NUPCHE LIKHU HYDROPOWER PROJECT (57.5 MW)

Ramechhap, Nepal

Project Progress Report

Kartik – Poush, 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 **Kartik to Poush, 2081.** The key achievements during this period are as follows:

A. Forest and EIA/IEE Related Works

1. Finalization of tree cutting and stamping in Transmission line alignment along ROW and Tree plantation has been initiated.
2. Agreement between the landowner along the Transmission Line alignment has been 70% completed.
3. 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.

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**	**295.376**	**295.376**	**0**	**100%**
2.0	**Penstock Tunnel**				
2.1	First Unit Bifurcation	56.28	56.28	0	100%
2.2	Second Unit Bifurcation	45.814	45.814	0	100%
2.3	Third Unit Bifurcation	32.28	32.28	0	100%
2.4	Penstock Tunnel	631.2	631.2	0	100%
	Total (1+2)	**1060.995**	**1060.995**	**0**	**100%**
3.0	**Headrace Tunnel**				
3.1	**Outlet Portal-Slope Break Point**	1602.308	1213	389.308	75.70%
3.2	**Likhu Inlet- Nupche Likhu**	1078.474	1078.474	0	100%

	Junction				
3.3	**Nupche Inlet -Nupche Likhu Junction**	995.76	951.6	44.16	95.56%
3.4	**Adit Portal-Adit Junction**	346.121	346.121	0	100%
3.5	**Adit Junction-Nupche Likhu Junction**	227.978	227.978	0	100%
3.6	**Adit Junction-Slope break point**	1124.821	828	296.821	73.61%
3.7	**Nupche Likhu Junction-Likhu**	347.78	347.78	0	100%
3.8	**Nupche Likhu Junction-Nupche**	603.16	559.4	43.76	92.74%
	Total (3)	**6326.397**	**4945.353**	**774.049**	**88%**
4.0	**Surge Shaft and Connecting Tunnel**				
4.1	**Surge Shaft Connecting Tunnel**	20.03	20.03	0.00	100%
4.2	**Surge Shaft**	42.83	42.83	0.00	71.91%
	Total (4)	**62.86**	**62.86**	**0.00**	**86%**
Total (1+2+3+4)		**7450.207**	**6676.163**	**774.049**	**89.61%**

2. The total Tunnel of 6676.163(89.61%) has been completed out of 7450.207;
3. Final Invert lining has been completed from upstream chainage 1+023m to downstream 0+042m and binding concrete has been completed from chainage 0+042m to portal in pipe laying section.
4. Second stage concreting of 15 no's of gates out of 16 no's has been completed at Likhu Headworks.
5. 99.38% of works at Likhu Headrace Pipe 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. M25 RCC works of Settling Basin/ Flushing has been completed and 45% of M25 concreting works has been completed at Nupche HWs.
9. Completion of Concreting at Gravel Trap and start of concreting at approach culvert at Nupche headworks area.
10. Likhu HRP is also on the verge of completion, 97.44% of work has been completed.
11. Along the Nupche Headrace pipe alignment, 8 nos. of Anchor Blocks AB1 to AB8 is completed and Khosli Crossing concrete works at D/S of AB8 has been completed along with RCC retaining wall in RHS of HRP.
12. 65% of Nupche Headworks has been completed.
13. Along the penstock alignment, excavation and Construction of saddle support from AB5 to AB7 and AB23 to AB26 has been completed with 20nos of Anchor block out of 27, 1 nos for this quarter (AB4) has been completed.

The details of Anchor Blocks is as follows.

S.N	Particulars	Quantity
A	**Penstock Alignment**	
1	Total No. of Anchor Block along Penstock Alignment.	27
2	Total No. of Completed Anchor Blocks (AB-03, AB-04, AB-05, 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).	20
3	Total No. Ongoing Anchor Blocks-(AB-02).	1
4	Total No. Remaining Anchor Blocks (AB-01, AB-02, AB-06, AB-24, AB-26, AB-27).	6
5	Total Completed Percentage of Anchor Block.	70.07%
B	**Likhu Headrace Pipe**	
1	Total No. of Anchor Block along Likhu HRP Alignment.	19
2	Total No. of Completed Anchor Blocks (AB-01, AB-02, AB-03, AB-04, AB-05, AB06, AB-07, AB-08, AB-09, AB-10, AB-11, AB-12, AB-13, AB-14, AB-15, AB-16, AB-17).	17
3	Total No. Ongoing Anchor Blocks.	0
4	Total No. Remaining Anchor Blocks (AB-18, AB-19).	2
5	Total Completed Percentage of Anchor Block.	89.47%
C	**Nupche Headrace Pipe**	
1	Total No. of Anchor Block along Likhu HRP Alignment.	9
2	Total No. of Completed Anchor Blocks (AB-01, AB-02, AB-03, AB-04, AB-05, AB06, AB-07, AB-08).	8
3	Total No. Ongoing Anchor Blocks.	0
4	Total No. Remaining Anchor Blocks (AB-09).	1
5	Total Completed Percentage of Anchor Block.	88.88%

14. Completion of Block Wall and Plastering works of control room along with the painting works in Control Building.
15. Completion of Switchyard Tower Foundation LA, CVT, CT, CB has been completed.
16. Rockfall Barrier work has been commenced and 40% of work has been completed.

D. Electromechanical (EM) Work

1. Installation of Foundation Bolts at CT/PT/GT has been completed
2. Transportation of Powerhouse accessories has been completed.
3. Delivery of Switchyard Materials for Powerhouse from border to site has been completed.
4. Transportation of Runner at site and manufacturing and testing of MIV has been completed.
5. Turbine housing fabrication and machining is completed.
6. Planning for the transportation of the Turbin Housing has been completed.

