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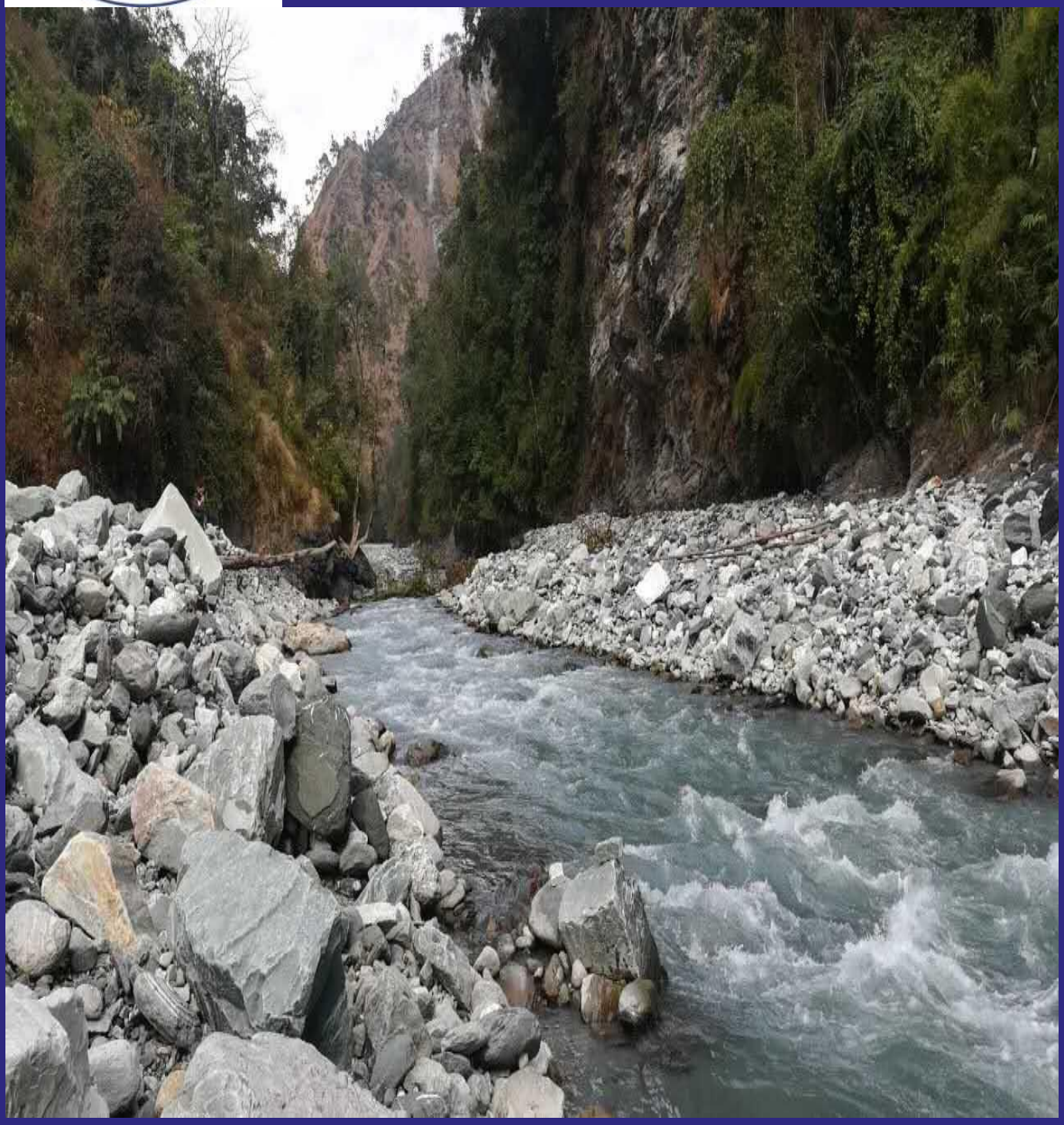

MONTHLY PROGRESS REPORT

OF

RAHUGHAT HYDROELECTRIC PROJECT 40MW

PREPARED BY RAHUGHAT HYDROELECTRIC PROJECT

1. INTRODUCTION

Raghuganga Hydropower limited (RGHPL) is a public limited company which was established in March 2017 AD with an aim of Hydro power generation. NEA owns the cent percent share of this project .EXIM Bank of India has provided the soft loan to NEA for this project. In order to resolve current electricity demand in Nepal, the company has planned to develop Raghuganga Hydroelectric Project (40 MW).

