NUPCHE LIKHU HYDROPOWER PROJECT (57.5 MW)

Ramechhap, Nepal

Project Progress Report

Magh to Chaitra, 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 **Magh to Chaitra, 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 Completed.
2. 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.
3. Implementation and follow-up of environmental and social management plan throughout the construction phase to achieve good environment.
4. Construction of Tenzin Hillary Foot Trail Development Project, Construction of Wooden Bridge, organizing seminar and Cook training and webpage development has been completed.
5. Construction of Chakarma Agriculture and Poultry Farm group building.
6. Construction of Stone Masonry House for funeral event at Chihan Danda Lhachhewar has been completed.
7. Construction of Dharma Sala for Lhundrup Choling Monastery has been completed.
8. Distribution of warm clothes to Baljyoti Adharbhut Bidhyalaya.
9. 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 is continuous for this season.

C. Civil Works

1. Approx. **96.27%** of physical progress in Civil Works has been achieved.
2. 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	205	100.00%
	Final Rib section Lining	205	183	89.27%

S.N	Face	Length	Completed	Completed %
2	**Bypass Tunnel Junction to US Outlet (F8)**			
	Final Shotcrete	1239	1239	100.00%
	Final Invert Lining	1559	510	32.71%
	Final Rib section Lining	268	0	0.00%
3	**Adit to Outlet (F7)**			
	Final Shotcrete	1168	1168	100.00%
	Final Invert Lining	1168	1168	100.00%
	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	1426.7	100.00%
	Final Rib section Lining	55.32	55.32	100.00%
5	**NL Junction to Nupche (F2)**			
	Final Shotcrete	1598.98	1598.98	100.00%
	Final Invert Lining	1598.98	1598.98	100.00%
	Final Rib section RCC Lining	186.2	186.2	100.00%
6	**Adit to NL Junction (F6)**			
	Final Shotcrete	227.85	227.85	100.00%
	Final Invert Lining	227.85	227.85	100.00%
	Final Rib section Lining	15.69	0	0.00%
7	**Vertical Shaft**	298.76	282.5	94.56%
8	**Penstock Tunnel**	610	517	84.75%
	Total (Average)	**716.9489**	**632.6884**	**88.25%**

3. All the Excavation work of Tunnel is completed including Rock Trap and blasting for Bulkhead gate.
4. Tunnel finishing works are progressing, with approx. **88.25%** of the works completed.
5. Concreting works at the Rock trap is ongoing.
6. Grouting and Lugeon test are 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 currently ongoing.
8. Installation works for the knife gate valves at both Likhu and Nupche Hydropower Projects are in progress.
9. Construction of the Likhu headworks is almost completed, with overall physical progress reaching **99.52%**.
10. The construction of the super passage at the settling basin is in progress, with approximately **95%** of the works completed.
11. Construction of the surge shaft is in its final stage, with only the dome structure remaining, which is presently under progress.

12. Desander Protection works at river side is in progress in Likhu Headworks.
13. Second-stage concreting works for Unit-1 in powerhouse is ongoing.
14. Along the Nupche Headrace pipe alignment, 8 nos. of Anchor Blocks AB1 to AB8 and Kholsi Crossing concrete works at D/S of AB8 both are been completed.
15. Backfilling works at Nupche Headrace pipe alignment is ongoing.
16. Preparation for the concreting works of **AB-09** at Nupche HRP has been commenced.
17. Construction of Control Buildings at Nupche and Likhu Headworks are all completed.
18. Along the penstock alignment, excavation and construction of anchor blocks from AB-2 to AB-26 (25nos/27nos) has been completed whereby, AB-1 and AB-27 remains under progress.

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 Nupche 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%

19. Shotcrete works inside the tunnel except some minor sections has been fully completed, while invert lining works has achieved approximately **88.79%** progress and are progressing smoothly.
20. Concreting at the Vertical shaft up to 282.5m from the bend has been completed.
21. Concreting works at Penstock Tunnel up to 517 m has been completed.