E. Hydro mechanical (HM) Works

1. 85% of installation of embedded parts and gate frames in Nupche HWs components is completed and 93% gate frames are installed at Likhu HWs.

2. 82.18% of works has been completed along Nupche HRP and 92.14% of works has been completed along Likhu HRP.
3. 95% of Erection of pipe from AB5 to AB3, **78%** Erection of pipe from AB7 to AB8 and **77%** erection of pipe from AB21 to AB22 along penstock alignment are completed.
4. **82%** of Hydromechanical works has been completed.
5. 62.37% 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	927.282	600.258	60.70%
Vertical Shaft	298.76	72	226.76	12%
Horizontal Shaft	631.2	204	427.2	22.81%
Bifurcation and Manifolds (Branch pipe)	182	125.99	56.01	69%
Likhu HRP	1053.12	1044.223	8.897	97%
Nupche HRP	421.35	348.447	72.903	80%
Total	**4113.97**	**2565.94**	**1392.03**	**62.37%**

F. Transmission Line

1. Approx 98% of tower material has been delivered to site.
2. 65.13% excavation of tower foundation has been completed.
3. 61.16% of Tower foundation concreting has been completed.
4. 49% of Tower foundation has been completed with back filling of Pit.
5. 11.08% of Tower Erection work has been completed.

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

SN	Activities/Description of Works	Unit	Total Activities/Works of the Project		Work Completion till Reporting Period		Item wise Overall Progress
			Quantity	Weightage	Quantity	Weighted Progress	%
A.	**Physical Works**			**100.00%**		**23.70%**	**23.70%**
1.0	**Foundation Works**			**37.50%**		22.40%	59.73%
1.1	Excavation	Nos.	81	15.00%	52.75	9.77%	65.13%
1.2	Stub setting & PCC	Nos.	81	7.50%	51.00	4.72%	62.93%
1.3	Steel Binding & RCC	Nos.	81	11.25%	49.50	6.88%	61.16%
1.4	BackFilling	Nos.	81	2.00%	39.69	0.98%	49.00%
1.5	Protection Works	Nos.	81	1.75%	10.50	0.23%	13.14%
2.0	**Erection Works**			**15.00%**		**1.30%**	**8.67%**
2.1	Erection Works	Nos.	81	12.00%	9.00	1.33%	11.08%

2.2	Insulator Hoisting	Nos.	81	3.00%	0.00	0.00%	0.00%
3.0	**Stringing Works**			**47.50%**		**0.00%**	**0.00%**
3.1	Conductor	Meter	23,456.43	33.25%	0.00	0.00%	0.00%
3.2	OPGW	Meter	23,456.43	14.25%	0.00	0.00%	0.00%

G. Planning, Governance and Other Works

1. Investment in nearby small and other large projects has been completed and the review of 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 under progress.
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.

