

NUPCHE LIKHU HYDROPOWER PROJECT (57.5 MW)

Ramechhap, Nepal



Project Progress Report

Baisakh to Ashar, 2083



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Executive Summary

This Progress Report has been prepared to provide an update on the progress of the Nupche Likhu Hydropower Project (NLHP), Ramechhap (57.5 MW). It includes details about project activities and progress made from **Baisakh to Ashar, 2083**. The key achievements during this period are as follows:

1. Forest and EIA/IEE Related Works

1. All tree cutting, tree stamping, and compensatory plantation activities within the Project and Transmission Line Right of Way (ROW) have been successfully completed in accordance with the approved Environmental Management Plan.
2. Regular environmental monitoring and compliance inspections were carried out throughout the reporting period to ensure adherence to the approved Environmental Impact Assessment (EIA) and Initial Environmental Examination (IEE) requirements.
3. Environmental and Social Management Plan (ESMP) implementation continued across all construction areas, including monitoring of waste management, erosion control, and occupational health and safety, and biodiversity conservation measures.
4. Community support and livelihood enhancement programs completed under the Project's CSR commitments continue to benefit the local communities, with regular monitoring and Follow-up conducted during the reporting period.

2. Preliminary/Preparatory Works

1. Routine maintenance and strengthening of the project access roads are ongoing to ensure uninterrupted transportation of manpower, equipment, and construction materials during the reporting period.
2. Regular maintenance of construction camps, workshops, warehouses, and temporary project facilities was undertaken to support ongoing construction activities.
3. Traffic management and road safety measures were continuously implemented along the project access roads to facilitate the safe movement of heavy vehicles and equipment.
4. Logistics planning and coordination for the transportation of remaining Electromechanical (EM) and Hydromechanical (HM) equipment were carried out to support timely installation activities.
5. Necessary construction utilities, including power supply, water supply, and communication facilities, were maintained to ensure uninterrupted project execution.

3. Civil Works

1. Approx. **98.03%** of physical progress in Civil Works has been achieved.
2. Progress of finishing of HRT (Headrace Tunnel) are demonstrated each front wise below:



S.N	Face	Length	Completed	Remaining	Completed %
1	Outlet to Bypass Tunnel Junction				
	Final invert lining	205	205	0	100.00%
	Final Rib section Lining	205	205	0	100.00%
2	Bypass Tunnel Junction to US Outlet (F8)				
	Final Shotcrete	1239	1239	0	100.00%
	Final Invert Lining	1559	1559	0	100.00%
	Final Rib section Lining	268	194	74	72.39%
3	Adit to Outlet (F7)				
	Final Shotcrete	1168	1168	0	100.00%
	Final Invert Lining	1168	1168	0	100.00%
	Final Rib section Lining	137	137	0	100.00%
4	Likhu Inlet to NL Junction (F4)				
	Final Shotcrete	1426.7	1426.7	0	100.00%
	Final Invert Lining	1426.7	1426.7	0	100.00%
	Final Rib section Lining	55.32	55.32	0	100.00%
5	NL Junction to Nupche (F2)				
	Final Shotcrete	1599	1598.98	0	100.00%
	Final Invert Lining	1599	1598.98	0	100.00%
	Final Rib section RCC Lining	186.2	186.2	0	100.00%
6	Adit to NL Junction (F6)				
	Final Shotcrete	227.85	227.85	0	100.00%
	Final Invert Lining	227.85	227.85	0	100.00%
	Final Rib section Lining	15.69	15.69	0	100.00%
7	Vertical Shaft	298.76	298.76	0	100.00%
8	Penstock Tunnel	610	546	64	89.51%
	Total (Average)	716.95	709.68579	7.26315789	98.99%

3. All associated works for Switchyard is completed.
4. Tunnel finishing works are progressing, with approx. **98.99%** of the works completed.
5. Concreting works at the Rock trap is completed.
6. Grouting is ongoing simultaneously with finishing works.
7. Construction of the valve house at the tunnel outlet has been completed, and installation of the associated valve systems is also completed.
8. Installation works for the knife gate valves at both Likhu and Nupche Headrace pipe alignments are completed.
9. Construction of the Likhu headworks is completed.



10. The construction of the super passage over the settling basin is in completion stage, with approximately **98%** of the works completed.
11. Construction of the surge shaft is in its final stage, with only the dome structure remaining, whereby, formworks and rebar works are ongoing.
12. Desander Protection works on river side is completed.
13. Second-stage concreting works for Unit-1 and Unit-2 of the powerhouse are completed while Unit-3 is ongoing.
14. Backfilling works at Nupche Headrace pipe alignment is completed.
15. The concreting of **AB-09** is completed whereas, Manhole and knife gate valve at Nupche HRP are in final stage.
16. Along the penstock alignment, excavation and construction of anchor blocks AB-1 and AB-27 are under progress Also, Manhole and Kholsi at AB 22 is initiated.
17. Shotcrete works and invert lining works inside the tunnel have been fully completed.

The details of Anchor Blocks are as follows.

S.N	Particulars	Quantity
A	Penstock Alignment	
1	Total No. of Anchor Block along Penstock Alignment.	27
2	Total No. of Completed Anchor Blocks (AB-03, AB-02, AB-04, AB-05, AB-06, AB-07, AB-08, AB-09, AB-10, AB-11, AB-12, AB-13, AB-14, AB-15, AB-16, AB-17, AB-18, AB-19, AB-20, AB-21, AB-22, AB-23, AB-24, AB-26).	25
3	Total No. Remaining Anchor Blocks (AB-01, AB-27).	2
4	Total Completed Percentage of Anchor Block.	92.59%
B	Likhu Headrace Pipe	
1	Total No. of Anchor Block along Likhu HRP Alignment.	19
2	Total No. of Completed Anchor Blocks (AB-01, AB-02, AB-03, AB-04, AB-05, AB-06, AB-07, AB-08, AB-09, AB-10, AB-11, AB-12, AB-13, AB-14, AB-15, AB-16, AB-17, AB-18, AB-19).	19
3	Total No. Ongoing Anchor Blocks.	0
4	Total No. Remaining Anchor Blocks	0
5	Total Completed Percentage of Anchor Block.	100.00%
C	Nupche Headrace Pipe	
1	Total No. of Anchor Block along Likhu HRP Alignment.	9
2	Total No. of Completed Anchor Blocks (AB-01, AB-02, AB-03, AB-04, AB-05, AB-06, AB-07, AB-08, AB-09).	9
3	Total No. Ongoing Anchor Blocks.	0
4	Total No. Remaining Anchor Blocks .	0
5	Total Completed Percentage of Anchor Block.	100.00%



18. Concreting at the Vertical shaft is completed.
19. Concreting works at Penstock Tunnel is **89.51%**.

4. Electromechanical (EM) Work

1. **96.98%** of Electromechanical works has been completed.
2. Approvals of all design memorandum, drawing and calculation, Procurement and Manufacturing, Factory Testing and Inspection, Site Delivery is 100% completed.
3. Unit-1, Unit-2 and Unit-3 AC generator installation completed.
4. Unit-1, Unit-2 and Unit-3 turbine and housing with generator all completed.
5. Erection works has been completed by 97%.

5. Hydro mechanical (HM) Works

1. **97.88%** of Hydro-mechanical works has been completed.
2. **99.8%** of Gates leafs installed along with hoisting stand and motor and panel board at Likhu and Nupche HWs.
3. **100%** of works has been completed along Nupche HRP and Likhu HRP.
4. **99.49%** of Pipes erection has been completed.

The details are as follows:

Erection of PIPES	Total Length (m)	Erected Length (m)	% Completed	Remaining Length (m)
Penstock	1527.54	1523.29	99.72%	4.25
Vertical Shaft	298.76	288.375	96.52%	10.385
Horizontal Shaft	569	569	100.00%	0
Bifurcation and Manifolds(Branch pipe)	182	176	96.70%	6
Likhu HRP	1053.12	1053.12	100.00%	0
Nupche HRP	421.35	421.349	100.00%	0
Total	4051.77	4031.14	99.49%	20.64

6. Transmission Line

1. **96.68%** of Transmission Line works has been completed.
2. Approx **100%** of tower material has been delivered to site.
3. **100%** excavation of tower foundation has been completed.
4. **100%** of Tower foundation concreting has been completed.
5. **100%** of Tower foundation has been completed with back filling of Pit.
6. **100%** of Tower Erection work has been completed.
7. **86.53%** of stringing work -ACSR Conductor has been completed.
8. **63.20%** of stringing work -OPGW Conductor has been completed



The details of Progress for this Quarter is Illustrated below: -

1	Foundation Works				100.00%
1.1	Excavation, Concreting and Backfilling	Nos.	78	78	100.00%
2	Erection Works				100%
2.1	Erection Works	Nos.	78	78	100%
3	Stringing Works				74.87%
3.1	Stringing Works -ACSR Conductor	Km.	24	20.33	86.53%
3.2	Stringing work -OPGW Conductor	Km.	24	14.85	63.20%

7. Planning, Governance and Other Works

1. Investment in nearby small-scale and other large-scale projects has been completed, and the application review process by the concerned Government Officials is ongoing.
2. The strategy for increasing productivity has been developed and effectively implemented.
3. The process for issuing the Initial Public Offering (IPO) to the public is at the final stage.

