

NUPCHE LIKHU HYDROPOWER PROJECT (57.5 MW)

Ramechhap, Nepal



Project Progress Report Magh-Chaitra, 2081



Vision Energy & Power Limited



New Baneshwor, Kathmandu, Nepal

Tel: +977-01-5244998

Email: visionenergy@veplinfo.com

WEBSITE: www.veplinfo.com



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, 2081**. 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 92% 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 Lahachhewar has been completed.
8. Construction of Dharma Sala for Lhundrup Choling Monastary has been completed.

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 Excavation of HRT (Headrace Tunnel) are demonstrated each front wise below:

SN	Description of Site	Tunnel Length(m)	Actual Tunnel Excavated (m)	Remaining	Progress
1.0	Vertical Shaft	294.37	294.37	0	100.00%
2.0	Penstock Tunnel				
2.1	First Unit Bifurcation	56.28	56.28	0	100.00%

2.2	Second Unit Bifurcation	45.814	45.814	0	100.00%
2.3	Third Unit Bifurcation	32.28	32.28	0	100.00%
2.4	Penstock Tunnel	631.2	631.2	0	100.00%
	Total (1+2)	1060	1060	0	100.00%
3.0	Headrace Tunnel				
3.1	Outlet Portal-Adit Junction	1563.45	1443.6	119.85	92.33%
3.2	Adit Junction-Outlet Portal	1164.55	1015.50	149.05	87.20%
3.3	Likhu Inlet- Nupche Likhu Junction	1426.254	1426.254	0	100.00%
3.4	Nupche Inlet -Nupche Likhu Junction	1598.915	1598.915	0	100.00%
3.5	Adit Portal-Adit Junction	346.121	346.121	0	100.00%
3.6	Adit Junction-Nupche Likhu Junction	227.978	227.978	0	100.00%
	Total (3)	6327.268	6058.368	268.91	95.75%
4.0	Surge Shaft and Connecting Tunnel				
4.1	Surge Shaft Connecting Tunnel	20.03	20.03	0.00	100.00%
4.2	Surge Shaft	42.83	42.83	0.00	100.00%
4.3	Adit 2 (Additional Bypass Tunnel)	155.9	52.50	103.4	33.67%
	Total (4)	218.76	115.36	103.4	52.73%
	Total (1+2+3+4)	7605	7233.67	372.30	95.12%

2. The total Tunnel of **7233.67 m** (95.12%) has been completed out of **7605 m**.
3. 2480.0m (41.47%) of tunnel finishing works out of 5979.92m has been completed.
4. All second stage concreting of gate frame has been completed at Likhu Headworks.
5. Likhu HRP is also on the verge of completion, 98% of work has been completed.
6. Gabion work and Khosi Crossing at AB19 D/S at Likhu Headrace Pipe has been completed.
7. Kholsi Crossing along AB8 to AB9 along Nupche Headrace Pipe has been completed.
8. 66.25% of Works at Nupche Headworks has been completed.
9. M25 RCC works of Settling Basin/ Flushing at Nupche HWs has been 79.48 % completed.
10. M25 RCC works of Intake/Bed Load/Gravel Trap has been 93.69% completed.
11. 99.43% of works at Likhu Headworks has been completed.
12. Gabion Works, Surface Drainage, Boulder Riprap has been completed
13. Along the Nupche Headrace pipe alignment, 8 nos. of Anchor Blocks AB1 to AB8 is completed and Kholsi Crossing concrete works at D/S of AB8 has been completed along with RCC retaining wall in RHS of HRP.
14. Foundation layout of Control Building and landscaping backfill of the Likhu HWs has been started

15. Along the penstock alignment, excavation and construction of saddle support from AB-26 to AB-27 has been completed with 23nos of Anchor Blocks out of 27, 2 nos for this quarter (AB-6, & AB-26) has been completed and AB-25 is at the verge of completion.

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-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-26).	23
3	Total Ongoing Anchor Block-(AB-25).	1
4	Total Remaining Anchor Blocks (AB-01, AB-02, AB-24, AB-27).	4
5	Total Completed Percentage of Anchor Block.	85.19%
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).	19
3	Total Ongoing Anchor Block.	0
4	Total Remaining Anchor Block (AB-20).	1
5	Total Completed Percentage of Anchor Block.	95%
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.	0
4	Total Remaining Anchor Block (AB-09).	1
5	Total Completed Percentage of Anchor Block.	88.88%

16. Completion of Block Wall and Plastering works of control room along with the painting works in Control Building and door and window installation is 99% completed.

17. Civil Construction work of Firefighting Tank has been completed.

18. Completion of Switchyard Tower Foundation LA, CVT, CT, CB along with the has been completed.

19. Rockfall Barrier work has been 100% completed.

20. Shotcrete works above the Switchyard area is in final stage Furthermore, the protection works and backfilling works of the Switchyard is completed.

21. Civil Work of Tailrace Box Culvert has been completed.

22. Concreting at the Vertical shaft up to 120m from the bend has been completed.

23. Concreting works at Penstock Tunnel up to 270m from the bend has been completed

D. Electromechanical (EM) Work

1. Approx, **80.03%** of physical progress in Electromechanical works has been achieved.
2. PPV casting has already been completed.
3. Transportation of Runner at site and manufacturing and testing of MIV has been completed
4. Vertical rise Cable Tray Fabrication and fixing, CWS foundation embedment frame fabrication and fixing at respective location, Switchyard ACBD and BMK's base Frame fabrication and fixing at respective location has been completed.
5. Switchyard towers and Equipment's structure fasteners tightening and alignment and Busbar Formation has been completed.
6. Cable Tray Support Fixing and Welding at Powerhouse, Unit and Machine Center Line Marking is completed.

