18 SALIENT FEATURES

LOCATION

State	:	Arunachal Pradesh
District	:	West Siang
River	:	Siyom

Location of Dam

Latitude	:	28˚ 32’ 4.5”
Longitude	:	94˚ 23’ 57.2”

Location of Powerhouse

Latitude	:	28˚ 31’ 25.18”
Longitude	:	94˚ 25’ 35.22”
Nearest Airport	:	Guwahati
Nearest Rail head (Broad gauge)	:	Nagaon

HYDROLOGY

Catchment area at dam site	:	2560 sq km
Design Flood	:	7985 cumecs

DIVERSION TUNNEL

Diameter & shape	:	04 nos. 10.85 m dia Circular
Length	:	817.5m,723.8m,893.5 m and 789.13 m
Diversion discharge	:	4847.0 cumecs (1 in 25 year Monsoon)
	:	2216.0 cumecs (1 in 25 year Non-monsoon)
Diversion tunnel gate	:	08 nos. vertical lift gate each
Size of gate	:	4.1 m (w) x 10.4 m (h)

COFFER DAMS

Type of Coffer Dam		
Upstream	:	Plum Concrete
Top Elevation	:	EL. 926.00
Height of U/S Coffer dam	:	± 19.0 m high

Downstream	:	Random Fill
Top Elevation	:	EL. 902.50
Height of D/S Coffer Dam	:	± 9.0 m high

DAM

Type	:	Concrete Gravity Dam
Dam top	:	EL 1025 m
River Bed Level at Dam site	:	EL 902 m
Foundation Level	:	EL 870 m
Maximum Dam height (above deepest foundation level)	:	155 m
Total length of dam at top	:	268 m
Height of Dam (above river bed level)	:	123 m

SPILLWAY

Design Flood	:	7985 cumecs
Crest elevation	:	EL 963 m
Nos. & size of openings (w x h)	:	04 nos. – 8 m x 12 m
Energy dissipation system	:	Ski jump type

RESERVOIR

Full Reservoir Level (FRL)	:	EL 1020 m
Minimum Draw Down Level (MDDL)	:	EL 1012 m
Area under submergence at FRL	:	8,71,308 m²
Gross storage	:	31.22 M cum
Live storage	:	6.55 M cum

INTAKE

Number of Intakes	:	1 no.
Invert level of intake	:	EL 990.0 m
Number and Size of Trash Rack Opening	:	6 Nos – 4.6m wide
Number and Size of Bulkhead Gate	:	2 Nos – 6.5m (W) x 7.5m (H)
Number and Size of Service Gate	:	2 Nos - 6.5m (W) x 7.5m (H)
Design discharge	:	384 cumecs

HEADRACE TUNNEL

Headrace Tunnel	:	One
Size and type	:	10.40 m dia, circular, concrete lined
Design discharge	:	384 cumecs
Length (including 61 m long conduit)	:	3.876 km (approx)
Adits	:	02 nos., 6.5m (W) x 7.0m (H) D - shaped

SURGE SHAFT

Numbers	:	One
Size	:	31.5 m diameter
Vertical shaft height (excluding Vault)	:	47 m
Height of Vault	:	14.7m

PRESSURE SHAFT

Numbers	:	Four
Type	:	Underground and Steel lined
Diameter	:	4.50 m
Pressure Shaft length (Total)	:	2 x 311.40 m for outer Pressure shafts
	:	2 x 294.40 m for inner Pressure shafts
Vertical Height of Pressure Shaft	:	184.85 m each

VALVE CHAMBER

Type	:	Underground
Size	:	10 m (W) x 26.2 m (H)
Length	:	98 m

PRESSURE SHAFT ERECTION CHAMBER

Type	:	Underground
Size	:	8 m (W) x 10 m (H)
Length	:	88 m

POWERHOUSE CAVERN

Type	:	Underground
Installed capacity	:	700 MW

Number of units	:	4nos of 175 MW each
Type of turbine	:	Vertical Francis
Turbine axis elevation	:	EL 798.0 m
Tail water level at outlet	:	EL 810.00 m
Powerhouse size	:	22.5 m (W) x 48.5 m (H)
Length of Powerhouse	:	164 m
Design head (Rated net head)	:	207.00m

MAIN ACCESS TUNNEL

Size	:	8m (W) x 8m (H)
Length	:	330 m

TRANSFORMER CAVERN

Type	:	Underground
Size	:	16 m (W) x 25.5 m (H)
Length	:	135 m

COLLECTION GALLERY

Type	:	Underground
Size	:	15m/16.5m (W) x 34 m (H)
Length	:	110.50 m
Number of Draft Tubes	:	4 Nos
Size of Draft Tube	:	9.12m (W) x 7.2m (H)
Number of Draft Tube Gates	:	8 Nos
Draft Tube Gate Size	:	5.25 m (W) x 5.4 m (H) each

TRT

Numbers	:	One
Size & Type	:	11.0 m wide, D shaped, concrete lined
Design Discharge	:	384.00 cumecs
Length	:	562 m (approx)
Number of TRT Gates	:	2
Size of TRT Gate	:	5.5m (W) x 11.25m (H) each

POTHEAD YARD

Type and size	:	Surface, 154 m x 64.4 m
Elevation of Pot Head Yard	:	EL 845.00

CONSTRUCTION PERIOD : 6 Years after 1 Year of preconstruction Period

COST OF PROJECT

Hard Cost at June 2010 Price Level	:	₹ 3468.25 Cr
Present Day Cost with IDC	:	₹ 4637.87 Cr
Completed Cost with IDC and Escalation	:	₹ 5616.20 Cr

TARIFF

Tariff at Completed Cost

First Year Tariff	:	₹ 4.47 per kWh
Levelised tariff for First 40 Years	:	₹ 3.80 per kWh