D. Electromechanical (EM) Work

1. Approvals of all design memorandum, drawing and calculation completed with progress of **93.33 %.**
2. Procurement, manufacturing and delivery of all material is completed.
3. Unit-1 and Unit-2 AC generator installation completed.
4. Unit-1 and Unit-2 turbine and housing with generator all completed with work in unit 3 ongoing.

E. Hydro mechanical (HM) Works

1. **94.95%** of Hydromechanical works has been completed.
2. **89%** of Gates leafs installed along with hoisting stand and motor and panel board at Likhu and Nupche HWs.
3. **95.39%** of works has been completed along Nupche HRP and 99.62% of works has been completed along Likhu HRP.
4. **99.35%** of erection of pipe along penstock alignment are completed.
5. **97.84%** 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	1517.54	10	99.35%
Vertical Shaft	298.76	287.71	11.05	96.30%
Horizontal Shaft	569	564	5	99.12%
Bifurcation and Manifolds (Branch pipe)	182	144.28	37.72	79.27%
Likhu HRP	1053.12	1049.12	4.00	99.62%
Nupche HRP	434.05	414.05	20	95.39%
Total	**4064.47**	**4000.07**	**64.40**	**97.84%**

F. Transmission Line

1. **92.31%** of Transmission Line works has been completed.
2. Approx 99% of tower material has been delivered to site.
3. 99.92% excavation of tower foundation has been completed.

4. 98.72% of Tower foundation concreting has been completed.
5. 98.08% of Tower foundation has been completed with back filling of Pit.
6. 96.28% of Tower Erection work has been completed.
7. 63.90% 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**				**96.28%**
2.1	Erection Works	Nos.	78	75	96.28%
3	**Stringing Works**				**63.90%**
3.1	Stringing Works	Km.	24	15.02	63.90%

