

SALIENT FEATURES

1. LOCATION

i)	State	:-	Arunachal Pradesh
ii)	District	:-	Papum Pare
iii)	Town	:-	Sagalee (about 7 km from project area)
iv)	Access	:-	Yupia-Sagalee-Seppa Road
v)	Nearby village	:-	Lower Ghai
vi)	Geographical Coordinates	:-	Latitude = 27°14'21" N Longitude = 93°27'15" E
vii)	Toposheet Reference	:-	83 E/07 and 83E/08
viii)	Nearest Railhead	:-	Naharlagun (90 Kms)
ix)	Nearest Airport	:-	Guwahati (450 Kms)

2. HYDROLOGY

i)	Name of the Stream	:-	Ghai Nala
ii)	River Basin	:-	Pare River
iii)	Catchments Area	:-	20 km ²
iv)	Type of Stream	:-	Perennial
v)	Design Flood	:-	185 m ³ /s
vi)	Average Annual Inflow	:-	37.60 MCM
vii)	75% dependable inflow	:-	32.10 MCM
viii)	Design Discharge	:-	0.81 m ³ /s

3. TRENCH WEIR

i)	Shape	:-	Rectangular drop type
ii)	Length	:-	12 m
iii)	Width	:-	1 m
iii)	Discharge	:-	1.283 m ³ /s
iv)	Top level of trench	:-	EL 860 m
v)	Size of gate	:-	1.0 m (H) x 1.0 m (W)
vi)	Invert Level of Intake	:-	EL 858.20 m

4. INTAKE CHANNEL

i)	Length	:-	10 m
ii)	Shape	:-	RCC Rectangular Section
iii)	Size	:-	0.9 m (W) x 1.1 m (H)
iv)	Full Supply Depth	:-	0.9 m
v)	Discharge	:-	1.069 m ³ /s
vi)	Bed Slope	:-	1 in 500

5. DESILTING BASIN

i)	Size	:-	12.0 m long x 5.0 m wide
ii)	Slope Height	:-	1.5 m
iii)	Vertical Height	:-	3.0 m
iv)	Silt Catch Drain	:-	0.5 m x 0.5 m
v)	Full Supply Level	:-	EL 859.262 m

6. POWER CHANNEL

i)	Length	:-	556 m
ii)	Shape	:-	RCC Rectangular Section
iii)	Size	:-	0.9 m (W) x 1.0 m (H)
iv)	Full Supply Depth	:-	0.8 m
v)	Discharge	:-	0.891 m ³ /s
vi)	Bed Slope	:-	1 in 600

7. FOREBAY TANK

i)	Size	:-	10.0 m long x 4.0 m wide
ii)	Storage	:-	3 Minutes
iii)	Capacity	:-	80 m ³
iv)	Full Supply Level	:-	EL 858.33 m
v)	Max. Draw Down Level	:-	EL 856.33 m
vi)	C/L of penstock	:-	EL 854.97 m

8. PENSTOCK

i)	Size	:- 650 mm (ID) bifurcating into 350 mm (3 nos.) & 250 (1 no.)
ii)	Length (main penstock)	:- 132 m
iii)	Discharge	:- 0.891 m ³ /s
iv)	Liner Thickness	Varies from 10 mm to 12 mm

9. POWER HOUSE

i)	Type	:- Surface
ii)	Head	:-
	Gross	74.0 m
	Design (net)	67.0 m
iii)	Design Discharge	:- 0.891 m ³ /s (Including 10% overload)
iv)	Size of Power House	:-
	Length	:- 28 m
	Width	:- 7 m
	Height from Machine Floor Level	:- 8 m
	Machine Floor Level	:- EL.788 m
v)	Installed Capacity	:- 350 KW
vi)	Turbines	
	Type	:- Francis (Horizontal)
	Number	:- 4 Nos.
	Capacity	:- 100 kW (3 nos.) + 50 kW (1 no.)
vii)	Generator	
	Type	:- Synchronous
	Voltage	:- 415 V
	Frequency	:- 50 Hz

10. TAIL RACE CHANNEL

i)	Type	:- Open RCC Channel
ii)	Shape	:- Rectangular
iii)	Size	:- 2 m (W) x 0.8 m (H)
iv)	Discharge	:- 0.891 m ³ /s
v)	Length	:- 15 m

11. LAND REQUIREMENT

i)	Submergence	:-	NIL
ii)	Permanent Land Requirement	:-	0.68 Ha.
iii)	Temporary Land Requirement	:-	0.27 Ha.

12. GENERATION

i)	Annual Generation in 75% Dependable Year	:-	2.28 MU
ii)	Annual Energy Generation at 95 % plant Availability	:-	2.16 MU
iii)	Annual Load Factor (%)	:-	70.53 %
iv)	Generation in Lean Period (Nov.-Mar.)	:-	0.71 MU

13. COST ESTIMATE & FINANCIAL PROJECTIONS

i)	Land & Preliminary expenses	:-	Rs. 0.53 Cr.
i)	Civil and HM Works	:-	Rs. 5.07 Cr.
ii)	Electro-mechanical works	:-	Rs. 3.81 Cr.
iii)	Evacuation	:-	Rs. 0.09 Cr.
iv)	Total Project Cost	:-	Rs. 9.50 Cr.
v)	IDC and Escalation	:-	Rs. 2.01 Cr.
vi)	Project cost (including escalation and IDC)	:-	Rs.11.51 Cr.
vii)	Cost per KW	:-	Rs. 3.29 Lacs
viii)	Cost of generation (Rs/ kWh)		
	a) 1 st Year	:-	Rs. 10.01/ Unit
	b) Levelised Cost	:-	Rs. 8.00/ Unit

14. SCHEDULE

i)	Pre construction Activities	:-	9 months
ii)	Construction Period	:-	12 months