NUPCHE LIKHU HYDROPOWER PROJECT (57.5 MW)

Ramechhap, Nepal

Project Progress Report

Kartik to Poush, 2082

Vision Energy & Power Limited

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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 **Kartik to Poush, 2082.** The key achievements during this period are as follows:

A. Forest and EIA/IEE Related Works

1. Completion of tree cutting and stamping in Transmission line alignment along ROW. Also, tree plantation has been initiated.
2. Agreement between the landowner along the Transmission Line alignment has been 98.69% completed.
3. Frequent Site visit from GCAP representative and providing training for Army personals and the Contractors representative at site for the protection of wildlife as well as the safety related trainings.
4. Implementation and follow-up of environmental and social management plan throughout the construction phase to achieve good environment.
5. Construction of Tenzin Hillary Foot Trail Development Project, Construction of Wooden Bridge, organizing seminar and Cook training and webpage development has been completed.
6. Construction of Chakarma Agriculture and Poultry Farm group building.
7. Construction of Mud House for teachers' residence at Shree Himalay basic School Lhachhewar has been completed.
8. Construction of Dharma Sala for Lhundrup Choling Monastery has been completed.
9. Distribution of warm clothes to Baljyoti Adharbhut Bidhyalaya.
10. Facilitate for the study of feasibility of Apple farming at Chyama.

B. Preliminary/Preparatory Works

1. The road strengthening and routine maintenance of project's access road has been accomplished for this season.

C. Civil Works

1. Progress in Finishing of HRT (Headrace Tunnel) are demonstrated each front wise below:

S.N	Face	Length	Completed	Completed %
1	**Outlet to Bypass Tunnel Junction**			
	Final invert lining	205	200	98.00%
	Final Rib section Lining	205	141	69.00%

S.N	Face	Length	Completed	Completed %
2	**Bypass Tunnel Junction to US Outlet (F8)**			
	Final Shotcrete	1239	975	79.00%
	Final Invert Lining	1559	205	13.00%
	Final Rib section Lining	268	0	0.00%
3	**Adit to Outlet (F7)**			
	Final Shotcrete	1168	1010	86.00%
	Final Invert Lining	1168	0	0.00%
	Final Rib section Lining	137	0	0.00%
4	**Likhu Inlet to NL Junction (F4)**			
	Final Shotcrete	1426.7	1426.7	100.00%
	Final Invert Lining	1426.7	1397	98.00%
	Final Rib section Lining	55.32	16.9	30.55%
5	**NL Junction to Nupche (F2)**			
	Final Shotcrete	1598.98	1344	84.05%
	Final Invert Lining	1598.98	1566.98	98.00%
	Final Rib section RCC Lining	178.28	52.9	30.00%
6	**Adit to NL Junction (F6)**			
	Final Shotcrete	227.85	227.85	100.00%
	Final Invert Lining	227.85	215	94.36%
	Final Rib section Lining	15.69	15.69	100.00%
7	**Vertical Shaft**	298.76	221	74.00%
8	**Penstock Tunnel**	569	545	89.22%
	Total (Average)	**708.23**	**490.59**	**69.00%**

2. All the Excavation work of Tunnel is completed including Rock Trap.
3. 69.00% of Tunnel finishing works has been completed.
4. Rock bolting and Rib installation work inside Tunnel are all completed.
5. Shotcrete for power house protection and Gabion protection work for Knife Gate valve in Likhu HRP are completed.
6. Concreting of Valve house at Tunnel outlet is completed with doors and window installation remaining.
7. Tail race canal 2 concreting is completed.
8. Likhu Head work is completed with 99.52% progress.
9. Upstream Floodwall, Approach Culvert concreting at Nupche headworks area has been completed.
10. Concreting works at Intake and Settling Basin Transition part are all completed.
11. M25 RCC works of Settling Basin/ Flushing at Nupche HWs has been 90% completed.
12. Along the Nupche Headrace pipe alignment, 8 nos. of Anchor Blocks AB1 to AB8 are completed and Kholsi Crossing concrete works at D/S of AB8 has also been completed.

13. Backfilling works at Nupche Headrace pipe alignment is ongoing.
14. Construction of Control Buildings at Nupche and Likhu Headworks are all completed and landscaping works arein progress.
15. Along the penstock alignment, excavation and construction anchor blocks from AB-2 to AB-26 (25nos/27nos) has been and AB-1 and AB-27 remains under progress.
16. 94.11% of all shotcrete work inside Tunnel is completed followed with 57% of invert lining completed.

The details of Anchor Blocks are as follows.

S. N	Particulars	Quantity
A	**Penstock Alignment**	
1	Total numbers of Anchor Blocks along Penstock Alignment.	27
2	Total numbers of Completed Anchor Blocks (AB-02,AB-03, AB-04, AB-05, AB-06 AB-07, AB-08, AB09, 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-25, AB-26).	25
3	Total Ongoing Anchor Block-.	
4	Total Remaining Anchor Blocks (AB-01, AB-27).	2
5	Total Completed Percentage of Anchor Block.	92.59%
B	**Likhu Headrace Pipe**	
1	Total numbers of Anchor Blocks along Likhu HRP Alignment.	20
2	Total numbers of Completed Anchor Blocks (AB-01, AB-02, AB-03, AB-04, AB-05, AB06, AB-07, AB-08, AB-09, (AB-10, Casing at AB-11), AB-12, AB-13, AB-14, AB-15, AB-16, AB-17, AB-18, AB-19, AB-20).	20
3	Total Ongoing Anchor Block.	0
4	Total Remaining Anchor Block.	
5	Total Completed Percentage of Anchor Block.	100%
C	**Nupche Headrace Pipe**	
1	Total numbers of Anchor Blocks along Likhu HRP Alignment.	9
2	Total numbers of Completed Anchor Blocks (AB-01, AB-02, AB-03, AB-04, AB-05, AB06, AB-07, AB-08).	8
3	Total Ongoing Anchor Block.	1
4	Total Remaining Anchor Block (AB-09).	
5	Total Completed Percentage of Anchor Block.	88.89%

17. Concreting at the Vertical shaft up to 221m from the bend has been completed.
18. Concreting works at Penstock Tunnel up to 500m from the bend has been completed.