G. Planning, Governance and Other Works

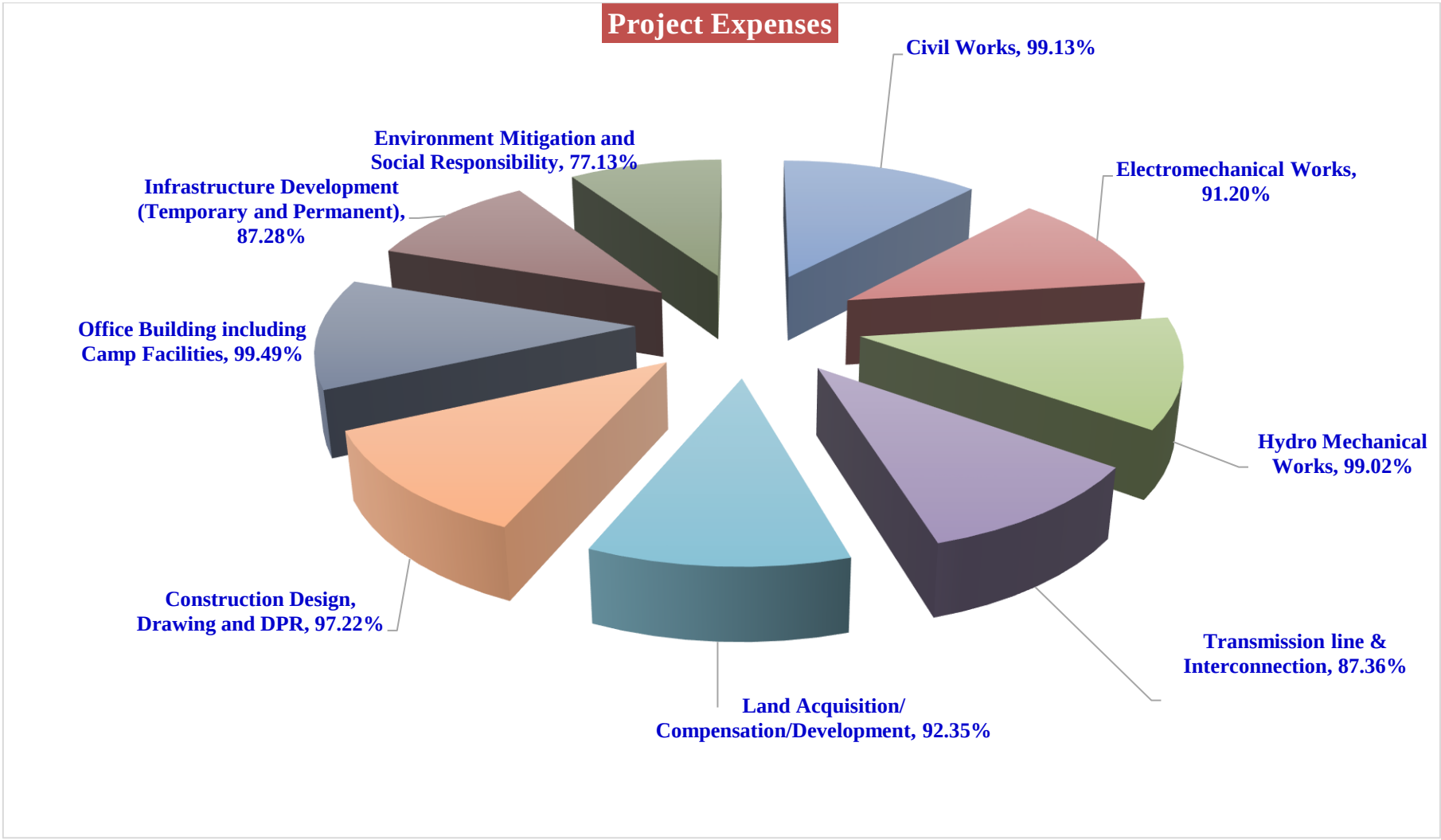
1. Investment in nearby small and other large projects has been completed and the review of the application is ongoing from the Government Officials.
2. Development and Implementation of Strategy to increase Productivity has been effectively done.
3. Release of IPO for the public is in final stage.
4. 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

