

PANCHNAD DAM PROJECT (U.P.)

Estimated Cost	Rs. 559.35 Crore
Benefits in Th. Ha.	442.00/90 MW
River/Basin	Yamuna
District Benefited	Etawah, Allahabad, Fatehpur & Kanpur
Date of Receipt in CWC	4.6.1983

Project Proposal:

The Project envisages as under:

- (i) Construction of a low gravity dam with barrage type spillway on River Yamuna just below the confluence of five rivers i.e. Yamuna, Chambal, Kunwari, Sindh and Pahuj. The waters from this dam are planned to be used for irrigation as well as hydel power generation. Two stages pumping, with lift of 13.0 meter and 14.0 meter respectively is planned for lifting 174.17 cumec. The annual irrigation proposed is 3.85 lakh ha., through a 72 km. long feeder channel. This feeder channel will be supplying additional waters to existing Kanpur Branch, Etawa Branch, Bhognipur Branch and West Allahabad Branch of existing Lower Ganga Canal System. In addition, 6000 cusecs of water is proposed to be released for power generation and downstream commitments from this dam. Besides hydel power generation of 90 MW (15 MW X 6) has been proposed.
- (ii) Construction of an intake structure on Pahuj River just upstream of Panchnad Dam in district Jalaun, U.P., which involves two stages pumping with lift of 18 meters and 13.72 meters respectively for lifting 28.3 cumec for supplementing the irrigation requirement in existing Kuthond Branch of Betwa Canal system. A feeder canal of 5.4-km. length is proposed to feed the water from pump house to Kuthond branch. The annual irrigation proposed is 0.561 lakh hectares.

Inter-state Aspects:

The proposed dam is located just below the confluence of 5 rivers viz. Yamuna, Chambal, Kunwari, Sindh and Pahuj. Catchment area of Chambal, Kunwari and Sindh lies in M.P. and Rajasthan. Apart from UP, the scheme involves submergence of land in M.P. territory.

Status of Appraisal:

Comments of CWC and compliance from State Government were exchanged till June 1986 and finally the scheme was sent back to the State Government on 30.7.1986 due to non-submission of inter-state agreement with Government of Rajasthan and M.P.

Government of Rajasthan had requested Central Water Commission to prevail upon the Government of Uttar Pradesh not to take up work before an agreement was reached with M.P. and Rajasthan Governments for utilization of yield from the catchments falling within their territories.

The scheme was discussed between the Irrigation Secretaries of Government of Uttar Pradesh and Madhya Pradesh in the meeting held on 29.5.1991 at Bhopal. Government of Madhya Pradesh agreed to examine the proposal and give its comments in due course. No information has been received from any of the State Governments regarding further developments on the project proposal.

At the instance of MoWR for sorting out the various pending issues, the State Govt. of UP was requested to furnish the necessary background information regarding the project including hydrology, water utilization in u/s and d/s of dam site and inter state issues, so that the interstate meeting could be convened to resolve the issues related with sharing of cost, water and other benefits out of the Panchnad Dam Project.

An inter-State meeting was taken by Chairman, CWC on 13.06.2007 at New Delhi with the officials of Govt. of Uttar Pradesh, Madhya Pradesh and Rajasthan.

Govt. of Uttar Pradesh intimated vide letter dated 29.08.2007 that they had sent a copy of DPR of the proposed scheme to the Govt. of Madhya Pradesh and Rajasthan. Govt. of Rajasthan vide letter dated 21.09.2007 conveyed that Rajasthan does not have any objection if Govt. of UP constructs any scheme using the water drained from the catchment area of Chambal river lying in their territory only. Subsequently Govt. of M.P has intimated in Dec-2007 that they do not agree to the project proposal.

Vide CWC letter dated 9th June 2008, Uttar Pradesh Govt. was requested to explore possibility of optimizing submergence so as to minimize submergence in M.P. and to consider the views of Govt. of Rajasthan.

The modified proposal considering the above mentioned suggestions are yet to be submitted by Govt. of Uttar Pradesh to CWC. The matter has been discussed with the concerned officials of Uttar Pradesh. They intimated that the DPR is under preparation. In this context, information from State Government vide letter dated 26.11.2019 in connection with VIP reference of Shri Ram Shankar Katheria, Hon'ble MP is enclosed.

Panchnad Dam Project
Salient Features

1.	Location	:	On River Yamuna about 16 kms. u/s. of Auraiya Ghat and 16 kms. d/s of confluence, known as "Panchnad" in District Etawah, Uttar Pradesh			
2.	Hydrology					
	(a) Catchment Area	:				
			River wise		State wise	
	River	Sq. km.	% of total	State	Sq. km.	% of total
	Yamuna	40,145	18.79	Rajasthan	96348	45.09
	Chambal	1,42,450	66.67	Madhya Pradesh	86376	40.43
	Kunwari	10,878	5.09	Haryana & Delhi	2849	1.33
	Sind	14,763	6.9	Himachal Pradesh	3367	2.57
	Pahuj	5439	2.55	Uttar Pradesh	24734	11.58
		2,13,675	100		2,13,675	100
	(b) Average Annual Rainfall	:	864 mm			
	(c) Maximum observed annual runoff at Dam site (Bawd on 21 years data 1960-80)	:	104455 MCM (84.64 MAF)			
	(d) Mean annual Run-off (Based on 21 years data 1960-80)	:	45635 MCM (36.98 MAF)			
	(e) Annual Run-off on 75% availability (Based on 10 days block)	:	22,248 MCM (18.20 MAF)			
	(f) Maximum recorded flood discharge	:	33,937 cumecs (12 Lac cusec)			
	(g) Maximum flood estimated to have passed down the river	:	59,473 cumecs (21 Lac cusec)			
	(h) Adopted Routed flood in the Design of Dam for Flood lift of 2M (Calculated on the basis of run-off at Hamirpur site 102 Km d/s of dam site.	:	50,979 cumecs (18 Lac cusec)			
3.	Reservoir	:				
	(a) Full supply level (Normal Max. reservoir level)	:	125 m			
	(b) Maximum level during design flood (HFL)	:	127 m			
	(c) Dead Storage Level	:	104.58 m			
	(d) Gross storage	:	3700 M. Cum (3 MAF)			

