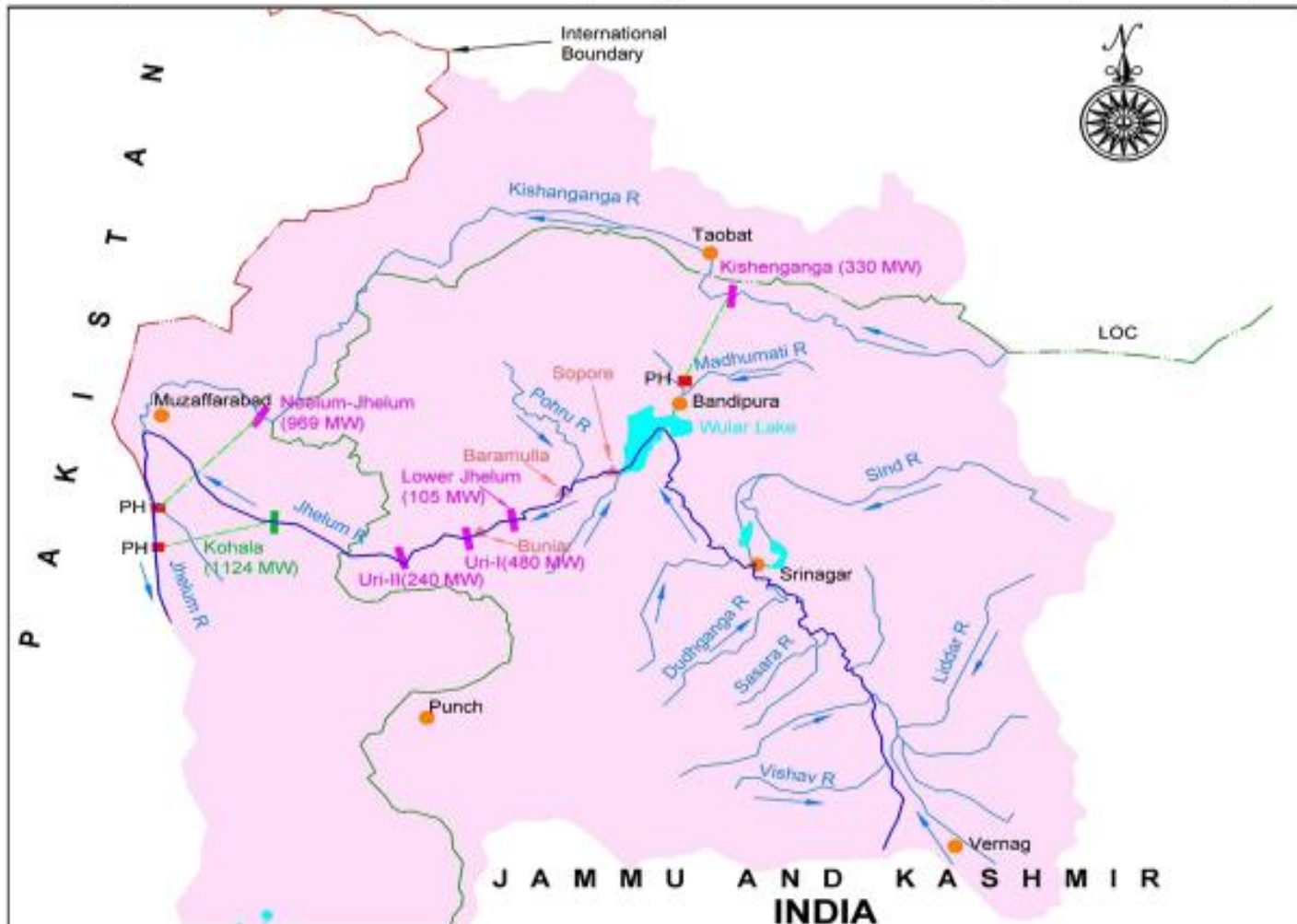
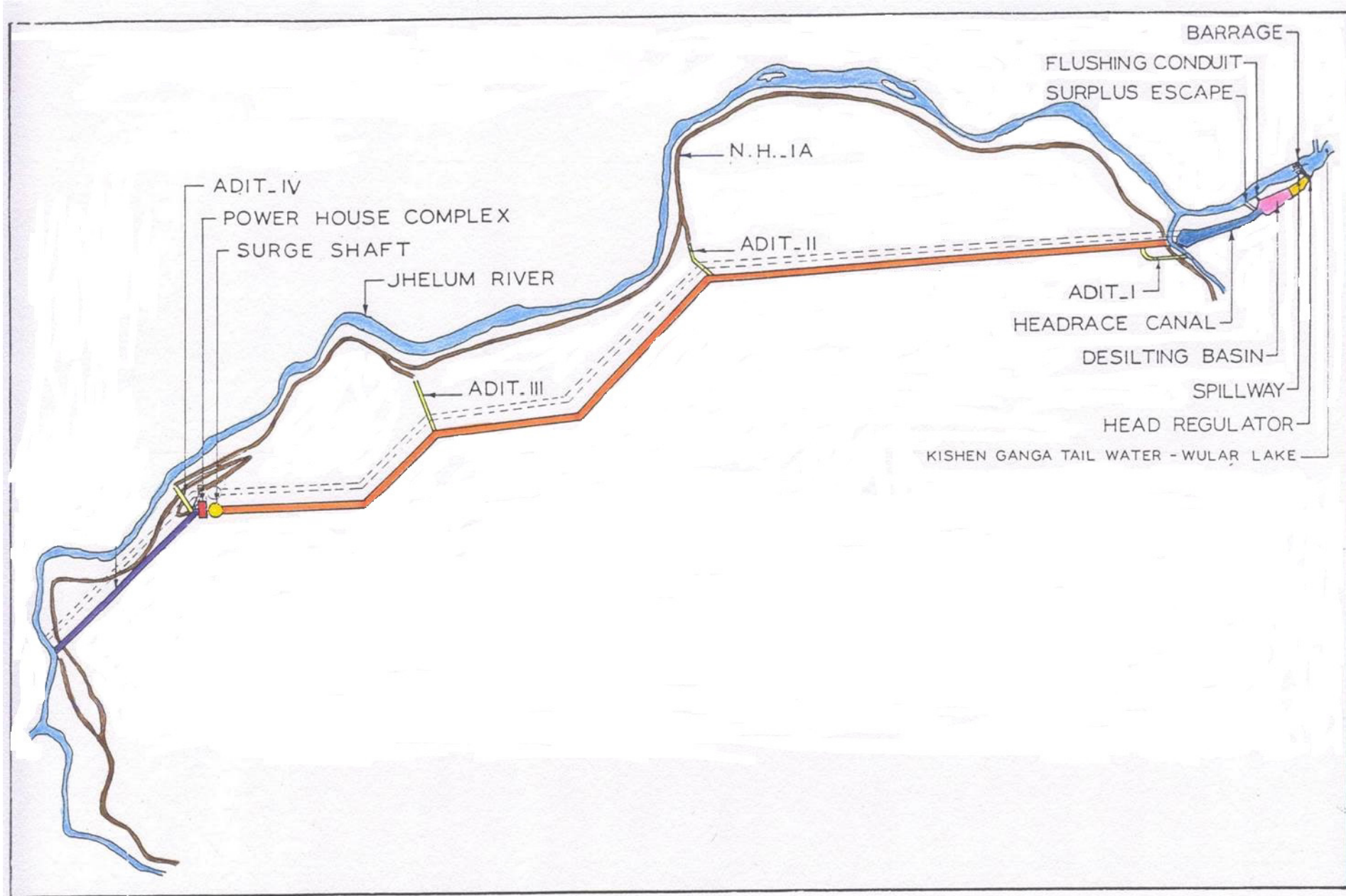