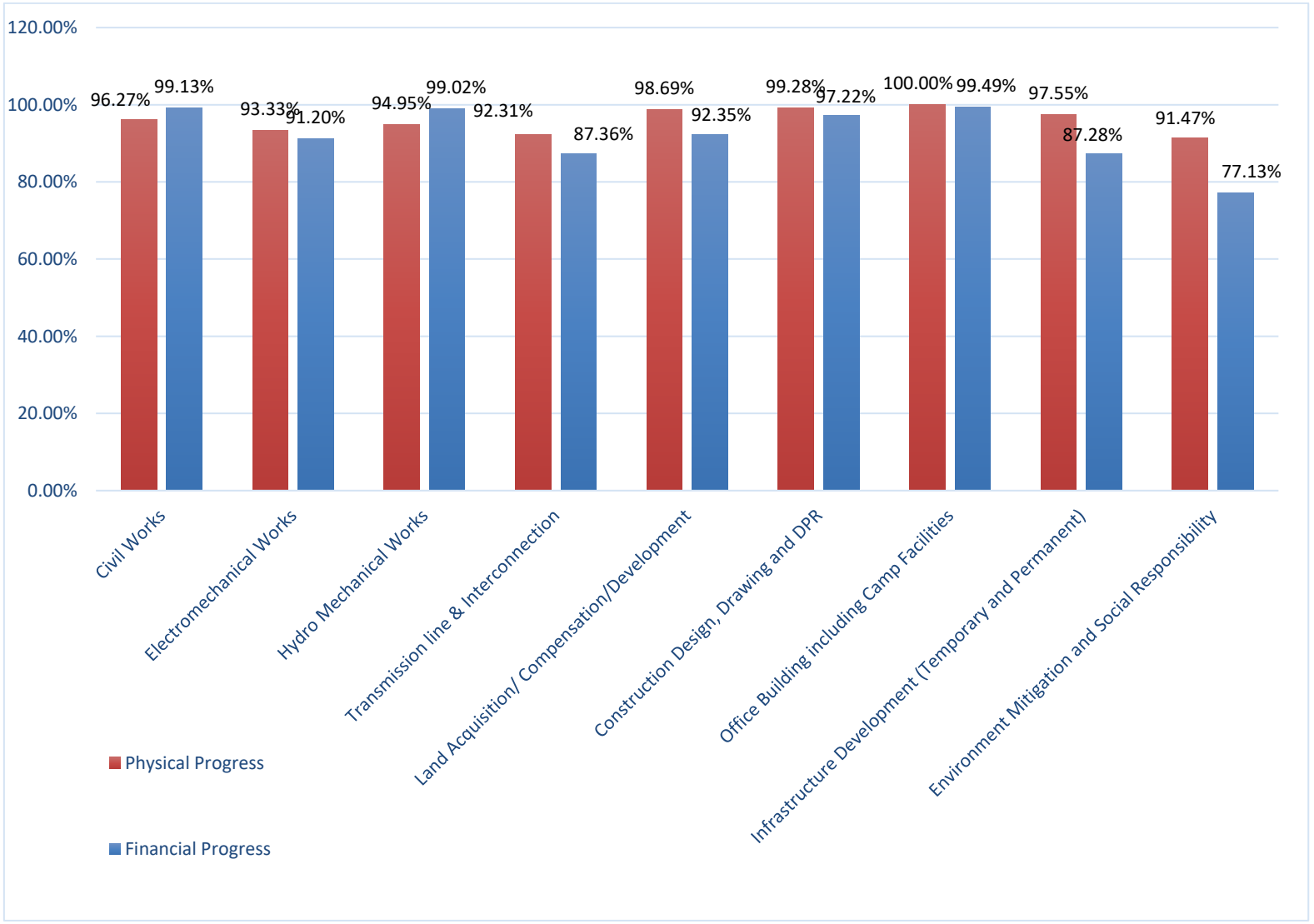
1. Finishing Work of Tunnel.
2. Transportation of Fuel along with their availability and booming price.
3. Completion of VT/PT Pipe Erection.
4. Completion of stringing Works.