1.1Rahughat Hydroelectric Project

Rahughat Hydroelectric Project (RGHEP) is located between the Latitudes 28°22'21" to 28°25'45"N and the Longitudes 83˚31'13" to 83˚34'35"E in Myagdi District, Western Development Region. The major components of the Project lie on the left bank of Rahughat Khola. Rahughat is one of the major tributaries of Kaligandaki River that flows from west to east to meet Kaligandaki River at Galeshwor.

Salient Features of Rahughat Hydroelectric Project (40 MW)

LOCATION		
Latitude	28°22'21"N to 28°25'45"N	
Longitude	83°31'13"E to 83°34'35"E	
District	Myagdi	
DRAINAGE AREA		
Total Area	305.0	km²
Effective area below 5000 m	287.0	km²
90% firm flow in the driest month	6.13	m³/s
Design flow	16.67	m³/s
DIVERSION DURING CONSTRUCTION		
Type of structure	Diversion Channel	
RESERVOIR		
Full supply level	1,165.0	m
Minimum operating level	1,160.0	m
Maximum flood level	1,166.10	m
BARRAGE AND UNDERSLUICE		
Type of structure	Gated	
Deck level	1,169.0	m
Spillway crest elevation	1,157.0	m
Crest level of Under sluice	1,152.0	m
Crest Length	21.0	m
Capacity (1 in 1000 Yr. Flood)	688.0	m³/s
DESANDER		
Number of Bays	2.0	
Nominal size of trapped particle (mm)	>0.20	
Length x Width x Depth per bay (m)	80.0 x 8.0 x 5.94	
HEADRACE TUNNEL		
Concrete lined length (m)	6,270.106	
Internal diameter(Concrete lined) (m)	3.30	
Shape	Horse shoe	
Excavated shape	D Shape	
Lining thickness (mm)	300.0/350.0	
SURGE SHAFT		
Diameter (Circular) (m)	10.0	

Height (m)	53.15
Maximum Up Surge Level (m)	1,178.42
Minimum Down Surge Level (m)	1,142.33
BUTTERFLY VALVE CHAMBER	
Finished dimensions	10m(L)X10m(H)X6m(W)
STEEL-LINED PRESSURE SHAFT	
Diameter (m)	2.15
Length (m)	1007.00
Maximum shell thickness (mm)	Varies from 10 to 25
Penstock –Diameter (m) (after bifurcation)	1.52
Length (m)	20.0 each
POWERHOUSE	
Length x width (m)	57.75 x 24.35
Centerline of Distributor pipe (m)	870.5
Number of generating units	2.0
Turbine type	Pelton
Rated flow for a unit (m^3/s)	8.34
Turbine rated capacity (MW)	20.51
Generator rated capacity (MVA)	23.53
Gross Head (m)	292.83
Rated net head (m)	281.56
Rated turbine efficiency	90.50%
Rated generator efficiency	97.50%
Installed Capacity (MW)	2x20 = 40
TRANSMISSION LINE (220 kV)	
Transmission line from Dana Kushma line to RGHEP switchyard under the scope of Dana-Kushma 220kV Transmission Line Project	
ACCESS ROAD	
New Permanent road	10.87
Branch to Adits	0.8
ECONOMIC INDICATORS WITHOUT TRANSMISSION LINE	
Total Annual Energy	247.89 GWh
Firm Energy (90 % Hydrological Firm)	137.71GWh
Secondary Energy	110.18GWh

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The design discharge will be diverted at the headwork's with 2 numbers of Spillways and one Under Sluice, a 80 m long Desander with 2 bays through a 6.270 Km long concrete lined Headrace Tunnel of 3.30m furnished diameter. 53.15 m high, 10m diameter Surge Shaft, 1007m long, 2.15m diameter Pressure Shaft, a manifold bifurcating into two Penstocks, a 57.75m x 24.35m Power House and a cut & cover Tail Race arrangement.