D. Electromechanical (EM) Work

1. Approvals of all design memorandum, drawing and calculation completed with progress of **92.53%.**
2. Procurement and manufacturing of all requirements is 98% complete with only 1 set of turbine housing assembly remaining
3. Factory inspection, testing and Transportation is 94% delivered to the site while only 2 sets of turbine housing assembly and firefighting system are remained to be dispatched.

E. Hydro mechanical (HM) Works

1. **93.27%** of Hydromechanical works has been completed.
2. **70%** of Gates leaf's installed along with hoisting stand and motor and panel board at Likhu and Nupche HWs.
3. **82.70%** of works has been completed along Nupche HRP and 99% of works has been completed along Likhu HRP.
4. **94.11%** of erection of pipe along penstock alignment are completed.
5. **92.36%** of Pipes erection has been completed.
   The details are as follows:

Erection of PIPES	Total Length (m)	Erected Length (m)	Remaining Length(m)	% Completed
Penstock	1527.54	1437.54	90	94.11%
Vertical Shaft	298.76	223	75.76	74.64%
Horizontal Shaft	569	558	11	98.07%
Bifurcation and Manifolds (Branch pipe)	182	125.99	56.01	69.23%
Likhu HRP	1053.12	1049.12	4	99.62%
Nupche HRP	421.35	348.447	72.902	82.70%
Total	**4051.77**	**3742.10**	**309.67**	**92.36%**

F. Transmission Line

1. **89.16%** of Transmission Line works has been completed.
2. Approx 99% of tower material has been delivered to site.
3. 98.72% excavation of tower foundation has been completed.
4. 98.40% of Tower foundation concreting has been completed.
5. 98.08% of Tower foundation has been completed with back filling of Pit.
6. 95.00% of Tower Erection work has been completed.
7. 33.94% of Stringing work has been completed.

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

1	**Foundation Works**				**98.72%**
1.1	Excavation, Concreting and Backfilling	Nos.	78	77	**98.72%**
2	**Erection Works**				**95.00%**
2.1	Erection Works	Nos.	78	74	95.00%
3	**Stringing Works**				**33.94%**
3.1	Stringing Works	Km.	24	8.14	33.94%

G. Planning, Governance and Other Works

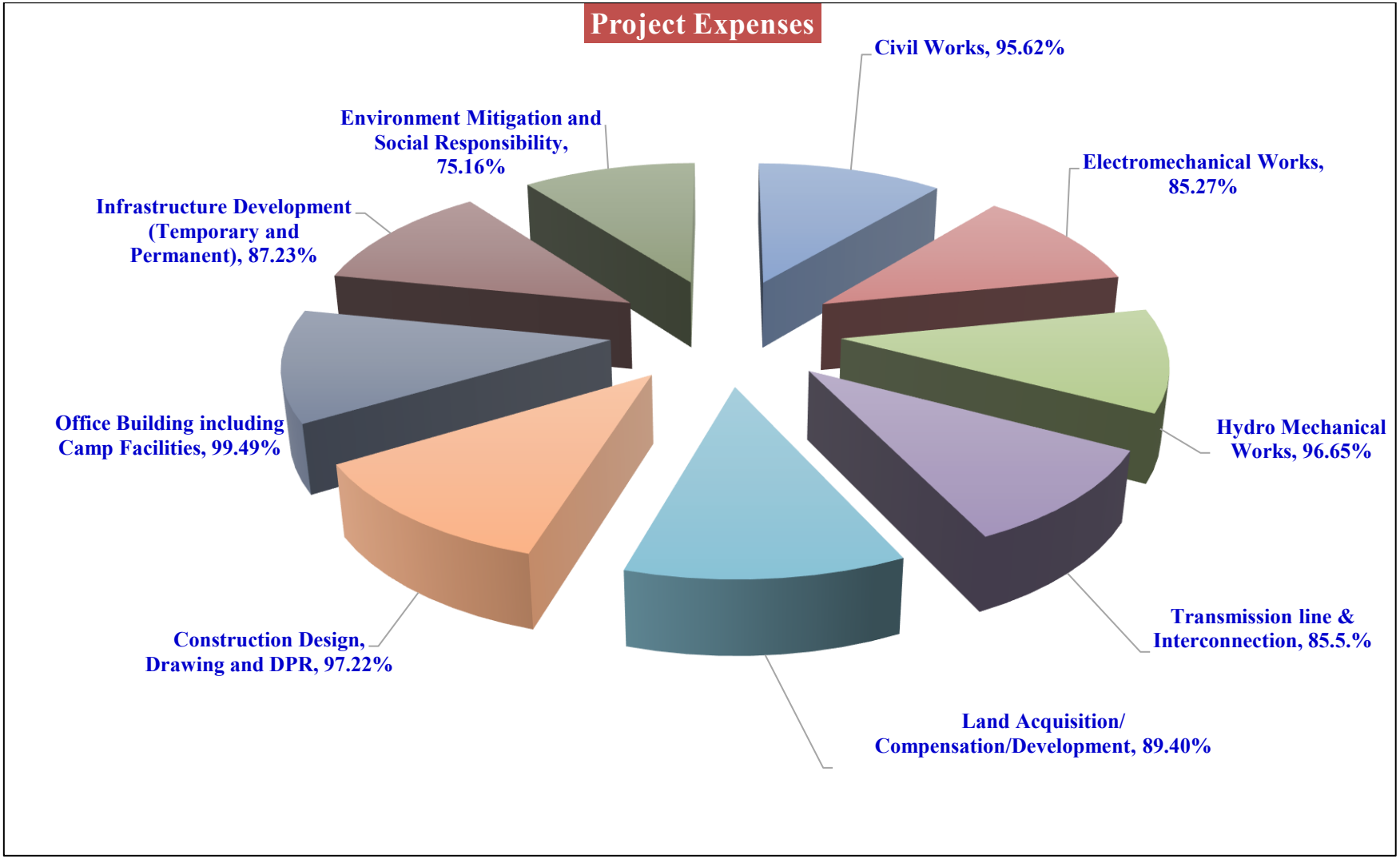
1. Investment in nearby small and other large projects has been completed and the review of the application is ongoing from the Government Officials.
2. Development and Implementation of Strategy to increase Productivity has been effectively done.
3. Release of IPO for the public is in final stage.
4. Optimum productivity plan for four-month Magh, Falgun, Chaitra and Baiskah-2082 along with demobilization plan and Cost Optimization has been finalized with the civil Contractor.

