of 120 megawatts (MW), comprising a main plant rated at 110 MW (2X55 MW) and an auxiliary plant rated at 10 MW (1x5 MW+2x2.5 MW) at the toe of the dam for utilising the mandatory releases for ecological purposes. The scheme has been contemplated to run at full potential in the monsoon season and operate as a peaking station in the non-monsoon season.
2. APGCL, through the Government of Assam (GoA) and subsequently through the Government of India (GOI), has applied for a loan from the Asian Development Bank (ADB) towards the cost of LKHEP under the Assam Power Sector Investment Programme (APSIP) in Environment Tranche 3.
3. The project has been accorded environmental clearance from the Ministry of Environment, Forest and Climate Change (MoEF&CC) on September 4, 2019. This clearance was granted as the project falls under **Category A** of the Environmental Impact Assessment (EIA) Notification, dated September 14, 2006, and its subsequent amendments. However, subsequent to the initial clearance, substantial modifications were made to the project's design. These alterations included changes in submergence area due to increase in dam height and length, adjustments to the tail race channel's width and length, an increase in the diameter and length of the headrace tunnel (HRT), as well as an increase in the number of spillways. Given these significant changes that affect both the structural integrity and environmental footprint of the project, an amendment to the original environmental clearance was necessary. Consequently, EC amendment was granted on January 3, 2024.
4. The project has also received stage 1 and stage 2 forest clearance from MoEF&CC on February 5, 2019, and December 4, 2020, respectively, as a result of the project's requirement to divert forest land.

### 1.1 PROJECT SALIENT FEATURES

5. The proposed dam will be a concrete gravity dam with a top longitudinal cross section of 335 m and a height of 66.5 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) and live storage of 77 million cubic metres. The designed discharge capacity is 112.71 cubic metres per second (m/s) at a flow velocity of 3.86 m/s and 5.31 m/s. Within the Project Site Area of LKHEP, 14 new Access Roads are included for access to

various Project Components. The Civil work and electromechanical work are in progress. The project's salient features are given in **Table 1**.

**Table 1: Project Salient Features**

Particulars	Description	
Name of the Project	Lower Kopili Hydroelectric Project	
State	Assam	
District	East of Karbi Anglong and West of Dima Hasao (North Cachar) Hills District (Project Location Map is attached as <b>Annexure-I</b> )	
River	Kopili	
Catchment area	2,076.62 sq. km	
Environmental flow (e-flow)	Minimum 5.345 m <sup>3</sup> /s	
<b>DAM</b>		
Dam Type	Concrete Gravity Dam	
Maximum height of the dam	65.50 m	
Overflow spillway for debris removal size (W x H)	4.0 m x 3.0 m	
Sluice spillway No. & size (W x H)	6 Nos., 10 m x 12.50 m	
Sluice spillway capacity	11,030 m <sup>3</sup> /s	
Gate type and Number	Radial gate and 6 No. with hydraulic hoist	
<b>RIVER DIVERSION</b>		
Diversion type	Coffer dams, Diversion Tunnel of 10.5 m diameter at right bank	
<b>Upstream Coffer dam</b>		
Type	Plum Concrete	
Height	21.50 m	
Top Length and Level	179.5 m, EL. 193.0 m	
<b>Downstream Coffer dam</b>		
Type	Earth & Rockfill	
Height	10.0 m	
Top Length and Level	132.0 m, EL.181.0 m	
<b>INTAKE</b>	<b>MAIN POWERHOUSE</b>	<b>AUXILIARY POWERHOUSE</b>
Number of openings	1	1
Nominal discharge	112.71 m <sup>3</sup> /s	24.94 m <sup>3</sup> /s (e-flow of 5.345 m <sup>3</sup> /s within this)
<b>HEAD RACE TUNNEL</b>		

Location	Right bank of Kopili river	
Length	3,641.60 m	
Nominal discharge	112.71 m <sup>3</sup> /s	
<b>ADIT-1 TO HRT</b>		
Shape and Size	D-Shape, 6.0 m	
Length	354.66 m	
Type & Number of Gate	Hinge type, One	
Gate Size (W x H)	2.5 m x 2.5 m	
<b>SURGE SHAFT</b>		
Type	Restricted orifice type	
Diameter	25 m	
<b>VALVE HOUSE</b>		
Type & Number	Surface	
Size (L x W x H)	23 m x 14 m x 27.50 m	
<b>PRESSURE SHAFT</b>	<b>MAIN POWERHOUSE</b>	<b>AUXILIARY POWERHOUSE</b>
Type	Circular steel lined	Circular steel lined
Nominal discharge	112.71 m <sup>3</sup> /s	24.94 m <sup>3</sup> /s
Length of pressure shaft Length of Surface Penstock	610m (Dia 6.1m)/ 81.9 m (Dia 5.2m)	64 m
Number of pressure shaft	1	1
Specification of steel plates	ASTM A537	ASTM A537
Penstock	2	3
Internal diameter	3.70 m	2 Nos.1.65 m & 1 No.2.35 m
Length	16.3 m	26.20 m/ 26.20 m/ 24.20 m
<b>POWERHOUSE</b>	<b>MAIN POWERHOUSE</b>	<b>AUXILIARY POWERHOUSE</b>
Installed capacity	2x55 MW=110 MW	2x2.5 MW+1x5 MW=10 MW
Location	Right side of river Kopili	Right side of river Kopili
Type	Surface powerhouse	Surface powerhouse
Powerhouse dimensions (L x W x H)	76.5 m x 19.1 m x 30 m	50.5 m x 10 m x 27 m
Average gross head	114 m	48.30 m
Type of turbines	Francis, vertical	Francis, horizontal
Number of units	2	3
Installed capacity per unit	55 MW	2.5 MW / 5 MW



TRANSFORMER YARD		
Type	1 phase, ONAN/ONAF	3 phase, ONAN/ONAF cooled Generator Transformer
Location	Upstream of powerhouse	Upstream of powerhouse
Number	7 (6+1 spare) nos.	2 nos.
Rated capacity	24 MVA	6.5 MVA
TAIL RACE CHANNEL		
Type	Rectangular Channel	Rectangular Duct
Numbers	1	Three separate ducts merging into one common duct
Size (L x W)	208.4 m x 26 m	43.40m for 5 MW unit 29.65m for 2.5 MW Units
SWITCH YARD		
Type & Size	Outdoor-146 m x 72 m	Outdoor-24 m x 21 m
Voltage level	220 kV	33 kV
CONSTRUCTION PERIOD		
Total construction period	4 Years	

6. In addition to the dam and its structures, an officer's colony is being established with adequate facilities for the treatment of wastewater generated from the colony.
7. The power evacuation system includes the construction of a 220 kV Double Circuit (DC) transmission line (TL) from the Main Powerhouse (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) Transmission Line (TL) from the Auxiliary Powerhouse (APH) site of LKHEP to an existing 132/33 kV S/S at Umrangsu. The length of TL between the MPH and Sankardev Nagar is 46.013 km, and between the APH and Umrangsu it is 22 km. The power evacuation system will also involve upgrading an existing 132/33 kV S/S at Sankardev Nagar with the existing 2 power transformers of capacity 2x25 MVA to 220kV with 2 interconnected transformers (ICT) of capacity 2x160 MVA. The relevant switchgear type proposed is a gas-insulated substation (GIS).
8. As per ADB's Safeguard Policy Statement (SPS 2009), the Project is classified as **Category 'A'**.

## 1.2 PROJECT PROGRESS STATUS

9. The project is segmented into four packages, and their selection and work progress are detailed in Table 2 below. Notably, during the current reporting period, the progress of most packages has shown

improvement, with the most significant incremental advancement observed in Package 3 (Electromechanical Works):

**Table 2: Package wise progress of project in the period Jan-June 2024**

S.N.	Contract Packages	Nature of Work	Date of Award	Name of Contractor	Work Status/Physical Progress (July-Dec 23)	Work Status/Physical Progress (Jan-June 24) /financial progress
1	CP-1	Establishing Housing colony for APGCL officers	30.09.2022	BVG India Ltd.	34.03%	75.7% (66.1%)
2	CP-2	Civil and Hydro mechanical works for the Dam and ancillary structures	21.08.2020	L&T	58.35%	69.7% (67%)
3	CP-3	Electromechanical Works	09.09.2021	Andritz Hydro (P) Ltd.	55%	81% (67.3%)
4	CP-4	Transmission Lines	20.04.2022	M/s. Salasar Techno Engineering Limited JV with M/s. Akelik Group	69%	89% (86%)

10. Progress of most of the packages has improved in the current reporting period with maximum incremental progress can be seen for package 1 (proposed APGCL officer's colony) which is nearly 42% followed by CP-3 which is 26% and CP-4 , 20%. In physical and financial progress has minor difference in case of CP-2 and CP-4, with 2% and 3% respectively while the difference is very high in case of CP-3 (14%) followed by CP-1 (9.6%).

### 1.3 MONITORING REQUIREMENT

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

### 1.4 SCOPE OF WORK, VALIDATION OF SEMR BY EXTERNAL MONITORING CONSULTANT:

12. An External Monitoring Consultant (EMC) has been engaged under the project to provide technical guidance and monitor the implementation and effectiveness of Environmental and Social (E&S) Safeguards activities. The EMC's responsibilities include ensuring compliance with national regulatory requirements and the ADB's SPS 2009 in relation to project construction and operation activities.
13. The EMC is tasked with verifying the status of mitigation and monitoring activities for the project. This involves overseeing the implementation of E&S safeguards to ensure they are effectively integrated into the project's construction processes. The EMS is required to provide an independent assessment of whether these safeguards are being adhered to, identifying any gaps or areas for improvement and providing recommendations for corrective actions if necessary, ensuring that all E&S safeguard measures are adequately addressed throughout the project's lifecycle.
  - ✓ Compliance conditions stipulated under various clearances, permits, and NOCs obtained for the project.
  - ✓ Environmental safeguard requirements as given in the ADB SPS 2009
  - ✓ Compliance with loan covenants related to Environmental Safeguards
  - ✓ Independent monitoring of the implementation of the Environmental Management Plan by the Construction Contractors
14. EMC has already validated the Six-Monthly Environmental Monitoring report (SEMR) for the periods July–December 2021, January–June 2022, July–December 2023 and January–June 2023. In addition, regular site visits are being conducted, and site visits and monthly and quarterly reports are submitted to APGCL. The SEMR verification report for the period January–June 2024 was submitted to APGCL in the month of October 2024. The current report is the Draft SEMR Validation Report covering the period from January to June 2024. This report outlines the verification and validation studies conducted to ensure compliance with environmental and safety standards during the project period. The approach for verification and validation included:

- ✓ Desktop-based review of documentation and literature such as previous Monthly and Quarterly Progress reports for the project, Six-month Environmental Monitoring Reports, other records, and plans.
- ✓ Site inspections were carried out at all active construction sites, transmission line route, contractors labour camps, staff accommodation areas, as well as upstream and downstream of the dam in April-May 2024 and June-July 24.
- ✓ Interactions were held with project staff, the contractor's EHS team, local community members, and other stakeholders where needed.
- ✓ The compliance status of various permissions such as Consents to Establish (CTEs), Consents to Operate (CTOs), groundwater abstraction permissions, tree cutting permissions were validated and verified.
- ✓ Validation, verification of the compliance status against ADB's loan covenants.
- ✓ Validation and verification of the compliance status of EMP implementation measures.

## **2.0 IMPLEMENTATION OF THE ENVIRONMENTAL SAFEGUARDS**

### **Implementation Arrangement:**

15. The project's Executing Agency (EA), APGCL is responsible for carrying out all environmental protection measures. APGCL has a fully operational Project Management Unit (PMU) and a dedicated Social and Environmental Safeguards Cell (SESC), both of which are overseen by a Project Director (PD). The SESC coordinates overall environmental safeguards activities for the project, including the implementation of environmental and social safeguards plans and compliance monitoring. The SESC has one qualified environment expert and one qualified social expert, both on a contract basis. There was no change in staffing during the reporting period. As indicated in previous SEMR validation, it is suggested that SESC appoint a dedicated biodiversity or ecology expert and an Environment, Health, and Safety (EHS) professional for the project. As of this date, it is communicated that there is no qualified Environment, Health, and Safety (EHS) official appointed for the project; however, one site engineer has been designated as having additional responsibility for EHS compliance for the project. There was no change in staffing during the reporting period.
16. The APGCL is supported by the Project Management Consultant (PMC) that was awarded to AF Consultant. The safeguard team of PMC comprised of a qualified Environmental Expert, One Social Safeguard Expert and also supported by one EHS expert. However, as suggested by ADB and EMC, the position for a Senior Environment Expert has not yet been filled.
17. During the assessment period, EMC also had interactions with the personnel of the contractors for Packages 1, 2, 3, and 4 and noted that:

- ✓ The Package 1 contractor has an environment officer on site, but lacks an EHS (Environmental, Health, and Safety) expert.
- ✓ The Package 2 contractor has appointed a qualified environment expert, a cluster EHS head followed by an EHS manager, and trained EHS field staff. They are responsible for preparing Monthly Review reports and Monthly Safety Reports and submitting them to APGCL.
- ✓ Package 3 employs a full-time Health and Safety officer who also handles environmental management duties under the guidance of a full-time environment expert located at the contractor's head office.
- ✓ The Package 4 contractor has both an EHS expert and an environment expert on site.

18. An organogram showing the relationships and staffing for environmental and social protections between the executing and implementing agencies, the project management consultant, contractors, and the external monitoring consultant is presented below:

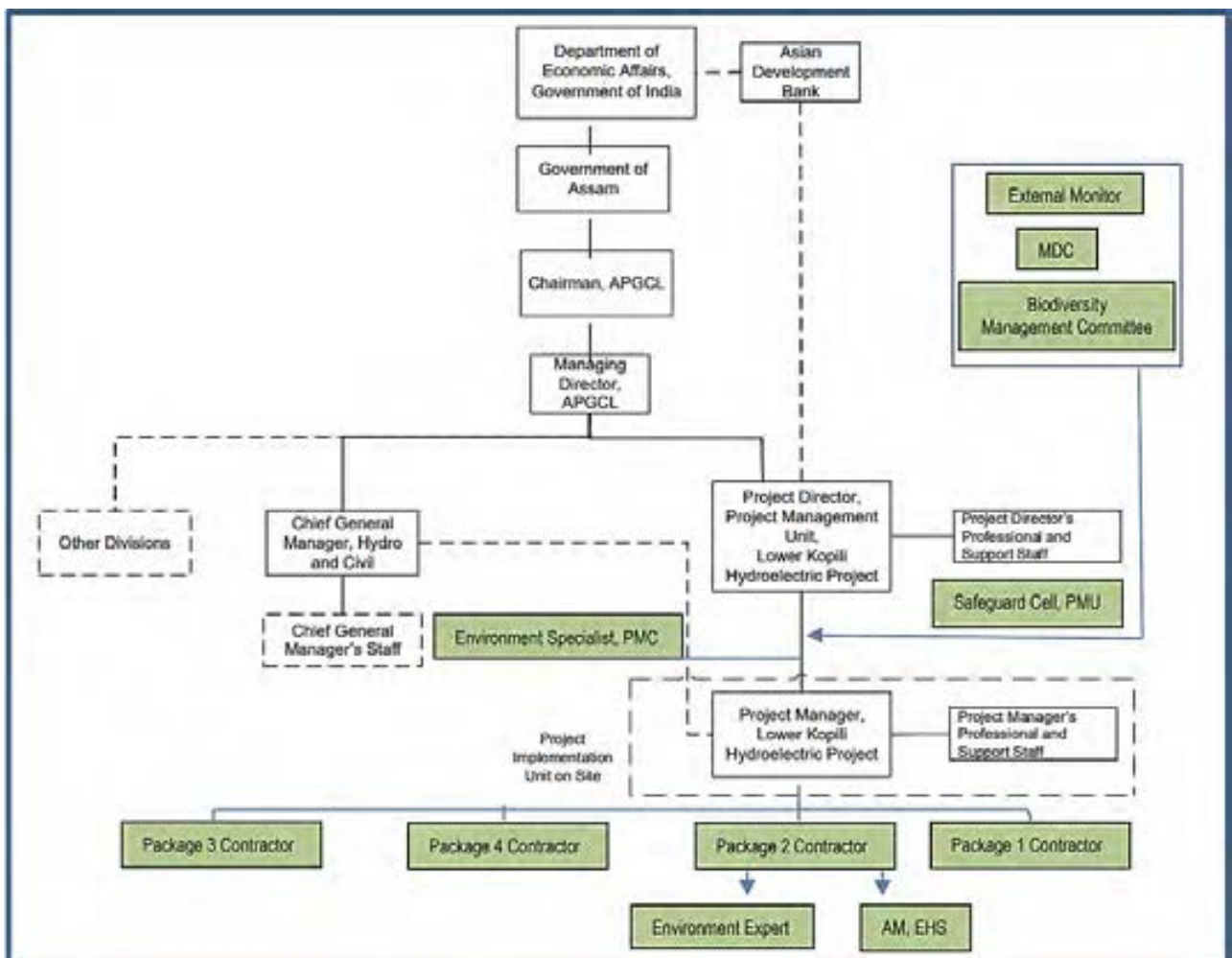


Figure 1: Organogram for implementation of Environmental and Social Safeguard for the project

### Assessment of prerequisite for EMP implementation:

19. To assess the readiness of EMP implementation, the External Monitoring Consultant first determined if the APGCL was prepared to proceed with the construction of the proposed project and transmission line. The indicators used for the assessment are listed in Table 3 below:

**Table 3: EMP Readiness Assessment**

Indicator	Assessment Criteria	Compliance	Remarks
EIA approval and disclosure	The EIA was cleared by ADB and disclosed on ADB's project website	Complied	The EIA addendum was shared with ADB for approval and an interim EIA addendum was disclosed in February 2024.  The final updated EIA addendum, which included all pending assessments, was submitted to the Asian Development Bank (ADB) on 31 May 2024.
Mitigation measures described in the EMP adopted during detailed design and construction of the project	Measures defined in EIA and EMP are included in detailed designs for each project component.	Complied	EMP and the EMoP have been included as part of the contract documents with all contractors involved.
EIA/EMP update	Whether the EIA/EMP is updated after detailed design and cleared by ADB.	Complied	Interim EIA addendum disclosed in February 2024. Final updated EIA addendum reflecting all pending assessment were submitted to ADB on 31 May 2024.
Compliance with loan covenants	The borrower complies with loan covenants related to project design and environmental management planning.	Being Complied	Detail provided in section 2.3.
Environmental Monitoring	The monitoring parameters, locations, and methods for the ambient air, noise and	Being Complied	Detail provided in section 3.12.

Indicator	Assessment Criteria	Compliance	Remarks
	surface water defined in the EMoP.		

## 2.1 ENVIRONMENTAL COMPLIANCE STATUS

20. The compliance status of the project's implementation has two aspects:
- ✓ Compliance status with National/State/Local statutory environmental requirements
  - ✓ Compliance status with ADB's loan covenants affecting environmental parameters.
21. Checking the status of compliance serves the objective of confirming and validating any deviations from loan covenant conditions and project-specific environmental law requirements. If there are any deviations, the APGCL must be consulted before proposing any corrective measures.

## 2.2 COMPLIANCE WITH NATIONAL/LOCAL STATUTORY REQUIREMENT

22. The project has successfully obtained several key clearances and permissions. The SEMR Jan-June 2024 prepared by EA details out the availability and pending status of all necessary statutory consents, approvals, permits, and clearances for the period from January 2024 to June 2024. The project has received the following clearances and permissions:
- ✓ Environment Clearance was accorded to the project on 04.09.2019.
  - ✓ The revised Environmental Clearance received on 03.01.2024 (**enclosed in Annexure -II of validation report**) and is included in Annexure -I of SEMR).
  - ✓ Stage-I Forest clearance received on 05.02.2019 and Stage-II on 04.12.2020
  - ✓ Permission for extraction of boulders from quarry (Location: Longku, Dima Hasao), stage-I clearance received from North Cachar Hills Autonomous Council (NCHAC) on 8th July 2022; Stage 2 from Department of Geology and Mining Department Govt. of Assam (GoA) on 11th May 2022 and DFO (Dima-Hasao) gave order to RO to realize Royalty from Hi-Tech Rock Products and Aggregates Limited for 3,36,000 cum on 11th July 2022. **The renewal of mining plan applied on 24.06.24.**
  - ✓ Permission for crushing of boulders from excavated materials received from DFO (Dima Hasao) for 80,000 cum on 20.12.2021 and from NCHAC for 20,000 cum, on 08.03.2022. These approvals do not require renewals.
  - ✓ Permission for installation of batching plant at Totelangso, Dima Hasao received from Gaon Burah on 30.06.21 and from NCHAC on 19.10.2021.
  - ✓ CTE and CTP for the batching plant at Totelangso, Dima Hasao (near Power House) received from PCBA on 11<sup>th</sup> November 2021 and 27<sup>th</sup> December 2021 (**valid till 31.03.2025**) respectively.

- ✓ CTE and CTO for the batching plant near the Dam site received from PCBA on 23<sup>rd</sup> June 2022 and on 31<sup>st</sup> October 2022; however, the CTO is only for 714cum/day as against 1000cum/day required. CTO now amended on 03.01.2023 and the amended CTO is valid till 31.03.2025.
- ✓ Permission received from Gaon Burah for the establishment of the crusher plant.
- ✓ Permission for installation of crusher plant at Totelangso, Dima Hasao received from Gaon Burah;
- ✓ CTE and CTO for the crusher plant at Totelangso, Dima Hasao received from PCBA on 22<sup>nd</sup> October 2021 and on 7<sup>th</sup> December 2021; however, the CTO is only primary and secondary crusher; CTO for the tertiary crusher to be obtained/amended.
- ✓ The CTO for the crusher plant obtained on 11.01.2023 and the same is for stone aggregate of 33378MT/Month and by product (Quarry wastage 5006 MT/Month and stone dust 3337 MT/month).
- ✓ NOC for tree cutting obtained for CP-2.
- ✓ (NOC) from Deputy Commissioner, Govt. of Assam, for setting up a Fuel dispensing Unit at the project location has been obtained.
- ✓ NOC from controller of explosives for the fuel dispensing unit on 18.01.2023 and is valid till 31.12.2023 (included in SEMR) for existing petrol pump at village Longku for the CP-2 contractor.
- ✓ NOC also received from Joint Chief Controller of Explosives for storage of only 20 KL of petrol received on 18.01.2023 to CP-2 contractor.
- ✓ NOCs for the magazine area for the storage of explosives are obtained, including the file NOC/license, and are prior to July 2022.
- ✓ NOC for blasting operation has been received from Deputy Commissioner, SP, DM, and Sr. Station Officer (SSO)—Fire and Emergency Service Station, Dima Hasao.
- ✓ CP-2 contractor has obtained a group personal accident policy for staff and labour, along with insurance for contractor plant and machinery and car insurance.
- ✓ CP-3 and CP-4 contractors have obtained workmen compensation insurance.
- ✓ The Memorandum of Changes was approved by CEA, CWC, GSI, CSMRS, and the Govt. of India on 9th November 2022.
- ✓ Environmental clearance for the 4.6 ha quarry near Kala Nala received on 28.03.2023;
- ✓ Consent to Establish for the Hydro-Power Plant received on 28.02.2023
- ✓ Confirmation from Dima Hasao autonomous council was received to mention that the site near Longku Nala, Longku adjacent to NH-627 under Dima Hasao district, is not listed with the archaeological department of the council.
- ✓ Consent from Gaon-Burrah received on 10.12.2022 for sourcing water for construction from Longku Nala for CP-2.
- ✓ Labour license received for CP-1 (received on 15.03.2023 and valid till 11.03.2024), CP-2 (received on 16/12/2022 and valid till 29.11.2024), CP-3 (received on 02/03/2023 and valid till 26.02.2024), and CP-4 (received on 20.02.2023 and valid till 12.02.2024).
- ✓ Migrant labour license obtained by CP-4 contractor for 30 labours and is valid till 23.05.2025.