8. Any Bottlenecks

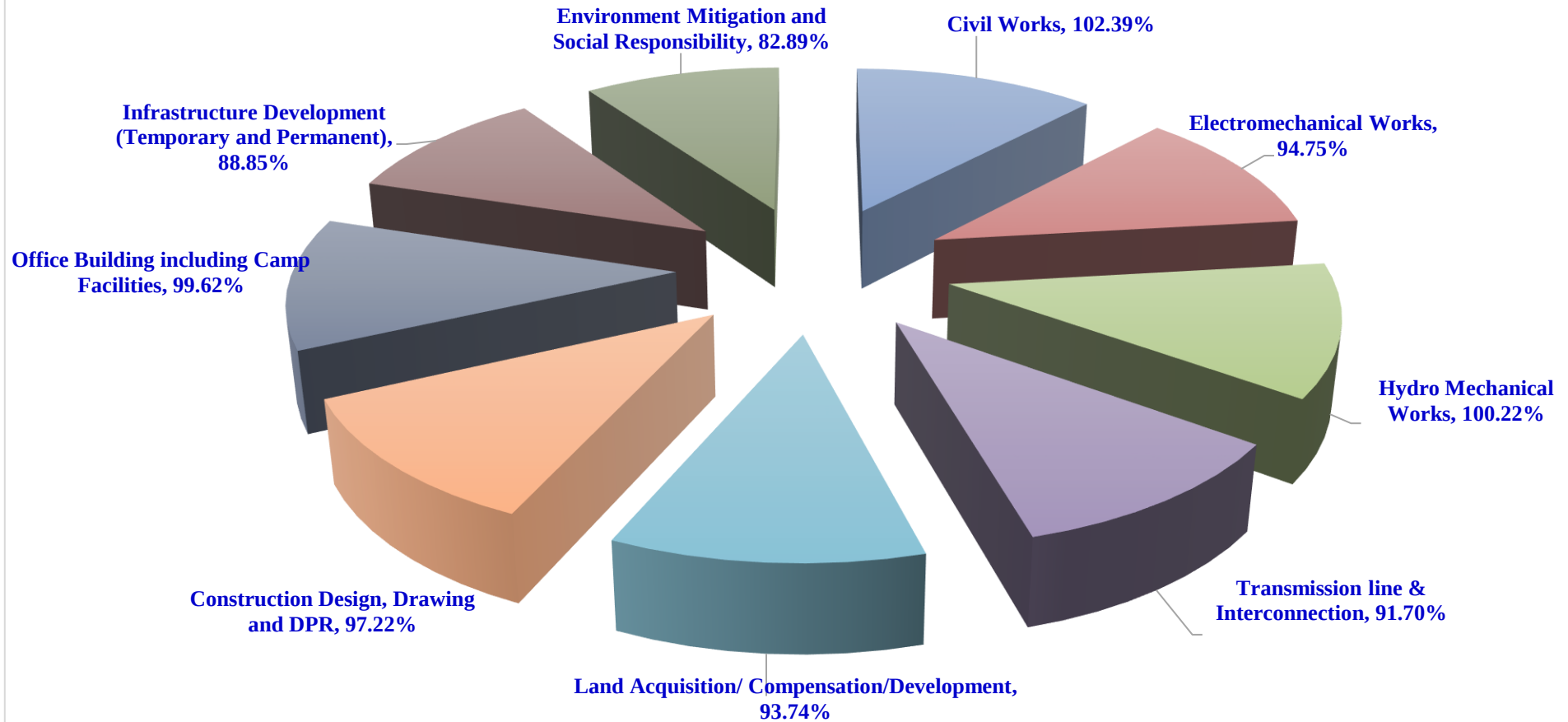
1. Restoration of Access Road and Bridge at site.
2. Bulkhead Gate Concrete Works at NL Junction to Outlet (Slope Breakpoint) and HRT Outlet, Upstream of Bypass.
3. Erection and Concreting Works of AB-27.
4. M20 RCC Concrete Works in the Penstock Tunnel.
5. Grouting Works in the Vertical Shaft and Penstock Tunnel.
6. Completion of stringing Works.