I. Financial and Physical Progress

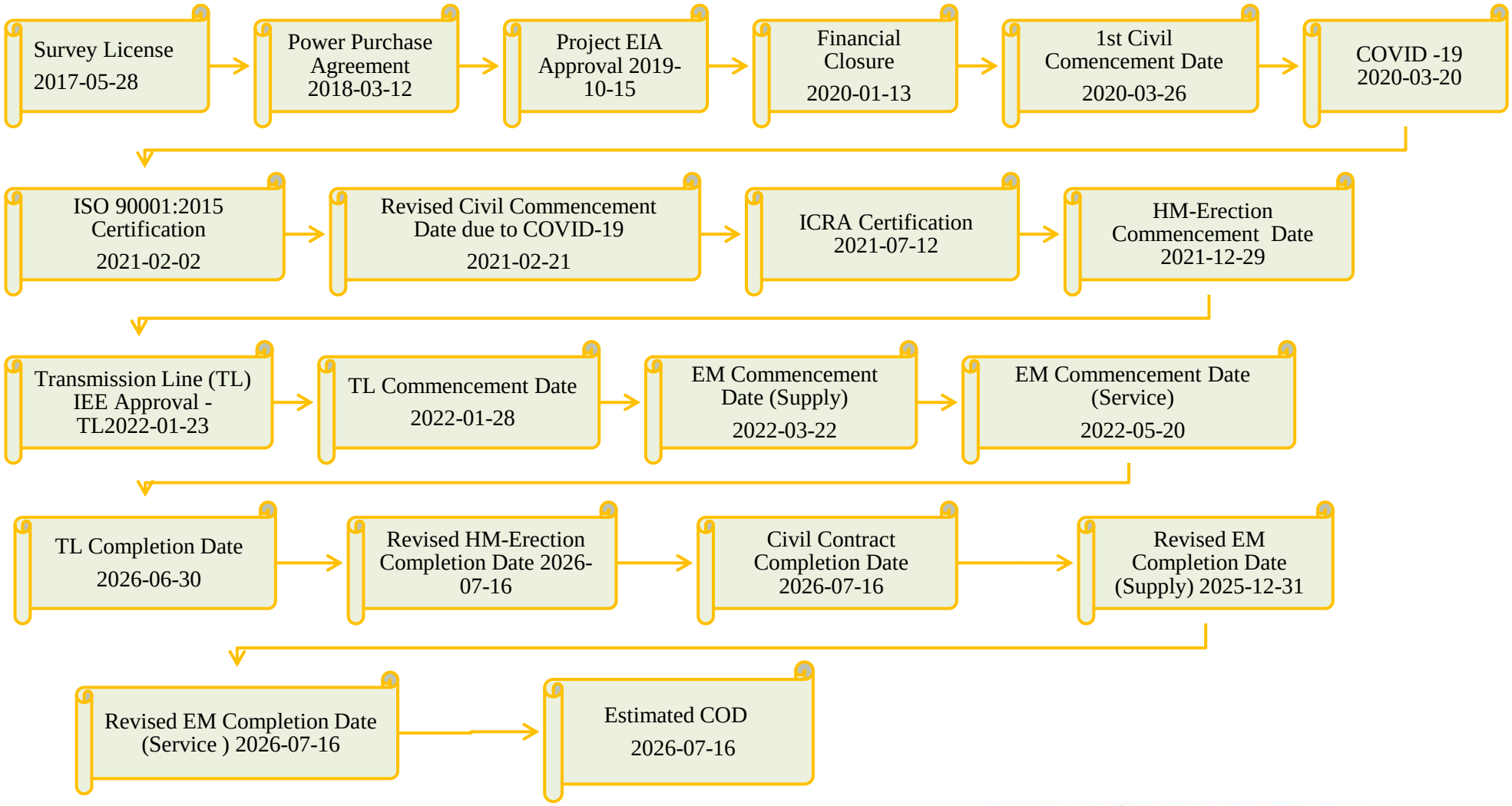
1. Till the date **93.69%** of the budget has been utilized and about **95.44%** of the overall physical progress has been achieved;


Project Expenses
Civil Works, 99.13%
Electromechanical Works, 91.20%
Hydro Mechanical Works, 99.02%
Transmission line & Interconnection, 87.36%
Land Acquisition/ Compensation/Development, 92.35%
Construction Design, Drawing and DPR, 97.22%
Office Building including Camp Facilities, 99.49%
Infrastructure Development (Temporary and Permanent), 87.28%
Environment Mitigation and Social Responsibility, 77.13%

Physical Vs Financial Progress.