- ✓ (NOC) from PESO for the fuel unit was valid till 31.12.21 and finally renewed on 18.01.2023, valid till 31.03.2024, and is now renewed up to 31.3.2026.
- ✓ The NOC from PESO for the establishment of a 20-KL fuel dispensing unit was renewed and is now valid till 31.12.2024. Permission was also received from Jt. Chief Controller of Explosives for storage of 20 KL and is valid till 31.3.2024.
- ✓ Insurance policies are obtained by CP1 is valid till 19.02.2024, insurance policy obtained by CP-2 with coverage period till 31.03.2024, insurance policy obtained by CP-3 with coverage till 13.03.2025, insurance policy of CP-4 is valid till 11.07.2024.
- ✓ CP-1 contractor received NOC for groundwater extraction from CGWA, Ministry of Jal Shakti (MoJS) on 17.04.2023 and is valid up to 16.04.2028.
- ✓ CTE for RO plant received by CP-2 contractor on 14.03.2023; CTO for RO plant received by CP-2 contractor on 26th April 2023
- ✓ CTE for the water treatment plant received by CP-2 contractor on 14.02.2023 and CTO for the water treatment plan received by CP-2 contractor on 26th April 2023.
- ✓ CTO amendment for batching plant near dam site for the 1000 cum/day obtained on 03.01.2023 and is valid till 31.03.2025.
- ✓ Migrant Labour licence received by CP-2 validity is till 20.09.2024.
- ✓ NOC received from groundwater extraction received by CP-3 contractor on 23.12.23 and valid till 21.12.2028
- ✓ Permission for extraction of surface water obtained from Gaon Burah by CP-4.
- ✓ The CTO for the extraction of 600 cum/day of water from the river Kopili has been renewed on 18.06.24 and is valid till 31.03.2026.
- ✓ Surface water extraction permission from Gaon Burrah by CP-3 obtained on 20.11.2023
- ✓ Migrant labour license has been received by CP-4, and validity is still 24.5.24.
- ✓ NOC for tree cutting received by CP-4 on 29.02.2024.

23. During this period the consents, permits that are still pending are reported in Table 4 along with their latest position (if the permission is received in the subsequent months) is also mentioned.

**Table 4: Compliance with Statutory Requirements**

S.N.	Outstanding issue	Compliance Status	Remarks
1	Amendment of Environment Clearance	Being Complied.	Amendment of the EC was granted on January 3, 2024
2	Request for permission for blasting during night in tunnel of 120 MW Lower Kopili HE Project (Dima Hasao)	Renewal of application submitted on 22.3.23. Renewed permission vide No. NCH/M3/2023/70 dated 27.05.2023 and valid till 31.03.24	According to CP-2, no blasting has taken place since expiry of the permission, confirmed through vide e-mail dated 29.6.2024. The tunnel break through was achieved on 16.09.23 and the same statement has

S.N.	Outstanding issue	Compliance Status	Remarks
			been apprised in SEMR for the current reporting period.
3	Blasting permission at Hamren Division, Karbi Anglong [Left Bank of Dam] was received on 14th October 2022	Valid till 13 April, 2023.  Being Complied	Renewal letter submitted  According to CP-2, no blasting has taken place in the left bank since expiry of the permission, and the same statement has been apprised in SEMR for the current reporting period.
	Permission for extraction of boulders from quarry (Location: Longku, Dima Hasao)	Being Complied	Renewal of mining plan applied on 24.06.24.
4	Magazine- storage of fuel NOC from PESO	Complied	Renewal received- 28-03-2024 PESO renewed up-to 31.03.26
5	Licence storage of fuel NOC from PESO	Complied	PESO renewed up-to 31.12.24
6	NOC for tree cutting CP-1	Being Complied	Revenue submitted to Forest Department for NOC
7	Building and Other Construction Works (BOCW) CP1	Status Unknown	No Status shared
8	CTE for the proposed STP under CP-1	Being Complied	CTE received on 10.04.2024
9	CTE and CTO for the RO plant established by CP-3	Being Complied	Yet to be obtain
10	NOC for tree cutting and tree trimming permission while stringing of 220 kV transmission line CP-4	Being Complied	Received on 29.02.2024
11	NOC for tree cutting CP-1	Being Complied	Revenue submitted to Forest Department  NOC is still pending
12	Permission for construction of 200KV line corridor received from Sankardev Nagar (Hajo) to Longku (Dima Hasao)-CP-4	Being Complied	Permission from DFO, Hamren Forest Division on 25-01-2024 Permission received from DFO, Dima Hasao Forest Division on 29-02-2024

S.N.	Outstanding issue	Compliance Status	Remarks
13	CP-1 yet to receive migrant labour license.	Status Unknown (long outstanding)	Initially, it was communicated that no migrant laborers would be recruited for the construction by CP-1. However, the EMC has documented the presence of migrant labours working on the site which is a deviation from the initial recruitment plan and therefore, a migrant labour licence is required.

### Verification & Validation of Statutory Clearances:

24. The available NOCs and NOC's pending are clearly indicated in the SEMR (Jan-June 2024). However, following corrections/clarification are suggested in SEMR verification report are concluded as follows:

- ✓ NOC for tree cutting for the CP-1 yet to be obtained. Status remains same, however, revenue submitted to forest department for NOC.
- ✓ Tree cutting for CP-2 (so far 241) is being carried out in presence of the officials of Forest Department, Panimur Range, Dima Hasao (West) Division and APGCL. A copy of the NOC for tree cutting may be included in the SEMR.
- ✓ The status of ground water extraction and its NOC status is not clear for the CP-4 contractor and status need to be captured in SEMR. Currently no permission from CGWA is enclosed and during the visit it was mentioned that they are using the ground water from the borrower's land.
- ✓ The need of surface water requirement by CP-1 and required need of permission from Gaon Burah for the extractor of surface water by CP-1 is not clear in the SEMR.
- ✓ Inter State Migrant Labour license for CP-2, 3 and 4 has been updated in SEMR. However, Interstate Migrant labour licence and Building and Other Construction Works licences required for CP-1 is not mentioned in the SEMR. It appears that CP-1 has yet to apply for a migrant labour license.

### 2.3 ENVIRONMENTAL LOAN COVENANT COMPLIANCE

25. The loan agreement between ADB and the Government of India was signed for the Assam Power Sector Investment Programme (Project 3) on December 30, 2020. The Environmental loan covenants are mostly described in Schedules 4 and 5 of the loan agreement. Schedule 4 of the agreement provides details of "Procurement of Goods, Works, and Consulting Services." Under this schedule, Paras. 6 and 8 pertain to compliance. Paragraph 6 specifies that no work shall commence until and unless the EIA for the scheme is approved, and Paragraph 8 mentions the selection of an external monitoring consultant and the validation of Environmental Monitoring reports by APGCL. Schedule 5, on the other

hand, is related to "Execution of Projects", its implementation arrangements, safeguarding the environment and social, safeguard-related provisions in the bidding documents and works contracts, and safeguard monitoring and reporting.

26. The loan covenants for environmental safeguards stated under various schedules of the loan agreement are either complied with or being complied with and are presented in Table 5.

**Table 5: Compliance with Loan Covenants**

S. N.	Reference	Specific covenant/condition	Compliance as on June 2024	Remark
1	Schedule 4, Para 6 related to clearance of updated EIA by ADB	The borrower shall ensure or cause the APGCL to ensure that it shall not allow commencement of civil works under a works contract which involves environmental impacts until the APGCL has obtained the final approval of the EIA from the relevant Environmental Authority of the borrower and the state and the ADB;	Being complied.	The main EIA along with three supplementary EIA was cleared by ADB in 2018.  Environment Clearance was initially obtained on 04 September 2019 from the Ministry of Environment, Forest and Climate Change (MoEFCC).
		(ii) APGCL has incorporated the relevant provisions from the EMP into the works contract;	Complied	A modified Environment Clearance was obtained on 03 January 2024.
		(iii) the EIA is updated to reflect the turnkey contractors' detailed design and up to date baseline and	Being Complied.	The EIA addendum was shared with ADB for approval and an interim EIA addendum was disclosed in February 2024.
		(iv) such updated EIA is cleared by ADB		The final updated EIA addendum, which included all pending assessments, was submitted to the Asian Development Bank (ADB) on 31 May 2024.
2	Schedule 4, Para 8 related to engagement of EM and submission of various reports to ADB	The borrower shall ensure or cause the APGCL to ensure to recruit a consulting firm for external validation of the Environmental Monitoring report produced by APGCL.	Complied	APGCL has appointed M/S Feedback Infra Private Limited (JV) with Jade Consult P. Ltd. and Aqualogus-Engenharia Ambiente as EMC. Contract awarded on 24 December 2021.

S. N.	Reference	Specific covenant/condition	Compliance as on June 2024	Remark
		The Borrower shall ensure or cause the APGCL to apply individual consultant selection for Consulting Services.	Complied	
3	Schedule 5, Para 5, related to Health and Safety measures and its inclusion in Contractor's design	The borrower shall ensure or cause the APGCL to ensure that the preparation, design, construction, implementation, operation and decommissioning of the project and all the project facilities comply with (a) all applicable laws and regulations of the borrower and the state relating to Environment, Health and Safety (b) The Environmental Safeguards, (c ) the EARF (d) all the measures and requirements set forth in the EIA and EMP and any corrective or preventive action set forth in a Safeguard Monitoring Report.	Partially complied.	The project has received the required Environmental Clearance (EC) amendment on January 3, 2024. Renewal of NOCs and licenses have been initiated by the respective contractors. However, the Consent to Establish (CTE) and Consent to Operate (CTO) for the Reverse Osmosis (RO) plant under CP-3 and tree felling permissions for CP-1 are still pending.
4	Schedule 5, Para 9, budgetary provision, and human resource provision related to full implementation of EMP	The borrower shall ensure or cause the APGCL 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	Appointment of a qualified and experienced EHS experts under SESC (PMU) for EHS and OHS compliance and supervision and a Sr. Env. Expert in PMC is still pending.
5	Schedule 5, Para 10: Safeguard related documents in bidding document and works document.	Safeguard Related Provisions in Bidding Document and Works contracts: The borrower shall ensure or cause the APGCL to ensure that all bidding documents and contractor for works	Being Complied.	Such details are included in the bid document for the individual work items. Any revisions to the amended EMP that are necessary must also be updated in the Bid document.

S. N.	Reference	Specific covenant/condition	Compliance as on June 2024	Remark
		contain provisions that require contractors to: 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;		
		(ii) budget for environment and social measures;	Being Complied	Expenditure in for EMP budget needs to be updated on regular basis.
		(iii) unanticipated environmental and social risks that arise during construction, implementation and operation stage of the project and is not included in the EIA/EMP or RIPP, RF or IPPF.	Being complied	the
		(iv) Record conditions of roads, agricultural land other infrastructure prior to starting transport materials and construction.	Being Complied	The CP-2 contractor has already constructed approach roads for reaching the dam site, powerhouse site, and other ancillary areas of the project for the transport of construction materials and E&M equipment to be installed by the CP-3 contractor.
		(v) fully reinstate pathways, other local infrastructure, and agricultural land to their pre-project conditions upon completion of construction	Being Complied	
6	Scheule5, Para 11: Safeguard Monitoring and Reporting	The borrower shall ensure or cause the APGCL to ensure the following:	Being Complied	Semi-annual safeguards monitoring reports are being submitted to ADB for review on a regular basis; the revised SEMR for the

S. N.	Reference	Specific covenant/condition	Compliance as on June 2024	Remark
		Submit semi-annual Safeguard Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission.		period July–December 2023 was submitted on 08.10.2023. The SEMR Verification for Jan-June 2024 was submitted on 17.10.2024. The current report is for the validation of SEMR (Jan-June 2024).
		(ii) if any unanticipated environmental and or social risks and impacts arise during construction, implementation, or operation of the Project that were not considered in the EIA, EMP, RIPP, RF or the IPPF as applicable promptly inform ADB of the occurrence of such risks or impacts with detailed description of the event and proposed corrective action plan and	Being Complied	An interim EIA addendum was disclosed in February 2024.  Final updated EIA addendum reflecting all pending assessment were submitted to ADB on 31. 05. 2024.
		(iii) report any breach of compliance with the measures and requirements set forth in the EMP or RIPP promptly after becoming aware of the breach.	Being complied	Semi-annual safeguards monitoring reports are being submitted to ADB for review. Further compliance with corrective actions suggested during past missions is also submitted by APGCL subsequently.
7	Schedule 5 para 12, (Prohibited Investment Activities)	The Borrower shall ensure, or cause the APGC to ensure, that no proceeds of the Loan under the Project are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.	Complied	The project scope does not include any activity included in the list of prohibited investment activities.



S. N.	Reference	Specific covenant/condition	Compliance as on June 2024	Remark
8	Schedule 5 para 13, Labour Standards, Health and Safety	Labour Standards Health and Safety. The Borrower shall ensure or cause the APGCL to ensure that works contracts under that Project follow all applicable labour laws of the Borrower and the State and that these further include provisions to the effect that the contractors: (i) carry out HIV / AIDS awareness programs for labour and disseminate information at worksites on risks of sexually transmitted diseases and HIV / AIDS as part of health and safety measures for those employed during construction.	Partially Complied	All contractors are complying with the labour laws of the Government of India.  Except few instances of child labour at CP-1, others packages do not have any instances of child labours, forced labour, or discrimination in job opportunities was observed during the assessment surveys. As per the latest information CP-1 has complied with EMC's observation. The same will be reported in the next SEMR.  Social, HIV/AIDS awareness, and labour law-related trainings need to be organised regularly and scheduled in every quarter.
		(ii) follow and implement all statutory provisions on labour (including not employing or using children as labour, equal pay for equal work) health, safety welfare, sanitation, and working conditions.	Partially complied	Sanitation facilities and labour camps at CP-2, CP-3 and CP-4 were satisfactory. However, labour camp and labour condition with respect to kitchen and sanitation and drinking water facilities at labour camps of CP-1 needs improvement.
		(iii) Such contracts shall also include clauses for termination in case of any breach of the stated provisions in the contract.	Being complied	

### Verification and Validation of Environmental Loan Covenants:

- ✓ As per table 4 of SEMR (Jan-June 24), it is mentioned that Environment Clearance obtained on 04 September 2019 from MoEFCC. EIA has been cleared by ADB in 2018. The modified EC was obtained on 03 January 2024. Interim EIA addendum disclosed in February 2024. Final updated EIA addendum reflecting all pending assessment were submitted to ADB on 31 May, 2024.
- ✓ Aquatic ecology study was initiated and carried out by College of Fisheries, Raha, Nagaon. The College of Fisheries, RAHA was also appointed for the downstream impact backwater assessment, but the modelling part was done by one Eco modeller in consultation with the college of Fisheries. All the results were incorporated in the addendum to EIA II.
- ✓ The downstream impact assessment is also included in the EIA addendum II. Only the remaining aquatic migratory fish study is going on in compliance of EC only.
- ✓ Annual Bird count was completed in February, 2024 by M/S. AARANYAK in between 9th to 12th February, 2024. Result of the bird count is included in Annexure 17 of SEMR.
- ✓ Rest of the covenants are being complied and accordingly reported in the SEMR.
- ✓ Correctly the status of loan covenants is mentioned in the SEMR.

27. The Environmental Loan Covenants are being complied with and the information provided in the SEMR indicates that the loan covenants' status is correctly reported in the SEMR.

### 3.0 COMPLIANCE TO ENVIRONMENT MANAGEMENT PLAN:

28. The main EIA, along with three supplementary EIAs, was cleared by ADB in 2018, and Environmental clearance was granted by MoEF&CC via an EC letter dated 04.09.2019. Interim EIA addendum disclosed in February 2024. Final updated EIA addendum reflecting all pending assessment were submitted to ADB on 31 May, 2024. The amendment of the EC was received on 03.01.2024.

29. The Main EIA and the supplementary EIAs consist of an Environment Management Plan (EMP) with detailed mitigation measures. The time frame and location for implementation of such mitigation measures are also defined in the EMP, along with costs and responsible agencies for the implementation and supervision of the EMP.

30. In addition, an Environmental Monitoring Plan (EMoP) has been prepared to guide key monitoring activities and ensure the effectiveness of EMP implementation. Contractors who are currently working on the project (CP1, CP-2, CP-3, and CP-4) are assigned the duty of adhering to all management strategies outlined in the EMP. Each contractor must adhere to all applicable laws and ADB's safeguard specifications. Additionally, contractors will need to adhere to any project-specific regulations for soil, water, air, noise, and biodiversity.

31. Following are the issues identified during previous quarter that are still outstanding at project site for this reporting period:

- ✓ A community emergency and evacuation plan are yet to be prepared by CP-2 to manage the emergency arising due to the accidental failure of the cofferdam, etc.
- ✓ The supernatant from the sedimentation tanks at the batching plant requires improvement before disposal. As verbally reported, the pH of the supernatant ranges from 7.8 to 8.2.
- ✓ The waste water generated at the vehicle washing area of CP-2 is directly discharged into the local drains without any treatment.
- ✓ Improper stack height of DG sets as per CPCB recommendations.
- ✓ The construction site lacked the provision of bio-toilets, safe drinking water, and rest shelters (all contractors).
- ✓ Sanitation facilities at CP-1 camps still need improvement.
- ✓ CP-1 must ensure providing safe drinking water to their labourers.
- ✓ A few vehicles with Bhutanese license plates under CP-2 were still present at the project site.

### 3.1 BIODIVERSITY CONSERVATION AND WILDLIFE MANAGEMENT PLAN

32. A project specific Biodiversity conservation and site-specific Wildlife Conservation and Management Plan was prepared during the EIA. This plan was subsequently submitted to the Chief Wildlife Warden, Assam, on June 25, 2019. After reviewing the EMP and BMP and communicating with the site staff, the EMC suggests that the following activities be initiated in close coordination with the Forest Department:

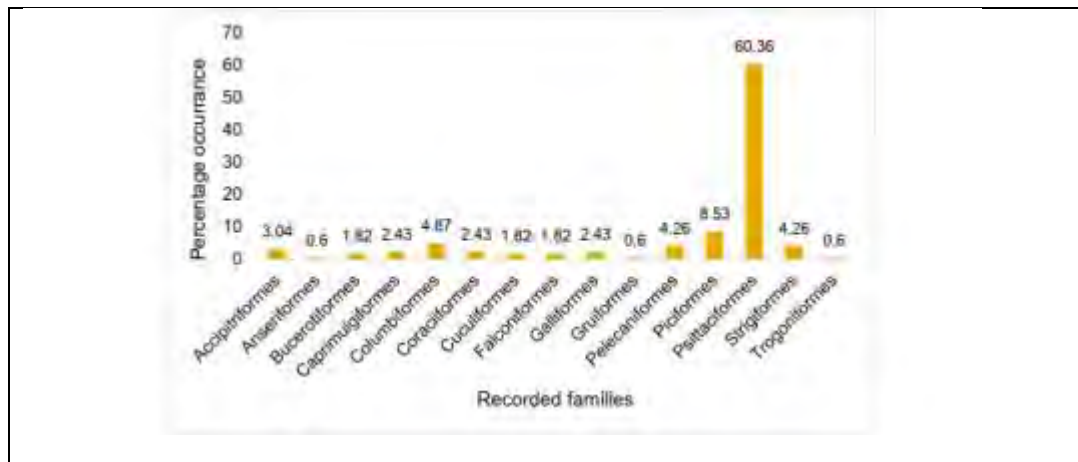
- ✓ Compensatory Afforestation is a seasonal activity and therefore can only be carried out during the pre-monsoon season to ensure a high survival rate for plant species. Therefore, it is suggested to initiate the process of plantation at least 30-45 days before the onset of the pre-monsoon.
- ✓ A biodiversity monitoring awareness programme can be developed with a timeline to provide awareness of biodiversity to the local community.
- ✓ Rehabilitate and restore all cleared sites through compensatory afforestation as and when the structures are complete.

i. **Establishment of a Biodiversity Management Committee:** A Biodiversity Management Committee, as required, has been established, including members of the autonomous council (Dima Hasao and Karbi Anglong), the department of environment and forest and wildlife division, and the Assam biodiversity board. One meeting has happened on December 21, 2022. The second meeting was conducted on 21.06.23 and the third meeting was held on 12.12.23. All the meetings minutes are now included in the SEMR-JD-23 (annexure 21, 22, 23). However, no such meeting conducted in the reporting period (Jan-June 24). Earlier in the 2<sup>nd</sup> meeting it was agreed that Dima Hasao west division will prepare the next six months proposal covering:

- Awareness on conservation of wildlife and their habitats near the project area;
- Annual bird count in winter;
- Legal training for departmental staff either in Halflong or Kaziranga;
- Additional support for camera trapping
- Conservation of a watch tower
- Construction of anti-poaching camp

33. In the 3<sup>rd</sup> meeting (12.12.23) it was agreed that:

- **Annual bird Count:** APGCL will extend Rs 100000 (Rs One Lakhs) for engaging one or two bird experts from the state of Assam to carry out the annual bird count in the project implementation area. A report will be prepared in the 2023 with 3-4 days survey in the month of December 2023. The annual bird count has been conducted in the current reporting period (Jan-June 24) and the details enclosed in the SEMR (Jan-June 24) , Annexure 17.
- **Awareness Camp:** It was agreed that APGCL will support with Rs 50000, one biodiversity and conservation awareness camp will be carried out by Forest Department. Details may be reported in the next SEMR.
- Apart from other points, the provision of Elephant ford was also discussed and it was confirmed that no such ford has been prepared on any natural stream in Assam for the conservation of Asian Elephants. The range officer of Garampani region confirmed that there is a resident population of 30-40 elephants in the upstream of LKHEP submergence area.
- **Annual bird count** was conducted during February 2024. During the survey period, 164 bird species were recorded from 15 families and 56 orders with one categorized as vulnerable and six as near threatened by the IUCN red list.



34. **Requirement of Bird Diverters:** The interim EIA highlights the necessity for installing bird diverters as indicated in the critical habitat assessment. These bird diverters have not yet been installed on the existing 33 kV and 400 kV transmission lines above the planned reservoir. The EA has committed to installing bird diverters on the 33 kV and 400 kV transmission lines. This installation will be done during their maintenance period, ensuring completion before the reservoir is filled. Annual bird count survey has been completed in 2024 by Aranyak and accordingly the status of installing bird diverters may be included in the next SEMR (JD-24).

35. **Conservation Plan for Floral Species:** The plan requires rehabilitation and restoration of all cleared sites; further, as required under the plan, there is no proposal review suggesting up-gradation of a recreational area at Panimur Forest Ranger Station downstream of the dam, which is currently used as a picnic spot by the general public.

36. **Promote Wildlife Surveys and Monitoring in and around the Project Area:** This activity is aimed at adding to the existing knowledge base on wildlife presence and movements in the vicinity of the project area. The presence of wildlife will be monitored by using camera traps provided by the project. The wildlife survey has to be conducted with the assistance of the Wildlife Division, Department of Environment and Forests.
37. **Strengthen patrolling:** To minimize the risks of poaching, awareness raising programs are required to be combined with an increase in patrolling by local forest rangers (in coordination with forest department) and construction of check posts and watch towers at key locations. The choices of location of check posts and watch towers will be guided by consultations with forest rangers in the area. Construction of Check posts have not been initiated yet.
38. **Compensatory Afforestation:** is planned to be included in the Annual Operation Plan of the Forest Department, Govt. of Assam for the year 2023- 2024 and 2024-2025. AOP includes raising nurseries and clearing the plantation sites.
39. 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. Seedling of different sizes in the newly established nursery nearby the village TorteLangsu is ready and Seedling of different sizes ready for plantation, Longku near the highway around the Forest office. The status of plantation if any in the reporting period may be updated in the next SEMR (JD-24).
40. The Compensatory Afforestation Programme involves a significant financial commitment, with Rs. 15,94,23,850.00 already allocated to the Forest Department by the Compensatory Afforestation Fund Management and Planning Authority (CAMPA). This funding is designated for compensatory afforestation (CA) activities in accordance with departmental norms. The government of Assam has officially designated eight patches of revenue land as “reserved forest” to facilitate these efforts.
41. **Tree Felling:** Tree-cutting activities have been conducted in compliance with the necessary legal and environmental requirements across different construction packages (CPs). For CP-1, the required royalty for tree felling has been paid; however, tree cutting permission is pending. For CP-2, permissions for tree felling on diverted forest land have been granted, covering a total of 66,195 trees: 45,349 in Karbi Anglong and 20,846 in Dima Hasao as per the Forest Clearance. A No Objection Certificate (NOC) for tree cutting has been obtained, and the felling was carried out under the supervision of officials from the Forest Department, Panimur Range, Dima Hasao (West) Division, and APGCL. All trees were marked and felled by the respective Forest Department. During this period, approximately 241 trees were actually cut in CP-2 with verification by an Environmental Monitoring Committee (EMC) during a site visit. For CP-3, no tree felling has been reported or is anticipated. For CP-4, an inspection was conducted by a Range Officer with a report submitted to the Divisional Forest Officer of Hojai Forest Division, and permission has been granted for tree felling and trimming.