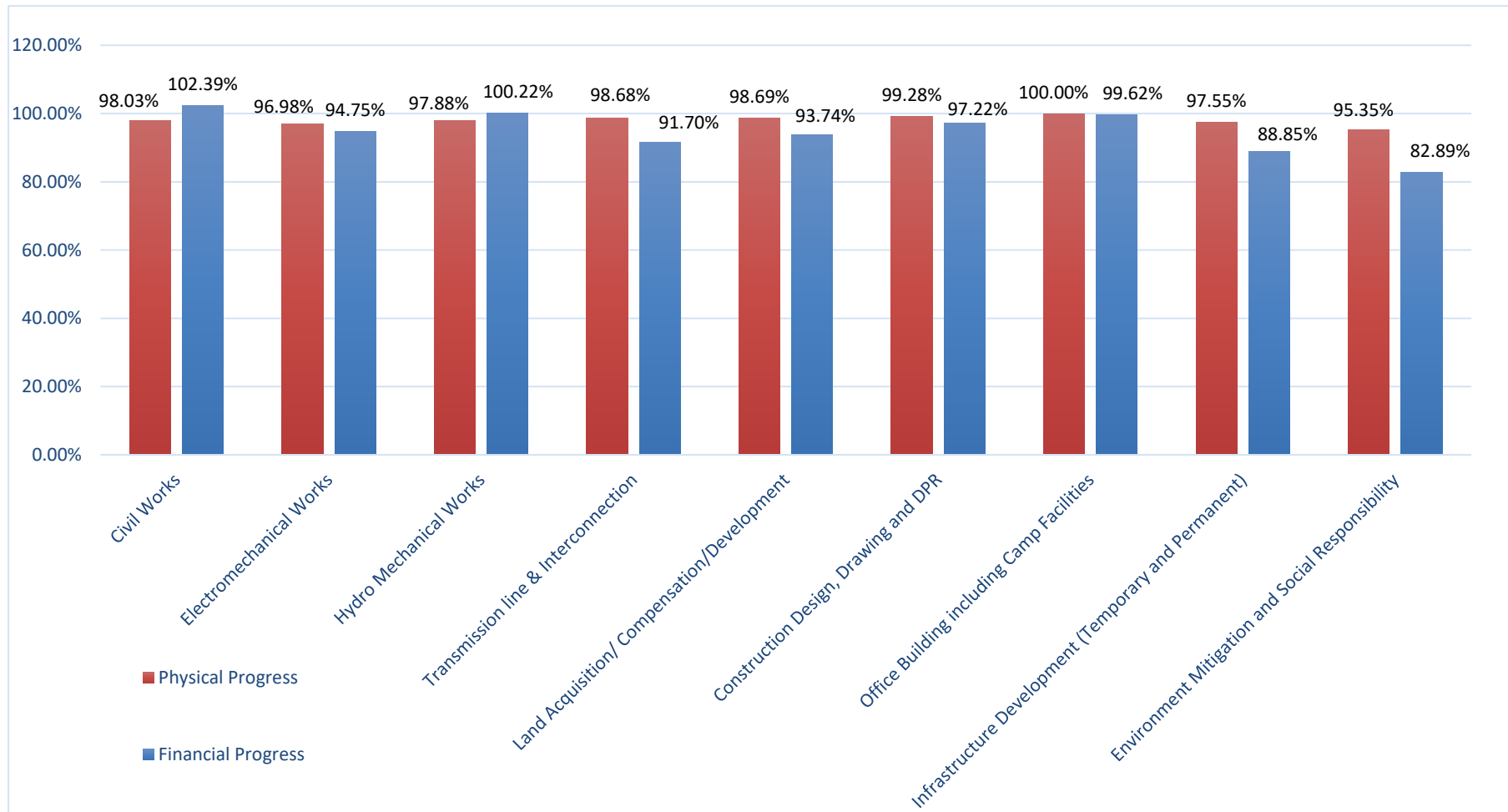
9. Financial and Physical Progress

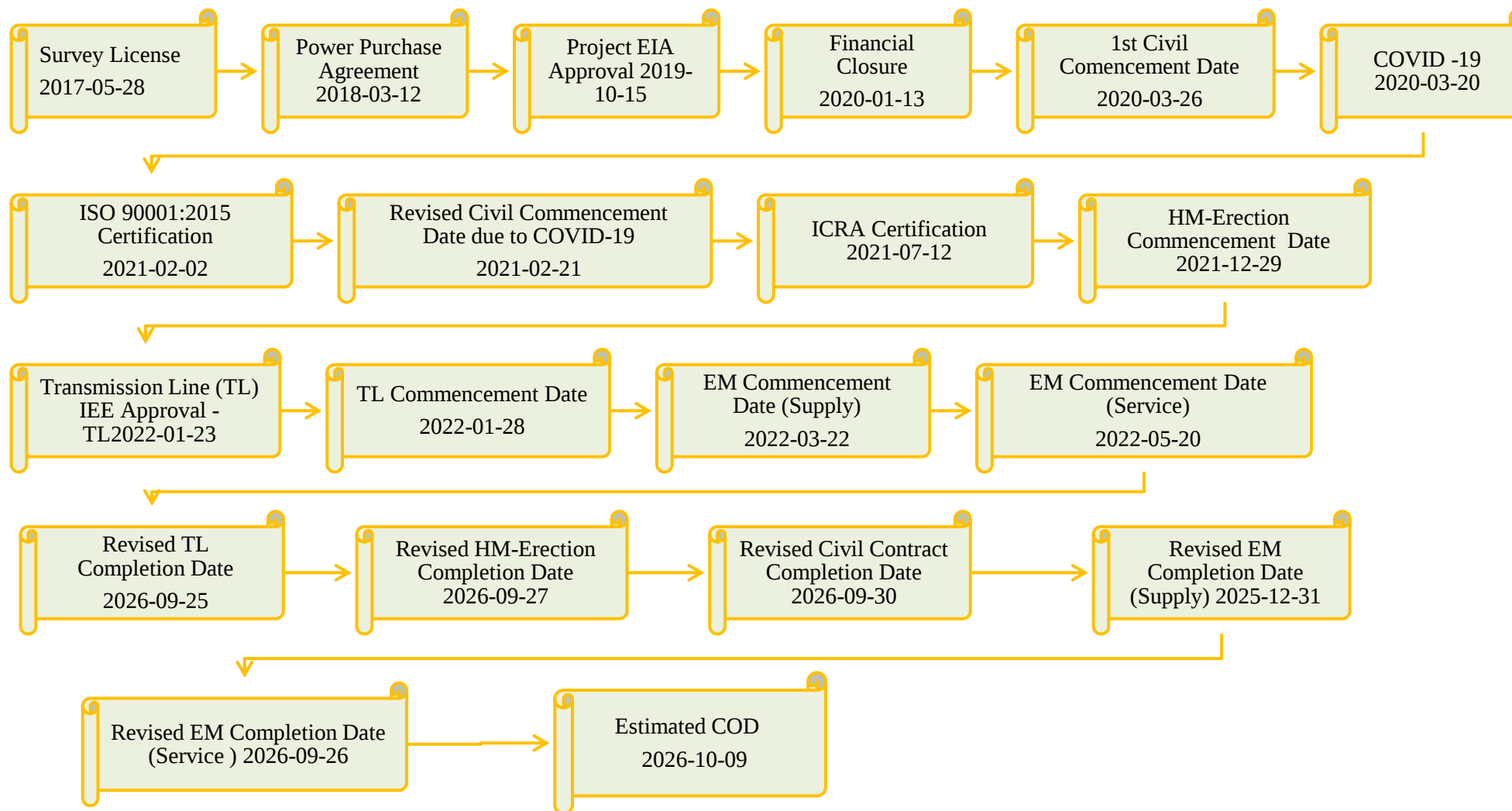
1. Till the date **97.11%** of the budget has been utilized and about **97.63%** of the overall physical progress has been achieved;



Project Expenses



Physical Vs Financial Progress.

10. Revised NLHP Project's Major Timeline

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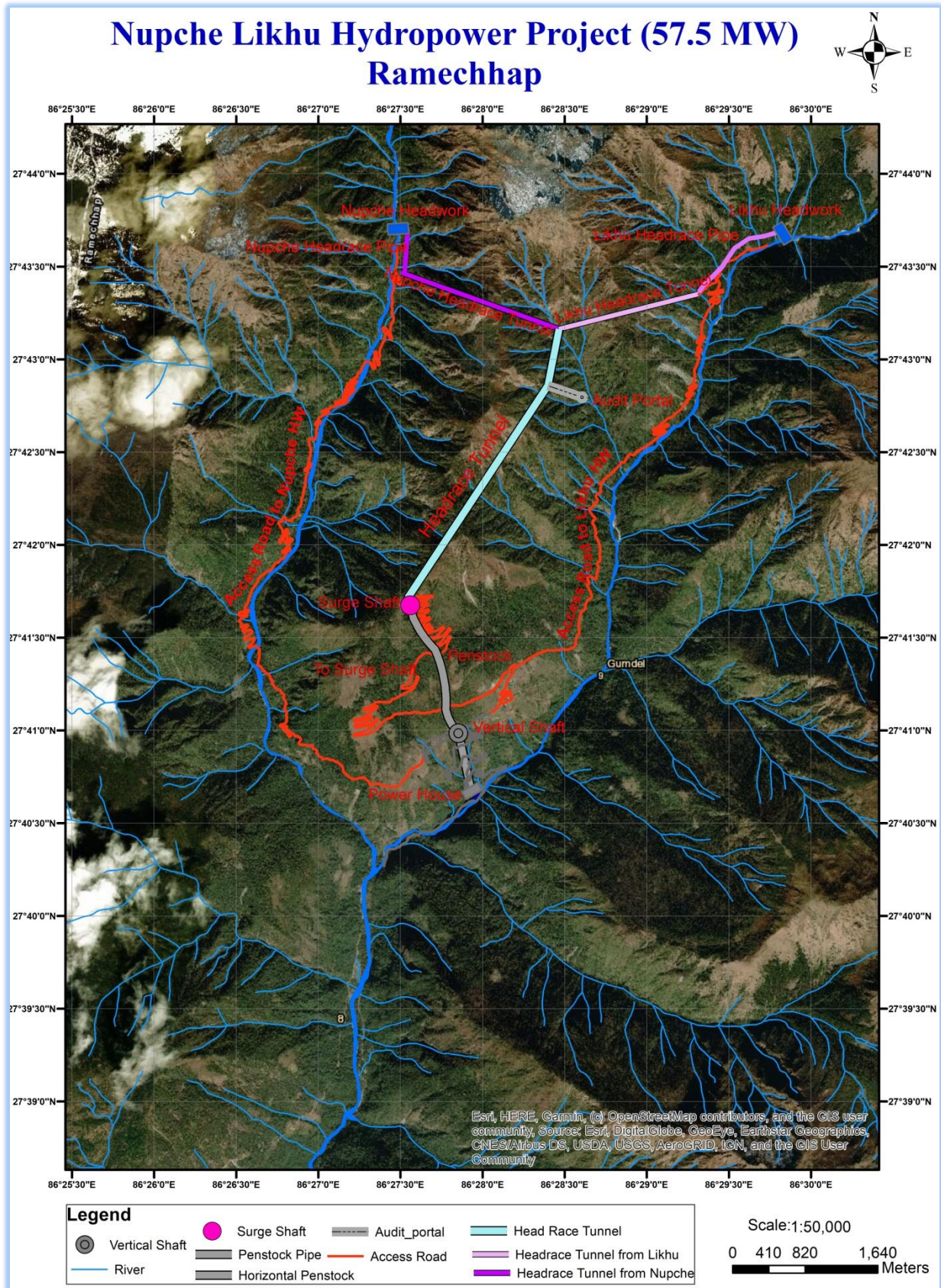
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Section A: About the Project



1. Introduction

1.1 Background

Vision Energy & Power Ltd (VEPL) is committed to developing the 57.5 MW Nupche Likhu Hydropower Project in the Ramechhap District by utilizing local technical, managerial, and financial expertise. The company is dedicated to supplying power to the National Grid to meet domestic energy demands. This project is designed as a run-of-river (RoR) hydropower initiative.

1.2 About the Project

The proposed Nupche Likhu Hydropower Project is situated in Umakunda Rural Municipality of Ramechhap District, Nepal. The project utilizes water sourced from the snow-fed Nupche and Likhu rivers, originating in the high mountainous and hilly regions. The intake for the project is positioned north of Lhachhewar Village on the left bank of the Nupche Khola, with a weir crest elevation of 3338 m above mean sea level (amsl), and on the right bank of the Likhu Khola, also with a weir crest elevation of 3338 m amsl. The powerhouse is located on the right bank of the Likhu Khola, with the turbine centerline at 2332.35 m amsl. The project has an estimated gross head of 1005.65 meters and a design discharge of 7.11 m³/sec.