J. Revised NLHP Project's Major Timeline



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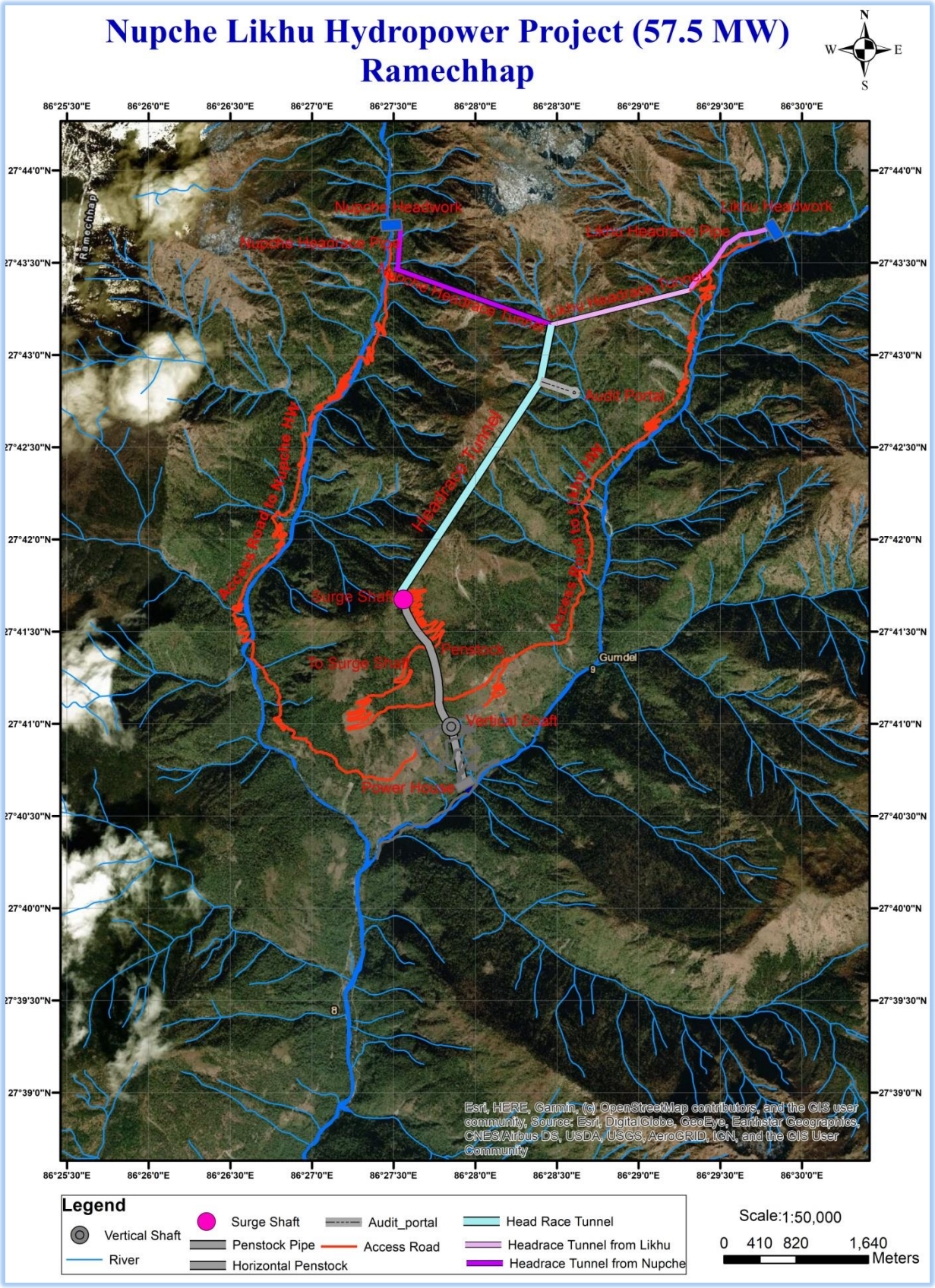


1. Introduction

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)**	2082/03/30 BS 2026/07/16 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 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. Procurement of Land for the replacement of the government land used by the Project has been completed.
3. Field Work for Tree Counting and Stamping for the project is completed in pursuant to EIA.
4. 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.
5. Submission of self EHS Audit Report to ministry of Forest and Environment.
6. 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. **96.27%** of physical progress in Civil Works has been achieved.
2. Tunnel finishing works are progressing, with approximately **88.25%** of the works completed
3. Concreting works at the Rock trap is ongoing.
4. Shotcrete works inside the tunnel have been fully completed, while invert lining works have achieved approximately **88.79%** completion and are progressing steadily
5. Construction of the surge shaft is in its final stage, with only the dome structure remaining, which is presently under execution.
6. Completion of **282.5 m** Concreting at the Vertical Shaft and **517 m** of concreting at Penstock Tunnel.
7. Likhu HWs is on the verge of completion, approx. **99.52%** of civil works of Likhu HWs has been completed with **99%** the second stage concreting.
8. Along the penstock alignment, 25 Anchor Blocks out of 27 has completed.
9. Erection of penstock Alignment for remaining 2 nos. of Anchor Block is in progress.
10. Retaining wall from Switchyard to main gate is in Completed and boundary work ongoing.
11. Completion of Emergency Staircase at Power house and Control Building.
12. Tailrace cannel 2 concreting completed.
13. Completion of Contril building at both Nupche and Likhu Headworks.
14. Installation works for the knife gate valves at both Likhu and Nupche Hydropower Projects are in progress.
15. Second-stage concreting works for Unit-1 of the powerhouse are actively ongoing.
16. Desander Protection works on river side is in progress at likhu head works.