E. Hydro mechanical (HM) Works

1. **87.20%** of Hydromechanical works has been completed.
2. 85% of installation of embedded parts and gate frames in Nupche HWs components is completed and 100% gate frames are installed at Likhu HWs.
3. 83% of works has been completed along Nupche HRP and 99% of works has been completed along Likhu HRP.
4. **69.35%** of erection of pipe along penstock alignment are completed.
5. **73.82%** 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	1059.282	468.258	69.35%
Vertical Shaft	298.76	126	172.76	42.17%
Horizontal Shaft	569	282	287	49.56%
Bifurcation and Manifolds (Branch pipe)	182	125.99	56.01	69.23%
Likhu HRP	1053.12	1049.122	3.998	99.62%
Nupche HRP	421.35	348.447	72.903	82.70%
Total	4051.77	2990.841	1060.929	73.82%

F. Transmission Line

1. **73.25%** of Transmission Line works has been completed.
2. Approx 98% of tower material has been delivered to site.
3. 81.73% excavation of tower foundation has been completed.
4. 83% of Tower foundation concreting has been completed.

5. 74% of Tower foundation has been completed with back filling of Pit.
6. 21% of Tower Erection work has been completed.

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

1	Foundation Works				81.73%
1.1	Excavation	Nos.	78	69	88%
1.3	Steel Binding & RCC	Nos.	78	64.5	83%
1.4	Backfilling	Nos.	78	57.75	74%
2	Erection Works				21%
2.1	Erection Works	Nos.	78	16	21%
3	Stringing Works				0.00%

G. Planning, Governance and Other Works

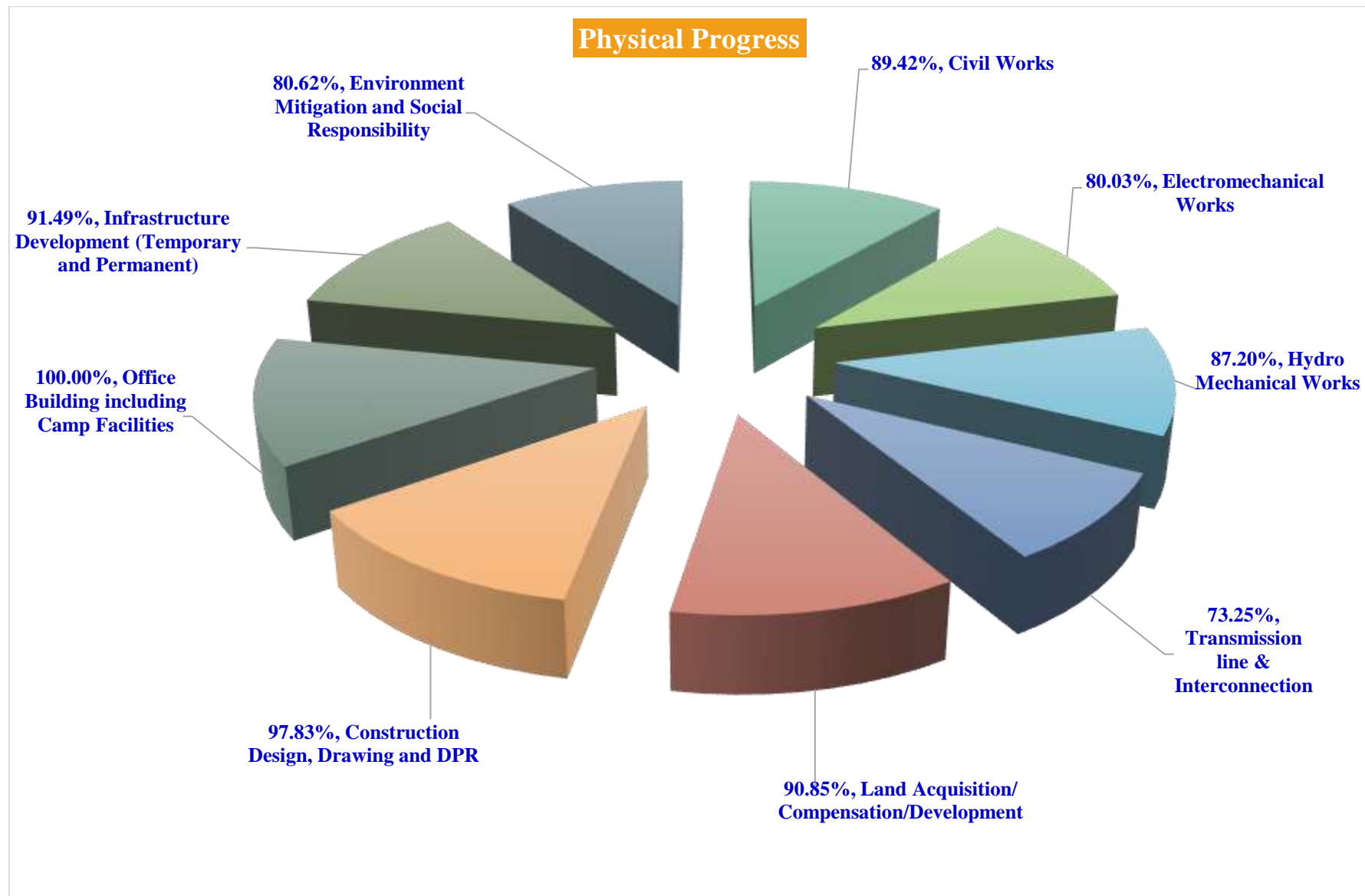
1. The review of the application on the nearby small projects are ongoing from the Government Officials.
2. Development and Implementation of Strategy to increase Productivity has been effectively done.
3. Release of IPO for the public is in final stage.
4. Optimum productivity plan for the four-month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