42. EA is required to ensure continuous adherence to all legal requirements regarding tree felling by maintaining up-to-date records of permissions and royalties paid. Regular discussions with forest officials and site visits must be conducted to ensure compliance.
43. **Meeting with DFO:** During the recent meeting with the Divisional Forest Officer (DFO) of Dima Hasao, West Division, Haflong, several critical topics were addressed. The primary focus was on supporting a camera trap survey to monitor and track wildlife populations. This method is vital for understanding animal behaviour, habitat use, and population dynamics. The DFO emphasised the importance of this survey in providing valuable data for conservation efforts. Camera traps were finally conducted in this reporting period and reported in the SEMR.
44. **Implementation of Conservation action plan** – initiated. A comprehensive survey was carried out by EMC in the month of April and May, 2023. Terrestrial Monitoring also initiated. 10 camera traps with accessories were given to Forest Department and after installation of camera traps monitoring of terrestrial wildlife strengthened. The camera traps were handed over to DH, DFO on 13.06.2024 at Haflong. The terrestrial monitoring of biodiversity is included in Annexure 18 of SEMR. The mammalian species identified include (i) Asian Elephant; (ii) Barking deer; (iii) Red Scrow; (iv) Wild boar; (v) Large Indian Civet; (vi) Yellow throated Marten; (vii) Ferret Badger; (viii) Marvellous Cat; (ix) Cluded Leopard; (x) Leopard.
45. **Catchment Area Treatment Plan:** As proposed under EMP, the Catchment Area Treatment Plan (CATP) needs to be implemented in consultation with the State Forest Department and in synchronisation with the construction of the project. The CATP includes, afforestation in 683 ha of area, for which work is yet to be started. Also, five nurseries are being developed in Panimur Range, Garampani Range, and Hamren Range, Dima Hasao District at (i) Wayungdisa RF; (ii) Tartelangso RF; (iii) Bagha Dima RF; (iv) Choto Longku RF and (v) Bagha Dima One RF. After these nurseries are developed, they will be maintained by the respective forest department. GAP Plantation in 281 ha of land, pasture development in 574 ha, and construction of the 17-check dam as per the EIA are yet to be initiated.
46. As per EMC review, an amount of Rs. 28, 29, 67, 000.00 (Rs. Twenty-Eight Crore, Twenty-Nine Lakh, and Sixty-Seven Thousand only) has already been paid to the Forest Department for the implementation of CATP. APGCL is pursuing with Forest Department for implementation. During the assessment period, implementation of the CAT plan has been included in the APO 2022-2023. As informed the preparation of the action plan and implementation of CAT Plan will be initiated in the AOP 2024-2025. Letter dated 11.10.23 enclosed.

### **3.2 FISH MANAGEMENT PLAN**

47. As per the supplementary EIA (Vol. 3), it is estimated that total annual fish production is about 254 million metric tonnes in this area (Kopili-Kallang Basin Master Plan, Brahmaputra Board, 1995). The supplementary

EIA report also mentions that indigenous lotic (fast-water) fish species are found along the Kopili River and its hilly tributaries.

48. As stated in the EIA, no fish or fishing activities were recorded in the main channel of the Kopili River. However, fish are present in the local streams, which support small-scale fisheries using traps and small gear. As per environmental monitoring reports, the pH of the water has increased (but it varies seasonally), but it is not clear whether the change in pH is due to an influx of floodwater or due to the mining ban in the upstream catchment of the river.
49. After reviewing the management plans and communicating with the site staff and locals, EMC suggests that the following activities be initiated or implemented for fish management:
  - ✓ Care should be taken to avoid alien invasive species in the river, both fish and fauna. Lentic water is more likely to have invasive plant species, such as *Eichornia* and *Ludvegia Pruviana* (Barua et al., 2017), and fish species, such as Tilapia.
  - ✓ There should be a regular invasive species monitoring plan at all stages of the project, including the operational phase.
  - ✓ Monitor invasive aquatic species periodically (at least once per month) in outlets such as local markets, in collaboration with Agriculture and Forest departments.
50. EMC team also met with DFO, Dima Hasao, West Division, Halflong. During a meeting with the Divisional Forest Officer (DFO), it was mentioned that there are no records of Ganges River dolphins in the area influenced by the project. A preliminary literature survey also confirmed this finding. However, the presence of *Tor putitora* (Golden Mahseer) and *Neolissochilus hexagonolepis* (Common Chocolate Mahseer) are important fish species that could survive in the water once its pH reaches normal levels.
51. The EMC has recommended incorporating a fish ladder, anticipating potential improvements in water quality and the introduction of fish species.
52. With the trend of improvement of water quality (mainly pH: from high acidic to the new normal range), there is a possibility that new fish species may arrive in the near future. If that scenario happens, then detailed ecological assessment would probably be needed, taking cognisance of already established fish details given in supplementary EIA (Vol. 3), where it was reported that annual fish production is about 254 million metric tonnes in this area (Kopili-Kallang Basin Master Plan, Brahmaputra Board, 1995). The supplementary EIA report also mentions that indigenous lotic (fast water) fish species are found along the Kopili River and its hilly tributaries.
53. Further, a specific condition as per the Amendment of EC dated 03.01.2024 mandates to conduct an aquatic study focusing on migratory aquatic species. The study will aim to assess the occurrence of fish species and evaluate potential habitat impacts due to ongoing or proposed projects. The requirement emphasises conducting this study through a recognised government institute and preparing mitigation measures, with the provision of a revised financial budget in the Environmental Management Plan (EMP).

54. EA has engaged the College of Fisheries, Raha, under Assam Agricultural University. The work order for this study was issued on February 14, 2024, marking the commencement of research activities from February 2024 onwards. The findings from this aquatic study are expected to inform mitigation measures aimed at preserving migratory aquatic species and their habitats. These measures will be integrated into an updated EMP, which will include revised financial budgets to support implementation efforts.
55. However, after initiating the dam operation (NEEPCO) a significantly stable pH is noticed from July 2023 onwards with the mean value of pH standing in river Kopili at 5.31 till the data collected in March 2024. This level of pH can sustain fish population and hence the report of RAHA will be very important. After the study, if any fish habitat management plan suggested by the above Government Institute, APGCL will implement that plan.
56. The backwater effect details and downstream impact assessment is reported in EIA addendum 2024. As per EC stipulation, downstream impact assessment was to be carried out again after 5 years of commission of the Hydro Power Plant. It was found that hourly flow data was not available for the 2 upstream projects. Flow data is also not collected for river Kopili at Kneronighat gauge station of CWC. The required frequency of flow data, river morphology, etc. were not available for stretch of Kopili river with CWC and upstream dams. Hence, additional in-depth studies were carried out under JFPR grant on few of the above aspects to update the down stream impact assessment and back water assessment and the collection of hourly data on water flow is expected to be completed before impounding of reservoir. APGCL further engaged experts to complete the study on impact of reservoir operations on the river ecology. The study on downstream impacts of peaking power got delayed because two upstream HEPs were not working after the disasters that occurred in the upper dam. A penstock (pipe) carrying water from the Kopili hydroelectric project to the main power station bursted, leading to massive flooding on 07 October 2019 and the incident led to the closure of 200 MW Kopili HEP run by NEEPCO. Again on 26.03.22 another incident occurred where valve house bursted, and consequently 75 MW Khandong Powerhouse of the Kopili Project was shut down. Both the plants were under repairing and maintenance till September 2023.
57. Meanwhile though data on river morphology etc. could be collected and modelled, however hourly flow data truly representing the condition with upper dams being in operation could not be collected (complete data is expected to be available by July 2025). At present a draft reservoir operations plan has been prepared based on 10-daily flow data and used for the downstream impact assessment. Once the hourly flow data is available, reservoir operation plan will be updated, downstream impacts factoring peaking power will be updated and an optimum reservoir operations plan would be finalised. APGCL commits to complete all the above tasks prior to impounding of reservoir. Impacts on recently identified rheophilic species as stated in the report is preliminary due to lack of enough species level literary and survey data. Based on the preliminary findings, provision for offset management has been provided in the report. Once detailed survey is conducted in the next flowering season and impacts concluded, relevant mitigation measures either in the form of offset or in-situ management plan will be prepared and implemented prior to impounding of

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<sup>1</sup> Refer, EMC water quality trend analysis report submitted to APGCL on 15.05.24.



the reservoir. APGCL also commits to operate the plant in base flow and not as peaking power plant unless, the management measures are implemented.

58. In the EIA addendum it has been mentioned that during the downstream impact assessment carried out by the College of Fisheries, Raha, dolphin was not recorded in the river Kopili.

### **3.3 WATER QUALITY RESTORATION**

59. Water Treatment plant for the construction water and RO plant established. CTE and CTO also obtained. These details are mentioned in the earlier SEMRs. The actual safeguard measures taken for the protection of civil, H&M structures from the acidic water quality of river Kopili was reported in the validation report/QPR in the previous periods. A brief of these details may also be included in the current SEMR.

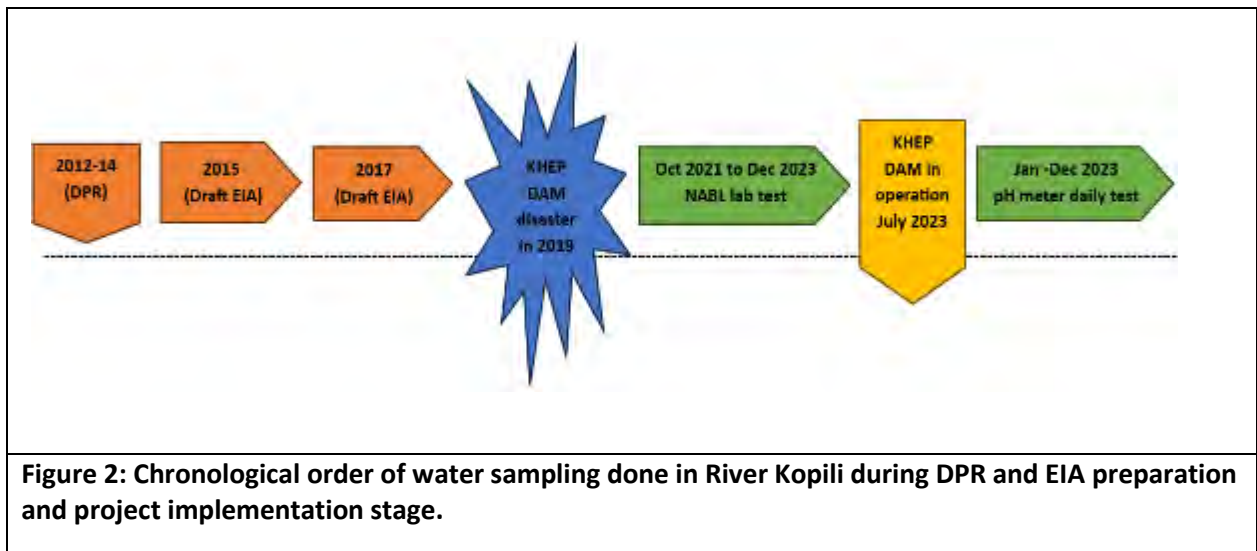
60. Measures like usage of SRC cement for the various water retaining structures, usage of acid protection paints may also be included.

61. Reference related to sedimentation tank has been included in the SEMR of JD-23. 26. A provision of 100KLD STP was earlier suggested for the treatment of wastewater from the CP-2 labour camps areas. However, at present, wastewater from labour camp are disposed through natural depression pond adjacent to the colony and the water is percolated through the boulder bed (placed by the contractor) for oxidation and the overflow is disinfected before reaching the receiving body. As per latest site visit of EMC, CP-2 contractor is finding a process to send the waste water to STP being established at the CP-1 colony.

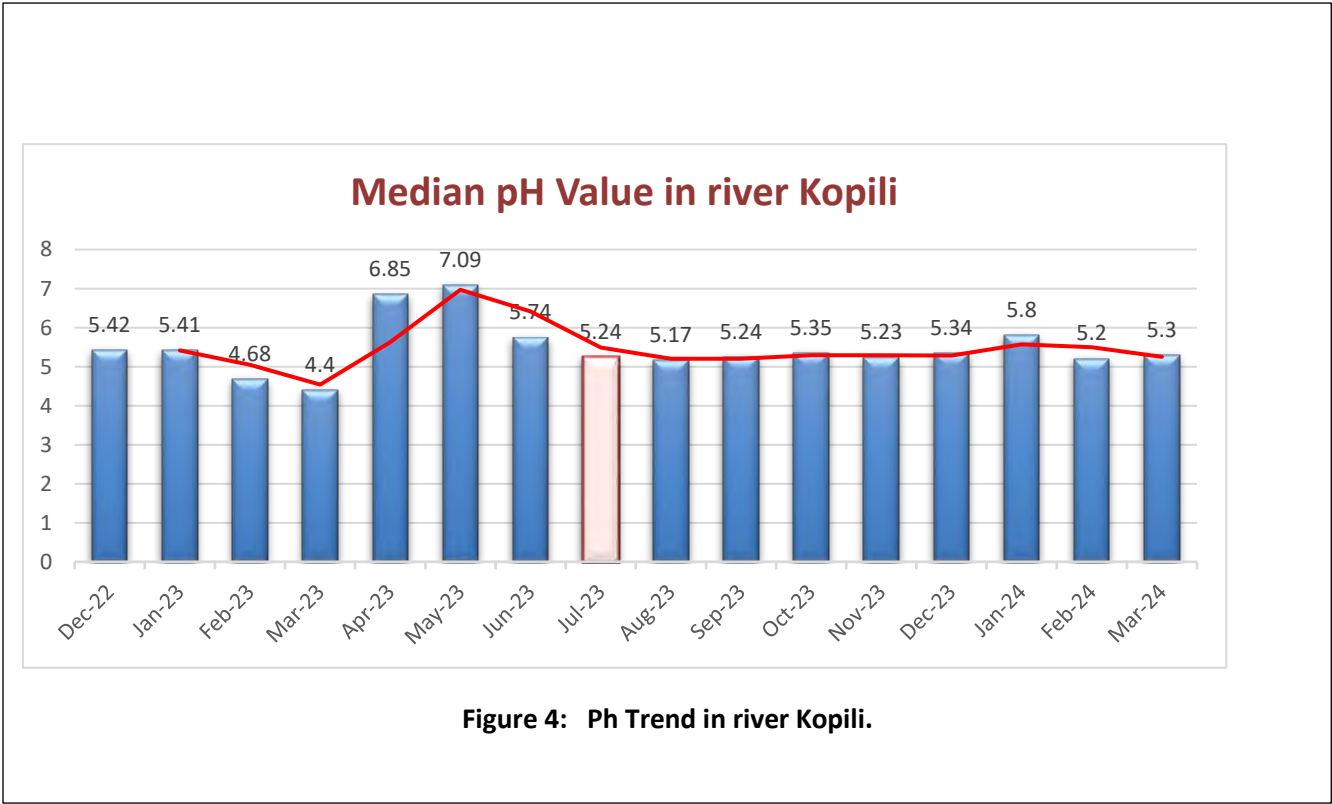
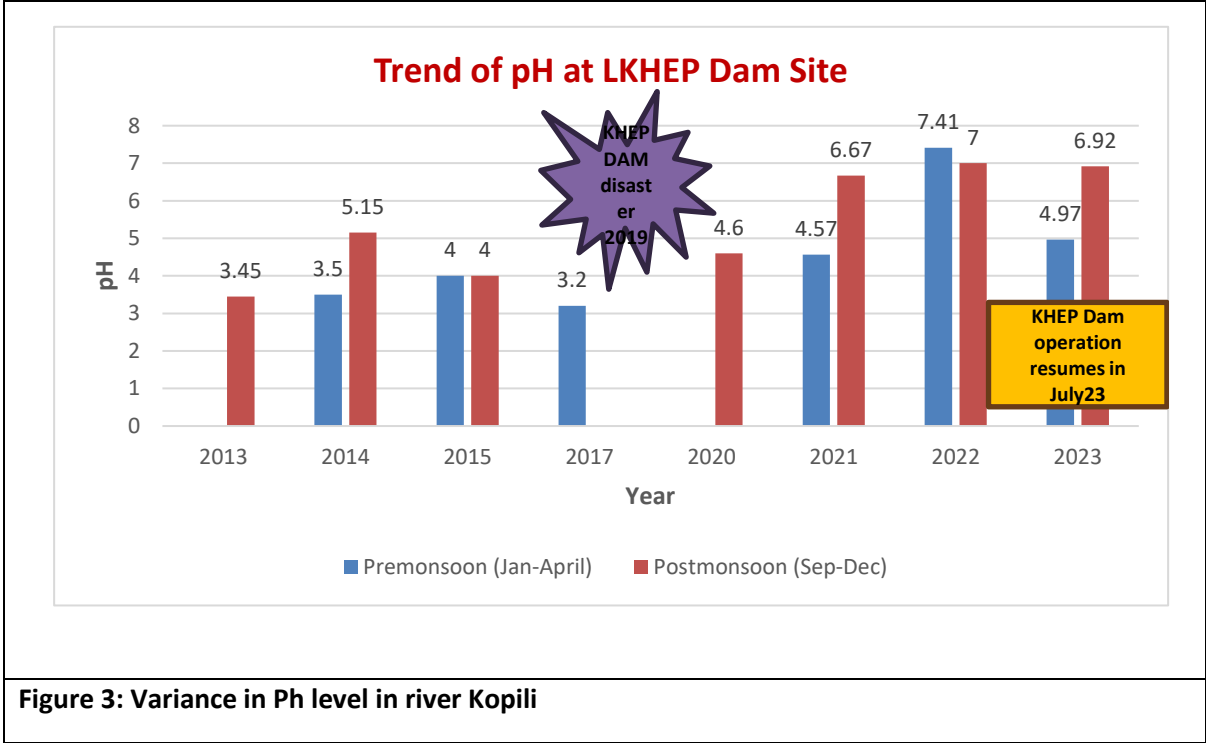
62. APGCL may like to consider to include requirements of treating the acidic seepage water from the Power House area and current status of implementation. The progress in this regard required to be updated in SEMR.

63. For the reporting quarter, the water quality expert visited the site and prepared a write up on water quality trend in river Kopili as part of the EIA addendum. The report aims to evaluate the ongoing changes in the pH levels of the KOPILI River to gauge their potential positive impact on the development of flora and fauna. This evaluation will help designers, decision makers and the fisheries assessment team (Raha College of Fisheries) to understand the need of the future construction requirements like fish ladders/fish pass etc.

64. Below the chronological order of Kopili river sampling and testing under this project has been presented.



65. Upon compiling the pH test reports for both pre-monsoon (January to April) and post-monsoon (September to December) periods at the dam site, a notable trend emerges, shedding light on the water quality dynamics over the years.
66. The pH levels during the pre-monsoon season fluctuated, with values ranging from acidic to neutral. There is no clear upward or downward trend over the years. In contrast, the post-monsoon pH levels remained relatively stable, with most values falling within the neutral range. There is a slight increase in pH levels observed in recent years, suggesting potential improvements in water quality during this season.
67. Despite the KHEP dam disaster in 2019, there has been no significant deviation in pH trends observed post-disaster, even after the operation of the dam started in July 2023. This suggests a limited impact on water pH despite the occurrence of the disaster.
68. Despite these variations, an analysis of the entire report spanning from 2013 to date reveals an overall improvement in the Kopili river's pH.
69. The pH of the water at the dam site is being rigorously monitored by the CP2 contractor on a daily basis through pH meter. The analysis of this data for year 2023 yields the following results. It's noteworthy that the **NEEPCO plant resumes operations in July 2023 (refer Figure 3 and Figure 4).**



70. The pH trend in the river Kopili exhibits significant fluctuations over the recorded months, beginning in December 2022 and continuing to the present date. Data collection is observed from May to June 2022, followed by a gap during the monsoon season. pH measurements resume from December 2022 onwards. The trend starts with a pH level of 7.8 in May 2022, decreasing to 7.5 by June 2022. A substantial decline is noted in December 2022, dropping to 5.42, followed by decreases to 5.41 in January 2023 and 4.68 in February 2023. March 2023 records the lowest pH value of 4.4. Positive shifts occur in April 2023 (6.85) and May 2023 (7.09). However, fluctuations persist, with June 2023 at 5.74. Subsequent months show values ranging from 5.17 to 5.35, indicating a somewhat stabilized pH trend. Also after initiating the dam operation a significantly stable pH is noticed from July 2023 onwards with the mean value of pH standing at 5.3 till the data collected in March 2024.
71. Visit during this quarter, it has been observed that till now no such effective treatment measures has been established for the grey water generated from the labour camps and kitchen areas of CP-2 contractor. However, the overflow from the natural sump due to choking of system has somewhat has been tackled.
72. The sedimentation tank has not shown much effective results and thus a new sedimentation tank was taken up for construction. Dust has been identified has been major issue in the batching plant area required significant improvement in water sprinkling.
73. Downstream of batching plant area high quantum of cement and sediment and thereby choking the nearby channels. This requires regular cleaning so that downstream channels are free from such sediments and slurry.
74. The CP-2 contractor has taken up the establishment of a new batching plant near the power house area during the reporting period.
75. SEMR (JD-23) updated the water pollution control measures, stating that labour camp wastewater is treated in a natural depression pond, percolating through a boulder bed for oxidation, with the overflow disinfected before discharge. Although grey water bypasses a septic tank, all toilets are connected to one. Wastewater from kitchens, bathing, and washing areas is directed to settling tanks before release. Instances of direct wastewater discharge occur, but the CP2 contractor has ordered DRDO-approved biodigester septic tanks for improved treatment before release. Water quality monitoring conducted in reporting period is detailed in Annexure 17 of this SEMR. BOD levels were 7mg/l for kitchen wastewater and 9mg/l for labour camp wastewater, compliant with the latest NGT effluent standard of less than 10mg/l. However, the SEMR (JJ-24) have not included these monitoring study results related to treatment of grey water. No further activities towards treatment of the grey water has been observed in the current reporting period.
76. Photographs of water quality data collected in this period is given in **Annexure XIV**.

### **3.4 DAM SAFETY MEASURES**

77. SEMR (Jan-June 24) has included the Dam Break Analysis and Disaster Management Plan in Annexure 30. The same was reviewed in July and the data related to Volume-II of the report was sought in July 24. Further details of the reporting may be done in the next SEMR (Jul-Dec 24). A site visit was finally done by Dam Safety expert of EMC in September 24 to verify that all safety risks related to both the coffer dam and permanent dam, including geological risks associated with the reservoir, are being properly managed by the project. International Dam Safety Expert expressed his satisfaction on the reply prepared by IIT, Roorkee.
78. Downstream impact assessment based on 10 daily flow data completed, however, once the hourly flow data is available, reservoir operation plan will be updated, downstream impacts factoring peaking power will be updated and an optimum reservoir operations plan would be finalised. APGCL commits to complete all the above tasks prior to impounding of reservoir.