4.1.4 Electromechanical Works

1. Approx**. 93.33%** of physical progress in Electromechanical Works has been achieved.
2. Completion of powerhouse station.
3. Valve house HOT Crane installation complete.
4. Receiving end substation 2nd stage concerting with bolt work completed for base.
5. Unit-1 and Unit-2 AC generator installation completed.

6. Unit-1 and Unit-2 turbine and housing with generator all completed with work in unit 3 ongoing.

4.1.5 Hydro mechanical Works

1. **94.95%** of Hydromechanical works has been completed.
2. **89%** of Gates leafs installed along with hoisting stand and motor and panel board at Likhu and Nupche HWs.
3. **95.39%** of works has been completed along Nupche HRP and 99.62% of works has been completed along Likhu HRP.
4. **99.35%** of erection of pipe along penstock alignment are completed.
5. **97.84%** of Pipes erection has been completed.

4.1.6 Transmission Line

1. **92.31%** of Transmission works has been completed.
2. **99%** of tower material has been delivered to site.
3. **99.92%** excavation of tower foundation has been completed.
4. **98.72%** of Tower foundation concreting has been completed.
5. **98.08%** of Tower foundation has been completed with back filling of Pit.
6. **96.28%** of Tower Erection work has been completed.
7. **63.90%** 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 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 its final stage of structural lining.
2. Infill concreting works are in progress within the Vertical Tunnel and Pipe Tunnel sections to secure the penstock alignment.

3. Dome structure works are progressing at the Surge Shaft.
4. RCC works are ongoing for the super passage structure at the Nupche Headworks.
5. Backfilling is being carried out at various designated penstock locations.
6. Concreting for the powerhouse **kholsi crossing** is currently in progress.

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. Installation of gate leaves and hoisting systems is currently underway at both the **Nupche** and **Likhu** headworks.
2. The installation of knife gate valves for both intakes is progressing according to schedule.
3. Erection of Penstock at VT and PT along with Bifurcation.
4. Preliminary works and assembly for the bulkhead gate installations are currently in progress
5. Comprehensive erection, testing, and rectification of HM pipes and accessories are ongoing.

4.2.6 Transmission Line

1. Tower protection work of different tower footing is in progress.
2. Erection of transmission line towers is actively underway across multiple locations.
3. Installation works of Stringing in Towers.
4. Installation of Optical Ground Wire (OPGW) has commenced, along with regular monitoring and verification of earthing values to ensure system reliability and safety.

4.2.7 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. Harsh environmental conditions have increased safety risks, required additional precautions and sometimes slowed down work progress
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. Significant drops in temperature have led to frequent equipment breakdowns, impacting work progress and efficiency.
8. 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. 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. Regular monitoring through progress reviews, site inspections, and updated scheduling tools is being carried out to identify bottlenecks and take timely corrective actions.
8. Proper coordination between civil, electromechanical, and other interfacing works is being ensured to avoid conflicts and delays in execution.

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 **Chaitra, 2082**.