H. Any Bottlenecks

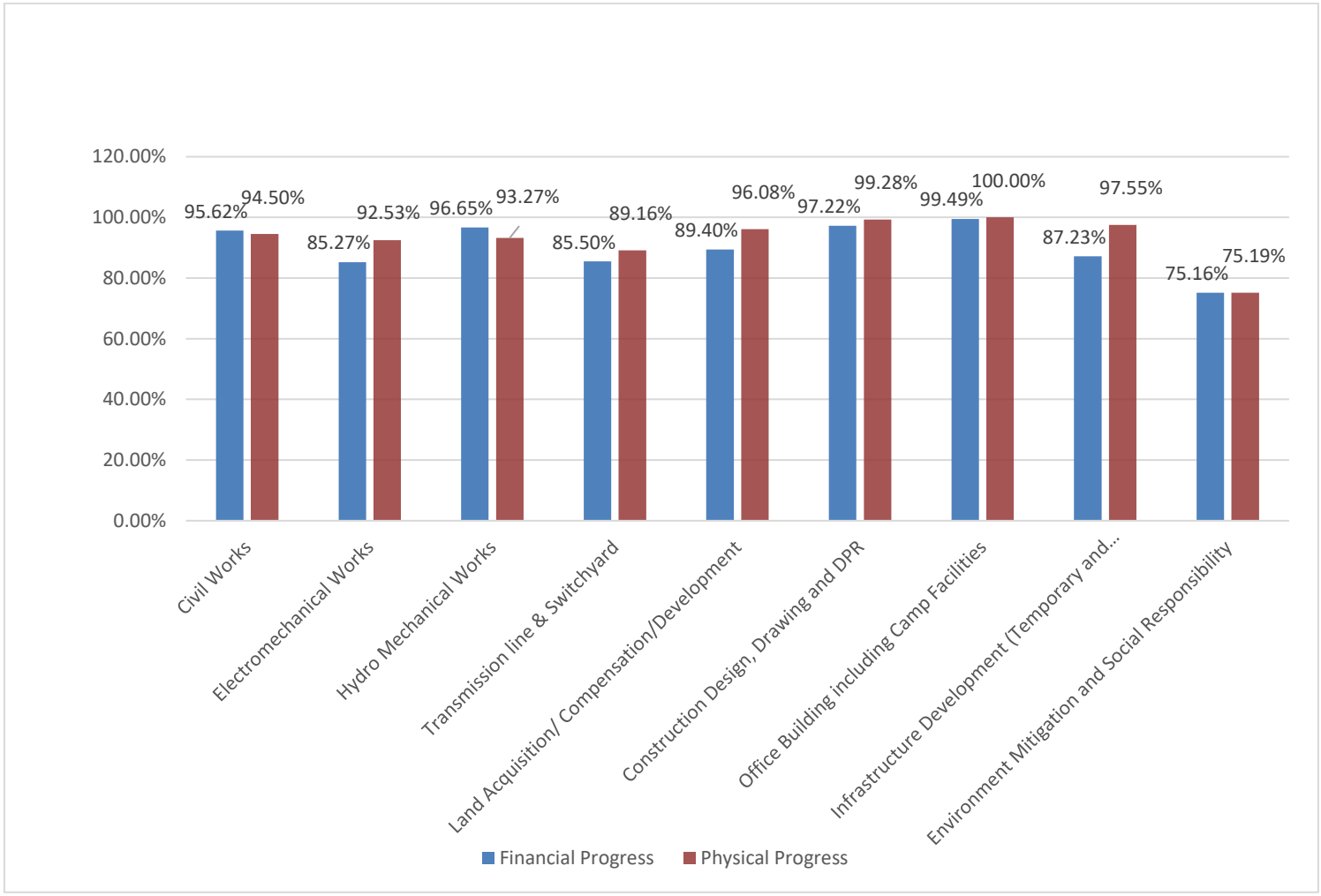
1. Finishing Work of Tunnel.
2. Transportation of Major EM- Equipment along with their erection.
3. Completion of VT/PT Pipe Erection.
4. Completion of stringing Works.