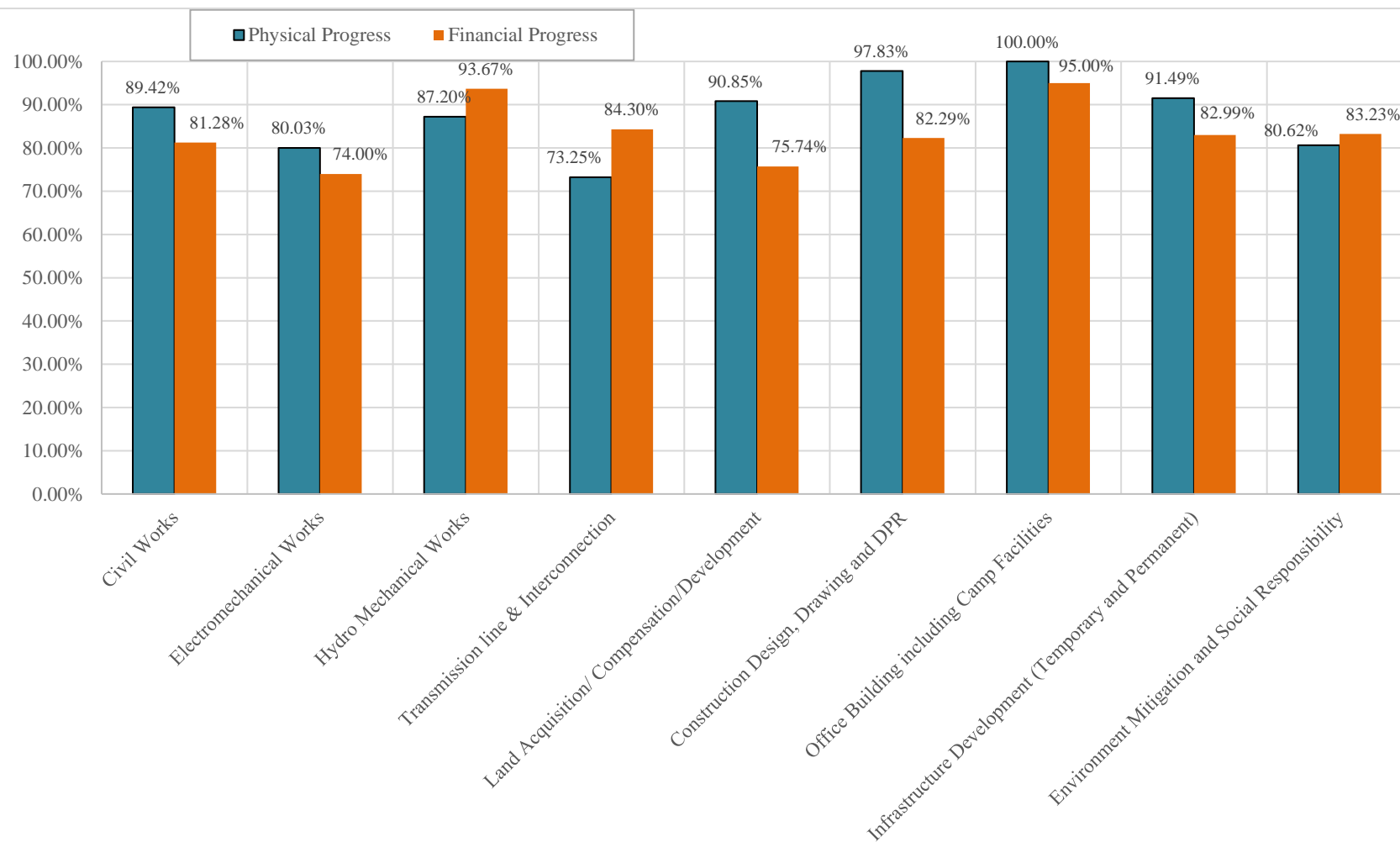
H. Any Bottlenecks

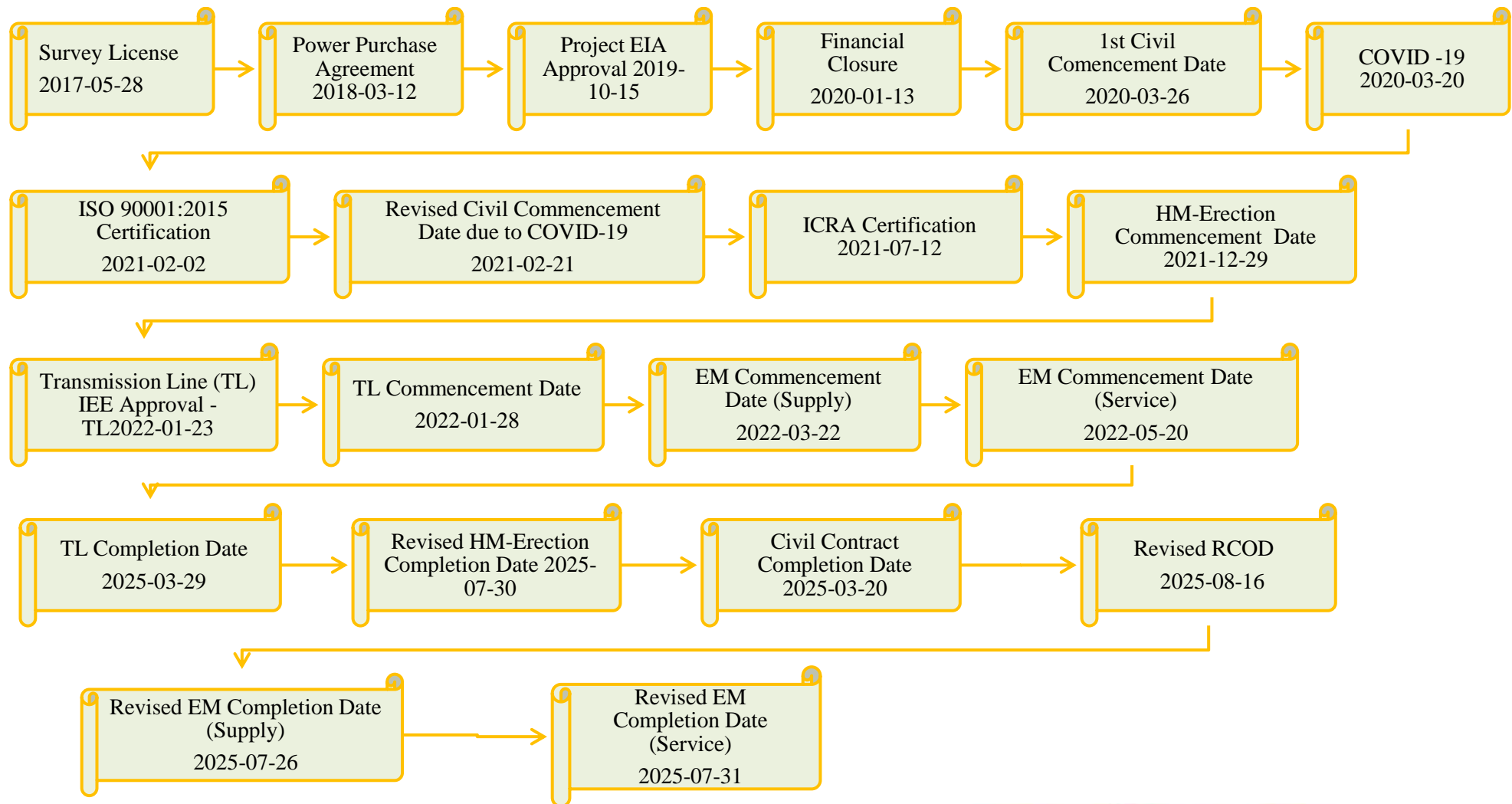
1. Breakthrough of the Outlet Tunnel.
2. Finishing Work of Tunnel.
3. Transportation of remaining major EM- Equipment along with their erection.
4. Completion of VT/PT Pipe Erection.
5. Completion of 50no of Tower Erection and start of stringing Works.

I. Financial and Physical Progress

1. Till the date **82.46%** of the budget has been utilized and about **87%** of the overall physical progress has been achieved;



Physical Vs Financial Progress.

