

INDIRA SAGAR POLAVARAM PROJECT
SALIENT FEATURES

1.	1)	NAME OF THE SCHEME	:	Indira Sagar (Polavaram) Project
	2)	LOCATION	:	Ramaiahpeta (V) in Polavaram (M) of West Godavari District in Andhra Pradesh
	3)	PROJECT COST	:	Rs.10,151.04 crore
	4)	AYACUT	:	2.91 lakh hectare (7.20 lakh acre)
	5)	DEMAND	:	273.034 TMC
	6)	DISCHARGE	:	Right Main Canal - 397.10 cumec
			:	Left Main Canal - 230 cumec
2.		MINIMUM DRAW DOWN LEVEL	:	+ 41.15 m (+135.00 ft)
		i) LONGITUDE	:	81-46'-00" E
		ii) LATITUDE	:	17-13'-00" N
		iii) VILLAGE & MANDAL	:	Near Ramaiahpeta (V) in Polavaram (M)
		iv) DISTANCE FROM RAJAHMUNDRY	:	34 km (21 mile) on U/S
3.		HYDROLOGY		
		i) CATCHMENT AREA (UPTO DAM SITE)	:	3,06,643 sq.km. OR 1,18,446 sq.mile
		ii) DESIGNED FLOOD DISCHARGE (PMF)	:	1,41,435 cumec (49.93 lakh cusec)
		iii) MAXIMUM OBSERVED FLOOD DISCHARGE AT POLAVARAM PROJECT (1986)	:	0.87 lakh cumec 30.81 lakh cusec
		iv) ANNUAL RAIN FALL	:	1022.95 mm
4.		COMPONENT WORKS		
		i) LENGTH OF EARTH CUM ROCK FILL DAM	:	2310 m
		ii) LENGTH OF SPILLWAY ON RIGHT FLANK INCLUDING END PIERS	:	906.50 m
		iii) POWER HOUSE ON LEFT FLANK	:	12 units each of 80 MW
		iv) LENGTH OF LEFT MAIN CANAL	:	181.50 km
		v) LENGTH OF RIGHT MAIN CANAL	:	174.00 km
5.		DAM & APPURTENANT WORKS		
		i) FULL RESERVOIR LEVEL	:	+ 45.72 m (+150.00 ft)
		ii) M.D.D.L	:	+ 41.15 m (+135.00 ft)
		iii) GROSS STORAGE AT FRL	:	5.511 TMCm (194.60 TMC)
		iv) STORAGE AT MDDL	:	3.381 TMCm (119.40 TMC)
		v) LIVE STORAGE ABOVE MDDL	:	2.13 TMCm (75.20 TMC)

	A)	EARTH CUM ROCK FILL DAM ACROSS THE RIVER		
		i) LENGTH (IN GAP GG')	:	1,750 m (5742 ft)
		ii) LENGTH (IN GAP G'D)	:	560 m (1837 ft)
		iii) T.B.L	:	+ 53.32 m (+175 ft)
		iv) TOP WIDTH	:	12.50 m (41 ft)
		v) DEEP BED LEVEL	:	+3.00 m (10 ft)
	B)	SPILLWAY ON RIGHT FLANK		
		i) DESIGNED FLOOD DISCHARGE	:	1,41,435 cumec (49.93 lakh cusec)
		ii) TOP LEVEL OF GATES	:	45.72 m
		iii) CREST LEVEL	:	25.72 m
		iv) NO & SIZE OF GATES	:	44 Nos.; 16 m X 20 m
	C)	POWER HOUSE:		
		i) LOCATION	:	D/S Slope of 'D' Hill adjacent to Earth-cum-Rock Fill Dam
		ii) APPROACH CHANNEL	:	Bed Width 350 m with Discharging Capacity of 3,825 cum (1,35,000 cusec)
		iii) INTAKE TUNNELS		
		a) NO.OF TUNNELS	:	12
		b) DIAMETER	:	9.50 m
		c) DISCHARGING CAPACITY OF EACH TUNNEL	:	425 cum (15,000 cusec)
		iv) SIZE	:	440 m X 28 m
		v) NO. OF UNITS	:	12 Nos. each of 80 MW
		vi) TYPE OF TURBINE	:	Vertical Kaplan Type Adjustable Blade Turbines
		vii) DESIGN HEAD	:	+ 24 m
	D)	TAIL RACE CHANNEL		
		i) LENGTH	:	1,000 m
		ii) BED WIDTH	:	200 m
		iii) DISCHARGE	:	5,096 cumec (1,80,000 cusec)
	E)	SWITCHYARD		
		i) ELEVATION	:	+ 45.72 m (+150 ft)
		ii) SIZE	:	750 m X 250 m
		iii) COST OF POWER COMPONENT	:	Rs.2,195.55 cr
		iv) COST OF GENERATION PER UNIT	:	Rs.3.17 during initial stage
		v) FINANCIAL RETURN	:	16.77% during initial stage
6)	A)	CANALS:		
		LEFT MAIN CANAL (LINED)		
		i) LENGTH OF MAIN CANAL	:	181.50 km
		ii) FULL SUPPLY DISCHARGE	:	226 cumec
		iii) FS DEPTH AT START	:	4.27 m
		iv) F.S.L. AT START	:	+ 40.54 m (+133 ft)

