Brief highlights of the recent updates in the Progress Report of Nucphe Likhu Hydropower Project

1. *Geological and Geotechnical Interpretation Report By MASW, MAM and SRT with ERT has been completed.*

2. *The transmission line survey work has been completed.*

3. *Road survey work has been completed.*

4. *The Independent Consultant team had submitted the Review report on Feasibility Study Report.*

5. *The Board has decided to fix the date to change for any alteration in commitment share amount and close the share application date for the promoters share of VEPL (Bhadra end 2075 for alteration of commitment amount and Ashwin end 2075 to close the share application).*

6. *There has been an agreement for road construction of 6.34 km road which goes through the Chhewar village area.*

7. *The detail progress report has been attached separately.*

Progress Report

FIRST STAGE

S.N	Activities	Status	
		Completed	Going On
1	Survey License of project	License obtained of 57.5 MW on 2074/06/29(15/10/2017)	Completed.
2	Feasibility Study report of project	The consultant team has submitted Final Feasibility Study Report.	Completed.
3	Survey license of Transmission line	License obtained for transmission line on 2074/12/15 (29/3/2018)	Completed.
4	Desk Study Report of Transmission line	The consultant team has submitted Final Desk Study Report.	Completed.
5	Feasibility Study report of Transmission line	Consultant team is preparing framework of Feasibility Study report.	Ongoing
6	Topography Survey of Project	Topography Survey Report Obtained	Completed.
7	Approval from Ministry of Forest.	Approval for Survey Work Obtained.	Completed.
8	Quality Measurement of Water	Report of Water Measurement has been obtained.	Completed.
9	Environment Impact Assessment (EIA) study of Project	EIA Consultant has completed initial field visit and has submitted preliminarily report. Further the consultant has submitted TOR in Department of Electricity Development (DOED) for approval	The consultant team has committed to complete the assignment within Ashoj End 2075.
10	Environment Impact Assessment (EIA) study of Transmission line	Site visit has been done by Consultant. Consultant team is preparing draft scoping report.	The consultant team has committed to complete the assignment within Paush End 2075
11	Electronic Resistivity Tomography (ERT)	ERT Consultant has Completed ERT Works and has submitted Final Report.	Completed.
12	Geological and Geotechnical Interpretation Report By MASW, MAM and SRT with ERT	Consultant team has submitted the Final Report	Completed
13	Gauge Station Installation	Automatic Gauge Station has been Installed at Project Site.	Collection of data from the Gauge Station is going on.

14	Grid Agreement	Connection Agreement has been entered with NEA to evacuate the power at Garjyang Sub-station. (Estimated distance 30 KM).	Completed.
15	PPA	PPA has been done with Nepal Electricity Authority (NEA) on 2074/11/28 (12/03/2018).	Completed.
16	Transmission Line Survey	Transmission Line Survey license obtained from DOED. Consultant has submitted the final report of survey	Completed
17	Road Survey	The consultant has completed the survey work	Completed
18	Detail Design	Agreement with technical advisor has been completed.	Work is being done as per agreement.
19	Generation License	Work is being done to obtain generation license	
20	Land Acquisition	Required lands for the project are identified. 70% of Land acquisition completed.	Acquisition of required lands will be completed within Ashad 2075.
21	Review of Feasibility Study Report of Project by Independent Consultant Team	The Expert team has submitted draft review report after field visit.	Ongoing for Final Report

Second Stage : Financial Closure

After PPA, the financial closure will be done with Banks. The company aims to finalize financial closure within Falgun End 2075. Meeting are going on with various banks for loan process for the project.

Third Stage: Construction Work

The company will start its construction work after obtaining Generation Liscence. The company plans to generate electricity within the period of 4 years from the commencement of construction work subject to complex disturbances. The construction work will be commenced after the completion of the first stage and second stage. Currently company has identified the contractors and discussions is being held with them to finalize the Terms of Refrence (TOR).

Investment Module

Demands of energy in Nepal is gradually increasing along with population growth and economic development. As there is less supply of electricity, Nepal has to import electricity from India regularly. Hence, Development of Hydropower project is need of the country which will help to industrialize the nation by eliminating current load shedding. As the hydropower company gives longtime benefits to its shareholder, investment inthissector can be assumed as future pension plan.

Minimum and maximum Investment

For Individual-Minimum 10 Lakh and Maximum 2 Crore and
For Institution: Minimum20 Lakh and Maximum 10 Crore

Investment Schedule

S.N.	Particulars	Percentage
1	At the time of Application	20%
2	Jestha End 2075	15%
3	Ashoj End 2075	20%
4	Magh End 2075	20%
5	Jestha End 2076	15%
6	Ashoj End 2076	10%

Last date for any changes in the commitment share amount: 2075/05/31
Last date for the closure of share application: 2075/6/31