I. Financial and Physical Progress

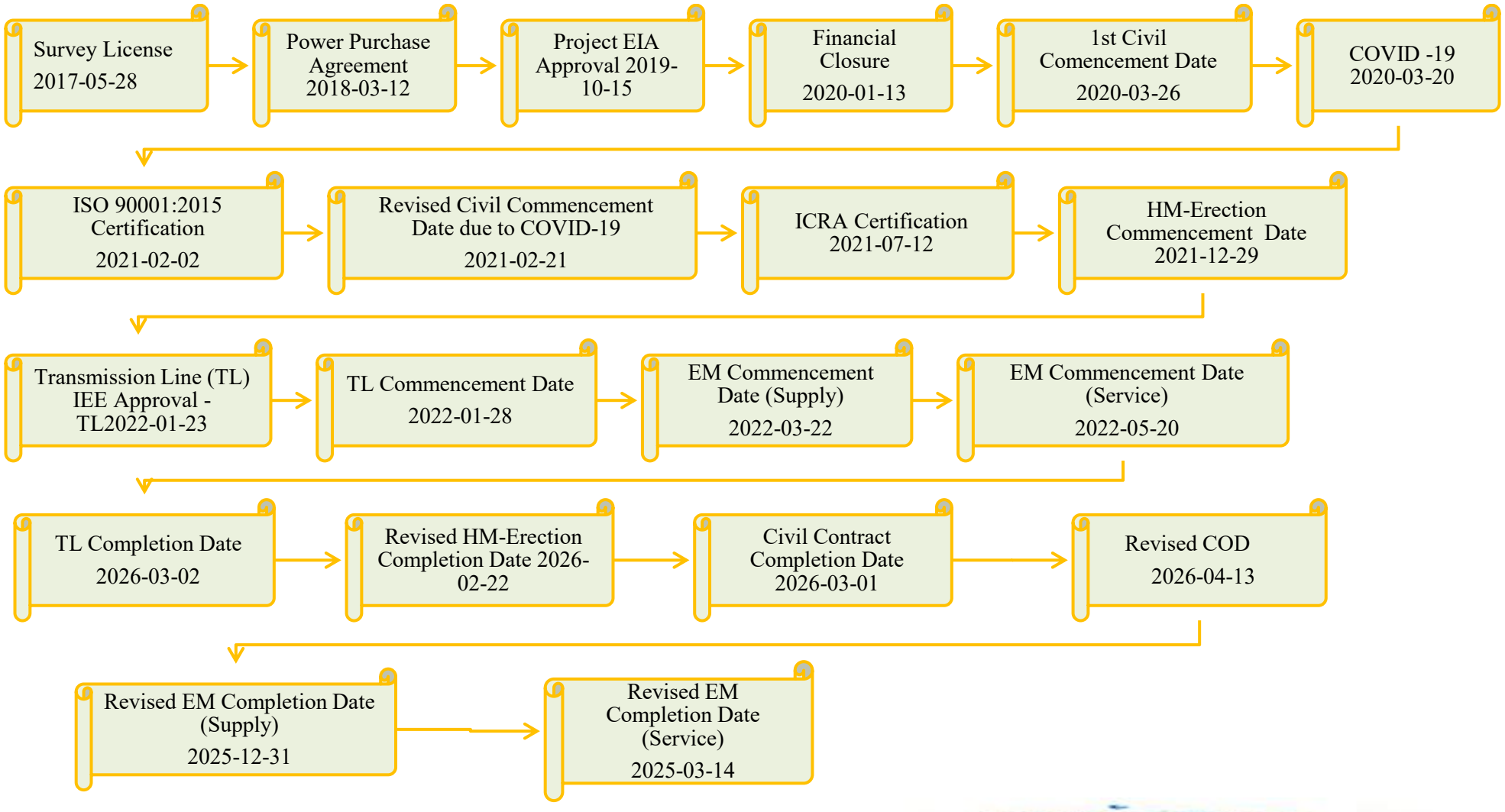
1. Till the date **89.90%** of the budget has been utilized and about **93.83%** of the overall physical progress has been achieved;


Project Expenses
Civil Works, 95.62%
Electromechanical Works, 85.27%
Hydro Mechanical Works, 96.65%
Transmission line & Interconnection, 85.5.%
Land Acquisition/ Compensation/Development, 89.40%
Construction Design, Drawing and DPR, 97.22%
Office Building including Camp Facilities, 99.49%
Infrastructure Development (Temporary and Permanent), 87.23%
Environment Mitigation and Social Responsibility, 75.16%

Physical Vs Financial Progress.



J. Revised NLHP Project's Major Timeline



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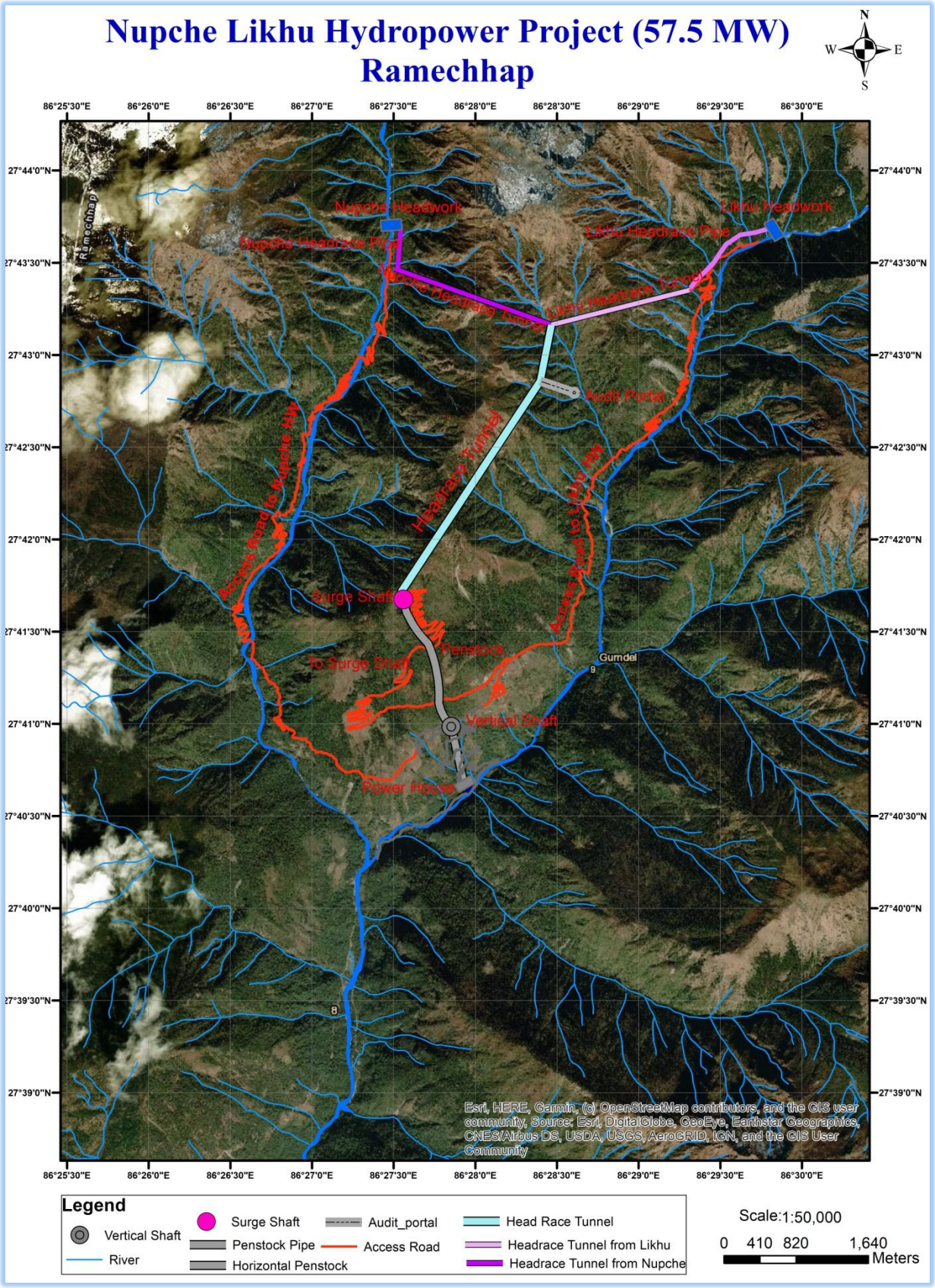