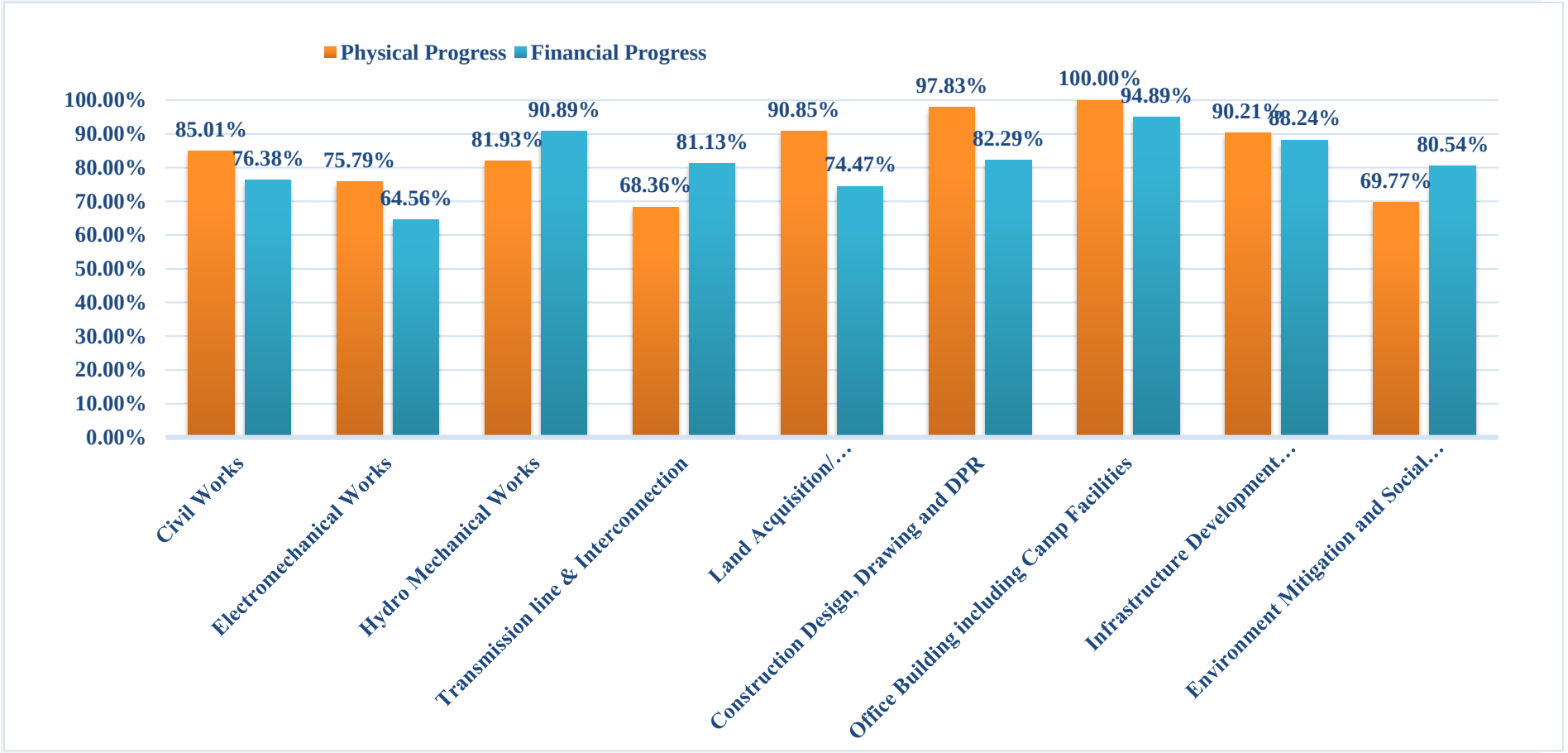
H. Any Bottlenecks

1. Breakthrough of the Outlet Tunnel.
2. Rectification of both Bifurcation.

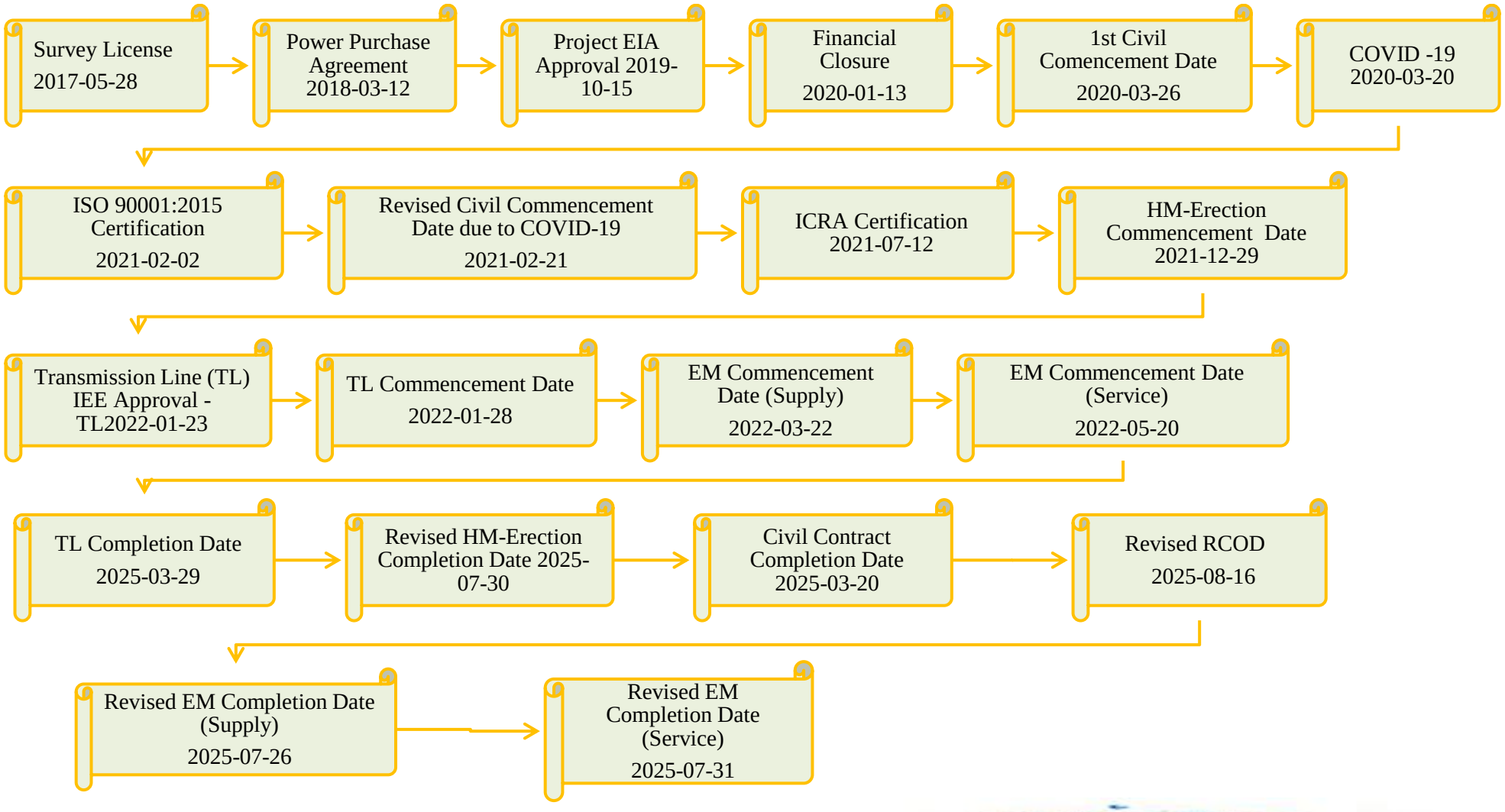
I. Financial and Physical Progress

1. Till the date 77.80% of the budget has been utilized and about 82.8% of the overall physical progress has been achieved;

Physical Vs Financial Progress.



