

SALIENT FEATURES

1. LOCATION

i)	State	:-	Arunachal Pradesh
ii)	District	:-	Upper Subansiri
iii)	Town	:-	Daporijo (25 km from site)
iv)	Access	:-	Road -295 km from Itanagar
v)	Nearby village	:-	Mosi and Siga
v)	Geographical Coordinates	:-	Latitude=28° 02'34"N Longitude=94°04'33" E
vi)	Toposheet Reference	:-	82 L/4
vii)	Nearest Airport	:-	Mohanbari, Dibrugarh

2. HYDROLOGY

i)	Name of the River	:-	Sippi
ii)	River Basin	:-	Subansiri
iii)	Catchments Area	:-	241.1 km ²
iv)	Type of River	:-	Perennial
v)	Design Flood	:-	857 m ³ /s
vi)	Average Annual Inflow	:-	305.34 MCM
vii)	75% dependable inflow	:-	260.75 MCM

3. TRENCH WEIR

i)	Shape	:-	Rectangular
ii)	Length	:-	18m
iii)	Width	:-	2.5m
iii)	Design Discharge	:-	10 m ³ /s
iv)	Top level of trench	:-	EL 1000 m
v)	Size of gates	:-	2.5 m x 2.5 m
vi)	Invert Level of Intake	:-	EL 997.15 m

4. INTAKE CHANNEL

i) Length	:- 535 m
ii) Shape	:- RCC Rectangular Box Section
iii) Size	:- 3.0 m (W) x 2.7m (H)
iv) Bed Slope	:- 1 in 2000

5. DESILTING BASINS

i) Length	:- 47 m
ii) Width	:- 6 m
iii) Vertical Depth	:- 3.05 m
iv) Inclined Depth	:- 2.25 m
v) Number	:- 2
vi) Design Discharge	:- Each for 3.945 m ³ /s

6. WATER CONDUCTOR SYSTEM

Combination of Channel and Tunnel

i) Length	:- 3880 m
ii) Channel Length	:- 3338 m
iii) Channel Shape	:- RCC Rectangular Box Section
iv) Channel Size	:- 3.0 m (W) x 2.5 m (H)
v) No. of major Cross-Drainage Works	:- 2 no.
vi) Bed Slope	:- 1 in 1100
vii) Full Supply Depth	:- 1.5 m
viii) Design Discharge	:- 7.89 m ³ /s
ix) Tunnel Length	:- 542m (total in 3 stretches)
x) Tunnel Size	:- 3m dia D shaped

7. FOREBAY TANK

i) Size	:- 36.0 m long x 20.0 m wide
ii) Live Storage	:- 2 m (Between FSL and MDDL)
iii) Storage	:- 3 Minutes
iv) Full Supply Level	:- EL 993.7 m

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|-----|----------------------|----|-------------|
| v) | Max. Draw Down Level | :- | EL 991.7 m |
| vi) | C/L of penstock | :- | EL 987.54 m |

8. SPILLWAY AND ESCAPE PIPE

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|-----|--------------------------|----|-------|
| i) | Length of Spillway Crest | :- | 14 m |
| ii) | Length of Escape Pipe | :- | 360 m |

9. PENSTOCK

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|------|------------------|----|--|
| i) | Size | :- | 2000 mm (ID) Main Penstock
bifurcating into 1154 mm(ID) |
| ii) | Length | :- | 360 m (346m main penstock) |
| iii) | Design Discharge | :- | 7.89 m ³ /s |
| iv) | Liner Thickness | | 8mm to 12mm |

10. POWER HOUSE

- | | | | |
|-------|---------------------------------|----|----------------------------|
| i) | Type | :- | Surface |
| ii) | Head | : | |
| | a) Gross | :- | 100 m |
| | b) Design (net) | :- | 92.12 m |
| iii) | Size of Power House | : | |
| | a) Length | :- | 40 m |
| | b) Width | :- | 15 m |
| iv) | Height from Machine Floor Level | :- | 12 m |
| v) | Machine Floor Level | :- | EL.903 m |
| vi) | Installed Capacity | :- | 6600 kW |
| vii) | Turbines | : | |
| | a) Type | :- | Horizontal Francis |
| | b) Number | :- | 3 Nos. |
| | c) Capacity | :- | 2200 kW each |
| viii) | Generator | : | |
| | a) Type | :- | Synchronous |
| | b) Voltage | :- | 3.3 kV |
| | c) Excitation System | :- | Brush less |
| ix) | Generator Transformer | :- | 3 Nos., 3.3/11kV, 2750 kVA |

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|-----|-------------------------------------|----|--------------------------------|
| x) | Number of Draft Tube Gates | :- | 3 Nos. manually operated |
| xi) | Power house Crane /Lifting capacity | :- | EOT Crane of 32/8 ton capacity |

11. TAIL RACE CHANNEL

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|------|------------------|----|------------------------|
| i) | Type | :- | Open Channel |
| ii) | Shape | :- | Rectangular |
| iii) | Size | :- | 11m (W) x 1.5m (H) |
| iv) | Design discharge | :- | 7.89 m ³ /s |
| v) | Quantity | :- | 1 no. |
| vi) | Length | :- | 28 m |

12. SWITCH YARD

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|-----|---------------|----|----------------------|
| i) | Voltage Level | :- | 33 KV |
| ii) | Size | :- | Outdoor, 35 m X 37 m |

13. LAND REQUIREMENT

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|------|----------------------------|----|----------|
| i) | Submergence | :- | NIL |
| ii) | Permanent Land Requirement | :- | 7.19 Ha. |
| iii) | Temporary Land Requirement | :- | 3.68 Ha. |

14. GENERATION

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|------|---|----|----------|
| i) | Annual Generation in 75% Dependable Year | :- | 34.74 MU |
| ii) | Annual Energy Generation at 95 % plant Availability | :- | 33.01 MU |
| iii) | Annual Load Factor (%) | :- | 60.09 % |
| iv) | Generation in Lean Period (Nov.-Mar.) | :- | 4.52 MU |
| v) | Average lean period Load Factor (%) | :- | 18.76 % |

15. COST ESTIMATE & FINANCIAL PROJECTIONS

i)	Land and Pre-operative	:-	Rs. 3.93 Cr.
ii)	Civil and HM Works	:-	Rs. 51.42 Cr.
iii)	Electro-mechanical works	:-	Rs. 13.84 Cr.
iv)	Transmission	:-	Rs. 0.81 Cr.
v)	Total Project Cost	:-	Rs. 70.00 Cr.
vi)	Escalation	:-	Rs. 4.45 Cr.
vii)	IDC and Financial Charges	:-	Rs. 9.02 Cr. ✓
viii)	Margin Money on Working Capital	:-	Rs. 0.97 Cr.
ix)	Total Project cost	:-	Rs. 84.44 Cr. ✓
x)	Cost per MW	:-	Rs. 12.79 Cr.
xi)	Tariff (Rs/ kWh)		
	a) 1 st Year Tariff	:-	Rs. 5.03/ Unit
	b) Levelised Tariff	:-	Rs. 4.42/ Unit

16. SCHEDULE

i)	Pre construction Activities	:-	18 months
ii)	Construction Period	:-	36 months