



MECHANICAL ENGINEERING DEPARTMENT

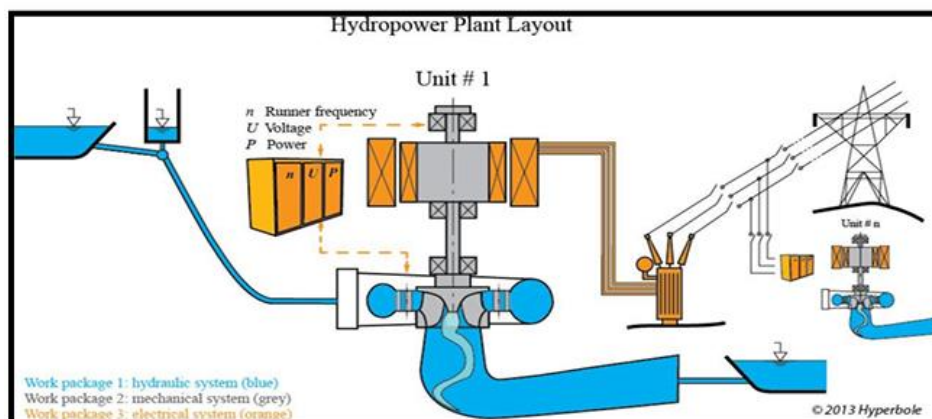
A Report on one day Industrial Visit to “Thermal Power Station - GSECL, UKAI”

ABOUT GSECL - TPS, UKAI

Ukai Thermal Power Station of the Gujarat State Electricity Corporation Limited, India, is a power station with an installed capacity of 1,110 MW. It is one of Gujarat's major coal-fired power plants, located on the bank of the Tapi river.

POWER PLANT

The Ukai Dam, constructed across the Tapi River, is the second largest reservoir in Gujarat after the Sardar Sarovar. It is also known as Vallabh Sagar. Constructed in 1972, the dam is meant for irrigation, power generation and flood control. Having a catchment area of about 62,255 km² and a water spread of about 52,000 hectares, its capacity is almost same as that of the Bhakra Nangal Dam. The site is located 94 km from Surat.





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Ukai Thermal Power Station is located on the banks of the Tapi because of the water resources, along with the hydroelectric power plant with the same name.[1] Ukai TPS Unit-1 is the first power station unit in India with a capacity more than 100 MW.

The storage capacity of Ukai dam is almost 46% of the total capacity of all the other existing dams in Gujarat if put together. Thus it can be concluded that the rest of the dams have as little as 0.1% average storage capacity. During the last 40 years, the actual irrigation potential is attained through all the major and medium water resources projects in the state, which comprises only 14 million hectares. There are four hydro turbine units, each of 75 MW with a total installed capacity of 300 MW. All the above units were made by BHEL. Commissioning dates of units 1 to 4 are: 8 July 1974, 13 December 1974, 22 April 1975 and 4 March 1976.

As per the recent development and expansion, Unit – 1 and Unit – 2 got collapsed and now total capacity of Unit – 3, 4, 5 & 6 is 1110 MW. Also new set up of 800 MW unit is in progress.

OBJECTIVES OF THE VISIT

Mechanical Engineering Department of S.N.P.I.T. & R.C., Umrakh arranged an industrial visit to Thermal Power Station, Ukai, Gujarat, India on 4th October 2024 with 45 students of 4th year Mechanical Engineering. The purpose of the visit was to enhance industrial exposure of the students, get practical knowledge of power plant and allied processes and other advanced technologies. The team of two faculty coordinators Prof. Ankur S. Gamit, and Prof. Vipul J. Variya took part in this prestigious power plant visit.



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INDUSTRY DETAIL

1. **Name Of Industry:-** GSECL - Thermal & Hydro Power Station, Ukai
2. **Address :-** Ukai, Tapi, Gujarat
3. **Date Of Visit:-** 04 /10/2024
4. **Year / Semester:-** 4th Year/7th Semester
5. **No. of Students:-** 45
6. **No. of Faculties:-** 2

ACTIVITIES AND OUTCOME OF THE VISIT

VISIT INSIGHT

Mechanical Engineering Department SNPIT&RC, Umrakh had organized a technical visit at “Hydro & Thermal Power Station” Ukai, Taluka-Songadh, Dist.-Tapi on 4th October, 2024 for the students of 7th semester under the subject of Power Plant Engineering (3171910). Total 45 students had visited the site under the guidance of Prof. Ankur Gamit and Prof. Vipul Variya, who have explained about different structures like Head, Penstock gate, Kaplan Turbine & Generator and thermal power plant equipments at the site.

APPRECIATION

The students got the opportunity to learn about hydro and thermal power plants. In addition, proper guidance was given by **Mr. Ritesh Patel (Deputy Engineer)** and **Miss Vaibhavi Mistry** at every corner of the plant. We S.N.P.I.T. & R.C. Mechanical Engineering department team are really thankful to the authorities of Thermal Power Station, Ukai and their team.

Report prepared by,

Prof. Mehul M. Jikar

(Mechanical Engg. Dept.)