### **3.5 SOLID & LIQUID WASTE MANAGEMENT**

79. The current waste management practices at site include segregation at the source and composting processes being undertaken on-site. This indicates an organized approach towards managing waste effectively from the point of generation. CP-1, CP-2, and CP-3 have agreements with the Umrangso Municipality Board for solid waste disposal, while CP-2 collaborates with the Umrangso Chief Medical Officer for biomedical waste disposal from the dispensary.
80. All contractors are required to adhere strictly to hazardous waste rules and ensuring environmentally friendly disposal of labour camp waste and packaging materials. Grey water from labour camps is treated before release into the environment, preventing pollution. Efforts are made to ensure that solid kitchen waste is not disposed of into drains. All contractors must submit monthly reports detailing their waste segregation and management activities.
81. CP-2 needs to enhance housekeeping at both dam and powerhouse sites by collecting and storing all waste materials separately. Efforts are required to clear water logging near service bays and prioritize immediate collection of waste from the dam site to prevent downstream debris flow during monsoon floods.

### **3.6 MUCK MANAGEMENT MEASURES:**

82. As per the EIA 2018, it was projected that 0.985 million m<sup>3</sup> of the total 1.407 million m<sup>3</sup> of muck that needs to be handled will be disposed of at the two designated disposal sites located within the forest area. However, as per Forest Advisory Committee's (MoEF&CC) suggestion the miscellaneous area and Muck disposal site has been shifted from Forest Land to Revenue land. At present dumping of excavated earth in 4 locations in Revenue land are going on. As indicated by EA, once the muck disposal sites are inactive, proper treatment measures like both engineering and biological measures will be carried out so that sites are stabilized quickly.

83. The Muck Disposal Plan was updated based on the site conditions and as per the approved design by CEA. Subsequently it was approved by APGCL and PMC and has been submitted to ADB for approval. Slope compaction, tree plantation toward prevention of soil erosion in the disposal site is yet to started.
84. Additionally, CP-2 has also submitted a muck management plan. According to that plan, the four permanent disposal sites have been identified in the designated area with total holding capacity of 27.05 lakh m<sup>3</sup>, and one temporary storage D-5 with holding capacity of 13.5 lakh m<sup>3</sup>. The site wise holding capacity and dumping proposal is given below:

Dumping Sites	Location	Area (Ha)	Capacity (cum)	Dumping Proposal (cum)	Shortfall (cum)
<b>Permanent Dumping Sites</b>					
D-1	Near Permanent Colony TR5	10.4	17,00,000	5,00,000	-
D-2	Near Colony TR5	3.7	2,90,000		-
D-3	Near PR-7 Dumping Yard-1	4.9	3,07,000	1,55,000	-
D-4	Near PR-7 towards magazine area	6.1	4,08,000		-
<b>Total</b>			<b>27,05,000</b>	<b>6,55,000</b>	<b>-</b>
<b>Temporary Storage Sites</b>					
D-5	Temporary storage Facility [33] Near Crusher	12	9,00,000	5,35,578	-
	Temporary storage	2	1,00,000	34,380	-
	Temporary storage	1	1,00,000	14,000	-
	Temporary storage	2.37	2,50,000	1,39,270	-
<b>Total</b>			<b>13,50,000</b>	<b>7,23,228</b>	<b>-</b>

85. . A summary of muck disposal plan is given in section 13.6 of SEMR (JJ-24) as given below and details enclosed in Annexure 13.

S.No	Items	Compliance Status
1	Plantation on spoil tips (plain area) including bio-fertilizer cost	Dumping sites are utilized for contractors' camp and other activities, after completion of the construction works it will be restored as per the plan.
2	Turfing on slopes (@ Rs. 100,000/- per ha taking into account 40% of total area of muck disposal i.e. 45 ha to be earmarked for turfing)	
3	Fencing cost for 4400 m (@ 500/- per running m)	
4	Retaining Wall (lump sum)	
5	Cost of two portable water pumps, (flow 20 cum/hr, 20m head, along with 200 m pipe, 100 mm dia, HDPE)	
6	Watch & Ward (2 persons @ Rs. 10,000/month/for 8 years considering 10% escalation per year)	

86. Apart from construction of Gabion wall to arrest sliding of materials from the dumping site (Size of the gabion wall (Height above ground-1 meter, Width-1 meter, Length -16.8 meter), no other activities were

seen to be initiated as per muck disposal plan during site visits by EMC. The actions are required to be taken with immediate effect and may be reported in Jul-Dec 24.

### **3.7 INTEGRATED WATER RESOURCE MANAGEMENT PLAN:**

87. APGCL has awarded the downstream impact assessment to M/s RMSI in the month of December 2022. As per the contract, RMSI is required to prepare a Resource Management System in the Kopili River Catchment Area Community and a Resilience and Disaster preparedness plan for the project. Scope of the assessment includes:

- ✓ To collect real-time data on water inflows and outflows from the hydropower dams on the Kopili River and other relevant tributaries of the Kopili River, as well as to support resource management in the autonomous district councils;
- ✓ Correlate the real-time water inflow data with rainfall data;
- ✓ Undertaking a mapping of the two autonomous district councils to cover village data (including groundwater), mineral resources, forest cover, agriculture assets, disaster-prone areas (flooding areas and landslides), etc.;
- ✓ To provide data and help APGCL, the state government, the autonomous district council, the district authorities, and other state agencies such as the Assam State Disaster Management Authority (ASDMA), the state Water Resources Department (WRD), and the Flood and River Erosion Management Agency of Assam (FREMAA) so that they can make informed decisions on the likely impacts on communities and physical infrastructure and take necessary measures to mitigate the impacts;
- ✓ Undertake downstream assessment of the existing 110 km of river embankments;
- ✓ Undertake erosion protection and the needs assessment of additional embankments of 80 km. to protect the downstream districts of Nagaon, Hojai, and Morigaon;
- ✓ Assist the district authorities of Hojai, Nagaon, and Morigaon, the WRD, ASDMA, and FREMAA, to address disasters through better prediction of flooding, improved hydrology modelling, and better disaster risk maps;
- ✓ Prepare a wetland development plan and undertake restoration of wetlands to hold flood waters to help manage the floods.
- ✓ Identify five villages, one in each district, and undertake a needs assessment;
- ✓ Design and implement a participatory village resilience and disaster risk reduction plan to increase resilience and disaster preparedness;
- ✓ Implement the village disaster risk reduction plan in consultation with village communities.

88. As per the status reporting in the current assessment period, Disaster Management Plan is already in place. Moreover M/s. RMSI has been entrusted to implement Community Resilience and Disaster Preparedness for the 5 downstream districts of the LKHEP in the state of Assam. The main activities are described below:

- ✓ Identify six villages, one in each district and undertake a needs assessment. Following the assessment design and implement a participatory village resilience disaster risk reduction plan to increase

resilience and disaster preparedness. Implement the village disaster risk reduction plan in consultation with village communities;

- ✓ To develop a robust flood prediction model and an early warning system and correlate to anecdotal evidence for confirmation of flood prone areas and to improve disaster preparedness of the communities, including development of disaster mitigation plans that will be shared with government agencies.
- ✓ Undertake training of state agencies on watershed management and disaster risk management
- ✓ Identify six villages (one from each district) to carry a participatory village resilience disaster risk reduction. Implement the village disaster risk reduction in consultation with the village communities
- ✓ In the trainings, ensure that at least 500 people (90% are vulnerable households of which about 40% to be women) have increased their capacity on disaster risk management. In the process, develop a household evacuation plan for the downstream districts of Nagaon, Hojai, and Morigaon;
- ✓ Conduct training workshops for APCGL, ASDMA, WRD, Disaster Management Committees of the downstream districts of Nagaon, Hojai, and Morigaon.

89. At present Early warning is given by district administration Disaster Management Cell and discharge data is shared by NEEPCO project authority located upstream. Project specific Early Warning Telemetric system will be installed before impounding of water.

90. RMSI has submitted the “**Resource Management and Disaster Resilience**” on river Kopili in December 23. This Village resilience plan was prepared in 2023 with community participation following the broad framework of Village DM plan of NDMA. This plan has been prepared for the 5 downstream villages namely:

S.No	District Name	Village Name	Population	Household	Risks	Mitigation Measures	Shelter Capacity
1	Hojai	Dakhin Kenduguri	644 (166 vulnerable)	126	Adjacent to Kopili/Flood risks	VLCC available Need embankment and bank protection. Nearest flood shelter Jogijan Higher Secondary School, Jogijan railway station, Dakhin Kenduguri Durga bari and Janajati School, Dakhin Kenduguri Namgahar, Dakhin Kenduguri Mahadev Bari	1150 (safe)
2	Dima Hasao	Phanglangso	135 (22 vulnerable)	31	---do---	VLCC available but not active Sand mining	105



S.No	District Name	Village Name	Population	Household	Risks	Mitigation Measures	Shelter Capacity
						causing bank failure/erosion One primary school only available with basic facilities has flood shelter else they need to go to hilly areas.	(more shelters needed)
3	Karbi Anglong	Namtaradubi	1500 (200 vulnerable)	562	--do--	New embankment under construction on one side. No elevated platform for flood shelter Community center, Goroimari LP School, temple and Ringa Bandha are used as shelters.	250 (need more)
4	Morigaon	Thengbhanga	5824 (363 vulnerable)	1110	----do---	VLCC available but not active Need embankment and bank protection No elevated platform for flood shelter Nearest flood shelter - Kali Mandir (temple), and Govt LP School	120 (not safe) and need more shelters
5	Nogaon	Kakoti Gaon	1200 (402 vulnerable)	545	----do----	Flood shelter - road, railway track and the Chaparmukh Railway Station No elevated platform for flood shelter	300 (not safe and need more shelters)

91. The report also provided necessary SOP for the VLCC along with the priority interventions needed.

92. The SOP for the VLCC includes to get into action immediately on receiving the flood warning or information about emergency from DDMA. In case warning came from any other source, as a first step, call the DDMA/DEOC to confirm the information

- Call an emergency meeting of DMC
- Check the flood shelters and availability of keys to the buildings and other essentials required in the shelter and rescue operation
- Inform the DMT and particularly the early warning task forces to alert the villagers

- Hire generators, store kerosene/diesel/petrol for running the generator at the shelter location
- Keep a radio with new batteries/smart phone with full charge
- Arrange flash lights/torch lights and keep extra battery
- Inform the fishermen not to venture for fishing in the river or ponds
- Check the flood shelter and store dry food/baby food/clean drinking water etc.
- Check with PHC and other medical institutions in the villages for stock of medicines, bleaching powder, and halogen tablets. Inform them regarding the warning and request them to be prepared with the essential medicine and first aid items.
- Keep a copy of the Village DM map ready
- Inform ration shops and civil supplies shops about the warning and request them to stock food items
- DMC will need to coordinate with respective DMT and ensure that all team members are alerted and aware of their roles and responsibilities in case of an emergency.

93. Priority Interventions Needed:

- Flood protection work at Nagaon Border from where the Kopili river flood water can enter the village
- Need raised platform or Multi Propose Community Hall with proper sanitation and drinking water facilities. There should be facilities to address women's needs in the shelter
- Veterinary clinics during flood time for treatment of livestock
- Raised platform for livestock

94. As recommended by EMC and the State Dam Safety Committee adopting an integrated mechanism with NEEPCO highlights a proactive approach towards enhancing safety and emergency preparedness in related to reservoir operations. The establishment of an early warning system and an emergency action plan is crucial, particularly before the filling of the reservoir, as it ensures that potential risks are mitigated effectively. Currently, the district administration's Disaster Management Cell provides early warnings regarding flood and upstream disturbances and discharge data is shared with NEEPCO authority located upstream of the project. NEEPCO authority then communicate to the project about any warning or discharge situation. Therefore, this collaboration is essential for timely communication and response during emergencies. The planned installation of a project-specific Early Warning Telemetric system will significantly enhance the preparedness of downstream villages against potential hazards associated with reservoir operations. This integrated approach not only addresses immediate waste management concerns but also fosters community resilience in disaster scenarios.

95. The observations given against the Disaster Management Plan (DMP) related to flood shelters in the SEMR Jan-June 2024 may be updated to include the revised DMP/Flood forecasting arrangement plan by RMSI.

### **3.8 MAINTAINING THE REQUIRED ENVIRONMENTAL FLOW**

96. The river flow is not completely cut off. According to the PMC and package 2 contractor, the imperative to sustain river flow for environmental purposes was taken into account in dam design. As intimated by APGCL,

RMSI, under the Japan Fund Poverty Reduction (JFPR) grant, will initiate the downstream study under integrated water resource management (IWRM).

### **3.9 INSTITUTIONAL ARRANGEMENTS & CAPACITY BUILDING**

97. Overall, no change in the institutional arrangements of EA was reported during the reporting period. It is observed that regular EHS trainings and fire safety mock drills are being conducted and regular EHS trainings and toolbox talks are being held by the CP-2, CP-3 and CP-4. However, it is observed that the following outstanding issues are still prevalent for the current quarter:

- ✓ As recommended by ADB and EMC during the previous quarter, the appointment of experienced H&S experts under PMU, an Sr. Environment expert under PMC, and a qualified Environment Expert under CP-3 and EHS expert under CP 1 is still pending.
- ✓ All staff and workers working at the site should be trained on Prevention of Sexual Harassment at work (POSH).
- ✓ Since a few fatal accidents has already happened under the CP-2, necessary care shall be taken towards avoiding such incidents by providing regular trainings to the employee and labours with respect to harmful chemicals, dangerous activities, working at heights, electrical and other hazards.
- ✓ All staff and workers working at the site are required to undergo social awareness training on local customs, culture, and heritage.
- ✓ All staff and workers working at the site are required to undergo wildlife awareness training covering the protocols to be followed in the event of an encounter with a wild animal.
- ✓ The EHS training module for all package contractors must include incidents of snake and insect bites and train the required staff on how to tackle such medical emergencies.
- ✓ In addition to the above, the CP-1 contractor is required to undertake mock drills and training in EHS-related trainings for construction safety, life and fire safety, electrical safety, etc.
- ✓ As part of the project, EMC shall also provide necessary on the job training and will organize half day-one day workshop on various subjects like dam safety, biodiversity, environmental aspects including occupational health and safety, sustainable development, biodiversity and wildlife management, water quality restoration etc.

### **3.10 OCCUPATIONAL HEALTH AND SAFETY MEASURES:**

98. During this reporting period many aspects of the OHS measures are included for all the contract package including tool box talks, necessary trainings conducted (EHS, HIV/AIDS etc.). Root cause analysis has also been initiated. As per SEMR it has been mentioned that two non work related accidents happened on 16.01.24 an on 17.02.24 and the first one became a fatal accident and there was 28 near miss accidents.

99. It has been mentioned in the SEMR that 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 a safety audit report is enclosed in Annexure 20 of SEMR.

100. Following few observations require some attention:

- ✓ Safety related aspects reported in page 9-11 now includes for all the contractors namely CP-1, CP-2, CP-3 and CP-4.
- ✓ **The COVID-19 related SOP is currently being followed by CP-2 only. Reporting for other contractors is missing, it is assumed that they are not following the same.**
- ✓ Please include a legible safety audit report in Annexure 20.
- ✓ Authorization from PCBA for First Aid Centre of CP-2 and CP-3 under process.
- ✓ compliance status with respect to following measures must be added to the SEMR:
  - CP-2 Medical Health Check up Camp and AIDS awareness on dtd. 22/03/2024, whereas CP-1 conducted in December 23, CP-3 on 11.11.23 but they have not conducted any such awareness programme between Jan-June 24.
  - On the other hand awareness done by CP-4 is not clear, dates are not given in the SEMR.
  - Status on equipment and emergency material required for underground works may be listed along with their calibration status. Missing in the current SEMR.
  - Status of fire extinguisher is mentioned given in Table 20, it is suggested to include the date of installation/expiry so that in future while doing safety audit by PMC (which is a welcome effort) these parameters can be cross checked and necessary actions can be taken if the extinguishers are not replaced.
  - Details of the first aid team as per "First aid teams will be specifically trained and assigned in groups of two to three people to the different sites."
  - Details of the HIV/AIDS awareness programme conducted by all contractor may be provided (e.g. photographs, date of such training etc.) with more clarity in the SEMR.
  - Status on equipment and emergency material required for underground works may be listed along with their calibration status.

### **3.11 ENVIRONMENTAL MONITORING**

101. The document review reveals that during the assessment period of January and February 2024, only water quality monitoring (including surface water, groundwater, and drinking water) was conducted by CP-2. However, quarterly environmental monitoring by CP-4 was conducted in the last week of December 2023.

102. **Notably, it states on page 91 that vibration monitoring commenced on March 23; however, page 92 indicates that vibration monitoring occurred in March 2024 during blasting operations. This discrepancy arises since other sections of the SEMR assert that no blasting took place during the current reporting period, suggesting a need for verification regarding the vibration monitoring in March 2024.** Additionally, Package 2's Construction Environmental Management Plan (CEMP) and Health & Safety Plans have been submitted by the contractor and approved by APGCL (Assam Power Generation Corporation Limited) and

PMC (Project Management Consultant). The CEMP for Packages 1, 3, and 4 has also been submitted as noted in the SEMR.

### **3.12 CORRECTIVE ACTION IN COMPLIANCE TO ADB MISSION (30<sup>th</sup> Oct-4<sup>th</sup> Nov 2023):**

103. The corrective actions taken in compliance to ADB mission observations is captured in Table 8 as action taken report on the ESCAP. The first draft EIA addendum submitted to ADB on 02.06.2024 for disclosure. Based on this EMP the CEMPs are updated by the respective contractors. The status of obtaining the revised CEMP need to be included in the next SEMR (Jul-Dec 24). SEMR has captured all the necessary corrective actions needed from the contractor's end. DG set stack height is a concern is an outstanding issue as per the corrective action.
104. Environmental assessment for Longku Nala stretch of NH- 627 that is proposed to be elevated by PWD, Assam is not initiated yet and is requires attention and needs to be completed before impounding.
105. Dam break analysis and emergency action plan are completed and being reviewed by EMC.
106. Downstream impact assessment based on 10 daily flow data completed, however, once the hourly flow data is available, reservoir operation plan will be updated, downstream impacts factoring peaking power will be updated and an optimum reservoir operations plan would be finalised. APGCL commits to complete all the above tasks prior to impounding of reservoir.
107. Mitigation and offset for the critical habitat rheophytes will be developed prior to reservoir inundation. Rheophyte species specific surveys for the Lower Kopili and wider distribution during the appropriate flowering season since will be carried out by APGCL/PMC and the details to be reported in the next reporting period (Jul-Dec 24).
108. Hydropower plant will be operated only in baseflow mode unless the downstream and backwater impacts assessment has been completed to the satisfaction of ADB and disclosed.
109. The extent of all rheophytes in the reservoir inundation area and the immediate downstream was mapped. The potential magnitude of impact with the 10 daily flow data included in the final updated EIA addendum. Species wise distribution to be surveyed in August to Sept, 2024 and details need to be reported in the next SEMR (July-December 2024). The habitat suitability in the area upstream of the reservoir and elsewhere in Assam in relation to offset potential will also be surveyed.
110. Final reservoir operation plan will be prepared after obtaining the hourly flow data by July 2025. Reservoir operation will be maintained at baseflow till the EMP and offset management plan for the rheophytes implemented.
111. Timely submission of Form V on environmental statement to the competent authority as recommended in EC letter...was submitted on 10.05.24.

### **3.13 GRIEVANCES REDRESS MECHANISM**

112. A Grievance Redress Mechanism (GRM) has been established for the project to handle complaints about environmental and social issues. A grievance redressal committee (GRC) is also in place, and its mandate is to resolve the grievances in a timely manner. Maily social grievances pertaining to land and compensation-related grievances were reported and recorded for the project in a grievance register maintained at the project site; no grievances pertaining to environmental parameters such as air, water, or noise pollution,

traffic congestion due to project vehicles, community health and safety concerns due to project activities including blasting, etc. have ever been reported by locals since the commencement of project work.

113. After reviewing the GRM records and communicating with the GRC members, EMC suggests:
- ✓ Ensure the strengthening of GRM at site level for its effective implementation.
  - ✓ Ensure that all grievances registered at the project site are recorded and resolved, whether reported by the general public or by labourers or workers engaged in the project's construction.
  - ✓ The grievance register needs to be updated and reviewed on a regular basis, and all logs and records need to be maintained properly.
  - ✓ Ensure monthly consultation with the local community to record community concerns pertaining to environmental as well as EHS issues, if any. The outcome of the meetings should be recorded in the Monthly Environment Report (MER).
  - ✓ GRC meetings should be held every quarter, involving local representatives. Suggestions from the meetings should be recorded in the SEMR.

### **3.14 CONSULTATION AND INFORMATION DISCLOSURE**

114. APGCL, through SESC and PMC, is regularly conducting consultations that include informal and formal discussions and meetings with affected persons (APs), local representatives, and concerned committees. Residents in the area have been informed about the timing of blasting activities and have been given general instructions to avoid entering the project construction site.
115. Dam break analysis and emergency action plan are completed and being reviewed by EMC.
116. An interim EIA addendum prepared for the project was disclosed in February 2024. While, final updated EIA addendum reflecting all pending assessment were submitted to ADB on 31 May, 2024. Further, a project-specific disaster management plan has been developed to M/s RMSI. EMC suggests that the same should be communicated to relevant stakeholders, including local residents and communities residing in the downstream areas.

### **3.15 OTHER ANTICIPATED IMPACT**

117. The corrective actions taken in response to the Asian Development Bank (ADB) mission observations are documented in Table 8 as an action taken report on the Environmental and Social Compliance Audit Plan (ESCAP). The first draft of the Environmental Impact Assessment (EIA) addendum was submitted to ADB on June 2, 2024, for disclosure. Based on this Environmental Management Plan (EMP), the Construction Environmental Management Plans (CEMPs) have been updated by the respective contractors. It is necessary to include the status of obtaining the revised CEMP in the next Semi-Annual Environmental Monitoring Report (SEMR) covering July to December 2024.

118. The SEMR has recorded all necessary corrective actions required from the contractor's side. Outstanding issues identified are:

- ✓ As recommended in previous reports, there is a need for immediate interventions on the right bank of the dam axis, tailrace tunnel, and muck dumping area at PR-5 due to significant slope instability and deep rain cuts. These conditions threaten the safety of people using nearby roads and workers below these areas. However, despite previous recommendations, necessary protection works have not yet been implemented at the site.
- ✓ The environmental assessment for Longku Nala of National Highway 627, which is proposed to be elevated by the Public Works Department (PWD), Assam, has not yet been initiated. This task requires attention and needs completion before impounding. The design for two village roads likely to be submerged between Borolongku and Larelangu are available and it will be completed before impounding.
- ✓ The downstream impact assessment based on 10 daily flow data has been completed. However, once hourly flow data becomes available, updates will be made to the reservoir operation plan, factoring in peaking power impacts. An optimal reservoir operations plan will be finalized accordingly. Assam Power Generation Corporation Limited (APGCL) commits to completing these tasks before reservoir impounding.
- ✓ The extent of all rheophytes in the reservoir inundation area and the immediate downstream was mapped. The potential magnitude of impact with the 10 daily flow data included in the final updated EIA addendum. Species wise distribution to be surveyed in August to Sept, 2024 and details need to be reported in the next SEMR (July-December 2024). The habitat suitability in the area upstream of the reservoir and elsewhere in Assam in relation to offset potential will also be surveyed.
- ✓ CP-1 requires permission for groundwater abstraction.
- ✓ Permission for tree felling from the Forest Department is needed as CP-1 work is 75% complete.
- ✓ At CP-1, construction workers are provided with inadequate accommodation lacking beds, mattresses, mosquito nets, kitchen facilities, bathing or washing areas, first aid provisions, safe drinking water, and firefighting arrangements.
- ✓ Action towards rainwater harvesting, dual plumbing, usage of treated waste water from STP in CP-1 is yet to be started ;
- ✓ Any concrete solution towards treatment of grey water from CP-2 camps and kitchen waste is yet to be initiated...ideas like connecting to the STP of CP-1 is yet to be done, details may be reported in the next SEMR (Jul-Dec 24).
- ✓ No improvements have been observed in vehicle wash and maintenance facilities by CP-2; untreated wastewater continues to be discharged into natural surroundings.
- ✓ Vehicles with Bhutanese license plates under CP-2 are still present at the project site.
- ✓ The DG set stack height remains an outstanding issue.