1. Introduction

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 m^3/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.	**General**	
	Name of the Project	Nupche Likhu Hydropower Project
	Type of the Project	Snow fed Run-off River Hydropower Project
2.	**Location**	
	Zone/ Development Region	Janakpur Zone/Central Development Region
	District	Ramechhap
	Project Location	Umakunda Rural Municipality, (Gumdel VDC)
	River	Nupche Khola and Likhu Khola
	License Boundary	
	Longitude	86°26'30" E - 86°30'30" E
	Latitude	27°40'37" N - 27°43'43" N
3.	**Hydrology**	
	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.	**Nupche & Likhu- Headworks**	
	Weir	
	Type	Boulder line weir
	Bed Load Sluice	
	Type	Bed Load
	Intake	
	Type	Orifice, Side Intake
	Gravel Trap	
	Type	Single, Dufour
	Settling Basin	
	Type	Double Bay Dufour Type
5.	**Headrace Pipe**	
	Headrace Pipe	421.35m & 1053.12m (Nupche & Likhu)
6.	**Tunnel Length**	
	Total Length	7450.201 m
	Tunnel Size	3.2 m x 3.8m (Excavation Size)
7.	**Surge Tank**	
	Type	Surface, Circular
8.	**Penstock Pipe Length**	
	Total Steel Penstock Pipe	2639.5 m
9.	**Power House**	
	Type	Surface
10.	**Turbine**	
	Type	Horizontal Pelton
	Number of units	3

	Rated Output Capacity per unit	20.26 MW
11.	**Generator**	
	Type	Solid State, PID Governor
	Number of units	3
	Rated Output Capacity	22.55 MVA
	Excitation System	Brushless Type
12.	**Transformer**	
	Type	Outdoor, Oil immersed, Three Phase
	Rated Capacity	23 MVA
	Number of Units	3
13.	**Tail-Race Canal**	
	Type	Box Culvert
14.	**Transmission Line & Grid**	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.	**Power and Energy**	
	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.	**Project Road to HW & PH**	38.90 km
17.	**Approximate Cost of Project**	11,923Million (Revised as per lending Bank Technical Consultant)
18.	**Approximate Construction Period:**	4 Years
19.	**Estimated Commercial Operation Date (COD)**	2082/12/30 BS 2026/04/13 AD

1.6 Investment Module

The investment in Promoters Share has been closed from Ashwin End 2075.

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 Liscence. 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. **Environmental Impact Assessment (EIA)** study of Project has been approved.
2. The application for approval of **'Tree Cutting and use of Government Land'** has been approved from the Council of Ministers.
3. Procurement of Land for the replacement of the government land used by the Project has been completed.
4. The agreement between Department of National Parks and Wildlife Conservation, Department of Forests and Soil Conservation and Vision Energy & Power Ltd. for use of **'Tree Cutting and use of Government Land'** has been signed on 30th Chaitra, 2077.
5. Field Work for Tree Counting and Stamping for the project is completed in pursuant to EIA.
6. IEE for the Transmission Line has been approved on 2076-10-09 and Tree cutting and government land use for Transmission Line from cabinet of government of Nepal has been approved on 2080-04-23, also agreement with Department of National Parks and Wildlife Conservation has been concluded.
7. Submission of self EHS Audit Report to ministry of Forest and Environment.
8. Land acquisition and Agreement with the NPWC has been completed and Tree stamping completed and cutting is in progress.

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. **94.50%** of physical progress in Civil Works has been achieved.
2. Finishing works such as installation of Doors and Windows and painting works in Control Building and Concreting of foundation bolts of Switchyard area has been completed.
3. Powerhouse and Control Building has been handed over to EM Contractor.
4. Excavation work of tunnel is completed with final break through on **2082/05/14(2025/08/30)**
5. **94.11%** of shotcrete lining work of tunnel has been completed.
6. Finishing works at Surge shaft has been started and with completion of 87% of total concreting work.
7. The total Excavation of Tunnel (7605 m) has been completed.
8. Completion of **221 m** Concreting at the Vertical Shaft and **500 m** of concreting at Penstock Tunnel.
9. Likhu HWs is on the verge of completion, approx. **99.38%** of civil works of Likhu HWs has been completed with **99%** the second stage concreting.
10. Completion of concreting all Anchor Block from 1 to 20 has been completed and backfilling works of Anchor Block from 1 to 20 for Likhu Headrace pipe has been completed.
11. Along the penstock alignment, 25 Anchor Blocks out of 27 has completed.
12. Excavation along penstock Alignment for remaining 2 nos. of Anchor Block is in progress.
13. Retaining wall from Switchyard to main gate is in Completed and boundary work ongoing.
14. Completion of Valve house at Outlet portal and EM work ongoing.
15. Completion of Emergency Staircase at Power house and Control Building.
16. Tailrace cannel 2 concreting completed
17. Completion of Contril building with roof truss at both Nupche and Likhu Headworks.

4.1.4 Electromechanical Works

1. Approx**. 92.53%** of physical progress in Electromechanical Works has been achieved.
2. Completion of powerhouse station.
3. Installation of protection Pannel completed at Powerhouse.
4. Receiving end substation 2nd stage concerting with bolt work completed for base.
5. Main transformer assembly completed.
6. 1 unit turbine and housing with generator all completed with work in unit 2 ongoing.

4.1.5 Hydro mechanical Works

1. **93.27%** of Hydromechanical works has been completed.
2. **70%** of Gates leafs installed along with hoisting stand and motor and panel board at Likhu and Nupche HWs.
3. **82.70%** of works has been completed along Nupche HRP and 99.62% of works has been completed along Likhu HRP.
4. **94.11%** of erection of pipe along penstock alignment are completed.
5. **92.36%** of Pipes erection has been completed.