J. Revised NLHP Project's Major Timeline

Contents

Section A- About the Project

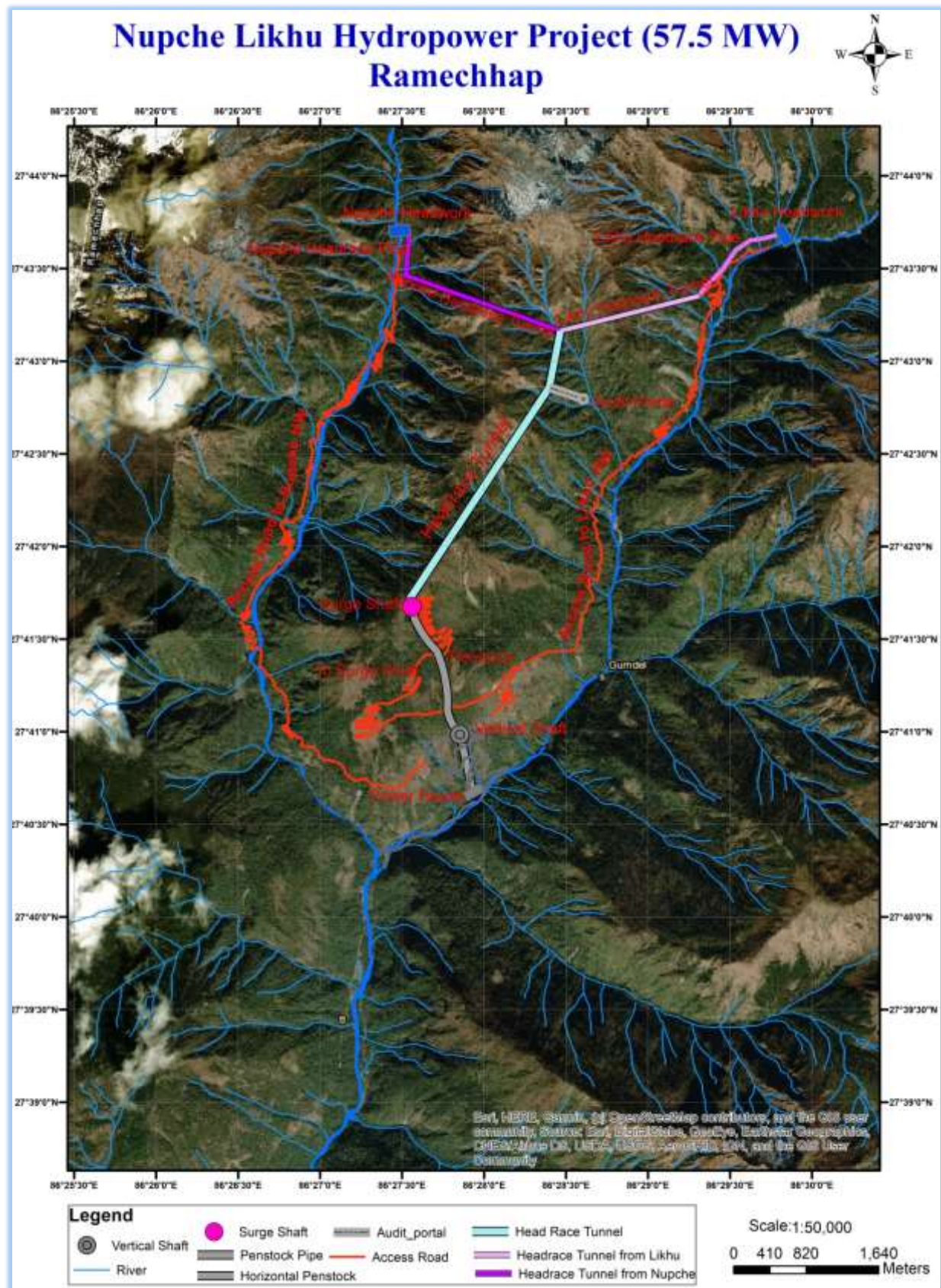
1. Introduction.....	2
1.1 Background.....	2
1.2 About the Project.....	2
1.3 Location & Access:	2
1.4 Main Financial Features of the Project.....	2
1.5 Salient Features of the Project	3
1.6 Investment Module	4
2. Human Resources and Good Governance	4
2.1 Organization Chart	4
2.2 Good Governance	5
3. Project Implementation.....	5
3.1 General.....	5
4. Current Status of the Project.....	7
4.1 Completed Works of the Project	7
4.1.1 Forest, EIA & IEE Related	7
4.1.2 Preliminary/Preparatory Works.....	7
4.1.3 Civil Works	8
4.1.4 Electromechanical Works.....	9
4.1.5 Hydromechanical Works	9
4.1.6 Transmission Line	9
4.1.7 Planning, Governance and Other Works	10
4.2 Ongoing Works of the Project	10
4.2.1 Forest and EIA Related Works.....	10
4.2.2 Preliminary/Preparatory Works.....	10
4.2.3 Civil Works	10
4.2.4 EM (Electromechanical) Works	11
4.2.5 HM (Hydro-mechanical) Works.....	11
4.2.6 Transmission Line	11



4.2.7	Planning and Other Works	11
4.3	Challenges Faced:	11
4.4	Physical Progress	12
4.5	Financial Progress.....	12
4.6	Loan Details.....	13
4.7	Planning for the next quarter	13
ANNEX – 1: SOME PHOTOGRAPHS OF WORK PROGRESS.....		14



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

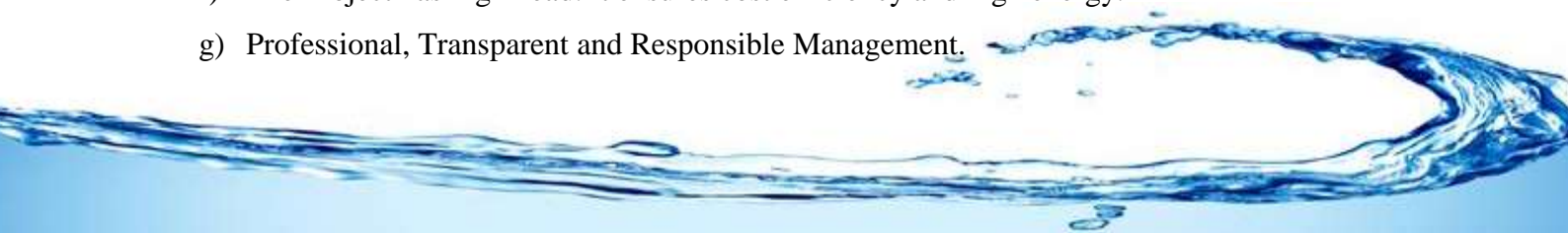
The proposed Nupche Likhu Hydropower Project is situated in Umakunda Rural Municipality of Ramechhap District, Nepal. The project utilizes water sourced from the snow-fed Nupche and Likhu rivers, originating in the high mountainous and hilly regions. The intake for the project is positioned north of Lahachhewar 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.10,983,640,292.00 and total cost per MW = NRs. 197,019 thousand.
- b) Internal Rate of Return (IRR): 17.50 %, Equity Internal Rate of Return (EIRR): 27.57%
- c) Simple Payback Period: 4.75 Years; Discounted Payback Period: 7.68 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>	10,983 Million (Revised as per lending Bank Technical Consultant)
18.	<u>Approximate Construction Period:</u>	4 Years
19.	<u>Required Commercial Operation Date (RCOD)</u>	2082/04/31 BS 2025/08/16 AD

1.6 Investment Module

The investment in Promoters Share has already been closed.