1.3 Location & Access:

The project can be access from Kathmandu through an existing all-weather road up to Manthali (131 km) or 94 km road from Bardibas. After Manthali, following about 125 km partly stone paved earthen road reaches up to Kyama, Gumdel VDC. Furthermore, from Kyama an access road has been reached near to Kongematar village, the proposed Powerhouse site, Lahachhewar village which is also the residential area for the project employees, Outlet/Surge Shaft, Adit Tunnel, Likhu Headworks and Nupche Headworks.

1.4 Main Financial Features of the Project

- a) Total project cost of the project: NRs. 11,923,926,799.00 and total cost per MW = NRs. 20,7372 thousand.
- b) Internal Rate of Return (IRR): 16.31 %, Equity Internal Rate of Return (EIRR): 23.57%
- c) Simple Payback Period: 5.34 Years; Discounted Payback Period: 8.77 years.
- d) High Energy per MW (6.63 GWh p.a.), Dry Energy 36.61% and Wet Energy 63.29%
- e) Income Per MW: is NPR 4.07 Crore.
- f) The Project has high head. It ensures cost efficiency and high energy.
- g) Professional, Transparent and Responsible Management.



- h) Aims to benefit Small and medium Investors too.
- i) Focused on high Return on Investment and high value in secondary market.

1.5 Salient Features of the Project

S.N.	Particulars	Remarks
1.	<u>General</u>	
	Name of the Project	Nupche Likhu Hydropower Project
	Type of the Project	Snow fed Run-off River Hydropower Project
2.	<u>Location</u>	
	Zone/ Development Region	Janakpur Zone/Central Development Region
	<u>District</u>	Ramechhap
	Project Location	Umakunda Rural Municipality, (Gumdel VDC)
	River	Nupche Khola and Likhu Khola
	<u>License Boundary</u>	
	Longitude	86°26'30" E - 86°30'30" E
	Latitude	27°40'37" N - 27°43'43" N
3.	<u>Hydrology</u>	
	Catchment Area at Headworks	150 Km ² (Nupche 82km ² &Likhu 68 km ²)
	Design Discharge (Q 45 %)	3.89 m ³ /s+ 3.22 m ³ /s (Nupche & Likhu) = 7.11m ³ /s
4.	<u>Nupche & Likhu- Headworks</u>	
	<u>Weir</u>	
	Type	Boulder line weir
	<u>Bed Load Sluice</u>	
	Type	Bed Load
	<u>Intake</u>	
	Type	Orifice, Side Intake
	<u>Gravel Trap</u>	
	Type	Single, Dufour
	<u>Settling Basin</u>	
	Type	Double Bay Dufour Type
5.	<u>Headrace Pipe</u>	
	Headrace Pipe	421.35m & 1053.12m (Nupche & Likhu)
6.	<u>Tunnel Length</u>	
	Total Length	7450.201 m
	Tunnel Size	3.2 m x 3.8m (Excavation Size)
7.	<u>Surge Tank</u>	
	Type	Surface, Circular
8.	<u>Penstock Pipe Length</u>	
	Total Steel Penstock Pipe	2639.5 m
9.	<u>Power House</u>	
	Type	Surface
10.	<u>Turbine</u>	
	Type	Horizontal Pelton
	Number of units	3

	Rated Output Capacity per unit	20.26 MW
11.	<u>Generator</u>	
	Type	Solid State, PID Governor
	Number of units	3
	Rated Output Capacity	22.55 MVA
	Excitation System	Brushless Type
12.	<u>Transformer</u>	
	Type	Outdoor, Oil immersed, Three Phase
	Rated Capacity	23 MVA
	Number of Units	3
13.	<u>Tail-Race Canal</u>	
	Type	Box Culvert
14.	<u>Transmission Line & Grid</u>	24 km 132 kV Double circuit line up to National grid at 132 kV switchyard of Proposed NEA Hub at Garjyang Substation, Ramechhap district.
15.	<u>Power and Energy</u>	
	Gross Head	1005.65m
	Net Head at Full Flow	968.33 m
	Installed Capacity	57.5 MW
	Generated Energy per Annum	139.757 GWh, 36.61% (Dry) and 241.978 GWh, 63.39% (Wet) Total: 381.735 GWh
16.	<u>Project Road to HW & PH</u>	38.90 km
17.	<u>Approximate Cost of Project</u>	11,923 Million (Revised as per lending Bank Technical Consultant)
18.	<u>Approximate Construction Period:</u>	4 Years
19.	<u>Estimated Commercial Operation Date (COD)</u>	2083-06-23 BS 2026-10-09 AD

1.6 Investment Module

A total of NPR 3.32 Arba has been successfully received from the shareholders against the issuance of 3.32 crore units of shares.

2. Human Resources and Good Governance

2.1 Organization Chart

The organization structure of Nupche Likhu Hydropower Project has been prepared considering Construction, Operation & Maintenance phases of the Project. The detained organization chart is presented in the official website of the company i.e. www.veplinfo.com.



2.2 Good Governance

Nupche-Likhu Hydropower Project has proposed Performance Based Incentive program for its employee. The key performance area (KPA) and Key performance index (KPI) is developed for whole project period. Based on the developed KPI the performance evaluation mechanism is developed. Further,

1. Various manuals such as Finance Manual, Human Resource Manual, Investment Manual, Corporate Governance Guidelines, Performance Evaluation Guidelines, Project Management Guidelines, Branding Guidelines, etc. are in practice.
2. Formation of various committees such as High-level coordination sub-committee, Audit Committee, Local Area Co-ordination Sub-Committee and International Co-ordination Sub-Committee.
3. Recruitment of highly professional Consultants.
4. Work plan assigned to each executive level and working level personnel.
5. Updates on performance evaluation format for each personnel which is conducted on quarterly basis.
6. Compliance officer appointed for legal and internal guidelines compliance.
7. Regular meeting of Board of Directors and Various Committees.
8. Unique investment module and mechanism to select quality investors.
9. Integrity, transparency, legal compliance, team work, higher return, responsibility, safe investment, accountability are the core values of the Company.

3. Project Implementation

3.1 General

The company has obtained the Generation Licence. It has planned to generate electricity within the period of 4 years from the commencement of construction work. The Environmental Impact Assessment (EIA) for the project and Initial Environmental Examination (IEE) for the Transmission Line has been approved. The Supervision & Management Consultants, Civil Contractor, Explosives Suppliers, Electromechanical Contractor, Hydromechanical Contractor and Transmission Line Contractor are actively involve in the construction of the project. Detailed progress of the project is also presented in the official website of the company i.e., www.veplinfo.com.



4. Current Status of the Project

4.1 Completed Works of the Project

4.1.1 Forest, EIA & IEE Related

1. The concerned Government authorities have approved **Environmental Impact Assessment (EIA)** study of the Project. The Project is implementing all environmental mitigation and monitoring measures in accordance with the approved EIA and applicable environmental regulations.
2. **Procurement of land** for the replacement of the Government land used by the Project has been completed in accordance with the applicable legal and regulatory requirements.
3. **Field work for tree counting and tree stamping** for the Project has been completed pursuant to the approved EIA. Subsequently, all tree cutting activities within the Project area and the Transmission Line Right of Way (ROW) have also been completed in accordance with the approved Environmental Management Plan (EMP).
4. The **Initial Environmental Examination (IEE)** for the Transmission Line was approved on **2076-10-09**, and the **Government of Nepal Cabinet** granted approval for tree cutting and Government land use for the Transmission Line on **2080-04-23**. The agreement with the **Department of National Parks and Wildlife Conservation (DNPWC)** has also been concluded, enabling construction activities in compliance with all statutory environmental requirements.
5. **Land acquisition, agreement with DNPWC, tree stamping, and tree cutting** for both the Project and the Transmission Line have been completed. In addition, compensatory plantation activities have been successfully carried out in accordance with the approved Environmental Management Plan (EMP) to fulfill the Project's environmental obligations.
6. **Regular environmental monitoring and compliance inspections** were carried out throughout the reporting period to ensure continued adherence to the approved **Environmental Impact Assessment (EIA)**, **Initial Environmental Examination (IEE)**, and other applicable environmental laws and regulations.
7. **Implementation of the Environmental and Social Management Plan (ESMP)** continued across all active construction areas. Monitoring activities included waste management, spoil disposal, erosion and sediment control, occupational health and safety, dust suppression, and biodiversity conservation to minimize environmental impacts during construction.
8. **Community support and livelihood enhancement programs** implemented under the Project's Corporate Social Responsibility (CSR) commitments continue to benefit the local communities. Regular monitoring and follow-up were conducted during the reporting period to ensure the sustainability and effectiveness of these programs. These initiatives include the construction of community infrastructure, educational support, and promotion of sustainable livelihood activities for the affected communities.

