AN INDUSTRIAL VISIT REPORT

ON

SARDAR SAROVAR DAM, KEVADIYA COLONY

छोटुभाई गोपालभाई पटेल प्रौद्योगिकी संस्थान, बारडोली
Chhotubhai Gopalbhai Patel Institute of Technology, Bardoli

Organized By:

Chhotubhai Gopalbhai Patel Institute of Technology,

Department of Civil Engineering

Uka Tarsadia University, Maliba Campus, Bardoli.

(1st October, 2021, Friday)

Branch: B. Tech

Course: Civil Engineering

Semester: 5th

No of Students: Total 30 (Boys- 22 and Girls-8)

Faculty Coordinator/Organizer: Prof. Grishma Thaker, Prof. Yati Tank, Prof. Dimple Desai, Prof. Khyati Mistry

Other Faculty Members: Prof. (Dr.) Manoj J. Gundalia (Associate Professor amd Head, Department of Civil Engineering, CGPIT) and Dr. Rajkumar V. Patil (Director, CGPIT)

Detail Visit Report

The department of Civil Engineering of Chhotubhai Gopalbhai Patel Institute of Technology organized a one day educational visit to Sardar Sarovar Dam. The site visit was organized with the prior permission of Sardar Sarovar Narmada Nigam Ltd. Authority. The Sardar Sarovar Project is an inter-state project, which has participation from the States of Gujarat, Madhya Pradesh, Maharashtra and Rajasthan. The project has undertaken construction of a Sardar Sarovar Dam across Narmada River in Navagam near Kevadiya, Narmada District of the Gujarat State in India. It is on the border of Gujarat and Maharashtra States. It is the second largest concrete dam in the world in terms of the volume of concrete used in its construction, after the Grand Coulee dam across River Columbia, US. The maximum height of the dam would be 138.68 meters. The height of dam is being increased in phases.

The entire visit is guided by Executive Engineer of Sardar Sarovar Dam Mr. Ashok Gajjar Sir. Er. Ashok Gajjar (former Executive Engineer of SSNL) explained the structural features of Sardar Sarovar Dam at the same place where he explained it to the honorable Prime Minister of India, Shri Narendra Modi. He explained how dam was constructed and reached to its existing height. He also explained how the gate installed on dam to increase the reservoir capacity. He has made this session interesting by asking basic questions to the students. Mr. Ashok Gajjar Sir is associated with Sardar Sarovar dam till last 35 years; he got posting at dam site in 1987. He performed his duty in construction of the Dam starting from the foundation to the completion of the dam. He is witness of all the hurdles that arose in the past in the progress of the dam. He retired in 2014, but the Government of Gujarat is giving him extension every year by considering his dedication, enthusiasm, and deep attachment with the dam. At the end of dam visit, there was a technical interaction to strengthen the knowledge regarding Sardar Sarovar.

We have also visited Narmada Canal Head Regulator. Narmada Canal network is the longest network in Asia. The total estimated length of the Canal network is 71,748 Km. Narmada Main Canal is a contour canal. It is the Largest lined irrigation canal in the world. It is about 458 km. long up to Gujarat -Rajasthan border. It has a capacity to flow 40000 cusecs.

At the end, Dr. Manoj Gundalia, Head of DCE extended gratitude to Mr. Ashok Gajjar Sir of SSNL for helping out in visit permission and sparing his valuable time with us. Without his support this visit would have not been possible. We have also visited the Statue of Unity. The SoU is the tallest statue in the world. Students really enjoyed this visit. The visit was very fruitful as it improved our knowledge of irrigation and dam. We had very good support and cooperation from all concern instructors available on the site who explained each and every section very interestingly and deeply.

Schedule of Visit:

TIMINGS (From – To)		**LOCATION**
4:30	11:00	Surat to Sardar Sarovar Dam Site
11:00	11:45	Structural Features of Sardar Sarovar Dam Er. Ashok Gajjar (Executive Engineer, SSNL)
11:45	12:15	Way to Main Canal
12:15	13:00	Narmada Main Canal Head Regulator
13:00	14:00	Lunch Break
14:00	14.15	Way to Statue of Unity
14.15	19:40	Visit of SoU
19:40	19.50	Taking Attendance of the Students
19:50	2:00	Back to Surat

SALIENT FEATURES OF SARDAR SAROVAR PROJECT

I. LOCATION	
State	Gujarat
District	Narmada
Taluka	Rajpipla (Nandod)
River	Narmada
II. DAM	
Type	Concrete Gravity
Length	1210.02 m
Maximum height	163.00 m
Top of dam	EL 146.50 m
Crest	EL 121.92 m
Spillways	
Service spillway	23 bays
	60 ft (18.30 m) each
Auxiliary spillway	7 bays
	60 ft (18.30 m) each
Crest gates	
Type	Radial
Size	18.30 mx 16.76 m (23 Nos.)
	18.30 mx 18.30 m (7 Nos)
Construction sluices at EL. 58.00m	2.10 m x 2.74 m (10 Nos)
	Closed in Feb 94
River sluices at EL. 53.00m	2.5m x 3.6 m (4 Nos.)
III. POWER INSTALLATION (CHPH)	
General	

Location	Right bank
No. of units	5
Rated capacity of each unit	50 MW
Installed capacity	250MW
Type of turbines	Kaplan (Conventional)
Type of Power House	Surface

IV. CANAL SYSTEM	
FSL at head regulator of main Canal	91.45 m (300ft)
Type of Canal	Lined contour canal
Length	458 Km up to Rajasthan border and 74 Km in Rajasthan
Base width in head reach	73.1 m
FSD in head reach	7.6 m
Discharge capacity in head reach	1132.68 cumecs (40000 cusecs)
Gross Command Area (GCA)	34.286 lakh ha
Colourable Command Area (CCA)	21.190 lakh ha
Annual Irrigation	17.92 lakh ha

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Photo Gallery

At Sardar Sarovar Dam

Dr. Rajkumar V. Patil, Dr. Manoj J. Gundalia and Faculty Coordinators with Executive Engineer Mr. Ashok Gajjar

Executive Engineer Ashok Gajjar answering the questions raised from the students

Executive Engineer Ashok Gajjar explaining the biggest Canal Network of the Asia at Narmada Main Canal Head Regulator

Mouth of Narmada 532 Km Long Main Canal

Vote of thanks given by Dr. Manoj J. Gundalia, Head (Department of Civil Engineering)

Summary

This visit helped students to enhance their collective theoretical and practical knowledge of Gravity Dam and Canal Network. They can identify their prospective study areas of future work in the overall organizational function. Students can also understand detailed design of dam and canal network system which will be covered in the subject. Physical observation of various structural features of the dam and canal network will definitely be enhanced the skill and understanding of students in the filled of Water Resources and Irrigation Engineering.