	(e) Dead Storage	:	122 M. Cum (10 MAF)
	(f) Live Storage	:	3578 M. Cum (2.9 MAF)
	(g) Proposed Utilization	:	
	Left Bank	:	2286 M. Cum (1.87 MAF)
	Right Bank	:	391 M. Cum (1.32 MAF)
	Total	:	2677 M. Cum (2.19 MAF)
	(h) Downstream Releases	:	
	Through Tail Race	:	8581 M. Cum (7.02 MAF)
	Through Gates of Dam	:	10122 M. Cum (8.28 MAF)
	(i) Reservoir Loss (Evaporation)	:	868 M. Cum (0.71 MAF)
4.	Dam	:	
	(a) Type	:	Low Gravity dam with barrage type spill way
	(b) Elevation of top of dam (Top of gate)	:	125.58 m
	(c) Height of dam (top of gate) above river bed	:	25 m
	(d) Average river bed level	:	100.58
	(e) Deepest foundation level	:	82.88 m
	(f) Maximum height of top of gate above deepest foundation level	:	43.00 m
5.	Spillway	:	
	(a) No. of bays	:	41 Nos.
	(b) Crest level	:	104.58 m
	(c) Discharge intensity at high flood	:	66.75 cumec per m
	(d) Length of crest portion	:	25.00 m
	(e) Upstream bed level	:	100.58 m
	(f) Downstream bed level	:	100.58 m
	(g) Type, size and number of gates	:	41 Nos, Tainter gates of size (12.0 mX21.0 m)
	(h) Free board of gates	:	0.58 m
	(i) Length of guide bund	:	4400 m
	(j) Top width of guide bund	:	6 m
6.	Submergence	:	
	(a) At pond level 125 m Total	:	51013 ha
	U.P.	:	33812 ha
	M.P.	:	17201 ha
	(b) Number of villages submerged at RL 125 m	:	UP : 97 Villages, MP: 15 Villages
	(c) Area of villages submerged	:	
	(d) Cultivated	:	32648 ha
	(e) Non-cultivated	:	4081 m
	(f) Forest land submerged	:	2500 ha
	(g) Persons to be rehabilitated	:	50000
	(h) Length of Reservoir along	:	
	Yamuna	:	205 km
	Chambal	:	160 km
	Sindh	:	72 km

	Kunwari	:	82 km
	Pahuj	:	74 km
7.	Penstock	:	
	No. & Size	:	6 Nos., 6.6 m
	Length	:	53 m
	capacity	:	86 cumecs
8.	Powerhouse	:	
	Head	:	
	Maximum/ Minimum / design	:	24.12m/ 13.52 m/ 20.00 m
	Turbines	:	
	No. & type	:	6 No. Kaplan type
	Specific Speed	:	129 RPM
	Firm Power	:	26.8 MW
	Installed Capacity	:	90.0 MW
9.	Pump house & Left Feeder	:	
	(a) Discharge required to be pumped	:	174.017 Cumec
	(b) No. of Pumps	:	35 Nos. of BT vertical turbine pumps of 5.62 cumecs each in both the stages
	(c) Pumping Stages	:	Two
	(d) Head	:	
	In First stage	:	13 m
	In Second Stage	:	14 m
	(e) Feeder Canal	:	
	Length	:	72 kms
	Discharge at Head	:	174.17 cumecs
	FSL at Head	:	141.248 m
	(f) Proposed Area	:	3.86 Lakh ha
	(g) Proposed Irrigation	:	
	Rabi	:	3.18 Lakh ha
	Kharif	:	1.67 Lakh ha
	Pump-house & Right Feeder	:	
	(a) Discharge required to be pumped	:	28.32 cumecs
	(b) No. of Pumps	:	6 Nos. of BT vertical turbine pumps of 5.62 cumecs each in both the stages
	(c) Pumping Stages	:	Two
	(d) Head	:	
	In First stage	:	18 m
	In Second Stage	:	13.72 m
	(e) Feeder Canal	:	
	Length	:	5.40 km
	Discharge at Head	:	28.32 cumecs
	FSL at Head	:	145.515 m
	(f) Proposed Area	:	0.56 Lakh ha
	(g) Proposed Irrigation	:	
	Rabi	:	0.342 Lakh ha
	Kharif	:	0.219 Lakh ha
10.	Power Benefits	:	
	Annual Units generated on 75%	:	410 million units

	years availability		
11.	Irrigation Benefits	:	
	Additional Annual Irrigation	:	4.42 Lakh ha
	Additional yield of food-grain	:	52.71 Lakh Quintel
	B.C. Ratio	:	1.51:1

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