Project is divided into two main packages.

- Civil and Hydro Mechanical works (combine).
- Electro-Mechanical works

The total estimated project cost is NRs 859.59 Crore. This fund is managed from soft Loan provided by EXIM Bank of India through NEA.

Generated power from Raghuganga Hydroelectric project will be evacuated through a 0.6 Km long a single circuit 220 KV Transmission line to connect RGHEP Power House switchyard to Dana Kushma line under scope of Dana Kushma 220KV Transmission Line Project.

2. PROJECT PROGRESS STATUS UP TO CHAITRA

2.1Project Develop Milestone.

S.no	Date	Milestone
1	2075/12/18	Power Purchasing Agreement with NEA.
2	2068/8/1	Forest and Public Area land Reclamation obtained
3	2068/8/28	Approval of Tress Cutting Obtained.
3	2074/8/5	Lot 1 agreement with Jay Prakash Associates.
4	2075/12/20	Access Road Completed.

1) Generation license for the project were received from Ministry of Energy Water Resources and Irrigation for a period of 30 Years.

2) Approval for cutting down trees was obtained from Department of forestry. Trees cutting has been completed as of now.

3) Land Acquisitions and encroaching is completed.

4) Preparatory of Project Works:

Access Roads (10.87 Km)

a) The access road leading to different project components site has been completed.

Fig:- Access Road leading to Power house

b) Slope protection, widening of road (Gabion wall), grading and other finishing works is almost completed.

Fig:- Gabion work being done adjacent to project access road.

c) Construction of Side drain is ongoing.
d) Foundation of Steel through Truss Bridge is on process which connects Mauwaphat to Headworks.

Fig:-Installation of rock anchors at left abutment of Steel through Bridge

Camp Facilities

The construction of camp facilities consisting of following building has been completed:

(a) 2 nos. of Residential Building Type D.
(b) 4 nos. of Residential Building Type C.
(c) 1 nos. of Guard House.

Remaining 5 Different types of Buildings and other recreational purpose (Badminton and Basketball Court) are in under constructions.

Fig:- Basketball court foundation work being carried out inside camp area

5) Progress of work under main Packages:

Package 1(Civil and Hydro-Mechanical works)

Contract agreement for Lot 1- Civil and Hydro-Mechanical Works of Raghughat Hydroelectric Projects was signed with Jay Prakash Associates. Major activities progress status under this contract are as:

- ADIT Tunnel
  a) Access roads to Adit tunnels has been completed.
  b) Portal face mapping at Adit-2 and Adit-3 has been done.

c) Survey layout and center line alignment of Adit-2 and Adit-3 has been checked prior to ribs installation.
d) Shuttering work and subsequent concreting viz, portal column (M25) and backfill concreting (M15) was carried out as per approved design drawings.
e) Ribs installation as well as laggings placement was done as per the technical specification provided.

Fig:- In-site work progress at Adit-2 portal face.

- Transmission line.
  (a) Extension and Strengthening of 11KV line from Power House to ADIT 3, Batching Plant, Crusher APP and Surge Shaft is completed.
  (b) Extension and Strengthening of 11 KV line for Headwork's, ADIT 2 is initiated.

- Surge Shaft
  (a) Site Clearance for Surge Shaft is completed.
  (b) Excavation work is ongoing.

Fig:-Site clearance and excavation work at Surge Shaft

- Power House
  (a) Site Clearance for Power House is completed.
  (b) Landscaping and Slope Stabilization is going on

Fig:-Site clearance at Powerhouse

- Crusher Plant (Aggregate Processing plant) and testing laboratory is installed and initiated.

Fig:-Crusher plant installed at Chamare

- Batching plant is installed and commissioned.

Fig:-Batching plant being installed at suitable location

Package 2(Electro-Mechanical works).

Contract for Lot 2- Electro-Mechanical Works has been Tender and Evaluation of Tenderer for Technical Specification is on process.

SUMMARY

The Monthly Progress Report is prepared for providing the successive information regarding the project status till date. Over all 12% work has been completed.