River Map of Jhelum and Kishanganga Rivers showing important projects







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Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Salient features of the project have been given below: -

1.1 SALIENT FEATURES

Project location

State	Jammu & Kashmir
District	Baramulla
River	Jhelum
Latitude	Barrage 34°08'00"N Power House 34°05'00"N
Longitude	Barrage 74°11'00" E and Power House 74°03'00" E
Nearest rail head	Udhampur
Nearest Airport	Srinagar

Hydrology

Catchment area up to Barrage site :	12,750 Km ²
Annual rainfall in the catchment area :	1104 mm (1992-2019)
Reservoir Capacity :	23.71 Ham
Minimum average 10-daily in-flow	41.3 Cumecs
Max. observed discharge at Barrage :	1675 Cumecs
Design Flood :	2264 Cumecs

Reservoir

Full Reservoir Level/ Full supply level (FSL) :	EI 1491.0 m
Maximum Water Level	EI 1491.0 m
Min. Drawdown Level :	EI 1491.0 m
Gross Storage at FRL/FSL :	23.71 Ham

Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Live Storage :	Nil (ROR Scheme)
Barrage (Already Constructed)	
Top Elevation :	El.1495.50 m
Dam height (from river bed level/ deepest foundation level :	14.5m / 21.5 m
Length of Barrage :	95.0 m
Spillway (Already Constructed) :	
Type :	Gated, Crest Spillway
No. of spillway bays and width :	6 Nos. of 8 m width each
No. of bays in sluices and width :	3 nos. of 8 m width each
Discharge with water level at FSL :	> 2700 cum/sec
Size of opening(radial gate) :	6 nos 8m(W) x 7.5m(H)
Energy dissipation	
Stilling Basins –	Bottom El.1471.0
Basin 1 to 6 :	Bottom El.1470.0
Basin 7 to 9 :	63m length with total floor length upto end of sill 78m
Head Regulator (Already Constructed)	
Nos. of bays :	2
Width :	16m each
Design discharge :	521 cumecs

Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Cut and cover section (Already Constructed)

Length of culverts :	188/207 m
No. of barrels :	4 nos.
Design Discharge :	521 cumecs

Desilting basins (Already Constructed)

Nos. of basins :	2
Length of desilting basin :	300 m
Width of basins :	44 to 66m
Side slope :	01:01.5
Design Discharge :	521 Cumecs
Normal flushing discharge :	68 Cumecs

Surplus Escape (Already Constructed)

Siphons :	6 nos. 8m(W)
Crest level :	El 1491.0m
Capacity :	500 cumecs at El.1491.3

Head race canal (Already Constructed)

Length of canal, including fore bay :	665m
Width of invert :	12.0m
Side slope :	01:01.5

Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Elevation of invert :	El.1483.0m
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Design Discharge :	453 Cumecs
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Intake (Already Constructed)

Buniyar nala intake structure Size of intake gate :	7.0 (W)x 9.0m(H)
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Sill Level :	El 1469.5m
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Intake Screen :	33.4m (W) x 15.8m(H)
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Length of Culvert :	177m
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Shape of Culvert :	Octagonal
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Cross Sectional area :	104 sqm
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Design Discharge :	453 Cumecs
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HRT Intake Structure Number :	02 (One no for URI-I PS & other for URI-I Stage-II)
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Size of intake gate :	7.0 (W)x 9.0m(H)
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Invert Level :	EL 1462.5 m
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Design Discharge :	453 Cumecs
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Head race tunnel (HRT)

No. diameter & Shape :	1 No., 6.5m dia., Horse shoe
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Velocity :	3.34m/s
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Length :	10472m
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Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Design Discharge :	117.15 cumecs
Bed Slope :	0.2817% (1 in 355)
HRT Adits Nos :	4
Size : 6.5 m D-shape	Size : 6.5 m D-shape
Adit 1A length :	330m
Adit 2A length :	550m
Adit 3A length :	450m
Adit 4A length :	150m

Surge shaft

No. & type :	1 no. Underground
Diameter :	17m
Top Level :	El. 1532.5m
Bottom level :	El. 1439m
HRT invert below surge shaft :	EL 1433m
Maximum Up-surge Level :	El. 1531.0m
Minimum down-surge Level :	El. 1444.0m
Adit to Surge shaft top (Adit-4B) Size : 7.0 m D-shape	Size : 7.0 m D-shape Length : 175m

Pressure shaft

No. & Diameter :	1 No. 5m dia circular steel lined
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Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Length (top Horizontal) :	230m
Vertical shaft :	220m
Design Discharge :	117.15 cumecs
Velocity (Pressure Shaft) :	5.97 m/s
Adit to Pressure shaft Top Size & Length :	7.0 m D-shape, 170m
Adit to Pressure shaft Bottom Size & Length :	7.0 m D-shape, 240m

Penstock

No. , Dia & Shape :	2 nos. 3.25m dia, Underground circular steel lined
Length :	PS-1=30m, PS-2=40m
Design Discharge(each Penstock) :	58.58cumec
Velocity (Penstock) :	7.06 m/s

Power house

Type :	Underground
Installed capacity :	240 MW (2x120MW)
Type of Turbine :	Francis
Gross Head(Max) :	250m
Rated Head or Design head :	227m

Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Power House Size :	91m(L) x 20m(W) x 42.8m(H)
Transformer Cavern Size :	79.5m (L) x 16.6m (W) x 26.5m(D)
Draft Tube Gate Hall Size :	50m(L) x 7.5m (W) x 19m (D)
Surge gallery for downstream water conductor	
No., Size &shape :	1no. 7m dia Horse shoe inclined gallery with invert at El. 1224.0m to El 1264.0m in slope 1 in 11 11no. 7m dia Horse shoe horizontal gallery of length 260m with invert at El.1233m
Max. Upsurge level at gate shaft :	El.1264.0m
Max. upsurge level at Surge gallery :	El.1264.0m
Min. down-surge level at gate shaft:	El. 1233.5m
Tail race tunnel(TRT)	
No, dia & shape :	1no. , 6.5m Horse shoe
Length :	2280m
Design discharge :	117.15cumec
Velocity :	3.34 m/sec
Adit to TRT Size & Length :	6.5 m D-Shape, 340m
Tail race outlet structure	

Detailed Project Report

URI I Stage II Hydroelectric Project (240 MW)



Nos :	1 no.
Invert Level :	EL 1235.00 m
Normal TWL :	EL 1241.00 m
Power House Generation	
Installed Capacity :	240MW (2x120MW)
Annual Energy Generation in 90% dependable year :	929.13 MU
Construction Period -----	48 Months
Project Cost	
Total Project cost at April 2022 PL :	Rs. 2140.37 Crs.
1st year Sale at Bus Bar	Rs. 2.83 per KWH
Levellised Tariff at Bus Bar	Rs. 3.38 per KWH