#### **4.0 CONCLUSION AND RECOMMENDATION:**

119. Overall, the SEMR has truly addressed the statutory compliance status, ADB loan covenants and corrective measures proposed in the previous ADB mission. In this period good thing is that the EC has been

obtained for the revised design, EIA addendum submitted to ADB, Caremra trapping survey completed, annual bird counting completed along with necessary dam beak analysis. In fact for the permission and NOC aspects also many progress has been seen still few are remaining which are expected to be completed in the next reporting period. The environmental monitoring needs to be regular and to be done by all the contractors. Form V has also been submitted in the current reporting period on 10.05.24.

120. Some of the critical findings that required important attention along with recommendations from the site assessment that need immediate attention for implementation of mitigation measures based on best international practises as per ADB requirements are summarised as below:

- ✓ No unauthorised abstraction of groundwater and surface water.
- ✓ All contractors are required to develop a legal register to keep track of statutory requirements applicable to the project, such as clearances, NOCs, permits, permissions, etc., for all project components.
- ✓ Tree cutting NOCs to be taken by CP-1 from the Forest Department
- ✓ EHS expert is available with PMC team the same is also required to be appointed at the SESC level.
- ✓ All contractors are required to maintain appropriate staff with qualified Environment and EHS experts at the project site.
- ✓ Excavated soil should be graded according to soil type and stored separately.
- ✓ CP-2 has initiated construction of a new sedimentation tank, the results of the effluent after the sedimentation tank need to be reported regularly in the EMR.
- ✓ All contractors must Maintain stack height of DG sets as per CPCB recommendations.
- ✓ The sediment and debris of slurry from the existing batching plant at CP-2 need to be cleared on regular basis to ensure that the surrounding water courses are not choked.
- ✓ Further, the overflow from the stabilization pond site (used for the treatment of grey water from the CP-2 camp and kitchen area) need to be controlled and suitable solution for treatment of this grey water either by installing a new STP or connecting to the nearest STP at CP-1 site may be done.
- ✓ The CP-1 STP site is just 250 m away from the existing stabilization pod of CP-2 (Refer Figure 5) and thus make it an easy operational marvel to initiate the treatment at the STP of CP-1.





**Figure 5: Distance of upcoming CP-1 STP site from the existing stabilization pond of CP-2 for the treatment of grey water**

- ✓ CP-1 is required to obtain registration under Building and Other Construction Works. Camp sites also be provided with basic sanitation and infrastructure as per the requirements of Building and other Construction Workers.
- ✓ Camp sites are also to be provided with basic sanitation and infrastructure as per the requirements of Building and other Construction Workers for CP-2 as well.
- ✓ Ensure that soils exposed on slopes are immediately vegetated or temporarily covered with geotextile and vegetation to help stabilise them and prevent sediment-laden surface water runoff. If required a bioengineering expert or a firm may be engaged to execute this works.
- ✓ All sanitary and toilet facilities should maintain the availability of adequate water, adequate lighting, and proper cleaning with an adequate number of bathing and urinal units. They must be kept in working condition and cleaned frequently.
- ✓ Proper drainage systems need to be provided with de-silting chambers all around the powerhouse, office, substation, and colony.
- ✓ Eutrophication management plant should be prepared for reservoir.
- ✓ Adopt appropriate dust control measures at all the construction sites, approach roads, etc.
- ✓ Care should be taken to ensure that road safety measures are worked out and implemented to ensure accident-free working stretches.
- ✓ Regular maintenance of vehicles and machinery needs to be conducted to ensure the lowest possible emissions.
- ✓ All vehicles registered in Bhutan must be registered with Indian numbers, and a PUC must be obtained.
- ✓ All contractors are required to prepare an incident or accident register record and all incidents needs to reported in Monthly EHS report.

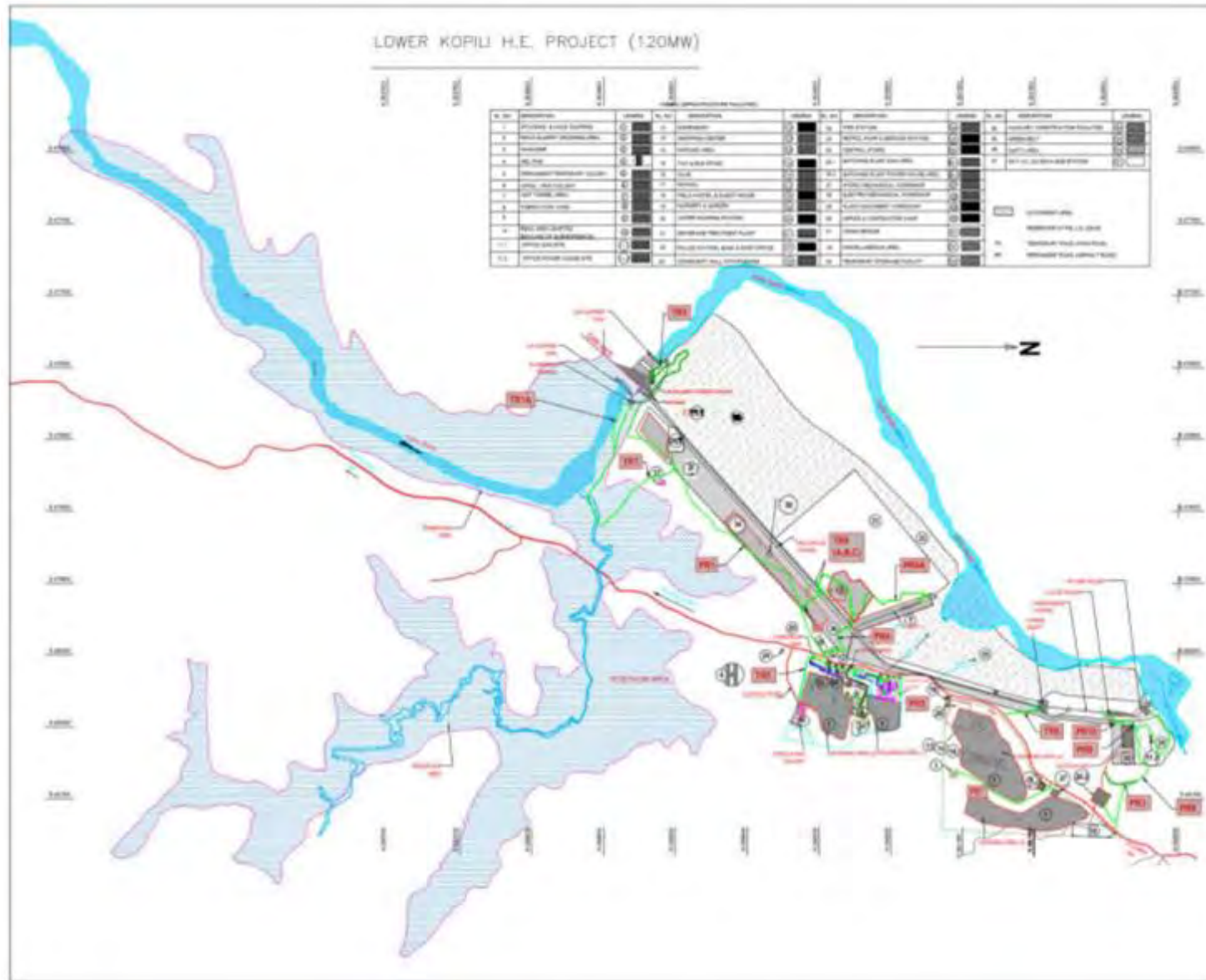
- ✓ Accident reports, if any, are to be submitted to APGCL within 24 hours of the incident along with necessary root cause analysis.
- ✓ The rooms at the labour camp sites should be provided with proper illumination, a smoke detector, and proper insulation of the electrical system. Labourers should be provided with clean water, adequate toilet facilities with respect to the number of labourers, and clean bedding facilities with proper space between two beds.
- ✓ Adequate supply of potable water both on construction sites and in labour camps. The water quality must be monitored regularly. Drinking water should be tested for IS:10500-2012 parameters.
- ✓ Labourers and other project site officials must also be provided with medicated mosquito nets for protection against malaria, dengue, and other vector-borne diseases.
- ✓ The use of firewood for cooking should be stopped with immediate effect, and cooking gas should be provided in common kitchens.
- ✓ Adequate provisions for emergency fire services, including fire breaks and firefighting equipment supplies, should be made for all construction works and the labour camps.
- ✓ There should be necessary provision for first aid in an easily accessible location at all construction sites and labour camps, and the workers should be informed accordingly. An emergency project clinic must be coordinated.
- ✓ Timely training for First aiders and other site staff should be provided, and all logs and records should be maintained properly.
- ✓ Emergency contact information for First Aiders must be accessible to all and updated as needed.
- ✓ A project awareness programme for HIV/AIDS, wildlife protection, wildlife-human conflict, general EHS requirements, community health safety, and grievance redressal needs to be planned and scheduled every quarter.
- ✓ All contractors are required to submit a Monthly Environment Report with monthly updates on the implementation status of environmental safeguard compliance and the implementation status of EMP provisions.
- ✓ Every month, a joint site inspection between the PMC and contractor's (all packages as relevant) representatives is to be made, after which the best solutions to address the inspection's results are to be decided and submitted as a Monthly Environmental Report along with a monthly EHS review report.
- ✓ Meetings of the Biodiversity Management Committee to be done regularly, last meeting (3<sup>rd</sup> BMC meeting was held in the month of December 23).
- ✓ Ensure the strengthening of GRM at site level for its effective implementation.
- ✓ All formal and informal complaints, requests, and grievances should be recorded, and adequate closure should be provided. Post-closure, the complainant should be adequately informed.
- ✓ All contractors must maintain a grievance register that is updated and evaluated on a regular basis, and all logs and documents must be kept up-to-date.
- ✓ Ensure monthly consultation with the local community to record community concerns pertaining to environmental as well as EHS issues, if any. The outcome of the meetings should be recorded in the Monthly Environment Report (MER).
- ✓ GRC meetings should be held every quarter, involving local representatives. Suggestions from the meetings should be recorded in the SEMR.

121. Subject to these observations, the SEMR seems to have captured most of the information pertaining to environmental safeguards taken up for the period Jan–June 2024 and thus verified and validated herewith.

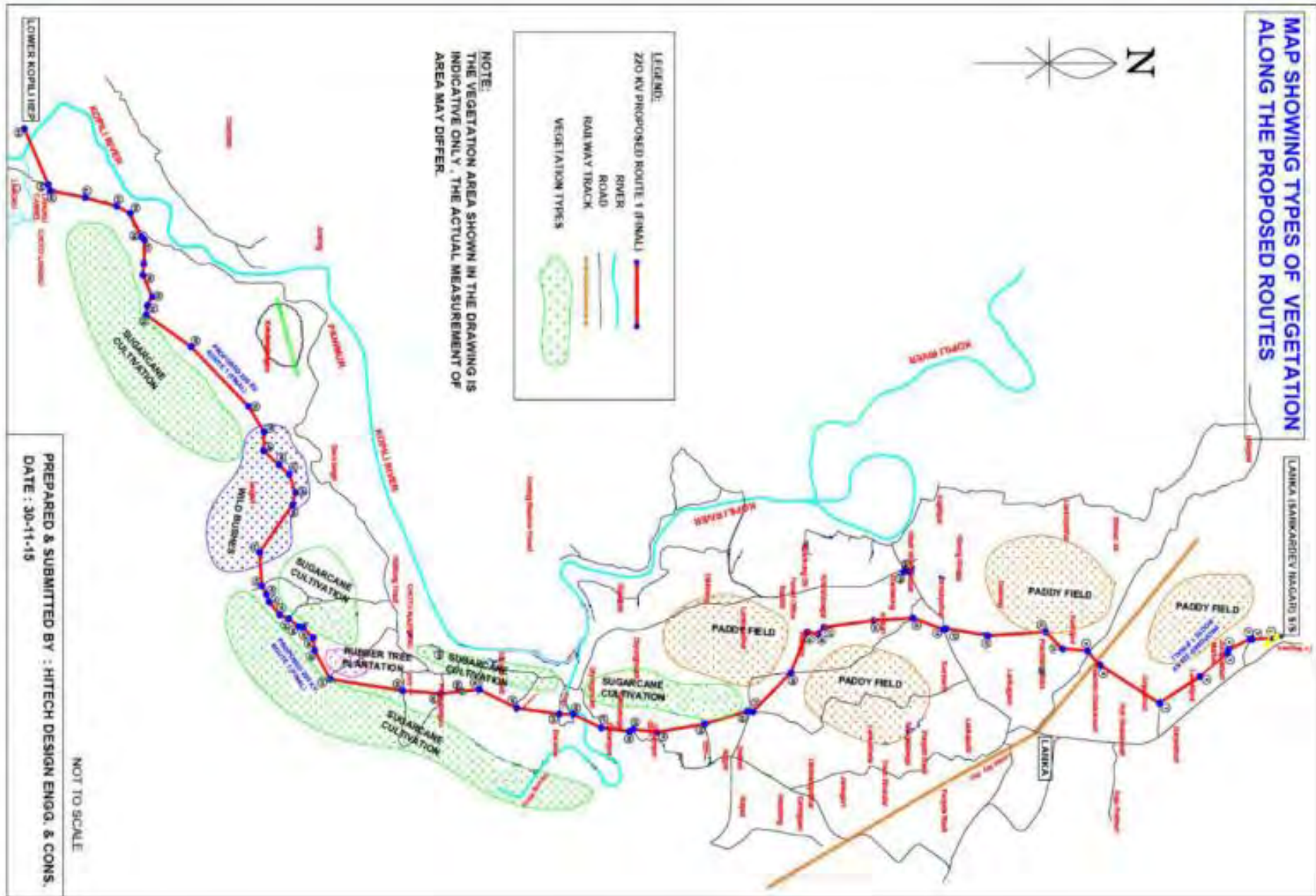
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# Annexures

Project Layout



Layout of Transmission Lines



Map of Reservoir spread boundary



Amendment of EC dated 03.01.2024



File No.: J-12011/26/2012-IA.I  
 Government of India  
 Ministry of Environment, Forest and Climate Change  
 IA Division  
 \*\*\*



Dated 03/01/2024



To,

The Chief General Manager (Hydro)  
 M/s Assam Power Generation Corporation Ltd  
 2nd Floor, Bijulee Bhawan, Paltanbazar, Guwahati, Guwahati, KAMRUP METRO, ASSAM,  
 Paltanbazar, 781001  
 cgmh2010@yahoo.in

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

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/AS/RIV/441844/2023 dated 23/10/2023 for grant of an amendment in prior Environmental Clearance (EC) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A0505AS5877865A
(ii) File No.	J-12011/26/2012-IA.I
(iii) Clearance Type	Amendment in EC
(iv) Category	A
(v) Schedule No./ Project Activity	1(c) River Valley/Irrigation projects
(vi) Sector	River Valley and Hydroelectric Projects
(vii) Name of Project	Lower Kopili HEP (120MW) in Karbi Anglong & Dima Hasao, Assam, by M/s Assam Power Generation Corporation Ltd.
(viii) Location of Project (District, State)	DIMA HASAO, ASSAM
(ix) Issuing Authority	MoEF&CC
(x) EC Date	04/09/2019
(xi) Applicability of General Conditions	NO
(xiii) Status of implementation of the project	



1. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A, B and C) were submitted to the MoEF&CC for an appraisal by the Expert Appraisal Committee EAC under the provision of EIA notification 2006 and its subsequent amendments.
2. The above-mentioned proposal has been considered by Expert Appraisal Committee (EAC) in the meeting held on 26/10/2023. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above.
3. The brief about the reasons for an amendment requested along with comparison table illustrating the details of amendments are annexed to this letter as **Annexure (2)**.
4. The EAC, in its meeting held on 26.10.2023, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of amendment in Environment Clearance under the provision of EIA Notification, 2006 and as amended thereof.
5. The MoEF&CC has examined the proposal in accordance with the extant provisions of the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the Expert Appraisal Committee hereby accords amendment in Environment Clearance dated 4.09.2019 for the instant proposal to **M/s Assam Power Generation Corporation Ltd** under the provisions of EIA Notification, 2006 and as amended thereof subject to compliance of EC conditions, general instructions issued vide EC letter dated and EC identification number IA/AS/RIV/441844/2023 and following certain additional specific conditions.
6. The details of amendment sought is at Annexure (2).
7. This issues with the approval of the Competent Authority

**Copy To**

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi - 110 001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R. K. Puram, New Delhi - 110 066.
3. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office Law-U-Sib, Lumbatngen, Near MTC Workshop, Shillong
4. The Principal Chief Conservator of Forests, Head of Forest Force, Aranya Bhawan, Panjabari, Guwahati, 781037, Assam.
5. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.
6. The Member Secretary, Assam Pollution Control Board, Bamunimaidam, Guwahati – 21
7. Guard file/Monitoring file
8. Website of MoEF&CC.

**Annexure 1**

**Specific EC Conditions for (River Valley/Irrigation Projects)**

**1. Additional Condition**

S. No	EC Conditions
<b>1.1</b>	Aquatic study specially, migratory aquatic species concerning occurrence of fishes /habitat impact studies shall be carried out from recognised govt. Institutes and prepared mitigation measures, with provision of financial budget revised in the EMP. The outcome of the said study shall be

S. No	EC Conditions
	implemented.
1.2	Submit undertaking that R&R scenario /habitat of flora and fauna of project are not change due to modification of the project components.
1.3	All the conditions mentioned in the EC dated 4.09.2019 shall remain unchanged.



### The details of amendment sought

The Project Proponent and the accredited Consultant made a detailed presentation on the salient features of the project and informed that:

- i. The Lower Kopili HEP (120 MW) is downstream development of existing Kopili HEP stage I and is located in east of Karbi Anglong and west of Dima Hasao districts of Assam.
- ii. The project is situated in the West Karbi Anglong and Dima Hasao (also known as North Cachar Hills) Autonomous District Council (ADC) areas of Central Assam. The Project location (dam site) is defined by 25°39'57.39"N latitude and 92°46'53.62"E longitude
- iii. The dam structure is located on Kopili River (a major tributary of the Brahmaputra River) and the main powerhouse and auxiliary power house structures are located on right bank of Kopili River.
- iv. The project envisages utilization of the regulated discharge from Kopili HEP, spills of Khandong and Umrong Dam and the discharge from the intermediate catchment by creation of a reservoir and utilizing a gross head of about 114m.
- v. This is a run-of-the-river scheme.
- vi. The scheme has been conceived to run at full potential in monsoon season and operate as a peaking station in non-monsoon season.
- vii. **Land requirement:** The total land requirement of the project is **1577** ha. The forest land to be acquired for the project is 523 ha. The private land to be acquired for the project is 1054 ha.
- viii. **Forest Clearance:** In principle approval of Stage 1 Forest Clearance for the diversion of 523.046 ha of forest land was accorded on 27 .03.2019.
- ix. **Environment clearance** for the project was accorded **on 04.09.2019**
- x. **E flow** will be maintained as per stipulation of EC.
- xi. **Salient features of the project:**
  - a. Land Area: 1577 Ha (Forest land 523.0 Ha, Revenue land 1054.0 Ha)
  - b. Power generation capacity: 120 MW (MPH – 2 X 55 MW; APH – 2 X 2.5 + 1 X 5 MW)
  - c. Location of Dam Axis: 25°39'57.39"N; 92°46'53.62"E
  - d. Location of MPH: 25°41'5 4.02"N; 92°48'15.98"E
  - e. Concrete Gravity Dam: Across the river Kopili at Longku
  - f. Dam Height 66.5 m
  - g. water conductor system comprising of an intake structure, head race tunnel along with surge shaft and pen stock.
  - h. **Project cost: 1031.58 Cr excluding the R&R land cost 84.33 Cr.**
  - i. **EMP cost: 26147.5077 lakh**
  - j. **CER cost: 5.81 Cr**
- xii. **The details of amendment sought is as under: -**

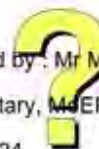
S. No.	Para/ details of EC issued by MoEF&CC	Details as per EC	as To be revised/ read as	Justification/ reasons
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1	Dam Height (m)	70.13	66.5	El. 228.00 m – El. 162.50 m = 66.50m. Change in dam design alters consumption of construction materials (e.g., concrete) and the volume of muck generated for disposal on-site.
2	Length of the Dam (m) Total width of dam structure including overflow & non overflow blocks	345.05	335.0	As per revised arrangement of NOF and OF section.
3	No of Spillways	8	6	10 m x 12.50 m. The discharging capacity of proposed spillway arrangement is verified on the physical hydraulic model study carried out in IRI, Roorkee and gate opening was found adequate to pass the PMF at N-1 condition. Same is approved by CEA
4	HRT Diameter (m)	6.65	7.0	Diameter of HRT is increased to ensure CEA approved head losses of 6m.
5	HRT length (m)	3619.62	3641.22	As per revised arrangement.
6	Tail Race Channel width (m)	26.3	26.0	Arrangement is revised to provide better hydraulic condition at the outlet of tail race.
7	Tail Race Channel length (m)	52.0	40.0	
8	Submergence area with the Reservoir spread (Ha)	552 submergence area	552 submergence area with reservoir spread of 620 Ha	Submergence area remains same i.e. 552 Ha within the reservoir spread of 620 Ha to accommodate plantation area as per EC and FC stipulation, Reservoir rim treatment, safety area for human and wildlife, within the existing land area of 1577 ha.

\*\*\*

Digitally Signed by: Mr Munna Kumar Shah  
Member Secretary, MJEFCC (EC)

Date: 03/01/2024





# Environmental Monitoring Report

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**PUBLIC**

Semestral Report: January 2024 – June 2024  
December 2024

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

Part 3 of 3: Annexure 29 (Continued)

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

**Asian Development Bank**

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## Renewal copy of Labour license (CP-2)



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

LO Office(Hailong )  
LICENSE UNDER CONTRACT LABOUR (REGULATION & ABOLITION) ACT, 1970

UBIN : 299/566476/AAACL0140P/11/2022  
UAIN : LCFORMIVCL/2023/23298  
License No. : CLL/2023/AQ1701234326018W6  
Date of Issue : 29/11/2023

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 AND HYDRO MECHANICAL AND ELECTRICAL WORKS FOR CONSTRUCTION OF 120 MW LKHEP**, in the Establishment of **120MW LOWER KOPILI HYDRO ELECTRIC PROJECT** ,C/O. **ASSAM POWER GENERATION CORPORATION LIMITED** at **LONGKU , UMRANGSO, DIMA HASAO - 788931, ASSAM** .

3. The Licence shall remain in force till **07/12/2024** .

4. Maximum No of contract labour proposed to be employed in the establishment on any date : **1500 nos.**

5. VALID FOR **DIMA HASAO ONLY** and only for the purpose mentioned in this certificate.

6. Payment Details:

GRN AS005782815202324E  
CIN 12602023301100001  
Txn Date 29/11/2023  
Amount 152100.00  
Status Y



(Scan the QR Code for authentication)

LO Office(Hailong )  
Licensing Officer

\*\*\* This is a computer generated certificate and it does not require a Signature/Seal.\*\*\*  
\*\*\*Terms & Conditions of this Certificate is enclosed as Annexure-I.\*\*\*

## Inter-State Migrant Workmen license CP-2



**FORM-VIII**  
[See Rule-11(1)]  
**GOVERNMENT OF ASSAM**  
LO Office(Haflong)

**LICENCE OF CONTRACTOR FOR EMPLOYMENT OF MIGRANT WORKMEN UNDER  
INTERSTATE MIGRANT WORKMEN (RE & CS) ACT, 1979**

UBIN	:	299/566476/AAACL0140P/11/2022
UAIN	:	COLFORMV/2023/00027
Original Registration No.	:	MGW(E)/2023/YS1683784488790R3
Licence No.	:	MGW(E)/2023/MQ1695202971226E4
Date of Issue	:	21/09/2023

1. Licence is hereby granted to **LOWER KOPILI HYDRO ELECTRIC PROJECT APGCL** under Section 8(1) of the Inter State Migrant Workmen (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 **CONSTRUCTION AND ERECTION OF 120 MW LOWER KOPILI HYDRO ELECTRIC PROJECT** in the Establishment of **LOWER KOPILI HYDRO ELECTRIC PROJECT APGCL** at **3RD FLOOR , BIJULI BHAWAN ,PALTAN BAZAR, GUWAHATI,KAMRUP, 781006 ASSAM**

3. No. of migrant workers to be engaged: **100 nos.**

4. The Licence shall remain in force till **20/09/2024**.

5. Payment Details:

GRN AS003640799202324P  
CIN 10004672023092103406  
Txn Date 21/09/2023  
Amount 30080.00  
Status Y



LO Office(Haflong)  
Licensing Officer

(Scan the QR Code for authentication)

\*\*\* This is a Computer generated certificate and it does not require a Signature/Seal \*\*\*  
\*\*\* Terms & Conditions of this Certificate is enclosed as Annexure I.\*\*\*



## Renewal copy of Labour license (CP-4)



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

UBIN : 709/267449/NOPAN/5/2023  
UAIN : LCFORMIVCL/2024/01874  
License No. : CLL/2024/FY1707811845411OC  
Date of Issue : 13/02/2024

1. Licence is hereby granted to **Salasar Techno Engineering 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 **ELECTRICAL WORKS**, in the Establishment of **Chief general manager PP AND I APGCL ,C/O. Govt. of Assam at PALTANBAZAR, , GUWAHATI, KAMRUP METRO - 781001, ASSAM.**
3. The Licence shall remain in force till **10/02/2025** .
4. Maximum No of contract labour proposed to be employed in the establishment on any date : **20 nos.**
5. VALID FOR **ALL OVER ASSAM**, and only for the purpose mentioned in this certificate.