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 and Local Area Co-ordination Sub-Committee.
3. Recruitment of highly professional Consultants.
4. Work plan assigned to each executive level and working level personnel.
5. Performance evaluation for each personnel is conducted on periodical 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.

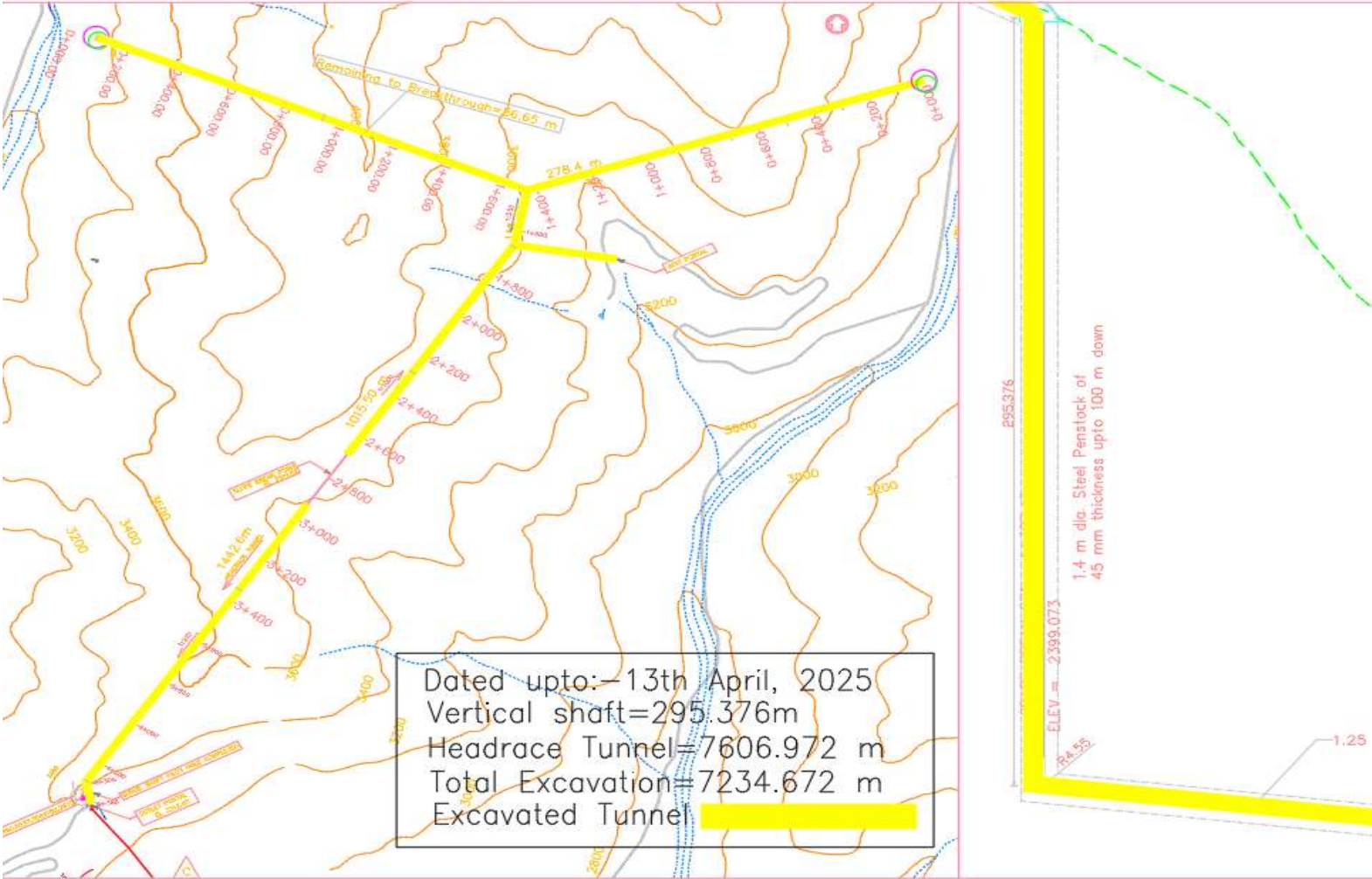
3. Project Implementation

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.



Section B: Current Status of the Project



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., 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).

Nupche Likhu Hydropower Project (57.5MW)

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** who were already selected are actively engaged in completing the construction activities as per agreement.
13. Land acquisition for the Project has been completed.
14. Completion of Construction Power Line.

4.1.3 Civil Works

1. Approx. **89.42%** 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. Protection walls and retaining walls has been completed in powerhouse and Switchyard area respectively.
4. Concreting works of tailrace panel has been completed.
5. Powerhouse and Control Building has been handed over to EM Contractor.
6. Excavation of HRT (Headrace Tunnel) from Outlet about 2458.1 m (90.13%) completed out of 2727.128m;
7. 41.47% of finishing work of tunnel has been completed.
8. Finishing works at Surge shaft has been started.
9. The total Tunnel of 7233.67 (95.12%) has been completed out of 7605m.
10. Completion of 117 m Concreting at the Vertical Shaft and 273 m of concreting at Penstock Tunnel.
11. 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.
12. Completion of concreting Anchor Block from 1 to 19 has been completed and backfilling works of Anchor Block from 1 to 18 for Likhu Headrace pipe has been completed.
13. Along the penstock alignment, 24 Anchor Blocks out of 27 has completed.