4.1.2 Preliminary/Preparatory Works

1. **Survey License** of the project was obtained for 57.5 MW on 2074/06/29 (15/10/2017).
2. **Power Purchasing Agreement (PPA)** has been done with Nepal Electricity Authority (NEA) on 2074/11/28 (12/03/2018).



3. **Financial Closure** has been completed with Machhapuchchhre Bank Ltd. (Lead Bank), Himalayan Bank Ltd. (Co-Lead Bank), Citizens Bank International Ltd., NCC Bank Ltd., Kumari Bank Ltd., Agriculture Development Bank Ltd., Rastriya Banijya Bank Ltd., Global IME Bank Ltd., Kamana Sewa Bikash Bank Ltd.
4. **Generation License** has been obtained on 2076/10/12.
5. The License for Transmission Line has been obtained on 2078/12/30.
6. **Automatic Gauge Station** has been installed at Nupche & Likhu Intake site.
7. **Hydroelectricity Investment and Development Company** (HIDCL) has approved to invest in equity share capital of Vision Energy & Power Ltd (VEPL).
8. **Detailed Engineering Design** of the Project & Transmission Line has been completed.
9. The **Construction of main Camp House and associated facilities** has been completed.
10. **Bank's consultants** for the project have been selected.
11. The Company's Senior Management team including the Chairman, Board of Directors, General Manager, Project Director **launched blasting process** for the Penstock Tunnel and Vertical Shaft construction work on 12th Ashwin 2078.
12. The **Supervision & Management Consultants, Civil Contractor, Explosives Suppliers, Electromechanical Contractor, Hydromechanical Contractor and Transmission Line Contractor** has been selected and agreement has been signed.
13. Land acquisition for the Project has been completed.
14. Completion of Construction Power Line.

4.1.3 Civil Works

1. Approx. **98.03%** of physical progress in Civil Works has been achieved.
2. Tunnel finishing works are progressing, with approximately **98.99%** of the works completed
3. All associated works for Switchyard is completed.
4. Concreting works at the Rock trap is completed.
5. Grouting and is ongoing simultaneously with finishing works.
6. Construction of the valve house at the tunnel outlet has been completed, and installation of the associated valve systems is also completed.
7. Installation works for the knife gate valves at both Likhu and Nupche Hydropower Projects are in completed.
8. Construction of the Likhu headworks is completed.
9. The construction of the super passage at the settling basin is in an advanced stage, with approximately 98% of the works completed.



10. Construction of the surge shaft is in its final stage, with only the dome structure remaining work is ongoing.
11. Desander Protection works on river side is completed.
12. Second-stage concreting works for Unit-1 and Unit-2 of the powerhouse are completed while Unit-3 is ongoing.
13. Backfilling works at Nupche Headrace pipe alignment is completed.
14. The concreting of Manhole and knife gate valve at Nupche HRP is 58% completed.
15. Along the penstock alignment, excavation and construction anchor blocks AB-1 and AB-27 remains under progress. Also, Manhole and Kholsi at AB 22 is initiated.
16. Shotcrete works and invert lining works inside the tunnel have been fully completed.
17. Concreting at the Vertical shaft is completed.
18. Concreting works at Penstock Tunnel is **89.51%**.

4.1.4 Electromechanical Works

Approx. **96.98%** of physical progress in Electromechanical Works has been achieved.

1. In Electrical System:

The following electrical works have been completed:

- | | |
|---|---------------------------|
| ✓ Generator | ✓ LVAC System |
| ✓ Excitation System | ✓ MV and LV Cable System |
| ✓ Generator 11 kV Circuit | ✓ DG Unit |
| ✓ Main Transformer | ✓ DC and UPS System |
| ✓ Station Service Transformers | ✓ 11 kV Switchgear |
| ✓ Computerized Control System | ✓ 132 kV AIS – Powerhouse |
| ✓ Electrical Protection System | ✓ 132 kV AIS – Garjang |
| ✓ Earthing and Lightning Protection System – Powerhouse | ✓ Electrical Workshop |
| ✓ Earthing and Lightning Protection System – Receiving End Substation | ✓ Lighting System |
| | ✓ Communication System |

2. Mechanical System:

The following mechanical works have been completed:

- | | |
|-------------------------|----------------------------|
| ✓ Hydraulic Turbines | ✓ Mechanical Workshop |
| ✓ Governors | Equipment |
| ✓ Main Inlet Valve | ✓ Main Hoisting System - |
| ✓ Cooling Water System | Powerhouse and Valve House |
| ✓ Compressed Air System | ✓ Oil Filtration System |



✓ AC and Ventilation System

Ongoing EM Works:

S.N.	Work Description	Progress
1	Fire Fighting System	80%
2	Measurement of Hydraulic Quantities	50%
3	Penstock Protection Valve	80%

4.1.5 Hydro mechanical Works

1. **97.88%** of Hydro-mechanical works has been completed.
2. **99.8%** of Gates leafs installed along with hoisting stand and motor and panel board at Likhu and Nupche HWs.
3. **100%** of works has been completed along Nupche HRP and Likhu HRP.
4. **99.49%** of Pipes erection has been completed.

4.1.6 Transmission Line

1. **96.68%** of Transmission Line works has been completed.
2. **100%** of tower material has been delivered to site.
3. **100%** excavation of tower foundation has been completed.
4. **100%** of Tower foundation concreting has been completed.
5. **100%** of Tower foundation has been completed with back filling of Pit.
6. **100%** of Tower Erection work has been completed.
7. **86.53%** of Stringing work -ACSR Conductor has been completed.
8. **63.20%** of Stringing work -OPGW Conductor has been completed.

4.1.7 Governance

1. The Company has received ISO 9001:2015 Certificate on 2021-02-02.

4.2 Ongoing Works of the Project

4.2.1 Forest and EIA Related Works

1. Implementation and follow-up of environmental and social management plan throughout the construction phase to achieve good environmental outcomes as per approved EIA.

4.2.2 Preliminary/Preparatory Works

1. Road strengthening and routine maintenance of access road.

4.2.3 Civil Works

1. The **Headrace Tunnel (HRT)** is undergoing final-stage patch repair, invert clearance, grouting, concrete lining, and associated finishing works at various sections.
2. Air vent pipe concrete, one-way valve installation, and bulkhead gate concrete works are in progress at the **NL Junction to Outlet and HRT Outlet sections**.
3. Backfilling of niches and other designated areas is ongoing at the **HRT Outlet** and associated **tunnel sections**.
4. Grouting works are in progress at the HRT Outlet downstream of the bypass and within the **Vertical Tunnel and Penstock Tunnel sections**.
5. Covering concrete works for the **Surge Shaft** roof are progressing.
6. Backfilling works are ongoing along the **Likhu Headrace Pipe (HRP)**.
7. **Super passage** completion works, including concreting of the **Manhole** and **Knife gate valve**, are in progress at the **Nupche Headworks/HRP**, along with sediment flushing at the road crossing.
8. **Penstock alignment** works are progressing, including construction of Anchor Block 01, the manhole and Kholsi at AB-22, and excavation works for AB-27.
9. Second-stage concreting works for Units 3 are ongoing at the **Powerhouse** and associated structures.
10. M20 RCC concreting works are in progress in the Penstock Tunnel to support completion of the **penstock alignment**.

4.2.4 EM (Electromechanical) Works

1. Assembly and erection of the generator and its associated auxiliary components for Unit 3 are currently in progress.
2. Installation of the Main Inlet Valve (MIV) and the corresponding inlet pipe for Unit 3 is underway.
3. Erection and positioning of the Penstock Protection Valve (PPV) equipment are ongoing.
4. MV power cable laying, dressing, glanding and termination works.
5. Electrical installation and wiring works are actively being carried out within the control buildings at both headworks' locations.
6. At the receiving-end substation, work is progressing on the erection of transmission towers, Current Transformers (CT), and the gantry structures.

4.2.5 HM (Hydro-mechanical) Works

1. Cleaning and painting of VT and PT are ongoing.



2. Pipe erection from Bifurcation-1 to Branch-3 is in progress.
3. Installation of Electrical system at Nupche/Likhu Headworks are ongoing.
4. Tailrace gate installation is in progress.
5. Fabrication and erection of AB-1 and AB-27 bends of penstock are ongoing.
6. Flushing valve installation for Likhu/Nupche bell-mouths is in progress.
7. Penstock cleaning works are nearing completion.
8. VT and PT pipe welding works are nearing completion.
9. Assembly of Bulkhead gate frame and Leaf is in progress.