6. Payment Details:

GRN AS008060503202324P  
CIN 10004672024021303375  
Txn Date 13/02/2024  
Amount 450.00  
Status Y



(Scan the QR Code for authentication)

Office of the Commissionerate of Labour  
Licensing Officer

\*\*\* This is a computer generated certificate and it does not require a Signature/Seal.\*\*\*  
\*\*\*Terms & Conditions of this Certificate is enclosed as Annexure-1.\*\*\*

## Inter-State Migrant Workmen license CP-4



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

LO Office(Hojai )  
LICENSE UNDER CONTRACT LABOUR (REGULATION & ABOLITION) ACT, 1970

UBIN : 709/267449/aaics6856k/5/2023  
UAIN : LCFORMIVCL/2024/05761  
License No. : CLL/2024/AQ1715952285082JY  
Date of Issue : 17/05/2024

1. Licence is hereby granted to **SALASAR TECHNO ENGINEERING 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 **EPD MANUFACTURING**, in the Establishment of **LOWER KOPILI HYDRO ELECTRIC PROJECT APGCL LONGKU**, C/O. at **DIMA HASAO, , DIMA HASAO, DIMA HASAO - 788931, ASSAM** .
3. The Licence shall remain in force till **23/05/2025** .
4. Maximum No of contract labour proposed to be employed in the establishment on any date : **30 nos.**
5. VALID FOR **DIMA HASAO ONLY** and only for the purpose mentioned in this certificate.

6. Payment Details:

GRN AS000939007202425P  
CIN 10004672024051702906  
Txn Date 17/05/2024  
Amount 500.00  
Status Y



(Scan the QR Code for authentication)

LO Office(Hojai )  
Licensing Officer

\*\*\* This is a computer generated certificate and it does not require a Signature/Seal.\*\*\*  
\*\*\*Terms & Conditions of this Certificate is enclosed as Annexure-I.\*\*\*

## Water Monitoring Results CP-4



## ABNS SCIENTIFIC SERVICES

এবিএনএচ চাইন্টিফিক সার্ভিসেস  
एबीएनएस साइंटिफिक सर्विसेज

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

কেতেকী পথ, রাডিসন ব্লু কে পাশ, এন এছ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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

Phone: 98640 68513, 98640 8995

### TEST REPORT

Report Number: ABNS/EM/031224/10

Date : 12/03/2024

Name & Address of the Customer :

**M/S SALASAR TECHNO ENGINEERING LIMITED**

Mandap, West Karbi Anglong.

Ref: ABNS/GHY/GW/021324/02

Date of receipt of Sample: 04/03/2024

Sample Description : Ground Water, Source: Bore Well

Analysis Start Date: 05/03/2024

Sample Type : Submitted, Location: Store, Salasar Techno Engineering

Analysis End Date: 11/03/2024

Environmental Condition: Temperature: 23.4 °C, Humidity: 66%

### 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	Color	IS: 3025-(part4): 1983	Hazen	2	5 Max	15 Max
2	Odour	IS: 3025-(part5): 1983	—	Agreeable	Agreeable	Agreeable
3	Taste	IS: 3025-(part6): 1983	—	Agreeable	Agreeable	Agreeable
4	pH value	IS: 3025-(part11): 1983	—	7.15	6.5-8.5	No Relaxation
5	Turbidity	IS: 3025-(part10): 1983	NTU	3.19	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983	mg/l	46.0	500 Max	2000 Max
7	Conductivity	IS: 3025 Part 14	mS/cm	0.268	-	-
8	Total Alkalinity as CaCO <sub>3</sub>	IS: 3025-(part21): 1986	mg/l	72.0	200 Max	600 Max
9	Total Hardness as CaCO <sub>3</sub>	IS: 3025-(part21): 2009	mg/l	54.0	200 Max	600 Max
10	Calcium as Ca	IS: 3025-(part40): 1994	mg/l	23.20	75 Max	200 Max
11	Magnesium as Mg	IS: 3025-(part46): 1994	mg/l	4.58	30 Max	100 Max
12	Sulphate as SO <sub>4</sub>	IS: 3025-(part24): 1983	mg/l	14.26	200 Max	400 V
13	Nitrate as NO <sub>3</sub>	IS: 3025-(part34): 1980	mg/l	2.84	45 Max	No Relaxation
14	Chloride as Cl	IS: 3025-(part32): 1988	mg/l	13.97	250 Max	1000 Max
15	Fluoride as F	IS: 3025-(part60): 2000	mg/l	1.03	1 Max	1.5 Max
16	Manganese as Mn	IS: 3025-(part59): 2006	mg/l	<0.05	0.1 Max	0.3 Max
17	Copper as Cu	IS: 3025-(part62): 1992	mg/l	<0.05	0.05 Max	1.5 Max
18	Iron as Fe	IS: 3025-(part53): 2003	mg/l	0.29	0.3 Max	No Relaxation

19	Zinc as Zn	IS: 3025-(part49): 1994	mg/l	<b>&lt;0.05</b>	5 Max	15 Max
20	Arsenic	IS: 3025-(part 37): 1988	mg/L	<b>BDL</b>	0.01	0.05
21	Ammonium (NH <sub>4</sub> -N)	IS: 3025-(part34)	mg/l	<b>&lt;0.2</b>	0.5 Max	No Relaxation
22	Aluminium as Al	IS: 3025-(part55)	mg/l	<b>&lt;0.03</b>	0.03 Max	0.2 Max
23	Lead as Pb	IS: 3025-(part47): 1994	mg/l	<b>&lt;0.01</b>	0.01 Max	No relaxation
24	Coliform Organism	APHA 23 <sup>rd</sup> Edn. 9222B	CFU/100 ml	<b>Absent</b>	Absent	-
25	E.Coli	APHA 23 <sup>rd</sup> Edn. 9222B	CFU/100 ml	<b>Absent</b>	Absent	-

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- Results relate only to the parameters tested.

.....*End of Report*.....

*Mayur Mahanta*  
12/03/2024

Report Verified by  
Dr. Mayur Jyoti Mahanta (QM)

For ABNS Scientific Services



*Jyoti Sarmah*  
12/03/2024

Authorized Signatory  
Dr. Bidyut Jyoti Sarmah (TM)

## Noise Monitoring CP-4



# ABNS SCIENTIFIC SERVICES

এবিএনএচ চায়েন্টিফিক চাৰ্ভিচেস  
এবীএনএস সাইন্টিফিক সৰ্বিসেস

H-152, Keteki Path, near Radisson Blu, NH 27, Guwahati 781033, Assam  
কেতেকী পথ, ৱেডিসন ব্লু কে পাথ, এন এছচ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম



TC-10736

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

Phone: 98640 68513, 98640 89951

## TEST REPORT

ULR Number: TC1073623000000721F

Report date: 31/12/2023

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 87/0

Date of Sample on: 24/12/2023

(latitude: 25.69671°N, longitude: 92.806532°E)

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

## ANALYSIS RESULT

Sl. No.	Test Parameters	Method	Unit	Result
1	LeqdB (A) Day	IS: 9989: 1981 (Reaff:2014)	dB(A)	42.2
2	Leq dB (A) Night	IS: 9989: 1981 (Reaff:2014)	dB(A)	34.1
<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.

-----End of Report-----

For ABNS Scientific Services,

Report reviewed By: Dr. Bidyut J Sarmah (TM)



*Manjima*  
31/12/2023  
Authorized Signatory  
(Dr. Mayur Jyoti Mahanta)

## Air Quality Monitoring CP-4



# ABNS SCIENTIFIC SERVICES

এবিএনএস চাইন্টফিক সার্ভিসেস  
এবীএনএস সাইন্টীফীক সার্বীসেজ

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

কেতেকী পথ, রেডিসন ব্লু কে পাশ, এন এড্‌চ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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

Phone: 98640 68513, 98640 89951



### TEST REPORT

ULR Number: TC1073623000000714F

Report date: 31/12/2023

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: 26/12/2023

Sampling Location: Near 37/1

Analysis End Date: 30/12/2023

Location category: Rural

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

### ANALYSIS RESULT

Location	Near 37/1			latitude	longitude
				25.848898°N	92.946102°E
Date of sampling	23/12/2023			Weather	Clear
SI No	Parameters	Unit	RESULT	LIMIT	TEST METHOD
1.	Particulate Matter (<10um)	µg/m <sup>3</sup>	91.0	100	IS 5182: Part 23:2006 (Reaff. 2012)
2.	Particulate Matter (<2.5um)	µg/m <sup>3</sup>	53.0	60	Lab SOP.Doc.NO. TPM/ABNS/E/5/D
3.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	10.28	80	IS 5182 : Part 2 :2001 (Reaff.2012)
4.	Oxides of Nitrogen (NO <sub>x</sub> )	µg/m <sup>3</sup>	24.9	80	IS 5182 : Part 6 :2006 (Reaff.2012)
5.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	36.0	180	IS 5182 : Part 9 :1974 (Reaff.2019)
6.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	35.0	400	IS 5182 : Part 25 :2018

Note: The results relate to the parameter tested only.

-----End of Report-----

For ABNS Scientific Services,

Report reviewed By: Dr. Bidyut J Sarmah (TM)



31/12/2023  
Authorized Signatory  
(Dr. Mayur Jyoti Mahanta)



# ABNS SCIENTIFIC SERVICES

এবিএনএস সাইন্টিফিক সার্ভিসেস  
एबीएनएस साइंटिफिक सर्विसेज

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

কেতেকী পথ, ১৫২ নং, রডিসন ব্লু কে পাশ, এন এছ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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

Phone: 98640 68513, 98640 89951

## TEST REPORT

Report Number: ABNS/EM/123123/17

Report date: 31/12/2023

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

Date of sampling: 23/12/2023

Sampling Location: Near 37/1

Analysis Start Date: 26/12/2023

Location category: Rural

Analysis End Date: 30/12/2023

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>	0.25	2	IS 5182 : Part 10 :1999 (Reaff.2014) (NDR)
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>	2.76	20	USEPA-103.4
10.	Arsenic (As)	ng/m <sup>3</sup>	0.27	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.

-----End of Report-----

For ABNS Scientific Services,

Report reviewed by: Dr. Bidyut J Sarmah (TM)



*Mayur Mahanta*  
31/12/2023  
Authorized Signatory  
(Dr. Mayur Jyoti Mahanta)

## Surface Water Quality Monitoring CP-4



# ABNS SCIENTIFIC SERVICES

এবিএনএস চায়েন্টিফিক সার্ভিসেস  
एबीएनएस साइंटिफीक सर्विसेज

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

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

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

Phone: 98640 68513, 98640 89951



TC-10736

### TEST REPORT

ULR Number: TC1073623000000732F

Report date: 31/12/2023

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: **Surface Water**

Date of sampling: 23/12/2023

Sampling Location: **Near AP 1/0**

Analysis Start Date: 24/12/2023

(Latitude: 25.98746N, Longitude: 92.92382E)

Analysis End Date: 31/12/2023

Source: Pond

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

### ANALYSIS RESULT

Sl. No.	Test Parameters	Unit	Result	Method
1	pH	-	7.11	IS 3025 Part 11: 1983
2	Total Dissolve Solids	mg/L	193	IS 3025 Part 16: 1984
3	Total Hardness	mg/L	54.0	IS 3025 Part 21: 2009
4	Calcium	mg/L	26.4	IS 3025 Part 40: 1991
5	Magnesium	mg/L	5.72	IS 3025 Part 46: 1994
6	Total Alkalinity	mg/L	68.0	IS 3025 Part 23: 1986
7	Chloride	mg/L	27.0	IS 3025 Part 32: 1986
8	DO	mg/L	5.8	IS 3025 Part 38: 1989
9	BOD	mg/L	2	IS 3025 Part 44: 1993
10	COD	mg/L	10	IS 3025 Part 58: 2006

For ABNS Scientific Services,

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



*Manjunda*  
31/12/2023  
Authorized Signatory

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- Results relate only to the parameters tested.





# ABNS SCIENTIFIC SERVICES

এবিএনএস চাইনিক্যাল সার্ভিসেস  
এবীএনএস সাইন্টিফিক সার্ভিসেস

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

কেতেকী পথ, রেডিসন ব্লু কে পাথ, এন এডব্লিউ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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

Phone: 98640 68513, 98640 89951

## TEST REPORT

Report Number: ABNS/EM/123123/44

Report date: 31/12/2023

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: Surface Water

Date of sampling: 23/12/2023

Sampling Location: Near AP 1/0

Analysis Start Date: 24/12/2023

(Latitude: 25.98746N, Longitude: 92.92382E)

Analysis End Date: 31/12/2023

Source: Pond

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

## ANALYSIS RESULT

Sl. No.	Test Parameters	Unit	Result	Method
11	Colour	(Hazen)	7	APHA 23 <sup>rd</sup> Edn., 2120 B
12	Odour		Agreeable	APHA 23 <sup>rd</sup> Edn., 2150 B
13	Temperature	°C	17.3	APHA 23 <sup>rd</sup> Edn., 2550 B
14	Turbidity	NTU	4.19	APHA 22 <sup>nd</sup> Edn., 2012, 2130 B
15	Sulphate	mg/L	17.5	APHA 23 <sup>rd</sup> Edn., 4500 SO <sub>4</sub> E, 2017
16	Nitrate	mg/L	2.86	APHA 23 <sup>rd</sup> Edn., 4500 NO <sub>3</sub> E, 2017
17	Flouride	mg/L	1.03	APHA 23 <sup>rd</sup> Edn., 4500 F C/D, 2017
18	Sodium	mg/L	47	IS 3025 ( Part 45 )
19	Potassium	mg/L	32	IS 3025 ( Part 48 ) : 1994, Refm. 2003
20	Iron	mg/L	0.15	APHA 23 <sup>rd</sup> Edn., 3500 Fe B, 2017
21	Copper	mg/L	<0.01	APHA 23 <sup>rd</sup> Edn., 3120 B, 2017 (ICPOES)
22	Total Phosphate	mg/L	0.29	APHA 23 <sup>rd</sup> Edn., 4500 P-B, D, 2017
23	Chromium (Cr)	mg/L	<0.02	APHA 23 <sup>rd</sup> Edn., 3111 D, 2017 (AAS FLAME)
24	Manganese (Mn)	mg/L	<0.02	APHA 23 <sup>rd</sup> Edn., 3120 B, 2017 (ICPOES)
25	Total coliform	MPN/100 ml	40	IS 1622-1981, Ref. 2014
26	Faecal coliforms	MPN/100 ml	Not Detected	IS 1622-1981, Ref. 2014

For ABNS Scientific Services,

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



*Mayur Jyoti Mahanta*  
31/12/2023

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

এবিএনএচ চাইনিক্যালিক চার্জিচ  
এবিএনএস সাইন্টিফিক সার্ভিসেস

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

কেতেকী পথ, রেডিসন ব্লু কে পাথ, এন এডচ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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

Phone: 98640 68513, 98640 89951



## TEST REPORT

ULR Number: TC1073623000000727F

Report date: 31/12/2023

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: 23/12/2023

Sampling Location: **Near AP 1/0**

Analysis Start Date: 24/12/2023

(Latitude: 25.985139N, Longitude: 92.92598E)

Analysis End Date: 30/12/2023

Source: Tubewell

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 (2nd 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	4.83	1 Max	5 Max
6	TDS	IS: 3025-(part16): 1983 Reaf, 2012	mg/l	96.0	500 Max	2000
7	Conductance	IS 3025 Part 14	mS/cm	0.325	-	-

For ABNS Scientific Services,

Report reviewed by: Dr. Bidyut J Sarmah (TM)



*[Signature]*  
31/12/2023  
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

এবিএনএচ চাইন্টিফিক চার্জিচেচ  
এবীএনএস সাইন্টিফীক সার্ভিসেজ

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

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



TC-10736

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

Phone: 98640 68513, 98640 89951

## TEST REPORT

ULR Number: TC107362300000727F

Report date: 31/12/2023

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

Sampling Location: Near AP 1/0

(Latitude: 25.985139N, Longitude: 92.92598E)

Source: Tubewell

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

Date of sampling: 23/12/2023

Analysis Start Date: 24/12/2023

Analysis End Date: 30/12/2023

## 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): 1906 Reaf. 2009	mg/l	86.0	200 Max	600 Max
2	Total Hardness as CaCO <sub>3</sub>	IS: 3025-(part21): 2809	mg/l	92.0	200 Max	600 Max
3	Calcium as Ca	IS: 3025-(part40): 1991 Reaf. 2009	mg/l	26.58	75 Max	200 Max
4	Magnesium as Mg	IS: 3025-(part46): 1994 Reaf. 2009	mg/l	7.62	30 Max	100 Max
5	Sulphate as SO <sub>4</sub>	IS: 3025-(part24): 1983 Reaf. 2009	mg/l	32.5	200 Max	400 Max
6	Nitrate as NO <sub>3</sub>	IS: 3025-(part74): 1988 Reaf. 2009	mg/l	2.86	45 Max	No Relaxation
7	Chloride as Cl	IS: 3025-(part32): 1988 Reaf. 2009	mg/l	29.3	250 Max	1000 Max
8	Fluoride as F	IS: 3025-(part60): 2008	mg/l	0.92	1 Max	1.5 Max

For ABNS Scientific Services,

Report reviewed by: Dr. Bidyut J Sarmah (TM)



*Majumdar*  
31/12/2023  
Authorized Signatory

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- Results relate only to the parameters tested.



# ABNS SCIENTIFIC SERVICES

এবিএনএস চাইনটিক সার্ভিসেস  
एबीएनएस साइंटिफीक सर्विसेज

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

কেতেকী পথ, রैडिसন 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/123123/26

Report date: 31/12/2023

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**

Sampling Location: **Lalungdubi Gaon**

[Latitude: 25.90285N, Longitude: 92.942726E]

Source: Tubewell

Date of sampling: 23/12/2023

Analysis Start Date: 24/12/2023

Analysis End Date: 30/12/2023

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	19.3	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	5.6	NA	NA
4	BOD	IS 3025 (Part 44)1993; Refm. 2017	mg/l	3.0	NA	NA
5	COD	IS 3025 (Part 58)2006; Refm. 2019	mg/l	10.0	NA	NA
6	Sodium	IS 3025 ( Part 45 )	mg/l	6.18	NA	NA
7	Potassium	IS 3025 ( Part 48 ) : 1994, Refm. 2003	mg/l	5.22	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	17	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. Bidyut J Sarmah (TM)



*Maiyamma*  
31/12/2023  
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.

## Soil Quality Report CP-4



# ABNS SCIENTIFIC SERVICES

এবিএনএস সাইন্টিফিক সার্ভিসেস  
एबीएनएस साइंटिफीक सर्विसेज

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

কেতেকী পথ, রেডিসন ব্লু কে পাশ, এন এড্‌চ ২৭, গুৱাহাটী ৭৮১০৩৩, অসম

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

Phone: 98640 68513, 98640 89951

### TEST REPORT

Report Number: ABNS/EM/123123/25

Report date: 31/12/2023

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: 24/12/2023

Sampling Location: Near AP 1/0

Analysis Start Date: 24/12/2023

(Location GPS: 25.98537°N, 92.92491°E)

Analysis End Date: 30/12/2023

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	6.09	IS 2720 (Part 26) 1987;Rffm:2011
2	Conductance	(mS/cm)	0.436	IS 14767 (2000)
3	Organic Carbon	%	1.79	IS 2720 (Part 22) 1972;Rffm:2010
4	Available Nitrogen	%	0.037	Soil testing manual, Department of Agriculture & Cooperation Ministry of Agriculture Government of India, 2011
5	Available Phosphorus	%	0.92	
6	Available Potassium	%	0.051	
7	Available Sulphur	%	0.044	
8	Zinc	mg/kg	302	
9	Copper	mg/kg	276	
10	Iron	mg/kg	924	
11	Manganese	mg/kg	205	
12	Boron	mg/kg	43	

Note: The results relate to the parameter tested only.

-----End of Report-----

For ABNS Scientific Services,

Report reviewed By: Dr. Bidyut J Sarmah (TM)



31/12/2023  
Authorized Signatory  
(Dr. Mayur Jyoti Mahanta)

## Permission for construction of 200KV Transmission line

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

No. FRS/D/10/LKHEP/APGCL/2024/ 2980-83 /Dated, Haflong the 29/02/24  
 To,

The General Manager, i/c  
 LKHEP,APGCL, Longku,  
 Dima Hasao.


Sub:- Accord permission for construction 200KV Line corridor from Sankardev Nagar, Hojai to Longku, Dima Hasao

Ref:- 1. Your No.APGCL/GM/LKHEP/PKG-4/23/303, dt.27/10/23.  
 2. T.O. FRS/D/10/LKHEP/APGCL/2023/2113-16, dt.09/11/23.  
 3. R.O.Panimur, No.PNR/FRS/P-44/2023-24/1, dt.20/02/24,  
 4. R.O.Diyungbra, No.DYB/FRS/10?Misc/2023-24/5, dt.26/02/24.

Sir,


With reference to the letters and subject cited above, asper joint enquiry report submitted by the Range Forest Officers, Panimur Range and Diyungbra Range, the undersigned has accord permission for constructing 220KV line corridor from Sankardev Nagar, Hojai to Longku, Dima Hasao without any damage of forest produces. If found any illegal activities/illegal occurrence on constructing of this line, then the undersigned will take needful steps asper AFR,1891 and AFR(Amendment) Act, 1995 against the culprits.

This is for information and necessary action.

Yours faithfully,  
  
 Divisional Forest Officer,  
 Dima Hasao Forest Division (West),  
 Haflong.

Memo No. FRS/D/10/LKHEP/APGCL/2024/ 2980-83 /Dated, Haflong the 29/02/2024  
 Copy to:-

1. The Chief Conservator of Forests, Dima Hasao, Assam, Haflong for favour of his kind information.  
 2. The Secretary, Revenue, North Cachar Hills Autonomous Council, Haflong for favour of his kind information.  
 3. The Range Forest Officer, Panimur/Diyungbra Range for information and necessary action. He is asked to vigil the entire spot till the 220KV line construction is going on under his respective jurisdiction.

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

*o/c*

KARBI ANGLONG AUTONOMOUS COUNCIL  
OFFICE OF THE DIVISIONAL FOREST OFFICER:: HAMREN DIVISION::  
H A M R E N

Letter No. B/HRN/LKHEP/2023-24/2705-08 Dated, Hamren the 25/01/2024

To : The General Manager,  
i/c- LKHEP, APGCL  
Longku, Dima Hasao

Sub : Permission for felling of trees in 220 KV line corridor from Sankardev  
Nagar, Hojai to Longku, Dima Hasao.