4.1.6 Transmission Line

1. **89.16%** of Transmission works has been completed.
2. **99%** of tower material has been delivered to site.
3. **98.72%** excavation of tower foundation has been completed.
4. **98.40%** of Tower foundation concreting has been completed.
5. **98.08%** of Tower foundation has been completed with back filling of Pit.
6. **95.00%** of Tower Erection work has been completed.
7. **33.94%** of Stringing work 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 Quality and Good Governance

1. ICRA rating revision is in progress.
2. Monitoring of ISO certification has been completed.

4.2.2 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.

4.2.3 Preliminary/Preparatory Works

1. Road strengthening and routine maintenance of access road.

4.2.4 Civil Works

1. Kholsi Protection Work of Nupche Settling Basin and penstock alignment are ongoing.
2. RCC works at Desander superpass at Nupche HWs.
3. Infill Concreting at VT and PT.
4. M25 concrete works at Surge Shaft.
5. Final lining works at Headrace Tunnel.
6. Concreting of Powerhouse kholsi crossing.

4.2.5 EM (Electromechanical) Works

1. Control and Instrumentation cable termination works completed.
2. Cooling water system pipelines welding works.
3. Installation of hydraulic pressure unit (HPU) piping.
4. Manufacturing and Inspection for auxiliary equipment is in progress.
5. MV power cable laying, dressing, glanding and termination works.

4.2.6 HM (Hydro-mechanical) Works

1. Installation of Gates Leaf's at Nupche/Likhu Headworks and Hoisting.
2. Fabrication, supply and installation of Knife Gate Valve of Likhu and Nupche in progress.
3. Erection of Penstock at VT and PT along with Bifurcation.
4. Testing and Rectification of the HM pipes and accessories along with Nondestructive testing in Penstock Pipe.

4.2.7 Transmission Line

1. Tower protection work of different tower footing is in progress.
2. Erection of Tower.
3. Installation works of Stringing in Towers.

4.2.8 Planning and Other Works

1. Investment in nearby small and other large projects is ongoing;

4.3 Challenges Faced:

Though the company is committed to complete the work in stipulated time and schedule, company struggles to tackle the project management challenges and issues related to the processes and directions of government, local community, site condition etc. The major challenges we have faced are.

1. Delay in transportation of Electro-mechanical equipment by the EM Contractor.
2. Local issues such as excessive demands for construction equipment's/upgradation of roads
3. Topographical challenges and unexpected ground conditions at TL alignment than anticipated in geotechnical investigation.
4. Early Winter season causing excessive cold and freezing at site.
5. Political change during Gen-Z protest cause delay in material supply chain.
6. Damaged road section in various location of access road to Nupche-Likhu Hydropower project.
7. Breakdown of equipment due to excessive temperature decrease.

Management Plan for the Mitigation of Challenge:

1. Co-ordination with local authority and local people about the issue.
2. Beside the topographical challenges the resources such as equipment and manpower with advance working methodology have been adopted.
3. Work to be Expedite which were lagged due to monsoon.
4. Storage of enough material to upheld any disturbance in supply chain.
5. Road maintenance work in progress and regularly being done.
6. Optimum planning for the progress and demobilization of contractor for cost optimization.
7. Supply of adequate heating equipment for the manpower at the site.

4.4 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 **Poush, 2082**.

Physical Progress

SN	Activities	Physical Progress
1	Civil Works	94.50%
2	Electromechanical Works	92.53%
3	Hydro Mechanical Works	93.27%
4	Transmission line & Interconnection	89.16%
5	Land Acquisition/ Compensation/Development	96.08%
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	75.19%
	Total	**93.83%**

OVERALL PHYSICAL PROGRESS ACHIEVED: 93.83%

4.5 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 31st Ashwin, 2082

Financial Progress.

SN	Particulars	Revised Amount	Total Utilization Including Advance	Utilization %
1	Preliminary Works	246,051,846	246,051,846	100.00%
2	Civil Works	4,339,038,660	4,148,818,331	95.62%
3	Electromechanical Works	1,473,381,424	1,256,323,462	85.27%
4	Hydro Mechanical Works	1,333,634,257	1,288,950,705	96.65%
5	Transmission line & Switchyard	660,747,842	564,935,303	85.50%
6	Land Acquisition/ Compensation/Development	109,880,925	98,230,925	89.40%
7	Project Supervision/Management and Engineering	583,871,361	532,939,279	91.28%
8	Construction Design, Drawing and DPR	28,776,932	27,976,932	97.22%

9	Office Building including Camp Facilities	93,355,241	92,879,091	99.49%
10	Office Equipment	13,678,064	13,191,005	96.44%
11	Vehicle	21,784,185	21,784,185	100.00%
12	Infrastructure Development (Temporary and Permanent)	919,327,844	801,897,938	87.23%
13	Environment Mitigation and Social Responsibility	231,998,389	174,373,237	75.16%
14	Loan Documentation Fee	90,627,611	75,954,921	83.81%
15	Interest During Construction	1,777,772,216	1,375,322,843	77.36%
	Total	**11,923,926,799**	**10,719,630,002**	**89.90%**

Total Share Capital as on 31st Ashwin, 2082: - NPR 3,320,000,000

4.6 Loan Details

Total loan from Consortium Banks is 7 Arab 40 Crores.