4.2.6 Transmission Line

1. **Conductor stringing works** are ongoing from AP 0–AP 6, AP 9–AP 9/2, AP 11/1–AP 11/3, AP 13–AP 13/2, and AP 25–AP 27.
2. **OPGW stringing works** are ongoing from AP 10/1–AP 7, AP 7–AP 0, and AP 22/2–AP 27.

4.2.7 Planning and Other Works

1. Investment in nearby small- and large-scale projects is ongoing.
2. Planning for access road improvement is in progress.
3. River training works are ongoing.

4.3 Challenges Faced:

Although the Company remains committed to completing the project within the stipulated time and schedule, several challenges related to site conditions, weather, local issues, logistics, and manpower have affected project implementation. The major challenges faced are:

1. **Continuous rainfall** has affected construction activities and caused delays in overall project progress as multiple spots have encountered landslides.
2. **Flooding and adverse weather conditions** have disrupted site activities and transportation as the main bridge connecting project site along with approximately 1000m of road has been completely washed out.
3. **Road blockages by local communities** due to issues related to nearby hydropower projects have disrupted the transportation and supply of materials.
4. **Topographical challenges and unexpected ground** conditions have been encountered along the transmission line alignment beyond those anticipated during the geotechnical investigation.



5. **Heavy rainfall and poor road** conditions have caused delays in the material supply chain and transportation.
6. **Significant drops in temperature** have resulted in frequent equipment breakdowns, affecting work progress and efficiency.
7. **Difficulty in mobilizing and retaining skilled labor** in remote project locations has affected productivity and work quality.

Management Plan for the Mitigation of Challenge:

1. **Coordination with local authorities and local communities** is being maintained to resolve local issues and minimize disruptions.
2. **Adequate equipment, manpower, and advanced work methodologies** are being deployed to address topographical and site-related challenges.
3. **Delayed works due to monsoon and adverse weather conditions** are being expedited to recover the lost time.
4. **Sufficient critical materials are being stored manually at site** to minimize disruptions in the supply chain.
5. **Regular road maintenance and improvement works** are being carried out to ensure smooth transportation and material supply.
6. **Optimum planning of work progress and contractor demobilization** is being implemented for effective resource utilization and cost optimization.
7. **Regular progress reviews, site inspections, and schedule updates** are being conducted to identify bottlenecks and implement timely corrective actions.
8. **Coordination among civil, electromechanical, transmission line, and other interfacing works** is being strengthened to avoid conflicts and delays.
9. **Alternative access routes and contingency measures** are being considered to minimize the impact of road blockages, flooding, and other unforeseen disruptions.
10. **Manpower and equipment resources are being continuously monitored and mobilized** to maintain productivity and accelerate critical activities.

4.4 Flood impact at Site (29 Ashar 2083)

During the reporting period, the project site was significantly affected by heavy rainfall and subsequent flooding, resulting in substantial damage to access infrastructure and disruption of construction activities.

The major impacts observed are summarized below:



- Overall project connectivity, including **access roads, power supply, and communication**, was severely affected by the flood. Power supply and communication services approximately 1km and access to several project areas remains disrupted.
- The **existing landslide between the Police Station and Tangdin Village has triggered**, posing a safety risk and obstructing access to the project site.
- The **Likhu Headworks was inundated with debris** due to flood overflow, requiring extensive debris removal before diversion activities for testing and commissioning.
- The **VEPL Likhu Bridge was completely washed away**, resulting in the loss of a Main access route to the project.
- The **access road near the Likhu1 Hydropower Project of Dugar group is completely washed away**, rendering the crossing inaccessible to all vehicular traffic.
- A **major landslide at the Patal area completely blocked the access road**, preventing the transportation of resources like Diesel, Cement and Rebars.
- **Likhu Bridges No. 2 and No. 3 were heavily affected by debris and lots of river bed materials accumulation around the abutments**, necessitating immediate clearance and structural assessment before they can be safely reopened.

The flood-related damages have caused significant disruption to project logistics and construction activities. Restoration of access roads, bridges, and affected infrastructure is underway, and detailed assessments are being carried out to determine the extent of damage and the required rehabilitation measures. The overall impact on the project schedule will be evaluated following the completion of the restoration works.

4.5 Road Connectivity Restoration and Supply Plan

The flood-induced damage to the project access roads and bridges, restoration measures have been planned in two phases to re-establish site connectivity and ensure the continuous supply of construction materials and equipment.

A. Partial Road Connectivity

1. One excavator has been mobilized from **Kinja** and another from the **project side** to clear debris, remove landslide materials, and restore road connectivity.
2. Approximately 15 drums of fuel (200 liters each), totaling 3,000 liters, are being transported from Mainapokhari to the project site to support the operation of construction equipment.
3. Side cutting at the washed-out road sections, clearance of the landslide between the **Police Station and Village**, and restoration of the access road by diverting the **Likhu River** to its original channel are in progress.



4. The feasibility of installing a **Local wooden crossing** across the Likhu River is being assessed to facilitate the transportation of logistic supply, cement, fuel, and other essential construction materials until access is restored.

B. Complete Road Connectivity

1. A temporary crossing suitable for **tractor transportation** is planned through the installation of a **steel bridge deck** with necessary modifications, including the provision of pipes for the safe passage of river flow. Subject to favorable site conditions, the crossing is anticipated to be operational by **1st of Bhadra 2083**.
2. Comprehensive **landslide protection works and road rehabilitation** at the landslide-affected section between the **Police Station and Village** will be carried out to restore full vehicular access for trucks.
3. **Likhu Bridge No. 2 and Bridge No. 3** will be cleared of debris and subjected to structural inspection. If the bridge abutments are found to be structurally sound, the bridges will be reopened for the transportation of construction materials, equipment, and project logistics.
4. Upon completion of the above restoration works, full-scale transportation of materials and equipment to the project site is expected to resume, minimizing the impact of the flood on project execution.