Nupche Likhu Hydropower Project (57.5MW)

14. Excavation along penstock Alignment for remaining 3 nos. of Anchor Blocks are in progress.
15. Upstream Floodwall, Approach Culvert concreting at Nupche headworks area has been completed.
16. Excavation of the Intake and Transition part of the Settling Basin Panel-1 along with the masonry works has been completed & start of concreting works in Intake and Settling Basin Transition Part.
17. Retaining wall from main access road to main entrance gate is in progress.
18. Road crossing for cable Trench from SY to Control Room is completed.
19. Fire Fighting Tank Construction has been completed.
20. Rockfall barrier works has been 100 % completed for Powerhouse area.

4.1.4 Electromechanical Works

1. Approx. **80.03%** of physical progress in Electromechanical Works has been achieved.
2. Installation of Foundation Bolts at CT/PT/GT has been completed.
3. Transportation of Powerhouse accessories has been completed.
4. Cooling Water System Pumps, heat exchanger, return line duplex filter installation, pipeline Fabrication and fixing completed.
5. Delivery of Switchyard Materials for Powerhouse from border to site has been completed.
6. Transportation of Runner at site and manufacturing and testing of MIV has been completed.
7. Turbine housing fabrication and machining is completed.
8. MIV for unit 1 & 2 have been dispatched on 10.01.2025. MIV unit 3 assy. is in progress. MIV installation is in progress.
9. Pressure testing of all components and assy. of first unit of Turbine housing with Bi-furcation pipe and nozzle upper and lower is in progress.
10. Turbine Housing fabrication and machining completed for all three units.
11. Bi-furcation pipes fabrication is completed for all three units. Machining for first and second unit is completed.

4.1.5 Hydro mechanical Works

1. **87.20%** of Hydromechanical works has been completed.
2. 85% of installation of embedded parts and gate frames in Nupche HWs components is completed and 100% gate frames are installed at Likhu HWs.
3. 83% of works has been completed along Nupche HRP and 99% of works has been completed along Likhu HRP.
4. **69.35%** of erection of pipe along penstock alignment are completed.
5. **73.82%** of Pipes erection has been completed.

4.1.6 Transmission Line

1. **73.25%** of Hydromechanical works has been completed.
2. Approx 98% of tower material has been delivered to site.
3. 81.73% excavation of tower foundation has been completed.
4. 83% of Tower foundation concreting has been completed.
5. 74% of Tower foundation has been completed with back filling of Pit.
6. 21% of Tower Erection work has been completed.

K. Planning, Governance and Other Works

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 is completed.
2. ISO certification has been completed.
3. Internal Audit is in final stage.

4.2.2 Forest and EIA Related Works

1. Agreement with NPWC to start tree stamping and tree cutting along the transmission line.
2. 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 Powerhouse
2. RCC works at Intake/Bed Load Trap at Nupche HWs.
3. Concreting works of AB2 along Penstock Alignment.
4. Infill Concreting at VT and PT
5. M25 concrete works at Surge Shaft.
6. Final lining works at Headrace Tunnel.

4.2.5 EM (Electromechanical) Works

1. Installation of MIV.
2. Delivery of Bifurcation Nozzle.
3. Delivery of accessories of Powerhouse.
4. Manufacturing and Inspection for auxiliary equipment is in progress.
5. Turbine housing and fabrication.

4.2.6 HM (Hydro-mechanical) Works

1. Fabrication, supply and Erection of hoisting arrangement gear and gear box at Likhu Headworks.
2. Delivery of Knife gate valve at Likhu Inlet Tunnel.
3. Fabrication of two nos. of bifurcation at factory workshop.
4. Testing and Rectification of the HM pipes and accessories.

4.2.7 Transmission Line

1. Tower protection work of different tower footing is in progress.
2. Pit marking of the tower and survey and establishment of camp in other front along the tower alignment.
3. Erection of Tower.
4. Preparatory works for Stringing of Towers.

4.2.8 Planning and Other Works

1. Study of 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.

Nupche Likhu Hydropower Project (57.5MW)

4. Damaged road section in various location of access road to Nupche-Likhu Hydropower project.

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 has been adopted.
3. Road maintenance work in progress and regularly being done.
4. Optimum planning for the progress and demobilization of contractor for cost optimization.

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, 2081**.