	v) BED WIDTH	:	51.50 m	
	vi) BED FALL	:	1 in 20,000	
	vii) AYACUT	:	1.62 lakh hectare (4.00 lakh acre)	
	viii) WATER DEMANDS			
	a) IRRIGATION	:	84.808 TMC	
	b) WATER SUPPLY TO VIZAG	:	23.44 TMC	
	B) RIGHT MAIN CANAL (LINED)			
	i) LENGTH OF MAIN CANAL	:	174 km	
	ii) F.S.DISCHARGE	:	342 cumec	
	iii) F.S.L	:	+ 40.232 m	
	iv) BED WIDTH	:	56 m	
	v)F.S. DEPTH AT START	:	5.00 m	
	vi) BED FALL	:	1 in 20,000	
	vii) AYACUT	:	1.29 lakh hectare (3.2 lakh acre)	
	viii) WATER DEMANDS			
	a) IRRIGATION	:	80.09 TMC	
	b) DIVERSION TO KRISHNA BASIN (INCLUDING LOSSES)	:	84.70 TMC	
7.	WATER DEMAND FOR THE PROJECT			
	i) LEFT MAIN CANAL	:	84.808 TMC	} 273.038 TMC
	ii) WATER SUPPLY TO VISAKHAPATNAM.	:	23.44 TMC	
	iii) RIGHT MAIN CANAL	:	80.09 TMC	
	iv) DIVERSION TO KRISHNA INCLUDING LOSSES	:	84.70 TMC	
	i) ALLOCATION TO CHATTISGARH & ORISSA	:	6.50 TMC	
	ii) REQUIREMENT OF GODAVARI DELTA	:	266.30 TMC	
	iii)SAMLKOT CANAL EXTENSION	:	8.27 TMC	
	TOTAL	:	554.108 TMC	
8.	LAND ACQUISITION:			
	i) LAND TO BE ACQUIRED			
	WET	:	11,920 ha (29,454 acre)	
	DRY	:	33,050 ha (81,667 acre)	
	GARDEN	:	2,510 ha (6,202 acre)	
	TOTAL	:	47,480 ha (1,17,323 acre)	
	ii) FOREST AREA INVOLVED	:	3,731.07 ha (A.P)	
9.	COST OF THE PROJECT	:	Rs.10,151.04 cr	
	R&R PLAN			
	ANDHRA PRADESH	:	Rs.3,486.83 cr	
	CHATTISGARH	:	--	
	ORISSA	:	--	
	TOTAL AREA OF PAPIHILLS WILD LIFE SANCTUARY	:	590.68 sq.km.	
	FOREST AREA INVOLVED	:	3,731.07 ha	

	TOTAL WILD LIFE SANCTUARY AREA INVOLVED	:	187.29 ha
	DISTANCE OF CORINGA MAGROVE FOREST	:	200 km
	TOTAL PROJECT COST	:	Rs.10,151.04 cr
	COST OF PROJECT EXCLUDING EIA, EMP AND R&R	:	Rs.6,664.21 cr
	EIA, EMP AND R&R COST	:	Rs.3,486.83 cr
	NET PRESENT VALUE AT 5.6 LAKHS/HECTARE	:	Rs.189 cr
	LENGTH OF EMBANKMENTS IN ORISSA:		
	SILERU	:	12.00 km
	SABARI	:	18.20 km
	TOTAL	:	30.20 km
	LENGTH OF EMBANKMENTS IN CHATTISGARH:		
	SABARI	:	25.19 km
	STREAMS	:	3.93 km
	TOTAL	:	29.12 km
	COST OF PROTECTIVE BUNDS IN ORISSA	:	Rs.347.04 cr
	COST OF PROTECTIVE BUNDS IN CHATTISGARH	:	Rs.317.96 cr