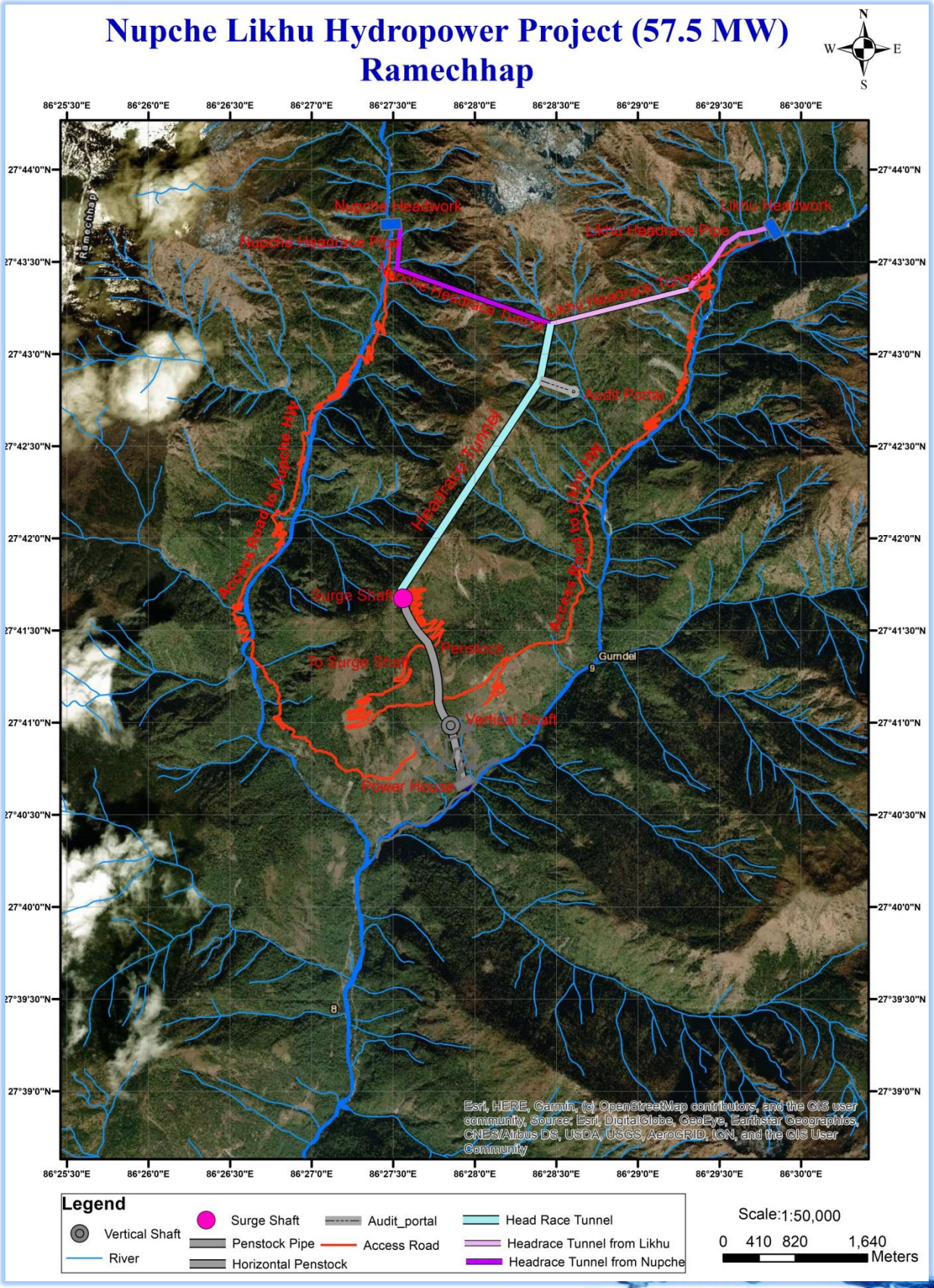
J. Revised NLHP Project's Major Timeline



Contents

Section A- About the Project

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 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.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.	**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	Nucphe 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 Sluicer	
	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 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**	10,983Million (Revised as per lending Bank Technical Consultant)
18.	**Approximate Construction Period:**	4 Years
19.	**Required Commercial Operation Date (RCOD)**	2082/04/32 BS 2025/08/16 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,

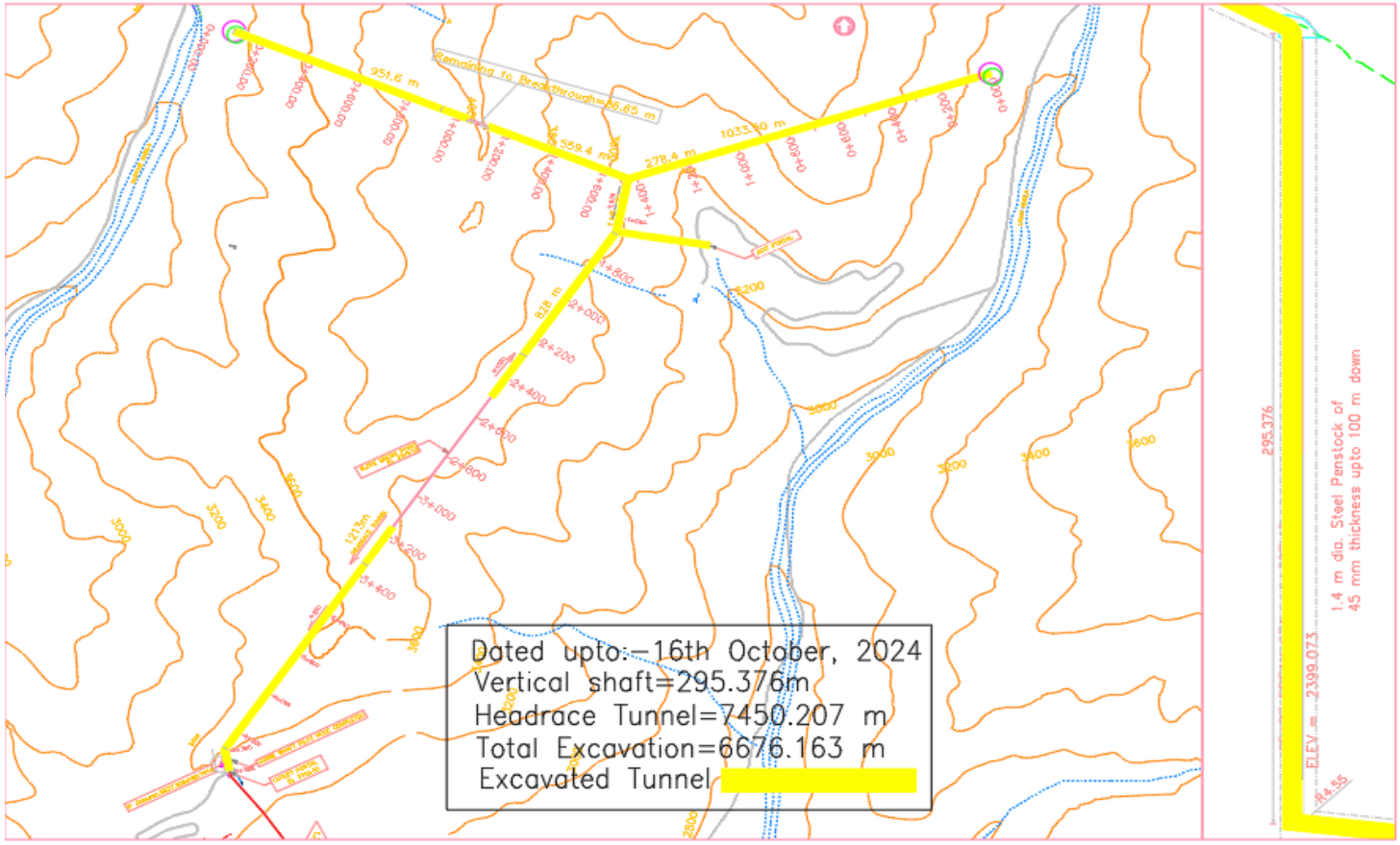
1. Various manuals such as Finance Manual, Human Resource Manual, Investment Manual, Corporate Governance Guidelines, Performance Evaluation Guidelines, Project Management Guidelines, Branding Guidelines, etc. are in practice.
2. Formation of various committees such as High-level coordination sub-committee, 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.