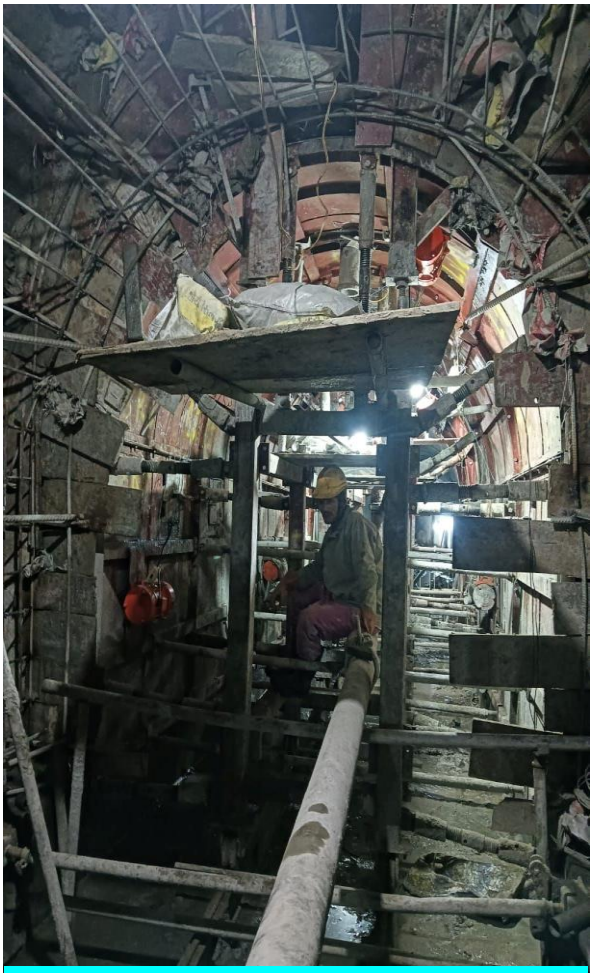
4.7 Planning for the next quarter

a) Finishing Work of All Tunnel.
b) Installation of all Generators.
c) Transportation and Installation of Turbine.
d) Complete erection of all pipes in Vertical shaft and Penstock Tunnel; along with the infill of concrete.
e) Excavation of 100% of the Headrace Tunnel.
f) Completion of 100% of Penstock Pipe Works.
g) Completion of 100% of the Nupche Headworks.
h) Installation of gates in Likhu HWs, Nupche HWs & Tailrace.
i) Complete excavation and backfill of 78 nos of Towers along Transmission Line.
j) Erection of all 78 nos of towers along transmission line.
k) Completion of stringing works for 24KM of Transmission Line.
l) Completion of all Tower Protection Work

ANNEX – 1: SOME PHOTOGRAPHS OF WORK PROGRESS

Sending End Switchyard

Work Progress in Powerhouse

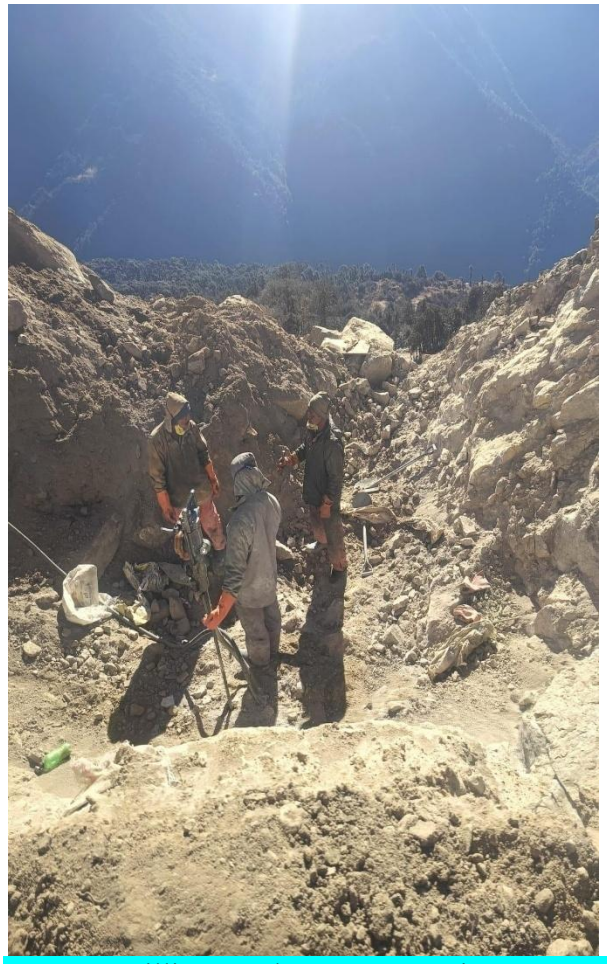


Concreting work at outlet

Anchor Block Concreting

Rebarwork at Surge shaft

Backfilling Work along Penstock alignment



Drilling Work at AB1 ongoing

Concreting work at Surge Shaft

Tunnel Formwork

Robotic Shotcreting

Tunnel Rebar works

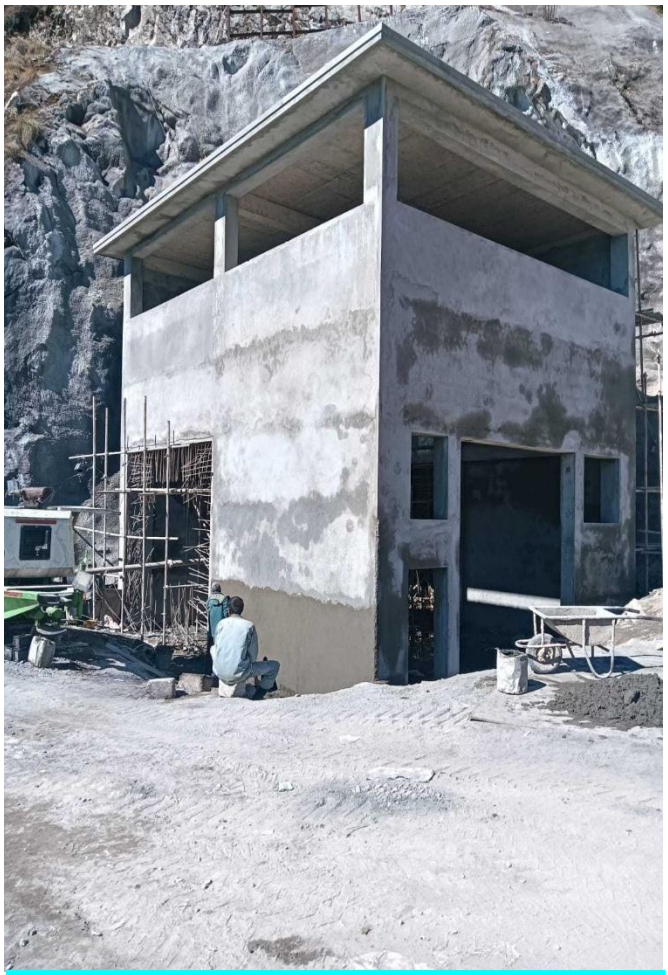
Excavation at Kholsi in P/s Alignment

Kholsi at Likhu Headworks

Weir at Nupche Headworks

Overview of Nupche Headworks area.