SOME PHOTOGRAPHS OF FLOOD IMPACT and RESTORATION WORKS



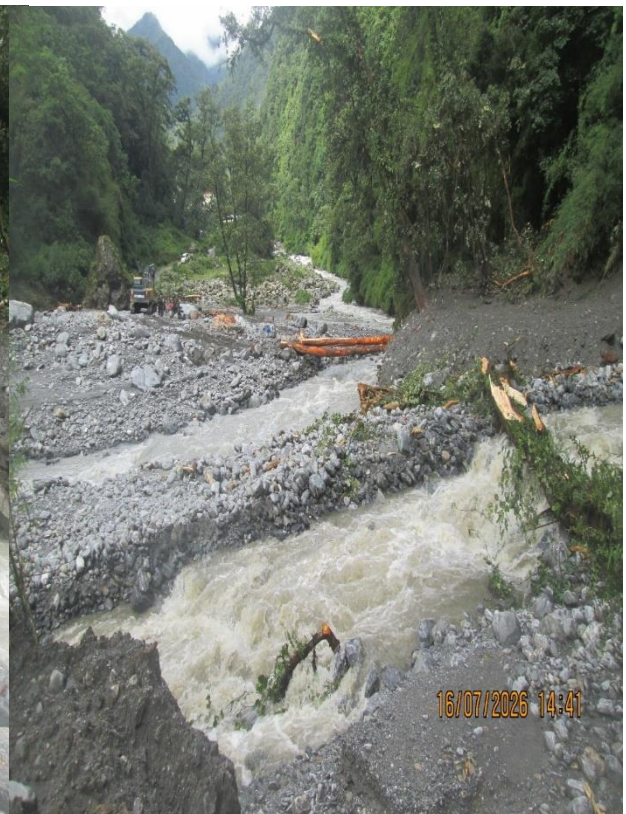
Impact of Landslide at Likhu headworks



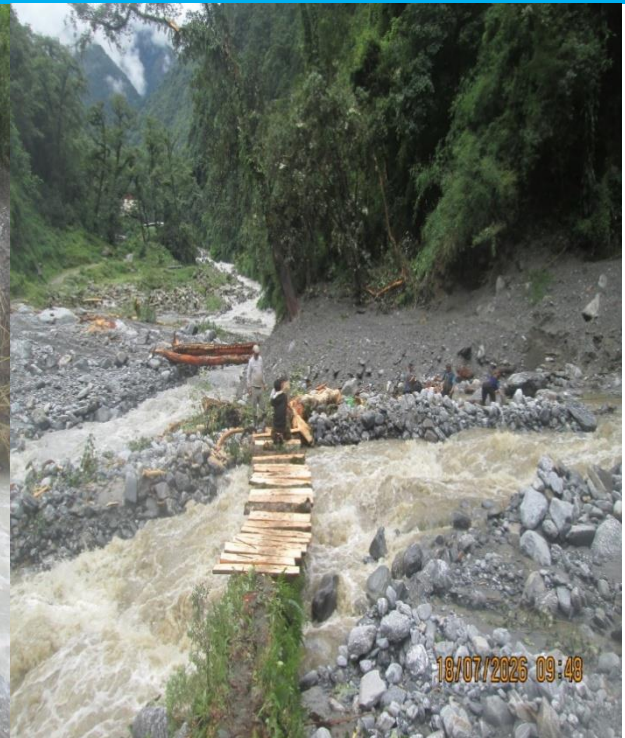
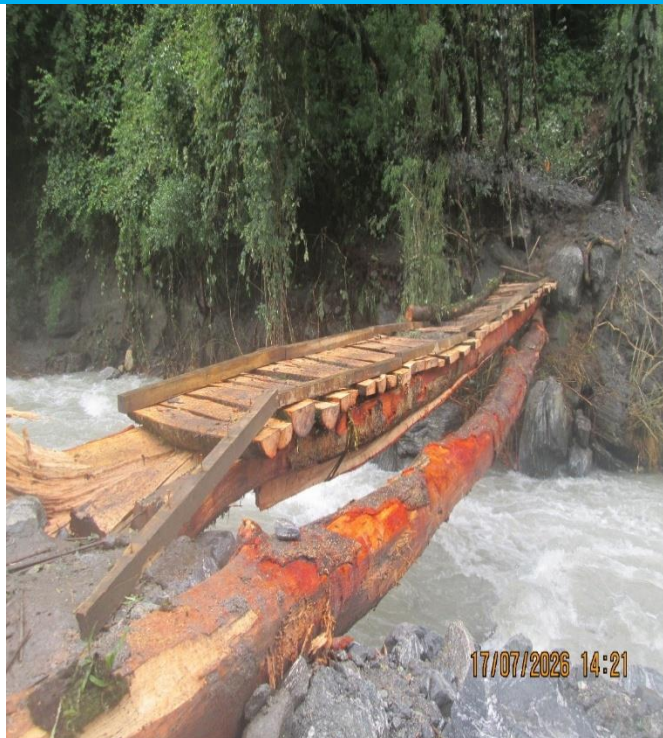
Impact of Landslide in Access road



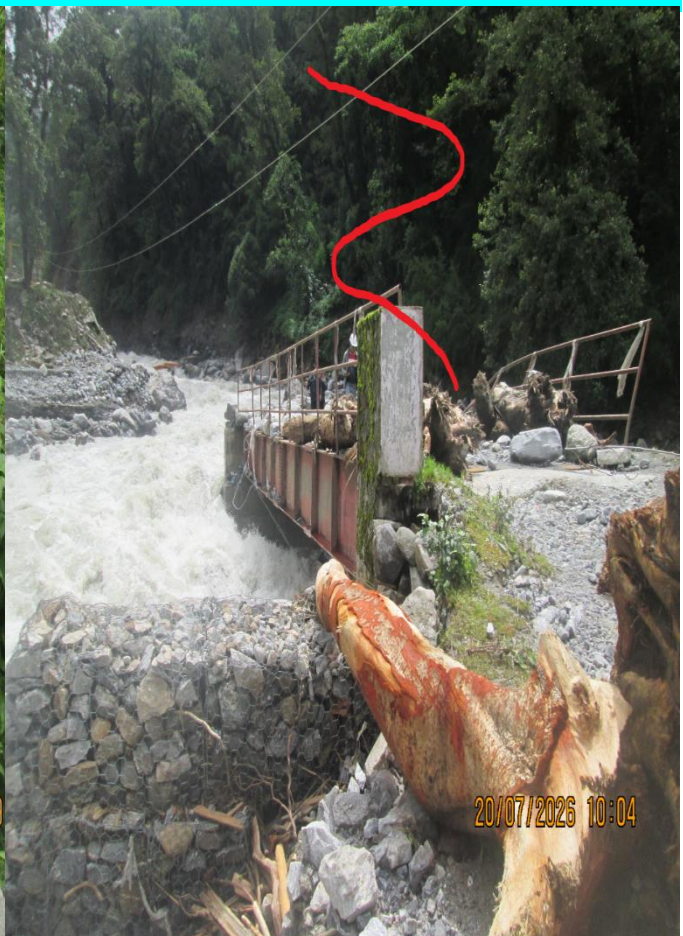
Impact of Flood overturning Main Access Bridge



Manual Crossing at Likhu Khola for Supply Chain



Manual Crossing at Likhu Khola and Bikhe1 for supply chain



Manual Crossing with Wooden stairs to meet foot trail at uphill.

4.6 Physical Progress

Vision Energy & Power Ltd records physical progress data on every construction work of the Nupche Likhu Hydropower Project. The evaluation of project physical progress has been prepared by weighted method, which is highlighted as the best and realistic technique to determine the percentage complete of the overall project. Below is the physical progress data as of [Ashar, 2083](#).

Physical Progress

SN	Activities	Physical Progress
1	Civil Works	98.03%
2	Electromechanical Works	96.98%
3	Hydro Mechanical Works	97.88%
4	Transmission line & Interconnection	96.68%
5	Land Acquisition/ Compensation/Development	98.69%
6	Construction Design, Drawing and DPR	99.28%
7	Office Building including Camp Facilities	100.00%
8	Infrastructure Development (Temporary and Permanent)	97.55%
9	Environment Mitigation and Social Responsibility	95.35%
	Total	97.63%

OVERALL PHYSICAL PROGRESS ACHIEVED: 97.63%

4.7 Financial Progress

Vision Energy & Power Ltd. records all important financial data on every aspect of a business's activities. Below is the financial progress data to manage the operations of our business and also to provide reporting transparency to our stakeholders.

Allocated Budget Vs. Actual Utilization Up to 32 Ashar, 2083

Financial Progress.

SN	Particulars	Revised Budget-2	Total Utilization Including Advance	Utilization %
1	Preliminary Works	246,051,846	246,051,846	100.00%
2	Civil Works	4,339,038,660	4,442,532,454	102.39%
3	Electromechanical Works	1,473,381,424	1,395,979,892	94.75%

SN	Particulars	Revised Budget-2	Total Utilization Including Advance	Utilization %
4	Hydro Mechanical Works	1,333,634,257	1,336,567,976	100.22%
5	Transmission line & Switchyard	660,747,842	605,925,394	91.70%
6	Land Acquisition/ Compensation/Development	109,880,925	102,997,101	93.74%
7	Project Supervision/Management and Engineering	583,871,361	604,013,444	103.45%
8	Construction Design, Drawing and DPR	28,776,932	27,976,932	97.22%
9	Office Building including Camp Facilities	93,355,241	92,996,191	99.62%
10	Office Equipment	13,678,064	11,983,968	87.61%
11	Vehicle	21,784,185	20,694,976	95.00%
12	Infrastructure Development (Temporary and Permanent)	919,327,844	816,833,456	88.85%
13	Environment Mitigation and Social Responsibility	231,998,389	192,299,905	82.89%
14	Loan Documentation Fee	90,627,611	76,705,486	84.64%
15	Interest During Construction	1,777,772,216	1,605,485,663	90.31%
	Total	11,923,926,799	11,579,044,683	97.11%

4.8 Loan Details

S.N.	Particulars	Amount	Amount	Remarks
A	Total Share Capital		3,320,000,000	
B	Total Bank Loan		8,111,823,124	
	<i>Term Loan</i>	7,656,987,173		
	<i>Bridge Gap Loan</i>	454,835,951		
C	Total (A+B)		11,431,823,124	
D	Debt Ratio (B÷C)		70.96%	
E	Equity Ratio (A÷C)		29.04%	

4.9 Planning for the next quarter

- a) Finishing Work of All Tunnel.
- b) Complete erection of all pipes in Vertical shaft and Penstock Tunnel; along with the infill of concrete.
- c) Completion of 100% of Penstock Pipe Works.
- d) Completion of 100% of the Nupche Headworks.
- e) Completion of stringing works for 24KM of Transmission Line.
- f) Testing and Commissioning of Civil work, HM, EM, TL.
- g) Completion of Dry Test and Initiation of Wet Test.