Ref : Letter No. APGCL/GM/LKHEP/PKG-4/23/304, dtd- 27-10-2023.

Sir,

With reference to the subject above, permission is hereby accorded for felling of trees in non-forest areas under Hamren Division for construction of 220 KV line from Longku to Sankardev Nagar subject to the following condition:-

- i) Only those trees shall be felled which have been jointly marked by the forest dept. and APDCL representative. (copy of enumeration enclosed)
- ii) The outturn of the felled trees shall be brought to the nearest Forest office at the cost of the user agency.
- iii) Compensatory Afforestation cost shall be deposited by the user agency at the rate of 10 saplings for each trees cut. (If any)

Encl : As above

Yours faithfully,



i/c- Divisional Forest Officer,  
Hamren Division, Hamren

Copy to the Asst. Conservator of Forest, i/c- Southern Range, Kheroni for information and necessary action.

|

i/c- Divisional Forest Officer,  
Hamren Division, Hamren


Memo No. A/HRN/LKHEP/2023-24/669 Dated, Hamren the 25/01/2024

Copy to the Addl. Principal Chief Conservator of Forests, Karbi Anglong, Diphu for favour of his kind information.

|

i/c- Divisional Forest Officer,  
Hamren Division, Hamren

## Workorder to the College of Fisheries, Raha



**ASSAM POWER GENERATION CORPORATION LIMITED**  
 Registered Office: Bijulee Bhawan, 3<sup>rd</sup> floor, Paltanbazar, Guwahati-781 001, Assam

**Akshay Talukdar**  
 Project Director (PMU)  
 Chief General Manager (PP&I)  
 E-mail: akshay.talukdar@apgcl.org

---

No: APGCL/CGM(H)/W/2007/140/Pt-VII/147 Dated: 14.02.2024

To,

The Dean  
 College of Fisheries  
 Assam Agricultural University  
 Raha, Nagaon-782103  
 Email: - dean\_fishery@aau.ac.in

Subject: - Work order for "Aquatic Study especially migratory aquatic species in the River Kopili in relation to the Lower Kopili Hydro Electrical Project (LKHEP) at Longku, Karbi Anglong and Dima Hasao."


Ref: Your proposal no. Tech-1/2023-24/6238 dated 09.02.2024.

Sir,

This is to inform you that APGCL pleased to award the work of Aquatic Study especially migratory aquatic species in the River Kopili in relation to the Lower Kopili Hydro Electrical Project (LKHEP) at Longku, Karbi Anglong and Dima Hasao to your esteemed institution vide your proposal mentioned under reference.

The details of works to be done is listed below: -

1. Sampling of water (Surface and ground water), sediment, fish (special emphasis on migratory species), plankton/periphyton, benthos & riparian vegetation.
2. Habitat evaluation in terms of:
  - a) Water quality Analysis
    - Physical: pH, Temperature (Air & Water), Conductivity, TDS & TSS, Turbidity
    - Chemical: Alkalinity, Hardness, BOD<sub>5</sub>, COD, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, Cl, SO<sub>4</sub>, Na, K, Ca, Fe and N<sub>2</sub>.
    - Bacteriological: MPN & Total Coliform
    - Heavy metal: Pb & As
    - Biological: Fish, Plankton (Phyto & Zoo), Periphyton, Benthos, Riparian vegetation.
    - Diversity indices: SW & Simpson
  - b) Soil sample : Texture, pH, Nutrient level.
  - c) Sediment characteristics
  - d) Flow Regime
  - e) Overall habitat complexity (Riparian vegetation)
3. Station wise identification of fish species & other biotic components.
4. Mapping of the river system based on the species composition.
5. Identification of impact zone & non-impact zone
6. Identification of breeding/nesting & feeding ground of fishes (if any)
7. Impact study on fish migration & habitat degradation due to decreased flow of water
8. Impact study on fish diversity due to hydrological alteration (Based on flow characterization- primary & secondary data)

1 | Page 



9. Study on occurrence of Gangetic Dolphin in the project impact zone (if any)
  10. Habitat restoration with respect to water quality.
  11. Food web diagram
  12. Conservation strategy & habitat restoration
  13. Mitigation measures.
- (\*\* Samples to be analyzed in triplicates)

**Deliverables:**

1. List of fish species including migratory species
2. Data on plankton, periphyton, benthos & riparian vegetation in all the study stations
3. Habitat characterisation report
4. Mapping of the river system based on the fish species composition and food web diagram
5. Identification of fish breeding & nesting ground (Habitat characterisation)
6. Impact study reports
7. Fisheries conservation management, mitigation plan & recommendation.
8. Reports:
  - Inception Report – Feb, 2024
  - Draft Report – 15<sup>th</sup> May, 2024
  - Final Report – 31<sup>st</sup> May, 2024

The financial involvement for the above study is detailed here-under-

Sl. No.	Particulars	Rate (Rs.)	Amount (Rs.)
1.	Collection of samples (Cost of netting, boating, labour engagement etc.)	Rs.35,000 x 12 samplings days	4,20,000.00
2.	Consumables/small apparatus etc.	-	8,00,000.00
3.	Travel (Hiring of vehicle & TA/DA)	-	1,65,000.00
4.	Contingency	10% of (Sl. No. 1+2+3)	1,38,500.00
5.	Institutional charge	10% of (Sl. No. 1+2+3)	1,38,500.00
<b>Total</b>			<b>16,62,000.00</b>

(Rupees Sixteen Lakh Sixty-Two Thousand only)

**Payment Terms: -**

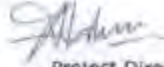
1. 30% (of Sl. No.1,2,4 & 5) will be paid after submission of inception report.
2. 20% (of Sl. No.1,2,4 & 5) will be paid after submission of draft final report.
3. 45% (of Sl. No.1,2,4 & 5) will be paid after submission and acceptance of final report.
4. Remaining 5% will be paid after meeting the queries raised by concerned authorities.
5. Travel expenses & DA at actual will be paid up to a maximum of 1,65,000.00 for the entire study period.

The undersigned would like to request you to kindly accept work order and mobilize your team as timeline shared by you vide your proposal.



Thanking You,

Yours sincerely,




Project Director,  
120MW Lower Kopili Hydro Electric Project.  
APGCL.

Memo no.- APGCL/CGM(H)/W/2007/140/Pt-VII/147

Dated: 14.02.2024

Copy to: -

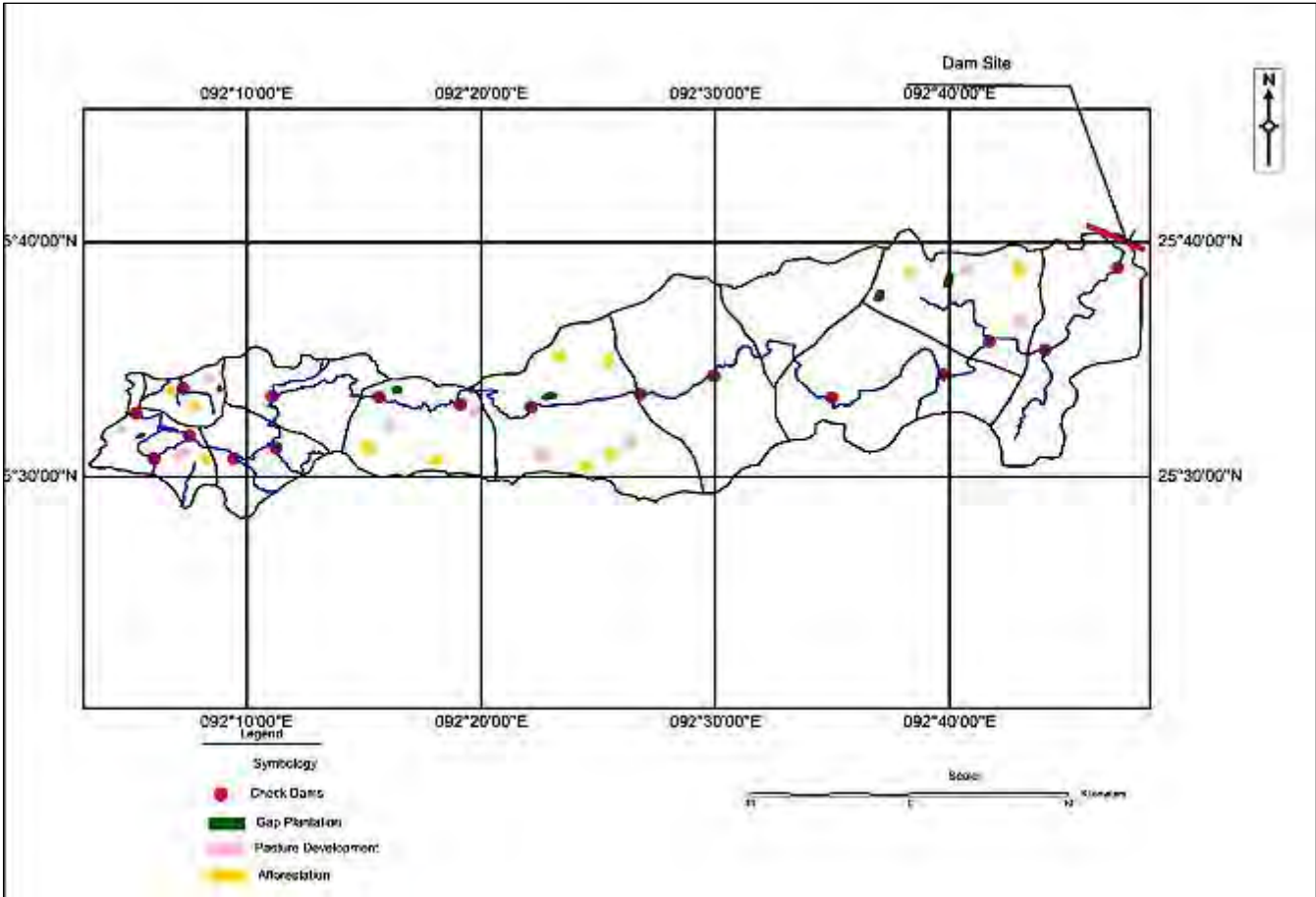
1. The Managing Director, APGCL, Bijulee Bhawan, for favour of his kind information.
2. The Chief General Manager (F & A), APGCL, Bijulee Bhawan, for kind information.
3. The Relevant File.



Project Director,  
120MW Lower Kopili Hydro Electric Project.  
APGCL.

Catchment Area Treatment Measures for Lower Kopili Catchment

Land Bank Map of CAT Plan



## CAT plan implementation by Forest Department



By e-mail

GOVERNMENT OF ASSAM  
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS &  
HEAD OF FOREST FORCE, ASSAM  
ARANYA BHAWAN, PANJABARI :: GUWAHATI-781037

E-mail [statecampaassam@gmail.com](mailto:statecampaassam@gmail.com)

No.FG.27/CAMPA/CA Pltn/2022-23

Dated Guwahati, 11<sup>th</sup> Oct, 2023

To,

The Project Director (PMU),  
Assam Power Generation Corporation Limited,  
Bijulee Bhawan, 3<sup>rd</sup> Floor, Paltanbazar, Guwahati-781001

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

Ref: Your letter no. APGCL/CGM(H)/W/2007/140/Pt-VI/77 dated 21.09.2023.

Sir,

With reference to the above, I am to inform you that the activities of Catchment Area Treatment Plan & Soil & Moisture Conservation Plan drive for Lower Kopili Hydro Electric Project (120 MW) have not been implemented till now as the same are likely to be included in the APO of 2024-25. However, the programme for the Compensatory Afforestation (CA) plantation activities are started by raising of site nurseries near by the approved 8 (eight) CA sites and plantation activities are going on under APO 2023-24 in Hamren & Dima Hasao (West) Forest Division.

Yours faithfully,

(Dr. Sabyendra Singh, IFS)


Addl. Principal Chief Conservator of Forests &  
Chief Executive Officer, State CAMPA, Assam  
Aranya Bhawan, Panjabari, Guwahati - 37

Copy to:

1. The Principal Secretary, Department of Power, Govt. of Assam, Block-C, Ground Floor, Janata Bhawan, Guwahati-6.
2. The Principal Secretary, Department of Environment & Forest, Govt. of Assam, Janata Bhawan, Guwahati-6.
3. The Chief Conservator of Forests & Nodal Officer (F.C Act), Aranya Bhawan, Panjabari
4. The Chairman, APGCL.
5. The Managing Director, APGCL.

Addl. Principal Chief Conservator of Forests &  
Chief Executive Officer, State CAMPA, Assam  
Aranya Bhawan, Panjabari, Guwahati - 37

## Letter of handing over of 10 camera traps with accessories


**ASSAM POWER GENERATION CORPORATION LIMITED**  
 Registered Office: Bijulee Bhawan, 3<sup>rd</sup> floor, Paltanbazar, Guwahati-781 001, Assam

Akshay Talukdar  
 Project Director (PMU)  
 Email: akshay.talukdar@apgcl.org

---

No: APGCL/CGM(H)/W/2007/140/Pt-VII/164 Dated: 29.05.2024

To,

The Asst. Conservator of Forests,  
 Dima Hasao West Division  
 O/o DFO, Dima Hasao West Division  
 Dima Hasao, Haflong

Sub: Handing over of 10 (ten) numbers of Camera traps.

Ref: 1. APGCL letter no: APGCL/CGM(H)/W/2007/140/Pt-VII/158 dated 08.05.2024  
 2. Minutes of the 2<sup>nd</sup> Biodiversity Management Committee meeting held on 21.06.2023

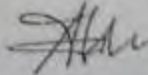
Sir,

With reference to the subject cited above, the undersigned would like hand over 10 (ten) numbers of Camera traps that are to be installed in and around the Lower Kopili Hydro Electric Project area for the monitoring of the terrestrial fauna. This will greatly help forest department for monitoring the terrestrial wildlife in the area.

After installation findings may be shared with APGCL monthly for onward submission to MoEFCC as per EC compliance.

Your kind cooperation for the above-mentioned matter is highly solicited.


Yours sincerely,

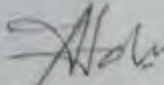
  
 Project Director, (PMU)  
 APGCL, Bijulee Bhawan, Ghy-1  
 Dated: 29.05.2024

Memo no: APGCL/CGM(H)/W/2007/140/Pt-VII/164(a)  
 Copy to:

1. The Chief Conservator of Forests, Dima Hasao District, for kind information.
2. The Project Manager, LKHEP-for information and needful action.
3. Relevant File.

Received  
 By  
 13/06/24



  
 Project Director, (PMU)  
 APGCL, Bijulee Bhawan, Ghy-1

Groundwater abstraction Permission (CP-3)

Government of India  
 Ministry of Jal Shakti  
 Department of Water Resources, River Development and Ganga Rejuvenation  
 Central Ground Water Authority (CGWA)  
 Application for Issue of NOC to Abstract Ground Water (NOCAP)

Application for Permission to Abstract Ground Water for Infrastructure Use  
 (Save As Draft Application for New NOC)

Save As Draft Application Code : 93267

(Scanned copy of this page after signature and seal should be attached at "Application with Signature and Seal" in attachment section before submission of application)

**Name of Industry:** LOWER KOPI, I HYDROELECTRIC PROJECT  
**Location Details of the Industrial Unit:**  
**Address Line 1 :** LONGKU  
**Address Line 2 :** NEAR PMC COLONY  
**Address Line 3 :**  
**State:** ASSAM  
**District:** DIMA HASAD  
**Sub-District:** DIYUNGBRA  
**Village/Town:** Lanku  
**Net Ground Water(m3/day):** 29.00  
**Area Type Category :** Safe

INDUSTRIAL USE- Self Declaration

I hereby certify that the data and information furnished above are true to the best of my knowledge and belief and I am aware that if any part of the data / information submitted is found to be false or misleading at any stage, the application will be rejected outright.

I hereby declare that all the mandatory documents prescribed in the application form have been uploaded and no blank /irrelevant documents have been uploaded. I am also aware that any false/ wrong submission /uploading of document will lead to rejection of my application without any notice.

It is to certify that no case related to ground water withdrawal/ contamination is pending against the industry/ project/ unit as on date. Any such case filed against the company/ project/ unit in respect of ground water withdrawal/ contamination during the pendency of this application shall be immediately brought to the notice of CGWA.

I hereby undertake that in case any environmental compensation/ penalty is imposed on the firm by any statutory authority, I shall comply with the decision of such authority.

मैं यह प्रमाणित करता हूँ कि ऊपर प्रस्तुत किये गये अंकित और जानकारी मेरे ज्ञान और विश्वास के अनुसार सही हैं और मुझे पता है कि यदि प्रस्तुत जानकारी / सूचना का कोई भी भाग किसी भी स्तर पर गलत या धमक पाया जाता है, तो आवेदन बिना किसी पूर्व सूचना के निरस्त कर दिया जाएगा।  
 मैं इसका स्पष्ट प्रतिबन्ध करता हूँ कि आवेदन पत्र में निर्धारित सभी अनिवार्य दस्तावेजों को अपलोड किया गया है और कोई रिक्त / अप्रासंगिक दस्तावेज अपलोड नहीं किया गया है। मुझे पता है कि कोई भी गलत दस्तावेज अपलोड करने पर मेरे आवेदन को बिना किसी सूचना के निरस्त कर दिया जाएगा।  
 यह प्रमाणित करता हूँ कि पर्यावरण / परिष्करण / इकाई के खिलाफ अब तक भूजल निकाली / प्रदूषण से संबंधित कोई भी मामला किसी भी न्यायालय में दायर नहीं है। इस आवेदन की प्रक्रिया के दौरान भूजल निकाली / प्रदूषण के संबंध में कंपनी / परिष्करण / इकाई के खिलाफ दायर किसी भी मामले को सुरक्षा के भू. प्र. अधिकरण के प्लान में लाया जाएगा।  
 मैं इस बात का वचन देता हूँ कि यदि किसी भी वैधानिक प्राधिकरण द्वारा धर्म पर कोई पर्यावरणीय क्षतिपूर्ति / क्षति का लगाया जाता है, तो मैं प्राधिकरण के उक्त निर्णय का पालन करूंगा।

Date: 27-07-2023  
 Place: Longku  
 User Name: namkumar

  
**Site Manager**  
**Amritz Hydro Pvt. Ltd.**  
 Name: Lower Kopli Hydro Project  
 Vill-Longku, Dist - Dima Hasao  
 State - Assam (Pin - 786021 Seal)

\* In case signed by any authorized signatory, the details of the signatory with the authorization shall be enclosed.



भारत सरकार  
जल संसाधन विभाग  
जल संवर्धन, नदी विकास  
और भूजल विभाग  
भारत सरकार अधिका  
रण  
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, Near Pmc Colony		
Village:	Lanku	Block:	Diyungbra
District:	Dima Hasao	State:	Assam
Pin Code:			
Communication Address:	Longku, 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 - 781035		

1. <b>NOC No.:</b>	CGWA/NOC/INF/ORIG/2023/19696	2. <b>Date of issuance</b>	22/12/2023
3. Application No.:	21-4/3071/AS/INF/2023	4. Category (GWRE 2022)	Safe
5. Project Status:	New Project	6. NOC Type:	New
7. <b>Valid from:</b>	22/12/2023	8. <b>Valid up to:</b>	21/12/2028

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
29.00	10285.00						

10. Details of ground water abstraction /Dewatering structures

Abstraction Structure*	Total Existing No. : 0						Total Proposed No. : 1					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
	0	0	0	0	0	0	0	0	0	1	0	0

\*DW - Dug Well, DCB-Dug-cum-Bore Well, BW-Bore Well, TW-Tube Well, MP-Mine Pit,MPu-Mine Pit  
11. Ground Water Abstraction/Restoration Charges paid (Rs.): 10285.00

12. Environment Compensation (if applicable) paid (Rs.): 0.00

13. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.

No. of Piezometers	Monitoring Mechanism			
	Manual	DWLR**	DWLR With Telemetry	
1	1	0	0	

\*\*DWLR - Digital Water Level Recorder  
(Compliance Conditions given overleaf)  
This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamanagar House, Mansingh Road, New Delhi-110011  
Phone: (011) 23383561 Fax: 23382051, 23386743  
Website: cgwa-noc.gov.in

पानी बचाव - जीवन बचाव  
SAVE WATER - SAVE LIFE

**NOC for surface water extraction taken from Gaon Bura (CP-3)**

**No objection Certificate  
To Whom so ever it may concern**




The permission is hereby granted for Andritz hydro Pvt Ltd , CP-3 contactor of lower Kopili hydro power project, to use the surface water for their construction and operation of the site camp ,located near PR7, Longku village, Dima Hasao district, Assam State -788931.

I have no objection in issuing this certificate in favour of M/S Andritz hydro Pvt Ltd for using the Surface water for their site camp construction and operation works.

১৩/১১/২৩  
২০-১১-২০২৩  
D. S. O.  
Dikarim  
Dima Hasao



## NOC form Gaon Bura for extraction of surface water (CP-4)

 ASSAM POWER GENERATION CORPORATION LIMITED

220Kv D/C Lower Kopil Hydro Electric project to Sankardev Nagar Transmission Line

**SURFACE WATER DECLARATION**

I have given the river / Pond / pumps surface water which is needed for the APGCL construction work in  
 ..Chitralangphor....., location no. 78A/2, 27/0, 77A/0  
 ...S/O, R/O..... Our village has no claim this project construction work.

অথবা

মই নদী / পুখুৰী / পাম্পৰ পৃষ্ঠৰ পানী দিছো যিটো  
 APGCL নিৰ্মাণৰ কামৰ বাবে প্ৰয়োজনীয়  
 ....., স্থান নং.  
 ..... আমাৰ গাঁৱৰ কোনো দাবী  
 নাই এই প্ৰকল্প নিৰ্মাণৰ কাম।

*P. Rongphor*  
 S. G. B. Of Chitralangphor village  
 Umralego, Dima Hasao  
 GB SIGNATURE WITH SEAL

VILLAGE WITNESS  
 1. *K. H. J. J. J.*  
 2. *S. K. R. R. R.*

## Key Observations Site Visit Observations June-July 2024

CP-1

**Compliance Status****1. NOC for Tree Cutting**

No Objection Certificate (NOC) for tree cutting has not been obtained, although a royalty payment was made on October 23.

**Recommendation:** It is crucial to obtain the NOC for tree cutting from the relevant authorities as soon as possible. Engaging with local environmental agencies or forest departments can facilitate this process. Ensure all documentation is complete and accurate to avoid any legal repercussions.

**2. Building and Other Construction Works (BOCW) Registration**

CP-1 has yet to obtain BOCW registration, which is essential for compliance with labour laws and safety standards, providing protection and welfare measures for workers involved in construction activities.

**Recommendation:** Verify that the BOCW registration is up-to-date and covers all aspects of the construction project. Regular audits should be conducted to ensure ongoing compliance with safety standards and labour laws.

3. Status update on renewal or permit and licence related to contracted and migrant labour not updated to EMC during the visit.
4. Status update on Form V (environmental statement) and labour returns from the previous financial year not updated to EMC during the visit.
5. Monthly Environment reports and monthly EHS reports are yet to be received by EMC for review since October 2023 along with any report on environment monitoring conducted during this period. It has been mentioned that these details are already forwarded to APGCL. Data has been requested from APGCL.

**Recommendation:** Prepare a legal register to regularly check and update licence and other regulatory requirements.

There was no representative from CP 1 present at the site during the assessment, and pertinent details were not communicated to the EMC during their visit. Therefore, it is recommended that the PMC take proactive measures and regular inspections to ensure the following:

- CP-1 have started maintaining attendance register and salary records from April 24 and have a company's code of conduct. The register need to be maintained properly to ensure compliance with labour regulations and timely payment confirming monthly labour wages..
- Cp-1 to enforce strict policies so that no individuals under the age of 18 are permitted on their premises.
- Ensure that first aid kits and fire extinguishers are not only in working condition but also easily accessible at all times.
- Adhere rigorously to Environmental Health and Safety (EHS) standards throughout all construction activities.

