

## SITAREWA HEP (2x7.5 MW)

### INTRODUCTION

Sitarewa Hydroelectric Project located in Chhindwara district of Madhya Pradesh envisages utilization of the waters of the river Sitarewa, a tributary of river Shakkar, which in turn is a tributary of Narmada River, for power generation on a storage type development, harnessing a maximum gross head of about 224 m. The proposed installation of 15 MW would afford an annual energy generation of 40.9 Gwh in a 90% dependable year.

The dam site is located at Latitude 22° 36' 25" N; Longitude 78°50' 39"E and is approachable from Narsinghpur via Harrai and Bhatkakhapa at a distance of about 107.85 km. The village Harrai is connected to Narsinghpur by an 48.30 km long all weather metalled road. The village Bhatkakhapa is connected to Harrai by about 24.15 km long fair weather metalled road. Bhatkakhapa and dam site are connected by fair weather unmetalled forest road about 35.40 km long. The nearest rail head is located at Narsinghpur and nearest airport is located at Jabalpur.

### **SALIENT FEATURES**

Sl. No		
1	STATE	Madhya Pradesh
2	DISTRICT	Chhindwara
3	LATITUDE	22° 36'25" N
4	LONGITUDE	78° 50' 39" E
5	RIVER	Sitarewa
6	LOCATION	3 km from Chilak Village, near Ghumar Camp
7	CATCHMENT AREA UPTO DAM SITE	202 Sq. km
8	MAXIMUM ANNUAL RAINFALL (19....)	
9	MINIMUM ANNUAL RAINFALL (19...)	
10	AVERAGE ANNUAL RAINFALL	1300 mm
11	DESIGN FLOOD (SPF)	1730 Cumecs
12	AVAILABLE RUNOFF	
i)	At 50% dependability	185.08 MCM
ii)	At 75% dependability	155.90 MCM
iii)	At 90% dependability	93.51 MCM
13	RESERVOIR DATA	
i)	River Bed Level	648 m
ii)	Maximum water level	685.6 m
iii)	Full reservoir level	685.00 m
iv)	Dead storage level (MDDL)	670 m

<b>Sl. No</b>		
v)	Water spread at FRL	
vi)	Gross storage at FRL	80.58 MCM
vii)	Dead storage	14.78 MCM
viii)	Live storage	65.80 MCM
ix)	Average tail water level	463 m
<b>14</b>	<b>DAM</b>	
<b>(A)</b>	<b>OVERFLOW DAM</b>	
i)	Top of dam	688 m
ii)	Length of spillway	48.9 m
iii)	Crest level	677 m
iv)	Foundation drainage gallery level	647 m
v)	Maximum height from deepest bed level	44 m
vi)	Width of road on top of dam including parapets	6.1 m
<b>(B)</b>	<b>NON OVERFLOW DAM</b>	
i)	Top of dam	688 m
ii)	Length of non-overflow concrete	79.7 m
iii)	Length of non-overflow CFRD	LHS 259.75 m RHS 591.61 m
<b>(C)</b>	<b>POWER DAM</b>	
i)	Top of Dam	688 m
ii)	Length of Power Dam	16 m
iii)	Maximum Height Above Foundation	27 m
<b>(D)</b>	<b>WATER CONDUCTOR SYSTEM</b>	
(i)	Tunnel	
	Length of Tunnel	262 m
	Size	2 m x 2 m
(ii)	Power Channel	
	Length	1818 m
	Depth	2.2 m
	Bed Width	2.96 m
	Bed Slope	1 in 1000

<b>Sl. No</b>		
(iii)	Fore Bay	
	Bed Level	EL 660.26
	Height	9 m
	Size	
<b>(iv)</b>	<b>Penstock</b>	
(a)	No. of Penstocks	2 no.
(b)	Center line level of Penstock at Power House Entry	EL 662.06 m
(c)	Length of Penstock	1219 m
(d)	Penstock Dia.	1.6 m
(e)	Design Discharge	9.12 cumec
<b>(D)</b>	<b>POWER GENERATION</b>	
i)	No. & Size of Units to be Installed	2 units of 7.5 MW each
ii)	Type of Turbine	Francis
iii)	Installed Capacity	2 X 7.5 MW
iv)	Design Head (Gross)	204.2 m
v)	Net Design Head	187.5 m
<b>(E)</b>	<b>ESTIMATE OF COST</b>	
i)	Land	Rs. 5.69 Crores
ii)	Composite Dam	Rs.27.89 Crores
iii)	Power Plant	Rs.19.21 Crores
iv)	Electrical & Mechanical Work	Rs.29.75 Crores
v)	Total Cost (with IDC)	Rs.171.29 Crores
vi)	Cost per MW of installed capacity	Rs. 11.42 Crores
<b>15</b>	<b>Levellised Tariff</b>	Rs. 5.84/unit
<b>16</b>	<b>Design Annual Energy Generation</b>	40.9 GWh

**PRESENT STATUS OF SITAREWA**

The Dummy DPR of Sitarewa HEP has been submitted by Consultant WAPCOS, Gurgaon. It has been decided to offer the project in Private sector on BOOT basis under “New Incentive Policy of GoMP for Development of SHP”.

=====XX=====XX=====