ANNEX – 1: SOME PHOTOGRAPHS OF WORK PROGRESS





Sending End Switchyard



Work Progress in Powerhouse



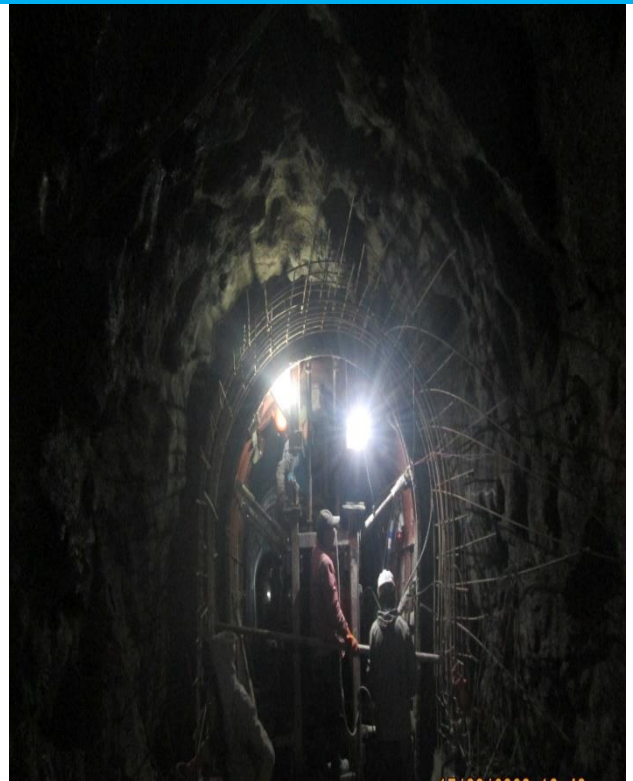
Headrace Tunnel (HRT) Reinforcement Work



Surge Shaft Dome Reinforcement Work



Knife Gate Valve at the Likhu Inlet Tunnel



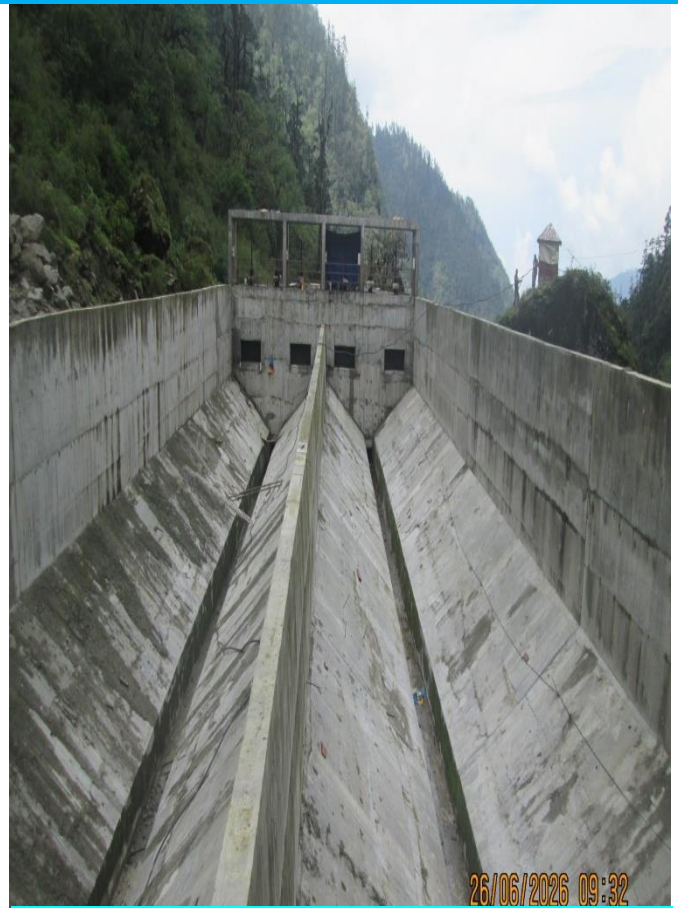
Ganty Framework



Full Concrete Lining Inside Tunnel



Anchor Block AB9 – Final Concrete Casting



Desander – Ready for Water Filling



Pressure Protection Valve (PPV) at Outlet



AP1 Transmission Tower



Rebar work for 3rd Stage Concrete of Turbine



Testing Likhu HW



Valve House at Outlet



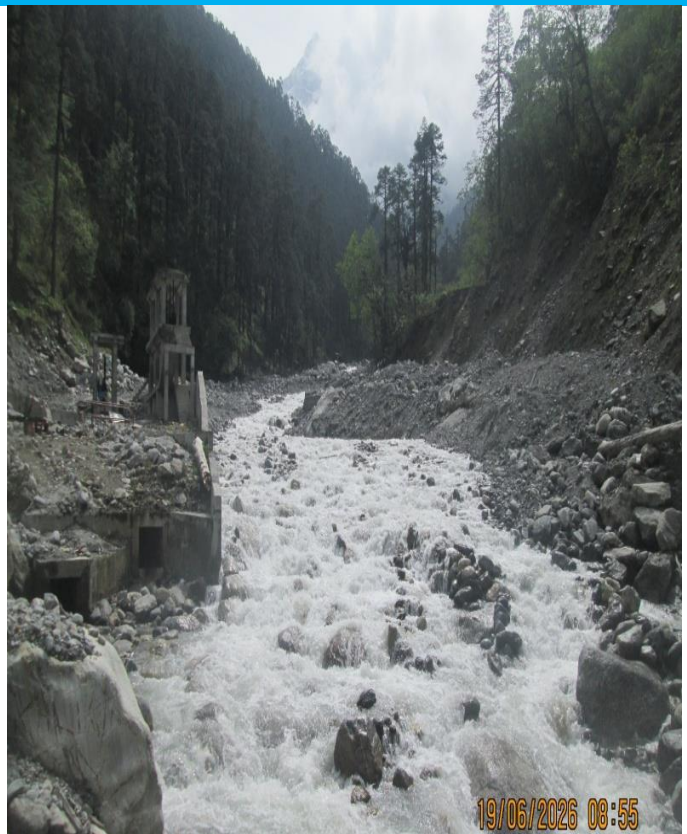
Settling Basin Testing Likhu HW



Overview of Nupche H/W



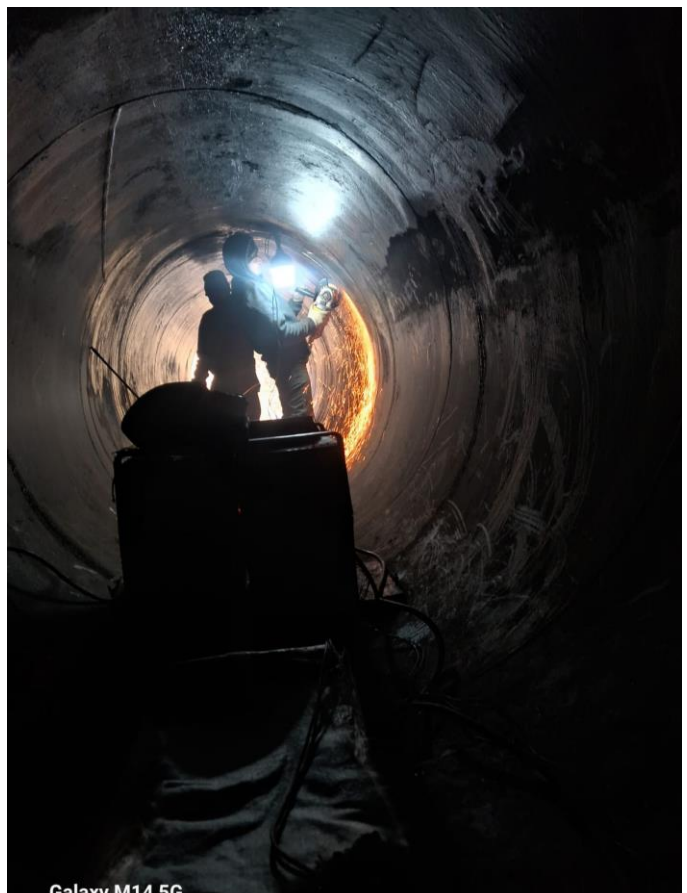
Headworks of Nupche



Likhu River Channelization work



Pipe welding work at AB1 section



Grinding works at PT



Penstock Erection at Bifurcation



Valve works at Nupche Portal



Knife Gate Valve at the Likhu Inlet Tunnel



Upstream River Channelization at Likhu
Intake



Headrace Tunnel (HRT) Reinforcement Work



Installation of third Turbine Housing



All unit Assembly completed



Complete erection of MIV



Complete erection of Nozzle



EM Control DB



Unit-3 Turbine



Rotor assembly completed



NLHP Transmission Line Towers



NLHP Transmission Line Towers



Kholi near Powerhouse



Kholi near AB22



Tower Erection and Stringing Works using Drone



Ongoing works of Transmission Line at Receiving End Substation.



Tower Erection and Stringing Works

THANK YOU!