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., 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 of Nupche

4.1.3 Civil Works

1. Approx. **85.01%** 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 2041 m (74.84%) completed out of 2727.128m;
7. Shotcrete of HRT 1180m (82.73%) from Likhu Inlet to Nupche Likhu Junction about has been completed out of 1426.25m and invert lining of 981m from Ch 0+042m to CH 1+023 D/s has been completed at Likhu HRT.
8. Excavation of HRT from Nupche Inlet about 1511 m (94.50%) has been completed out of 1598.915m;
9. Excavation in Surge Shaft has been completed with progress of 41 m (100%).
10. Finishing works at Surge shaft has been started.
11. The total Headrace Tunnel of 6676.163m (89.61%) has been completed out of 7450.212m;
12. Completion of 63m Concreting at the Vertical Shaft and 170 m of concreting at Penstock Tunnel.
13. 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.

14. Completion of concreting Anchor Block from 1 to 19 has been completed and backfilling works of Anchor Block from 1 to18 for Likhu Headrace pipe is in final stage.
15. Along the penstock alignment, 20 Anchor Blocks out of 27 has completed.
16. Excavation along penstock Alignment AB6 to AB7 and AB23 to AB26 is completed.
17. Saddle support along AB23 to AB26 has been completed and concreting of Achor Block 26 has been started.
18. Protection wall from AB15 to AB19 is completed along Likhu HRP.
19. M25 Concrete of Unit3 of thrust block is completed

4.1.4 Electromechanical Works

1. Approx**. 75.79%** 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. Delivery of Switchyard Materials for Powerhouse from border to site has been completed.
5. Transportation of Runner at site and manufacturing and testing of MIV has been completed.
6. Turbine housing fabrication and machining is completed.

4.1.5 Hydro mechanical Works

1. Approx. **81.93%** of physical progress in HM Works has been achieved.
2. 16 nos. of gates second stage EP installation has been completed in Likhu headworks.
3. Erection of 24.10% pipes in the Vertical Shaft has been completed and erection of 32.32% pipes on PT has been completed.
4. Erection of pipes 62.37% has been progressively completed.
5. Installation of embedded parts and gate frames in Nupche HWs components is in progress and gates being installed at Likhu HWs.

4.1.6 Transmission Line

1. Approx. **68.36%** of physical progress in Transmission Line Works has been achieved.
2. 99% of tower material has been received to the site.
3. 70% of pit marking has been completed.
4. 64.81% excavation of tower foundation has been completed.
5. 40.43% of Tower foundation has been completed with back filling of Pit.
6. 11.11% of Tower erection work has been completed.
7. 20% of Tower protection work has been completed.

8. Final Survey and marking of Tree cutting has been completed in ROW area along the transmission line.

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 is ongoing.

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. Installation of Rock Fall Barrier Net at Hillside of Powerhouse.
2. Kholsi Protection Work of Powerhouse
3. Breakthrough of Nupche HRT.
4. RCC works at Bed Load Trap at Nupche HWs.
5. Complete concreting works of AB6, AB24 to AB26 along Penstock Alignment.
6. Completion of RCC works of Intake at Nupche Headworks.
7. Infill Concreting at VT and PT
8. Completion of finishing works at Surge Shaft.
9. Start of finishing works at Nupche HRT.

4.2.5 EM (Electromechanical) Works

1. Installation of Transformer
2. Installation of Generators.
3. Delivery of Bifurcation Nozzel.

4. Delivery of accessories of Powerhouse.

4.2.6 HM (Hydro-mechanical) Works

1. Fabrication, supply and Erection of hoisting arrangement gear and gear box at Likhu Headworks.
2. Procurement and delivery of Knife gate valve at Likhu Inlet Tunnel.
3. Repair and transportation of both bifurcation to site.
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. Stringing 40nos of 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. Damaged road section in various location of access road to Nupche-Likhu Hydroelectric project.
5. Design Issue in bifurcation and delay in repair works
6. Introduction of Monopole Tower and delay in design and fabrication.
7. Modification of design in Surge Shaft finishing Works

Management Plan for the Mitigation of Challenge:

1. NOC has been issued and continuous supply of explosive at site since 15th Shrawan, 2081.

2. Co-ordination with local authority and local people about the issue.
3. Beside the topographical challenges the resources such as equipment and manpower with advance working methodology has been adopted.
4. Road maintenance work in progress and regularly being done.
5. 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 up to **29th Poush, 2081**.