Physical Progress

SN	Activities	Physical Progress
1	Civil Works	89.42%
2	Electromechanical Works	80.03%
3	Hydro Mechanical Works	87.20%
4	Transmission line & Interconnection	73.25%
5	Land Acquisition/ Compensation/Development	90.85%
6	Construction Design, Drawing and DPR	97.83%
7	Office Building including Camp Facilities	100.00%
8	Infrastructure Development (Temporary and Permanent)	91.49%
9	Environment Mitigation and Social Responsibility	80.62%
	Total	87%

OVERALL PHYSICAL PROGRESS ACHIEVED: 87%

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 Chaitra, 2081**Financial Progress.**

SN	Particulars	Revised Amount	Total Utilization Including Advance	Utilization %
1	Preliminary Works	246,969,000	246,051,846	99.63%
2	Civil Works	4,297,121,504	3,492,740,058	81.28%
3	Electromechanical Works	1,413,490,626	1,045,968,594	74.00%
4	Hydro Mechanical Works	1,258,106,453	1,178,512,293	93.67%
5	Transmission line & Switchyard	596,943,160	503,251,361	84.30%
6	Land Acquisition/ Compensation/Development	110,210,625	83,473,125	75.74%
7	Project Supervision/Management and Engineering	451,561,212	441,289,752	97.73%
8	Construction Design, Drawing and DPR	33,886,932	27,886,932	82.29%
9	Office Building including Camp Facilities	97,744,741	92,855,241	95.00%
10	Office Equipment	19,447,135	16,983,081	87.33%
11	Vehicle	28,417,477	22,866,898	80.47%
12	Infrastructure Development (Temporary and Permanent)	819,327,844	679,952,528	82.99%
13	Environment Mitigation and Social Responsibility	190,931,582	158,915,002	83.23%
14	Loan Documentation Fee	69,685,000	67,929,921	97.48%
15	Interest During Construction	1,349,797,000	998,811,449	74.00%
	Total	10,983,640,292	9,057,488,080	82.46%

Total Share Capital as on 31st Chaitra, 2081: - NPR 3,320,000,000

4.6 Loan Details

Total loan from Consortium Banks is 7 Arab 93 Crores. Loan disbursement till this period is NPR 5,994,767,887.00

4.7 Planning for the next quarter

- a) Finishing Work of Nupche & Likhu Headrace Tunnel.
- b) Installation of Generators.
- c) Transportation and Installation of Turbine.
- d) Complete erection of 220m pipes in Vertical shaft and 400 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 of 78 nos of Towers along Transmission Line.
- j) Erection of 50 nos of towers along transmission line.
- k) Completion of stringing works for 40 nos of Towers location.
- l) Completion of 65 nos of Tower Protection Works.

ANNEX – 1: SOME PHOTOGRAPHS OF WORK PROGRESS





Completion of Civil Structure of Fire Fighting Tank



Stone Masonary Works at Kholsi Crossing near Powerhouse



Completed Anchor Blocks along Penstock Alignment



Concreting Works at VT.



Concreting Works at PT



Inside View of Powerhouse



Foundation Works at Anchor Block-2 along Penstock Alignment.



Concreting Works at AB-26 at Penstock Alignment.



Concreting Works at Surge Shaft



Concreting Works at Powerhouse Tailrace Area



Shotcrete Works for Switchyard Protection



Rebar Works at Gravel Flushing and Intake.



Civil and HM works at Intake Nupche Headworks.



Overall, View of Nupche Headworks.



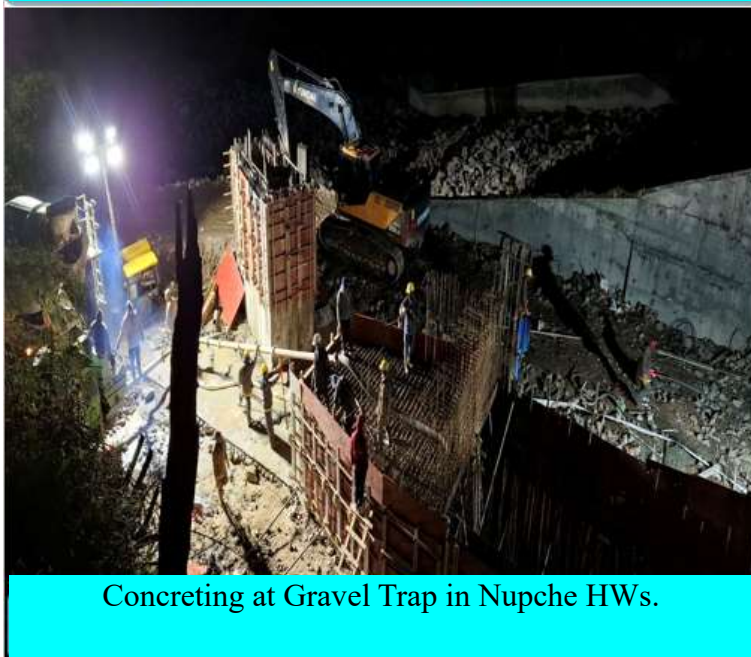
Overall, View of Likhu Headworks.



Nupche Settling Basin along with Head Pond.



Concreting at Forebay Head Pond top column at Nupche Headworks



Concreting at Gravel Trap in Nupche HWs.



Approach Culvert-Nupche Headworks.



Turbine Runner.



Runner Dispatch.



MIV Unit-3 Assy. In progress Unit-1.



Turbine Housing Fabrication completed.



Bifurcation Pipes are ready for Dispatch.



Turbine Unit-2 Nozzle



Auxiliary Transformer Under Final Assembly



Cooling Water Pumps Installation in Powerhouse.



Switchyard Gantry Erection Works.



Overall, Progress at Switchyard.



DG System has been Dispatched.



Valve house and MLDB are ready, and inspection also completed.



LV Switchgear UAB and SAB are ready, and inspection also completed.





Penstock Erection Work.



Construction Activities at VT.



Pipe Erection Work at PT.



Erection of Surge shaft Bellmouth



Installation of Trash rack.



Status of NLHP Tower Foundation and Erection Works.

THANK YOU!