



VISIT AT SARDAR SAROVAR

The student of SY mechanical and production BVM Engineering college visited SARDAR SAROVAR on January 21, 2018 under IE student chapter, the guidance of Prof. P. G. Choksi, Prof. U. B. Chaudhari, Prof. V. R. Singh and Prof. C. P. Mazmudar with the group of 58 students.

The day start with morning breakfast & tea at 6:00 am. Bus of CVM (Charutar Vidhya Mandal) take all the students to SARDAR SAROVAR. Before visiting the site the permission was taken from SSNL, Gandhinagar through FAX. The Sardar Sarovar Dam is one of the world's largest gravity dam, on the Narmada River near Navagam, Gujarat. Four Indian states, Gujarat, Madhya Pradesh, Maharastra and Rajasthan, receive water and electricity supplied from the dam.

The main purpose of this visit is to learn students the technologies used in preparing very large hydraulic structure, huge mechanical-civil structure and practically understand how the power is being generated from water.

The permission was given to us for visiting RBPH, CHPH and Dam site. We reached the Sardar Sarovar at 10:30 am and after issuing gate pass we visited above mentioned sites.



RBPH (River Bed Power House):

We first visited RBPH by their bus through a very huge tunnel. Various informative photos were kept there showing various information regarding RBPH such as plant layout, turbine cross section, path of water showing right starting entry from river to final destination. RBPH contains six units of reversible francis turbine each having capacity of generating 200 MW power. The max and min head of turbine working is approximately 160 m and 130 m respectively, while the design head is 100 m. The running speed of the turbine is very low @ 135 rpm, because of its huge structure (around 50 tonnes). The flow of water is $200 \text{ m}^3/\text{s}$. The height of turbine below the ground level was approx. 17 meter and the draft tube (where water is discharged) is still below 10 meter than turbine. It is difficult to discharge such low level water to ground level so this water is wasted and discharged to river/sea through an underground channel. They are planning to build a small (50-60 m) dam near Garudeshwar which will collect water and will run pumps and transfer that water to ground level so it can be used. All the six units were located in a huge tunnel of 110 m x 22 m x 11 m high. The dam also contains the sluice gates through which the flow of water is controlled to turbine and rest of the water can be used for irrigation through another path.

CHPH (Canal Bed Power House):

Part of water used for irrigation through main canal via four turbine units of 50 MW each. It is located near to ground level so its discharge is used for irrigation.

The main canal is very long and it supplies water to several regions of Saurashtra and Kutch. The turbines used here are Kaplan having low head and high discharge.

Dam site:

Finally we visited a huge dam site collecting very large quantity of water. Dam t is 1.75 km in length and it can hold water upto 163 m height.

Finally after taking having lunch at canteen we departed to VV Nagar at 4:30 pm and reached BVM at 8:00 pm. The visit was fruitful and it has increased our knowledge regarding fluid power area.

We are very much thankful to CVM for their support and providing bus. We are also thankful to Principal I. N. Patel sir, HOD P. M. George sir and I.E. Convener B. S. Patel sir for motivation and support.