Physical Progress

SN	Activities	Physical Progress
1	Civil Works	85.01%
2	Electromechanical Works	75.79%
3	Hydro Mechanical Works	81.93%
4	Transmission line & Interconnection	68.36%
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)	90.21%
9	Environment Mitigation and Social Responsibility	69.77%
	Total	**83%**

OVERALL PHYSICAL PROGRESS ACHIEVED: 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 29th Poush, 2081

Financial Progress.

SN	Particulars	Amount (Rs.)	Utilization Up to 29th Poush, 2081 (Rs.)	Utilization %
1	Preliminary Works	246,969,000	246,051,846	99.63%
2	Civil Works	4,297,121,504	3,281,963,145	76.38%
3	Electromechanical Works	1,413,490,626	912,499,661	64.56%
4	Hydro Mechanical Works	1,258,106,453	1,143,546,191	90.89%
5	Transmission line & Switchyard	596,943,160	484,300,531	81.13%
6	Land Acquisition/ Compensation/Development	110,210,625	82,073,125	74.47%
7	Project Supervision/Management and Engineering	451,561,212	407,486,088	90.24%
8	Construction Design, Drawing and DPR	33,886,932	27,886,932	82.29%
9	Office Building including Camp Facilities	97,744,741	92,754,241	94.89%
10	Office Equipment	19,447,135	14,687,753	75.53%
11	Vehicle	28,417,477	22,866,898	80.47%
12	Infrastructure Development (Temporary and Permanent)	819,327,844	723,013,825	88.24%
13	Environment Mitigation and Social Responsibility	190,931,582	153,770,608	80.54%
14	Loan Documentation Fee	69,685,000	67,929,921	97.48%
15	Interest During Construction	1,349,797,000	884,351,484	65.52%
	Total	**10,983,640,292**	**8,545,182,249**	**77.80%**

Total Share Capital as on 39th Poush 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 5,562,476,913.00

4.7 Planning for the next quarter

a) Routine Maintenance of Access Roads
b) Kholsi-Protection of Powerhouse
c) Installation of Rock Fall Barrier Net at Hillside of Powerhouse.
d) Finishing Work of Surge Shaft
e) Completion of Fire Fighting Tank.
f) Breakthrough of Nupche Tunnel.
g) Finishing Work of Nupche Tunnel.
h) Installation of transformer.
i) Installation of Generators.
j) Transportation Turbine Housing
k) Complete erection of 144m pipes in Vertical shaft and 380 Inclined Tunnel; along with the infill of concrete.
l) Excavation of 95% of the Headrace Tunnel.
m) Completion of 100% of Headrace Pipe Works.
n) Completion of 95% of Penstock Pipe Works.
o) Completion of 100% of the Nupche Headworks.
p) Installation of gates in Likhu HWs, Nupche HWs & Tailrace.
q) Complete excavation of 81 no's of Towers along Transmission Line.
r) Erection of 45 no's of towers along transmission line.
s) Completion of stringing works for 40 no's of Towers location.
t) Completion of 65 no's of Tower Protection Works.

ANNEX – 1: SOME PHOTOGRAPHS OF WORK PROGRESS

Figure Showing : Completion of Foundation Works at Switchyard.

FigureShowing: Superstructure of Control Building.

Figure Showing: Erection of pipe at Penstock Tunnel.

Figure Showing::- Inside Welding Works at Penstock Tunnel.

Figure Showing :- Vertical Shaft (Full Face).

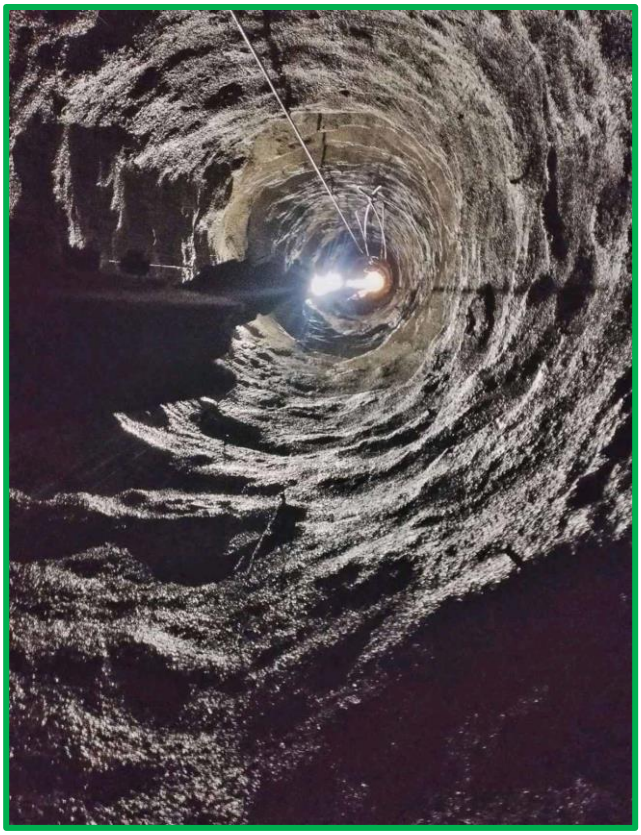


Figure Showing :- Lowering of Pipe at VT.

Figure: Completion of AB7 to AB8 along Penstock Alignment.