### **Site Observations**

During the site visit, some safety and compliance issues were observed that require immediate attention. The absence of key personnel, unsafe working conditions, and non-compliance with labour laws were among the primary concerns noted. Below is a detailed elaboration of each observation:

#### **1. Absence of EHS and Safety Officer**

The Environmental Health and Safety (EHS) team and the designated safety officer were not present during the site visit. This absence indicates a significant gap in oversight and monitoring of safety practices on-site. The presence of these personnel is crucial for ensuring adherence to safety protocols, conducting regular inspections, and addressing any immediate hazards that may arise.

#### **2. Unsafe Site Working Conditions**

- Lack of Personal Protective Equipment (PPE): Workers were observed not using essential PPE such as helmets, safety shoes, safety gloves, or safety harnesses. Proof to substantiate the PPEs purchased by the site management was not provided for review.
- Unsafe Working at Heights: Workers were seen operating at heights without proper fall protection measures in place. This includes the absence of guardrails, safety nets, or personal fall arrest systems which are necessary to prevent falls from elevated work areas.

#### **3. Underage Labour Concerns**

Approximately eight boys below the age of 18 were sighted working at the site. This raises serious legal and ethical concerns as employing minors in construction work violates child labour laws and exposes them to dangerous environments unsuitable for their age group.

#### **4. Female Workers**

Three female workers were observed residing at the construction site. This situation highlights potential issues related to inadequate accommodation arrangements, lack of privacy, and insufficient facilities for basic needs such as sanitation and rest. This situation requires further investigation to ensure that these workers have access to safe and secure living conditions that comply with relevant labour standards.

#### **5. Lack of First Aid Facilities**

No first aid kits or medical facilities were observed either at the construction site or within the labour camp. The absence of first aid resources poses a significant risk in case of accidents or injuries on-site. The absence of first aid provisions reflects poor emergency preparedness.

#### **6. Electrical Hazards**

Loose wire connections without proper junction boxes were noted throughout the site present severe electrical hazards, increasing the risk of electric shocks or may lead to short circuits or electrical fires if not addressed promptly.

#### **7. Use of Firewood for Cooking**

The use of firewood for cooking in both the community kitchen and construction site suggests inadequate provision for safe cooking facilities. This practice, if not managed properly can lead to health issues due to smoke inhalation and pose fire risks. Additionally, reliance on firewood may contribute to stress on community resources.

#### **8. Lack of Safe Drinking Water**

The workers in the labour camp were not provided with safe drinking water. Access to clean and safe drinking water is a fundamental human right and crucial for maintaining the health and well-being of workers. Contaminated water can lead to a host of diseases, including diarrhoea, cholera, dysentery, typhoid, and polio. Immediate measures should be taken to ensure that all workers have access to potable water.

#### **9. Unmetered Borewell and Lack of Logs**

One borewell at the site is not metered, and there are no shared logs for water usage or water quantities being met using borewell. Metering borewells is vital for monitoring water consumption and ensuring compliance with groundwater abstraction regulations.

#### **10. Poor Hygiene Conditions at Labour Camp**

Poor hygiene conditions were observed at the labour camp, there was no separate bathing and washing area, and the septic tank for the toilets was without a soak pit. This can have severe implications on the health of the workers residing there. It is crucial to establish proper sanitation facilities, regular cleaning schedules, and provide hygiene education to improve living conditions.

### **11. Absence of Fire Extinguishers**

No fire extinguisher was present at the labour camp, indicating a lack of basic fire safety measures. Fire extinguishers are critical for controlling small fires before they escalate into major incidents.

### **12. Incomplete Construction of Entrance and Toilet Passage**

The entrance to the labour camp and passageways leading to toilets have yet to be constructed. Proper infrastructure is necessary not only for convenience but also for safety reasons—ensuring easy access during emergencies or evacuations.

### **13. Lack of Waste Segregation**

Waste segregation was not observed at the site, suggesting inadequate waste management practices. Proper segregation is vital for recycling efforts and minimizing environmental impact through responsible disposal methods.

### **Recommendations**

1. **Ensure Presence of EHS Personnel:** Reinstate regular visits by EHS staff and safety officers to monitor compliance with safety standards.
2. **Enforce PPE Usage:** Implement strict enforcement policies requiring all workers to wear appropriate PPE at all times while on-site.
3. **Address Underage Labour:** Conduct an audit to verify worker ages and ensure compliance with labour laws prohibiting underage employment.
4. **Improve Living Conditions:** Provide adequate housing facilities off-site for female workers with necessary amenities.
5. **Install First Aid Kits:** Equip both the construction site and labour camp with accessible first aid kits stocked with essential supplies.
6. **Rectify Electrical Issues:** Secure all loose wire connections using junction boxes to eliminate electrical hazards.
7. **Use of Firewood for Cooking:** Usage of firewood for cooking shall be avoided completely and cooking shall only be in the labour camps. Scattered incidences of cooking at project site should be completely avoided using firewood. In labour camp usage of gas was not observed.
8. **Safe Drinking Water:** Ensure access to clean drinking water by installing filtration systems or providing portable water until permanent solutions are implemented. The water quality must be monitored regularly. Drinking water should be tested for IS:10500-2012 parameters.

9. Unmetered Borewell Usage: Install meters on all borewells to monitor usage accurately; maintain logs for water consumption and waste management as part of environmental compliance efforts.

10. Poor Hygiene Conditions: Improve sanitation with an adequate number of bathing and urinal units and ensure that toilets must be kept in working condition and cleaned frequently. Maintain regular cleaning schedules, providing adequate toilets, availability of adequate water, adequate lighting, handwashing stations, and waste disposal systems.

11. Lack of Fire Extinguishers: Install fire extinguishers throughout the site and train workers on their use during emergencies.

13. Waste Management Issues: Implement a waste management plan that includes segregation bins for different types of waste (e.g., recyclables, organic waste). Educate workers on proper waste disposal practices through training sessions.



**Unsafe**

**working at the Site without**



**PPE's and without any Supervision**

**Drinking Water at Labour Camp**



**Indoor cooking using Firewood**



**Child and Femail worker observed at the Site**

**CP-2**

**Compliance Status**

1. Status update on Form V (environmental statement) and labour returns from the previous financial year not updated to EMC during the visit.

2.

### **Site Observations**

During the site visit, along with previously reported unresolved issues, a few issues concerning safety and labour regulation were observed that required attention. Overall, the working conditions at the site were satisfactory, with most safety protocols being adhered to effectively. Below is a detailed elaboration of each observation:

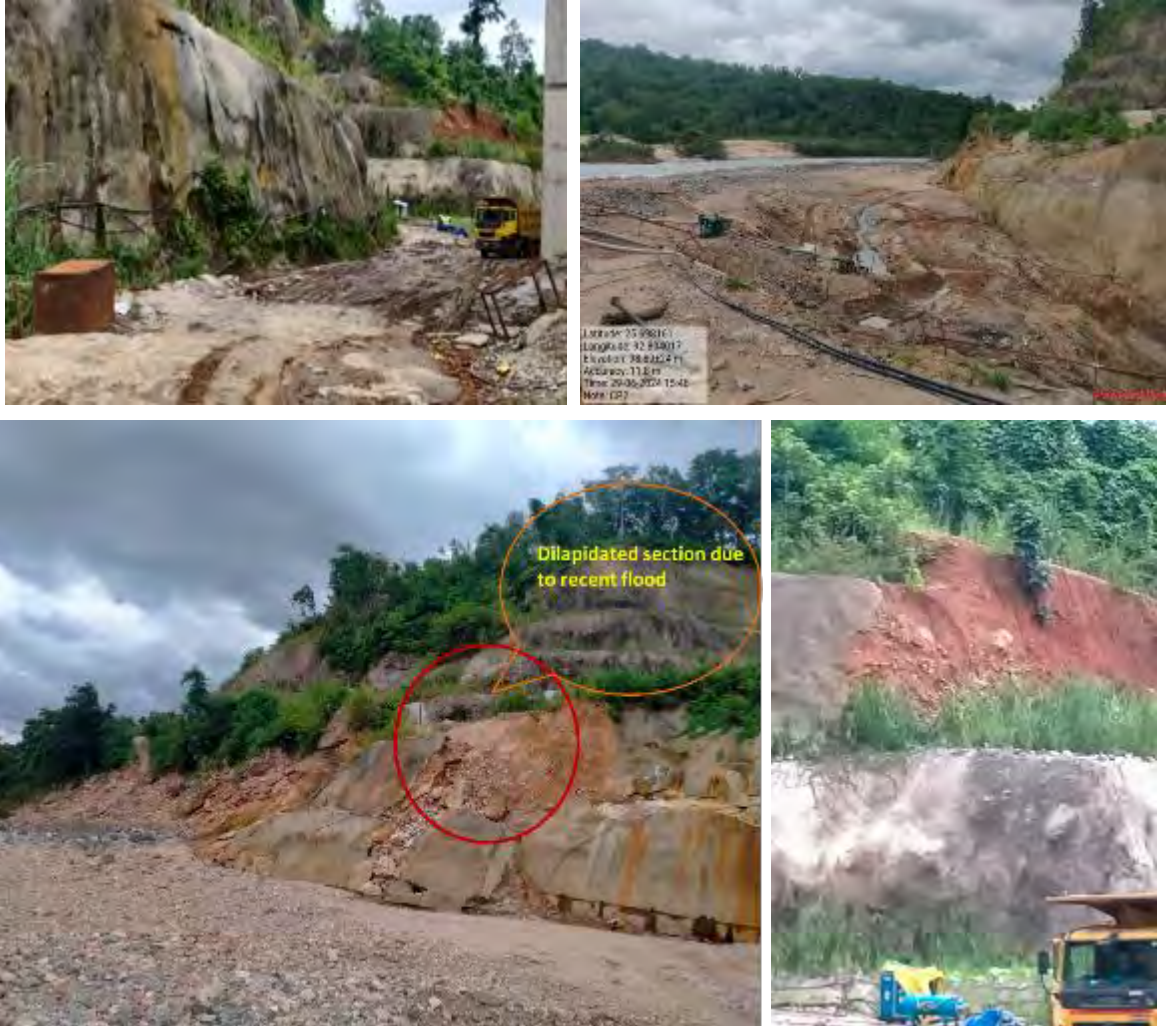
#### **1. Immediate Attention Required for Stabilization of Exposed Slopes**

The site visit indicates that immediate attention is necessary to stabilize the exposed slopes to ensure safety because of significant slope instability and deep rain cuts. Recent floods have exacerbated existing issues of rock falls and landslides on these slopes, further destabilizing the area due to compromised flood wall protection measures and shotcrete, particularly near the Tailrace Tunnel close to the Service Bay. This situation has heightened the urgency to address these issues promptly to prevent potential disasters such as subsidence, landslides, and rock falls.

### **Recommendations**

- Assess the current condition of all flood walls and inspect all areas where shotcrete has been applied.
- Reinforce or replace sections that have been weakened or damaged.
- Remove any loose materials that pose an immediate threat.
- Secure remaining rocks using netting or anchoring systems where removal is not feasible.
- Use materials that are resistant to erosion and capable of withstanding future flood events.
- Implement a visual inspection to track slope movement.





## 2. Outstanding Permissions for Vehicle Registered in Bhutan

As observed in every visit by EMC, all vehicles registered in Bhutan must be registered with Indian numbers and a PUC must be obtained. However, it was observed that registration for five (05) Bhutanese vehicles is still pending.

Please note that vehicles from neighbouring countries are allowed into India, subject to RTO permissions. However, as per Article VI of the Motor Vehicles Agreement for the Regulation of Passenger, Personal, and Cargo Vehicular Traffic between Bangladesh, Bhutan, India, and Nepal, the validity of the permission seems to be only 1 month. Further, there are restrictions such as:

*“Vehicles registered in one Contracting Party and operating under this Agreement will not be permitted to transport local passengers and goods within the territory of other Contracting Party(ies).*

*No major repair work will be carried out in another Contracting Party except in the event of an accident or break down.*

*In case of accidents, all consequential repairs may also be permitted in the Contracting Party where the accident occurred and the legal proceedings, if any, against the driver of the vehicle will be disposed of expeditiously under the relevant laws of the Contracting Party where the accident occurred."*



### **3. Vehicle Wash Area Conditions**

No changes have been made in the vehicle wash area since previous inspections. The absence of oil interceptors or grease traps was noted in the vehicle wash area, which can lead to environmental contamination.

As stated in previous reports, a substantial amount of water is being used during vehicle washing, and the waste water generated through the activity is directly discharged into the local drains without any treatment. Wash water from vehicle/equipment cleaning activities may contain petroleum hydrocarbon wastes (petrol, diesel, grease, and motor oil), detergents, dirt, and heavy metals. Untreated wastewater discharged into natural surroundings and waterbodies can lead to the inefficient use of water resources, have a detrimental impact on the water quality in the area and affect aquatic ecosystems. Discharges of untreated wastewater may also impair the use of water for domestic and agricultural use.



#### 4. Workers Without Personal Protective Equipment (PPE)

A few workers were noted without PPE during the site visit. The absence of PPE increases the risk of workplace injuries and accidents and non-compliance with occupational health standards.



#### 5. Presence of Underage Worker

A child (boy) below the age of 18 was observed at the site. This raises legal concerns regarding child labour laws and regulations.



However, in response to the incident of child labour reported by EMC, CP-2 communicated that they have taken proactive measures to address this issue. They have provided comprehensive training to all workers emphasizing the importance of adhering to labour laws and ensuring that no minors are present on-site during work hours. CP-2 has made it clear that they will not tolerate any such incidents in the future, indicating a commitment to maintaining a safe and compliant work environment.



## 6. Sewage Treatment Plant

During the site visit to CP-2, it was observed that a standalone Sewage Treatment Plant (STP) initiative is being undertaken. This initiative involves the installation of a tank designed to store wastewater and facilitate disinfection processes through appropriate HRT. The future plan includes integrating this standalone system with a mechanized STP being developed under the CP-1 campus.



### **Recommendations**

1. While awaiting full registration, consider obtaining temporary permits to allow vehicles to operate legally.
2. Conduct regular training sessions on the importance of PPE and how to properly use it and implement strict enforcement of policies.
3. Ensure that any underage individuals are removed from work areas immediately.
4. Implement strict verification processes for age documentation during hiring procedures.
5. The provision of a catch basin for collecting oil and sediment is recommended along with an oil and grease treatment and an oil interceptor may be provided as a potential solution for treating effluent from car washes.

### **CP-3**

#### **Site Observations**

During the site visit, only a few safety issues were observed that required attention. Overall, the working conditions at the site were satisfactory, with most safety protocols being adhered to effectively.

1. **Ladder Safety Compliance:**

Ensure that ladders used on the site comply with safety standards. This includes selecting the correct ladder for each task, inspecting ladders before use.

**2. Mosquito Control Measures:**

Spray mosquito repellent solutions around the labour camp, especially during monsoon seasons, to prevent mosquito breeding.

**3. Contractor Safety Assurance:**

During a routine site visit at the elected transmission tower, it was observed that one contracted labourer was working without proper personal protective equipment (PPE). This lack of PPE poses a significant fall hazard and increases the risk of accidents. Regular toolbox talks should be conducted to ensure safety at work sites. These talks should cover essential safety topics relevant to ongoing tasks and potential hazards.

**4. Controlled Access to Yard:**

Restrict workers' entry and exit to the yard to authorized personnel only, ensuring that access is monitored and controlled to maintain site security and safety.

**5. Worker Safety Training:**

All workers must receive comprehensive training on work safety protocols specific to their roles and tasks. This training should be regularly updated to reflect any changes in procedures or regulations.

**6. Crane Safety Precautions:**

Avoid standing directly below cranes during operations to prevent accidents from falling objects or equipment failure.

**7. Oil Storage area:**

There is a large storage yard for the transformer oil which may pose a potential hazard if there is some leakage or fire. A shed has been constructed as per the previous discussion. The Material Safety Data Sheet was present, however, the action required for storage as per the Material Storage and Import of Hazardous Chemical Rules, 1989, needs to be taken care of.



**Unsafe working: Worker without PPE's and workers standing below the Crane Pulley**



**CP-3 Labour Camp**



**Shed is erected for storage of oil**

## CP4

### Site Observations

During the site visit, it was observed that there was no active work being conducted at the site. The EMC team visited several key areas, including the storage yard, the tower locations and the labour camp. Notably, no labourers were present at the labour camp during this time. A few safety issues were identified that require immediate attention.

#### **1. Borewell Water Usage for Drinking at Storage Yard**

Borewell water is currently being used for drinking purposes without any monitoring or adherence to established drinking water standards. It is crucial to regularly test the water quality against local and international drinking water standards to ensure it is safe for consumption.

#### **2. Inadequate First-Aid Box**

The first-aid box on site is found to be inadequate. A well-stocked first-aid kit should include essential items such as bandages, antiseptic wipes, adhesive tape, scissors, pain relievers, and other necessary medical supplies. Regular checks should be conducted to ensure the first-aid box is fully stocked and all items are within their expiration dates.

#### **3. Empty Fire Extinguishers and Poor Fire Arrangements**

The fire extinguishers on site are empty. The presence of empty fire extinguishers indicates a significant lapse in fire safety preparedness, additionally, poor fire arrangements suggest inadequate planning regarding fire safety measures. It is imperative to conduct regular inspections and maintenance of fire extinguishers to ensure they are fully charged and operational at all times. Staff should also be trained in using fire extinguishers effectively during emergencies.

#### **4. Wall at Labour Camp**

The wall separating the labour camp from the adjacent school has been compromised, potentially allowing unauthorized access for labourers to enter the school premises. There is a risk of privacy invasion for both students and school personnel due to potential unauthorised entry.





**Storage Yard**



**Drinking Water at the Site**



**Empty fire extinguisher and fire buckets First-aid box at the Site**



**Common Wall Between School and Labour Camp**



**Labour Camp**



### **Erected transmission line**

### **Integrated water resource management**

As intimated by EA, RMSI has commenced a downstream study as part of the Integrated Water Resource Management initiative, funded by the Japan Fund for Poverty Reduction (JFPR) grant. The EMC is currently awaiting the Quarterly Progress Reports submitted by RMSI for their reference.

### **Capacity Building and Training**

- Social and HIV/AIDS awareness trainings by CP-1 and CP-4.
- Prevention of Sexual Harassment at Workplace (POSH) training at CP1 and CP-4 for site labour and staff.
- Awareness on labour laws-related trainings
- Understanding of local customs, culture and traditions.
- CP-1 is required to undertake mock drills and training in the EHS related trainings for construction safety, life and fire safety, electrical safety etc.

Grievance Redressal Mechanism: No Grievance received so far for environmental projects. Register maintained and need to be continued.



Snippets of The Site Visit

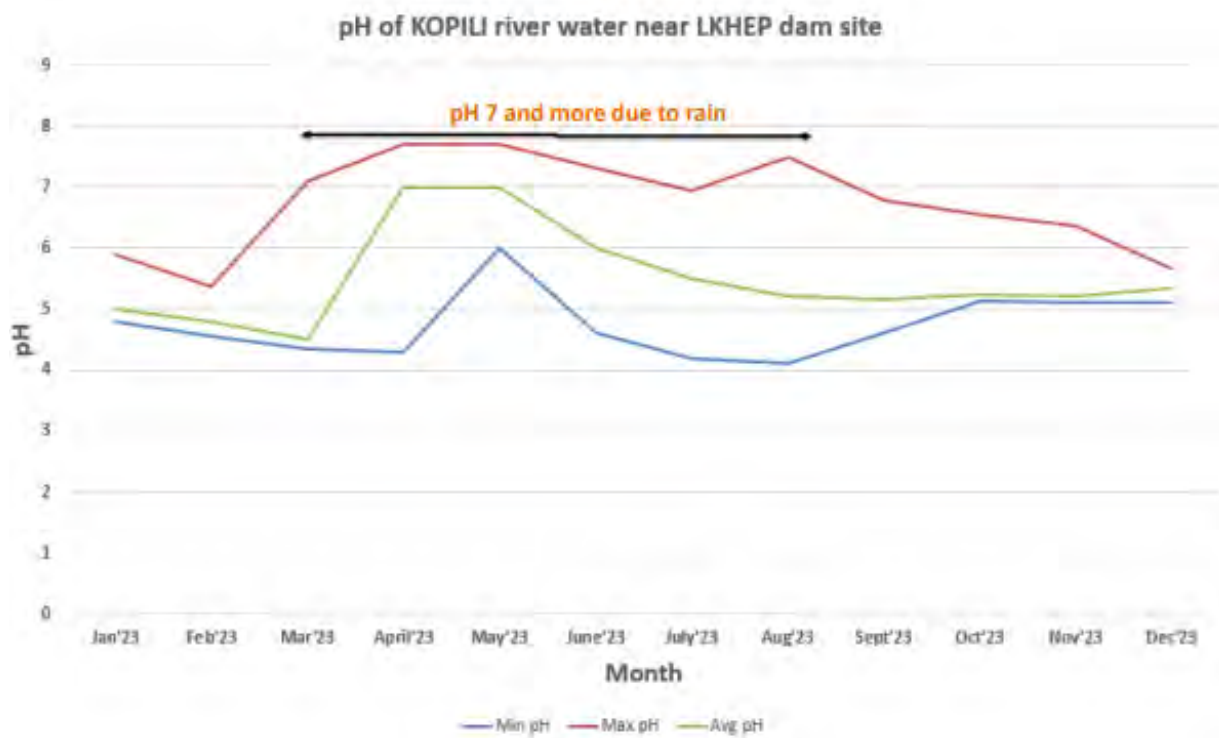
Water Quality of KOPILI river





pH 5.1 at LKHEP dam site

**FEEDBACK INFRA**



### CP-1 Housekeeping



Improper storage of waste oil at site.



23-04-2024

FEEDBACK INFRA

### CP-1 Housekeeping



Was shifted next day and a platform created to store the same-complied.

23-04-2024

FEEDBACK INFRA

## CP-1 Contract- Site Facilities and House keeping



The bamboo scaffolding increases chances of fall from height

Top Soil stored without proper covers



Housekeeping requires improvements...loose wire...cut pipes, cut metals, bamboo can call for injuries. No usage of safety gears.



23-04-2024

FEEDBACK INFRA

## CP-2 Contract- Batching Plant



Existing sedimentation tank

Slurry way to sedimentation tank

Not much effective result from existing sedimentation tank

Additional proposed is under construction to get the effective result.

Dust is a major issue along batching plant area requires regular sprinkling

23-04-2024

FEEDBACK INFRA



### CP-2 Contract- Batching Plant



Downstream of batching plant area is affected with high cement and sediment, requires immediate cleaning to open channels.

23-04-2024

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### CP-2 Contract New batching plant establishment



Batching plant near power house under establishment

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## CP-2 Contract – Solid Waste Management



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## CP-3 Contract



Transformer Oil stored at CP-3 site ...may be a shed will help in minimizing risk of flammable ...fire hydrant system in place but requires to check its operationality through mock drills etc.

### CP-3 Contract



Proper storage area for the DG Set with stack



Septic tank at the back side



Good House keeping practices



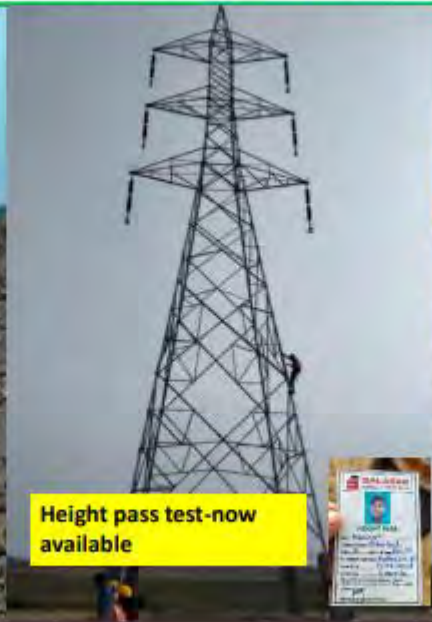
23-04-2024

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### CP-4 Contract - Safety Aspects



Safety concern



Height pass test-now available



Safety shoes missing



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## CP-4 Contract Labor camp-new labour camp established at Hawaipur



No disposal system

No disposal arrangement at Lanka camp



Movable camp



New camp



Overall improvement seen this time

23-04-2024

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