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PARTICIPANT DETAILS: ANNEXURE – I

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Mechanical Engineering Department
 List of students for industrial visit at TPS (GSECL), Ukai

Date: 4 / 10 / 2024

Sr. No.	PEN	Name	Contact Detail		Signature
			Student	Parents	
1	210490119539	PATHOD ASHISHBHAI RAMESHBHAI	9558092535	9979397198	Ashish
2	200490119037	KUSHWAHA SANJAY BETALSINH	9924550253	9824774343	Sanjay
3	210490119003	VASAVA RAJKUMAR AMARSINGBHAI	8980501830	7069531913	R.A. Vora
4	210490119004	CHAUDHARI JENILKUMAR DIPAKBHAI	7567640863	7567640863	J.D. Chaudhari
5	210490119005	DESHMUKH RASIKBHAI KARSANBHAI	6359521512	9586098531	Deeshmukh
6	210490119006	PATEL JAYDIPBHAI PRAVINBHAI	9925488642	9727561655	J.P. Patel
7	210490119007	GAMIT AKSHAYBHAI ARVINDBHAI	8238387720	9727970922	Akshay
8	210490119008	GAMIT GAURAVKUMAR BABUBHAI	9081125835	9925134834	Gamit
9	210490119011	RAJPUT ABHISHEK RAJKUMARSINH	8128933705	9824725492	Abhishek
10	210490119014	CHAUDHARI KAUSHAL RAJUBHAI	9638045133	9925838693	Kaushal
11	210490119016	CHAUDHARI VIPULKUMAR RAJIBHAI	9714272297	8141072916	Vipul
12	210490119017	GAMIT SHREYASKUMAR BABUBHAI	8238593897	6353278823	Shreyas
13	210490119020	SURVE VAIKUNTH PRAKASH	9601664592	9909388215	Vaibhav
14	210490119023	TALAVIYA JAY LAXMANBHAI	7621001219	9712645832	J.L. Talaviya
15	210490119024	CHAUDHARI DARSHANAKUMARI ASHVINBHAI	9737683717	9979393717	Darshan
16	210490119027	PATEL KARAN KANFUBHAI	9727413842	8141887686	K.K. Patel
17	210490119030	PATEL ANSHKUMAR BHAVESHBHAI	8200718922	9825133857	Ansh
18	210490119034	VASAVA ROSHANBHAI BHALUSING	9316045806	9537766901	Rohan
19	210490119035	CHAUDHARI JAYDIPKUMAR SURESHBHAI	9726309882	9726309392	Jaydip
20	210490119038	PATEL VAIBHAVKUMAR SURESHBHAI	9909199089	9909199089	Vaibhav
21	210490119039	HADAL ASHOKBHAI DHARMABHAI	9537574366	7567055644	Ashok
22	210490119043	PATEL ROHANBHAI ALPESHBHAI	9687060781	9712703051	Rohan
23	220493119003	BATHWAR NEHA BECHARBHAI	7698406149	9825675370	Neha
24	220493119004	CHAUDHARI BRISEKUMAR MADHUBHAI	7934769150	8469037725	BriSekumar
25	220493119005	CHAUDHARI KARANKUMAR BHIKHUBHAI	6352946393	7434080347	Karankumar
26	220493119006	CHAUDHARI KENIL NILESHBHAI	9558885759	6353574466	Kenil
27	220493119007	CHAUDHARI NIRAVKUMAR FATESINHBHAI	7698960194	9979761192	Nirav
28	220493119008	CHAUDHARI RUTVIKKUMAR SUNILBHAI	9106769398	9586288079	Rutvik
29	220493119009	CHAUDHARI SAGARKUMAR AMRATBHAI	7574051257	9879734957	Sagarkumar
30	220493119010	CHAUDHARI SAPNILKUMAR VIJAYBHAI	9512472704	8140558415	Sapnil
31	220493119011	CHAUDHARI SEVANGKUMAR ARVINDBHAI	9638793981	9586204530	Sevag
32	220493119012	CHAUDHARI YASHI GAMBHIRBHAI	7567916999	9586225368	Yashi



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33	220493119013	CHAUDHARY NISHANTKUMAR SUBODH	8128976117	9725745946	Nishant
34	220493119014	CHAUHAN MAHIR SHAILESHBHAI	6354247930	6354097376	Mahir
35	220493119016	DATA MAHMMADZAIM JAKIRHUSEN	9586112382	9825259444	Data
36	220493119022	GAMIT DEVRAJBHAI ASHVINBHAI	6354818642	6359345862	Gamit
37	220493119023	GAMIT RAHULKUMAR RAJENDRABHAI	7434849469	7567021365	Rahul
38	220493119025	GAMIT SMITALKUMAR AJITBHAI	9016578108	9909494608	Smit
39	220493119031	PANDEY OM CHANDRANIDHAN	9559558893	9879061154	Om
40	220493119036	PATEL KENILKUMAR RAJESHBHAI	9574122798	9913659265	Kenil
41	220493119040	PATEL RUSHIL KALPESHBHAI	9173288666	9624621215	Rushil
42	220493119046	PAWAR SANDEEP KULWINDERSINGH	7984520686	7600790155	Sandeep
43	220493119054	SOLANKI YUVRAJSINH VIKRAMSINH	9328176374	9408154755	Y.V.S
44	220493119058	VASAVA SOHELKUMAR VINODBHAI	6355416588	6353305243	sohel
45	220493119059	YADAV ABHISHEKKUMAR RAGHAVPRASAD	8401883162	8401883162	Abhishek

Accompanying Faculties:

1	Prof. Ankur S. Gamit
2	Prof. Vipul J. Variya



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ANNEXURE II VISIT SCHEDULE

<i>SCHEDULE OF VISIT</i>		
Date & Time	4 th October 2024 & 11:00 AM	
Venue	From: SNPIT & RC, Umrakh, Bardoli	To: GSECL – Thermal Power Station, Ta. Songadh, Dist. Tapi, Gujarat, India
Staff Accompanied	<u>Prof. Ankur S. Gamit</u> Assistant Professor	<u>Prof. Vipul J. variya</u> Assistant Professor
Visit Module	Power plant and allied processes.	
No. of Benefited Students	45	



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ANNEXURE III PHOTOGRAPHS

A. VISIT PHOTOS





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