Salient features of the project

1.	**General**	
	Name of the Project	Nupche Likhu Hydropower Project
	Type of the Project	Snow fed Run-off River Hydropower Project
2.	**Location**	
	Longitude	86°26'30" E - 86°30'30" E
	Latitude	27°40'37" N - 27°43'37" N
	Province	Province No 3
	District	Ramechhap
	Project Location	Umakunda Rural Municipality 1 (then Gumdel VDC 1)
	River	Nucphe Khola and Likhu Khola
3.	**Hydrology**	
	Catchment Area	150 Km^2
	Design Discharge (Q 45 %)	7.11 m^3/s
4.	**Headworks**	
	Type of Intake	Orifice, Side Intake
	Intake Elevation	3330 m above msl
	Type of Weir	Boulder line weir
5.	**Settling Basin**	
	Basin No.	2
	Type	Double Bay Duffer at each side
	Size	50 m × 5 m each
6.	**Headrace Pipe**	
	Headrace Pipe	1264 m
	Headrace Pipe Dia	1.3 m& 1.5 m (Likhu & Nupche River)
7.	**Tunnel Length**	
	Nupche Intel Portal to Junction	1690 m
	Likhu Intel Portal to Junction	1435 m
	Outlet/Surge Tank to Junction	3250 m
	Adit Tunnel Length	450 m
	Tunnel Size	2.8m x 3.5m
8.	**Penstock Pipe Length**	
	Total Steel Penstock Pipe	2356 m
	Internal Diameter	1.6-1.8 m
	Thickness	8mm to 56mm
	Steel Lined Vertical shaft	308m
	Steel Lined Tunnel	540 m
9.	**Power House**	
	Type	Surface
	Power House Elevation	2336 m above msl
	Number of Generating Units	3
	Turbine Type	Pelton
10.	**Tail-Race Canal**	
	Type	Box Culvert
	Length	20 m
11.	**Power and Energy**	
	Gross Head	994 m
	Net Head at Full Flow	974.12 m
	Installed Capacity	57.5 MW
	Generated Energy per Annum	139.76GWh, 36.61% (Dry) and 241.98 GWh, 63.39% (Wet) **Total: 381.74 GWh**

12.	**Transmission Line & Grid**	This project has to made an agreement with the approx. 30 km up to National grid at 132 KV switchyard of Proposed NEA Hub at Garjang Sub-Station, Ramechhap district.
13.	**Approach Road Connection**	There is an existing all weather road up to Manthali which is 131 km from Kathmandu. From Manthali to Kyama, Gumdel VDC, there is partly stone paved earthen road which is about 110 km long and to the proposed PH site of the project, there exist a stone paved road of about 12 km.
14.	**Project Road to HW & PH**	Around 34 km
15.	**Approximate Cost of Project**	9,484million NPR (Subject to increase/decrease after DPR)
16.	**Approximate Construction Period** :	4 Years
17.	**Required Commercial Operation Date (RCOD)**	2080/05/02(2023/08/19)

Main Features of Project

1. Internal Rate of Return (IRR): 19.47% , Equity Internal Rate of Return (EIRR): 35.19%
2. Simple Payback Period: 4.28 Years; Discounted Payback Period: 6.61 years.
3. The Project has high head. It ensures cost efficiency and high energy.
4. High Energy per MW (6.63 GWh p.a.), Dry Energy 36.61% and Wet Energy 63.29%
5. Income Per MW: More than NPR 4 Crore
6. Professional, Transparent and Responsible Management.
7. Aims to benefit Small Investors too.
8. Focused on high Return on Investment and high value in secondary market.
9. **Dividend Payout Capacity:**
   a. No Change in Project Cost, Revenue& Interest Rate: Year 2081-40%, Year 2082-45%, Year 2083-50%, Year 2084-55%, Year 2085-60% and then till year 2110 average 65%
   b. Project Cost increase by 10%, Revenue Decrease by 10% & Interest Rate at 12%: Year 2081-19%, Year 2082-20%, Year 2083-25%, Year 2084-30%, Year 2085-30% and then till year 2110 35% to 48%
   c. Project Cost increase by 15%, Revenue Decrease by 10% & Interest Rate at 13%: Year 2081-10%, Year 2082-15%, Year 2083-20%, Year 2084-20%, Year 2085-25% and then till year 2110 25% to 45%

Consulting Team

S.N.	Particulars	Name of Consultant
1	Desk Study Report of Project	E.I. Maven Pvt. Ltd
2	Feasibility Study Report of Project (57.5 MW)	E.I. Maven Pvt. Ltd
3	Desk Study Report of Transmission line	E.I. Maven Pvt. Ltd
4	Feasibility Study Report of Transmission line	E.I. Maven Pvt. Ltd
5	Topographic Survey of the project	R.K. Survey Company Pvt. Ltd.
6	Topographic Survey of the Project access road and transmission line	R.K. Survey Company Pvt. Ltd.
7	EIA of the Project	Nepal Environmental and Scientific Services (P) Ltd.
8	EIA of Transmission line	Nepal Environmental and Scientific Services (P) Ltd.
9	ERT	Explorer Geophysical Consultants Pvt. Ltd.
10	Geological/Geotechnical Interpretation Report by MASW, MAM and SRT with ERT	Geophysical Research and Consultancy Service (P). .Ltd.
11	Review of Feasibility Report	Keshav Raj Bhatta (Expert: Director of NEA)
12	Automatic Gauge Station	Real Time Solutions Pvt. Ltd.
13	DPR	E.I. Maven Pvt. Ltd.