

## CHAPTER – 2

### SALIENT FEATURES

#### 1. LOCATION

- |       |                     |   |   |
|-------|---------------------|---|---|
| (i)   | Location            |   | Diversion site: Near village Rambara about 7 Km<br>From Gaurikund |
|       |                     |   | Power Station: Near Village Gaurikund                             |
| (ii)  | District            | - | Rudraprayag   |
| (iii) | Diversion weir Site |   |   |
|       | Latitude            | - | 30° 41' 43" N   |
|       | Longitude           | - | 79° 03' 20" E   |
| (iv)  | Power House Site    |   |   |
|       | Latitude            | - | 30° 39' 14" N   |
|       | Longitude           | - | 79° 01' 36" E   |
| (v)   | River               | - | Mandakini   |

#### 2. HYDROLOGY

- |      |                      |            |
|------|----------------------|------------|
| (i)  | Total catchment area | 65 Sq. Km. |
| (ii) | Snow bound catchment | 40 Sq. Km. |

#### 3. DESIGN FLOOD DISCHARGE

- |      |  |            |
|------|--|------------|
| (i)  | Design Flood Discharge<br>1 to 100 year frequency  | 211 Cumecs |
| (ii) | Design Flood Discharge<br>1 to 1000 year frequency | 276 Cumecs |

#### 4. WEIR

- |       |                              |             |
|-------|------------------------------|-------------|
| (i)   | River bed level at weir site | El 2780     |
| (ii)  | Type                         | Trench Weir |
| (iii) | Overall length               | 30 m        |

#### 5. DESILTING ARRANGEMENT

- |      |                           |               |
|------|---------------------------|---------------|
| (i)  | Size of desilting chamber | 45x 4.5 x 3 m |
| (ii) | Flushing discharge        |               |

	November to May	0.3 cumec
	June to October	1.0 cumec
(ii)	Particle size to be removed	200 microns and above

## 6. POWER CHANNEL

(i)	Shape	Trapezoidal
(ii)	Bedwidth	1.4 m
(iii)	Full Supply Depth	1.5 m
(iv)	Length	7 km.
(v)	Design discharge	4.0 cumecs

## 7. PENSTOCK

(i)	Main Penstock	One No. 1.35 m dia.
(ii)	Branch Penstock	2 Nos. 1.0 m dia
(iii)	Length (Main + Branch)	820 m

## 8. POWER HOUSE

(i)	Location	Near village Gaurikund
(ii)	Type	Surface
(iii)	Head	
	(a) Gross	730 m
	(b) Net at rated discharge	710 m
(iv)	Installed capacity	24 MW (2x12 MW each)
(v)	Type of turbine	Pelton, Horizontal

## 9. TAIL RACE CHANNEL

Type and length	Open trapezoidal 50 m long
-----------------	----------------------------

## 10. GROSS ANNUAL ENERGY GENERATION

(i)	During 90% dependable year	121.64 MU
(ii)	During 75% dependable year	129.83 MU
(iii)	During 60% dependable year	140.96 MU
(iv)	During 50% dependable year	144.79 MU