Physical Progress

SN	Activities	Physical Progress
1	Civil Works	96.27%
2	Electromechanical Works	93.33%
3	Hydro Mechanical Works	94.95%
4	Transmission line & Interconnection	92.31%
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	91.47%
	Total	**95.44%**

OVERALL PHYSICAL PROGRESS ACHIEVED: 95.44%

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 30th Chaitra, 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	4,301,186,729	99.13%
3	Electromechanical Works	1,473,381,424	1,343,700,731	91.20%
4	Hydro Mechanical Works	1,333,634,257	1,320,550,515	99.02%
5	Transmission line & Switchyard	660,747,842	577,213,964	87.36%

6	Land Acquisition/ Compensation/Development	109,880,925	101,472,101	92.35%
7	Project Supervision/Management and Engineering	583,871,361	563,264,860	96.47%
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	13,640,260	99.72%
11	Vehicle	21,784,185	21,784,185	100.00%
12	Infrastructure Development (Temporary and Permanent)	919,327,844	802,426,219	87.28%
13	Environment Mitigation and Social Responsibility	231,998,389	178,939,143	77.13%
14	Loan Documentation Fee	90,627,611	76,705,486	84.64%
15	Interest During Construction	1,777,772,216	1,504,276,790	84.62%
	Total	**11,923,926,799**	**11,172,068,852**	**93.69%**

Total Share Capital as on 30th Chaitra, 2082: - NPR 3,320,000,000

4.6 Loan Details

Total loan from Consortium Banks is 7 Arab 78 Crores.

4.7 Planning for the next quarter

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

ANNEX – 1: SOME PHOTOGRAPHS OF WORK PROGRESS

Sending End Switchyard

Work Progress in Powerhouse

Rebar work for Invert Lining

Formwork at Surge shaft

Stone masonry at the Surge shat at Ground level

Rock Trap excavation

Concreting at VT

Concreting at Rock Trap

Shotcrete works currently in progress

Ongoing Invert Lining Concreting

Ongoing Inspection Work

PPV House after Completion

Likhu Headwork Control Building

PPV installation Ongoing

Welding works at Penstock Pipe

Stiffener welding at PT

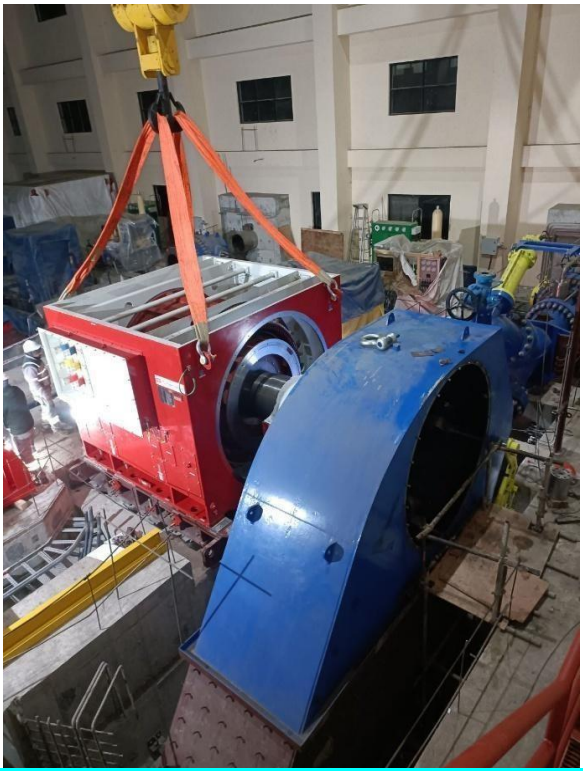
Pipe erection at PT

Installation of 3rd Turbine Housing

MIV alignment with Turbine Bifurcation

Complete Installation of 2nd Generator

Control Panel in Control Room



Erection of Generator

Backup Generators of PH and Both Headworks

Overview of Completed Unit 1 and Unit 2

Ongoing works of Transmission Line at Receiving End Substation.

Ongoing works of Transmission Line.

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Ongoing works of Transmission Line.

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THANK YOU!