Figure: Concreting of Anchor Block along penstock pipe alignment.

Figure Showing : Fullface Excavation & breakthrough of Surge Shaft.

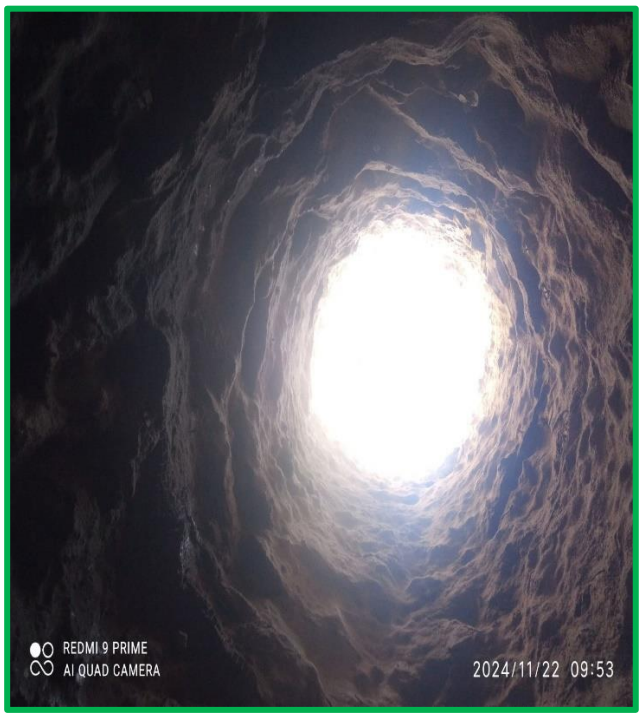


Figure: Concreting Works started at Surge Shaft.

Figure Showing :- Fullface Excavation from Outlet to Slope Breaking Point.

Figure Showing :- Center point and Circumfernceal marking at outlet Face.

Figure: Outlet Tunnel face (F8) at Chainage: 1018m.

Figure: Invert Linning of Likhu Tunnel towards Inlet.

Figure:- Drilling works using Boomer from NL Junction to Nupche Tunnel.

Figure: Tunnel face of NL-junction to Nupche Inlet (F2) at ch: 558.6m.

Figure Showing :- Installation of Rock Bolt at Face-2 as tunnel support works

Figure Showing :- Overall View of Likhu Desander at Headworks.

Figure Showing :- Inspection for Fabrication of fine trash rack at Likhu Headworks

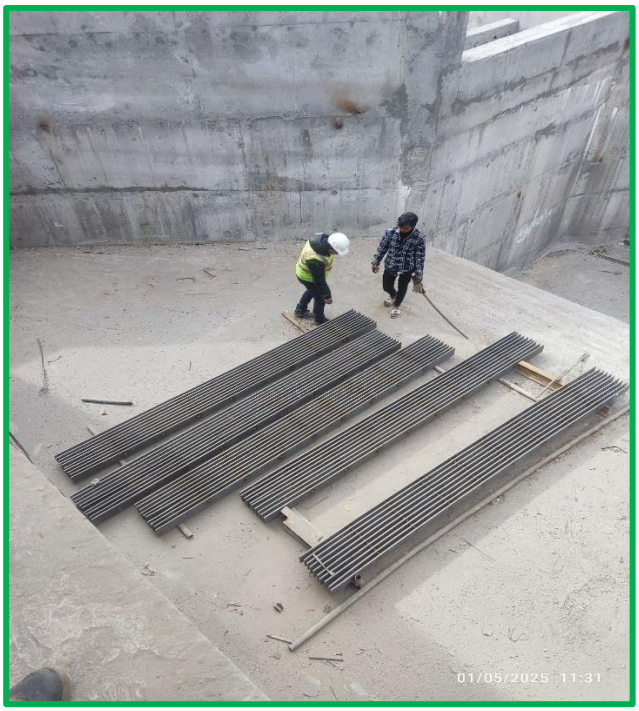


Figure: Completed works of Likhu Desander chamber.

Figure Showing:- Likhu Headworks Intake Superstructure.

Figure Showing: - Nupche HRP Protection Works and backfilling works .

Figure Showing :- Gabion and protection works along Nupche HRP.

Figure Showing :- Concrete casing works along Nupche HRP

Figure Showing :- Concreting works at U/S left bank Panel-2 flood wall at Nupche HWs.

Figure Showing :- Rebar and Formworks at Nupche Headworks Headpond area.

Figure Showing : Rebar works & Installation of Air Vent Pipe Installtion at Headpond Area.

Figure Showing:Completion of Concrete works at Y-section above Gravel Flsuhing at Nupche HWs.

Figure: Overall View of Nupche HWs on Normal Sunny Day.

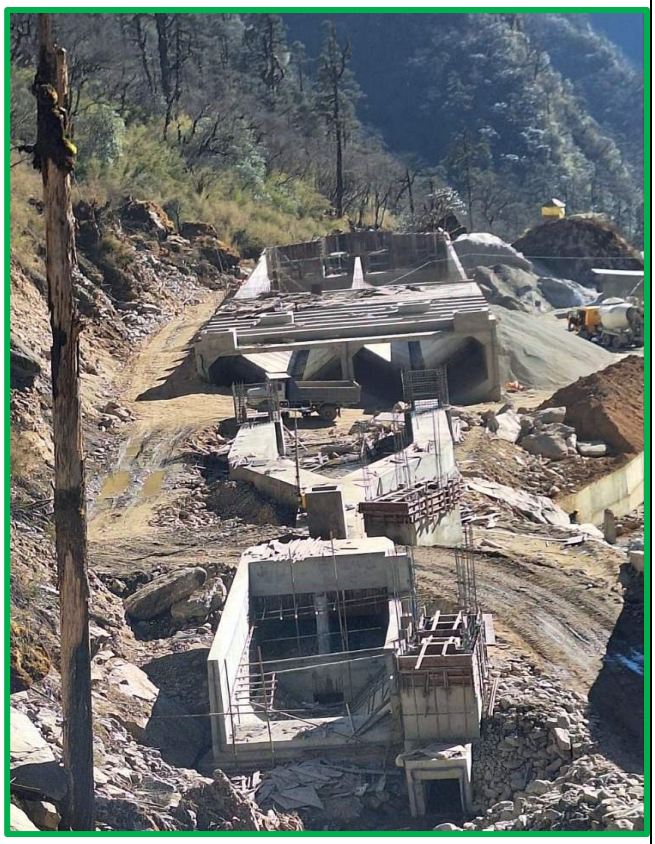


Figure: Overall View of Nupche HWs after Snowfall.