Control Room at Likhu H/W



Valve House at Outlet

Full Lining at Headrace Tunnel (Outlet)

Backfilling work at Penstock alignment

Installation of Turbine Housing

MIV alignment with Turbine Bifurcation

Assembled Stator and Rotor of Generator

Unit 3 Turbine Housing and accessories fabrication completed and ready to dispatch

Erection of Generator

Gate Lowering at Nupche Gravel Flushing

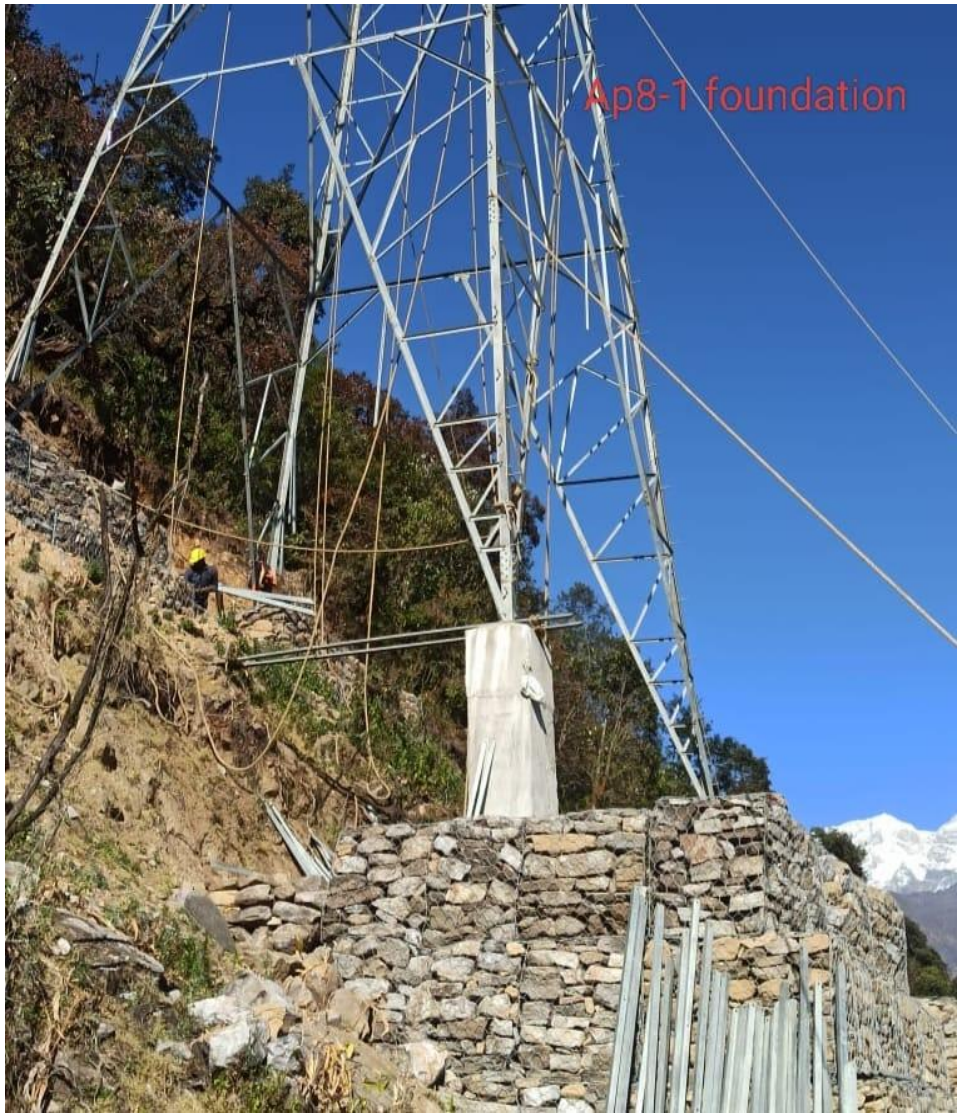
Installation of Pipe at AB26-AB27

Penstock alignment at AB1-AB2

Gate Works at Likhu Intake

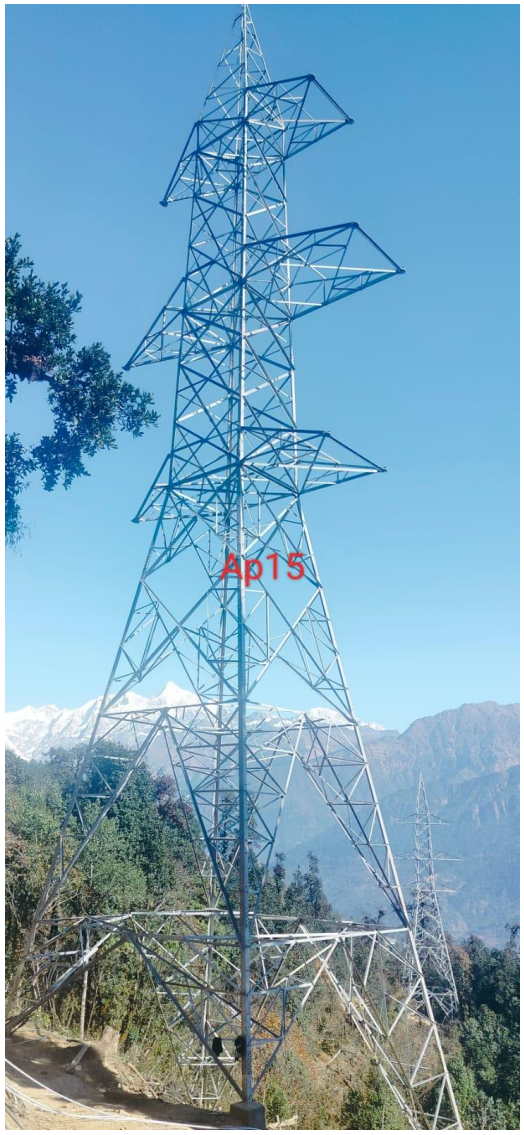
Application of Cement Latex before Concreting.

NLHP Transmission Line Towers at Kyama and Gumdel Village.



Ongoing works of Transmission Line.

Status of Ongoing Works at Garjyang Substation, VEPL Bay.



Ongoing works of Transmission Line.

THANK YOU!