Figure: Factory Inspection of Turbine and verification of materials.

Figure: Taking Measurement of the Bucket Widths.

Figure Showing :- MIV Assembled with Levers and instrumentation piping

Figure Showing :- MIV Body Unit-3.

Figure Showing :- MIV Body Unit-2.

Figure Showing :-Turbine Housing Painting works ready to Dispatch.

Figure Showing:- Bifurcation Pipes.

Figure: Nozzel

Figure Showing:- Piston Rods for Nozzel.

Figure Showing:- Servo Moters for Nozzel & Deflectors.

Figure Showing :- Protection Works at AP6/2.

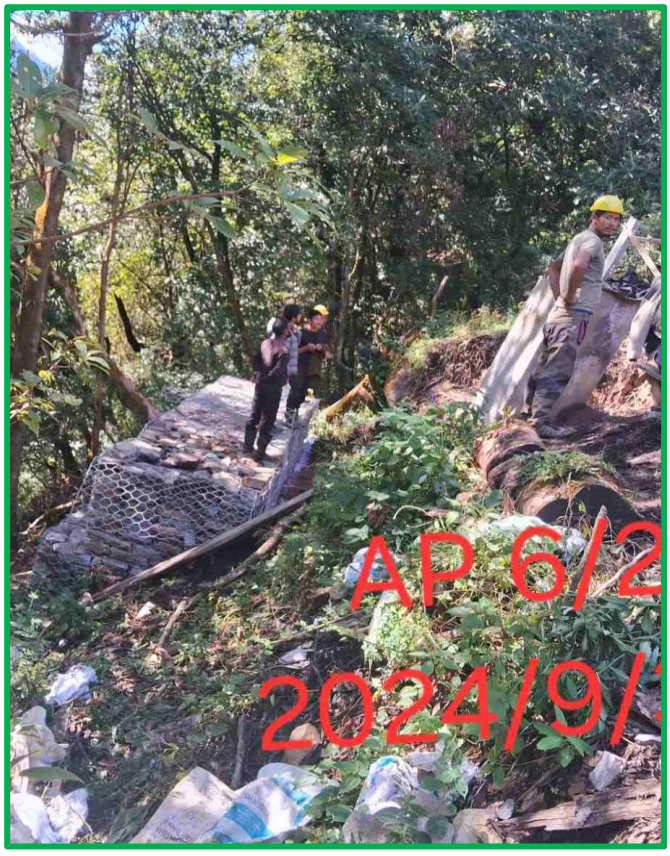


Figure Showing : - Foundation Works at AP-5

Figure Showing :- Stub Setting and Chimney concreting of AP-7.

Figure Showing :- Cube casting at site for quality check of manual mixed Concrete.

Figure Showing :- Segrgation & Erection Works.

Figure Showing :- Erection of Towers.

Figure Showing :- Erected of Towers AP22.

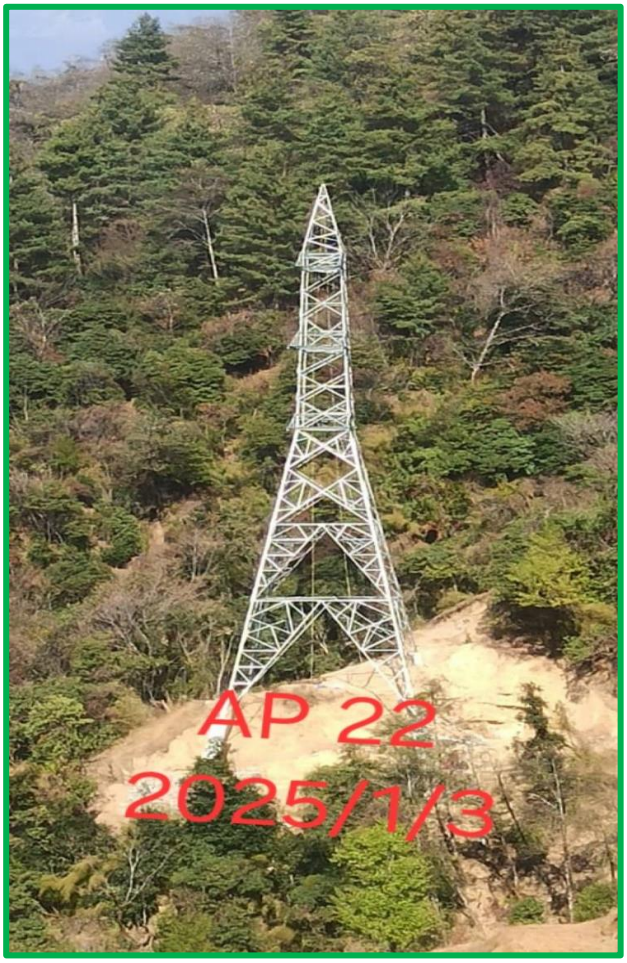


Figure Showing :- Erected of Tower AP22/1.

THANK YOU!