SCHOOL OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

REPORT ON INDUSTRIAL VISIT TO JAIPUR METRO RAIL CORPORATION LTD. (JMRC), JAIPUR

On 13th October 2017, an industrial visit was organized by the Department of Civil Engineering for the students of III year. The students along with 3 faculties, Mr. Vaibhav Jain, Mr. Pankaj Saini, and Mr. Jitendra Kumar went on an industrial visit to Jaipur Metro Rail Corporation Ltd., Mansarover. Jaipur metro is a rapid system which is used for transportation by the people. Jaipur metro has been divided into two further routes usually known as pink line and orange line. The pink line is Phase-I A which starts from Mansarover to Chandpole Bazaar. It has a length of 9.63 KM and has 7 intermediate stations with a starting and a terminal station. The construction of Phase-I B between Chandpole and Badi Chaupar is under process and is awaited to be completed which is an underground line. Jaipur metro stations are the first stations in India which are wholly dependent on solar energy. The electricity used by the metro is 25000 KV. The power in Jaipur is supplied by two different junction points. The junction is in between civil lines and Chandpole so there is an electric cut for 10 seconds in which the train runs on its own momentum.

Fig. 1 Workshop

The depot is a place where trains get fit for their next day journey. Mansarover depot is a 27.6 acre site which has 11 metro trains under it. The trains run on a Standard gauge which is 1435mm. The depot consists of a workshop, inspection line, OCC (Operation Control Centre), DCC (Depot Control Centre), Interior sheds.

Fig. 2 Sharpest curve

Jaipur's metro trains are controlled and monitored from the Operation Control Centre (OCC). It's basically the primary control & nerve center for managing all operations of the 9.63-km Jaipur Metro Rail system. The prime motive of the metro system is Safety and Reliability which is attained by providing buffer stops, Emergency Stop Plunger, Security Checks and trains fitness. The public safety is provided by the RAJASTHAN POLICE DEPARTMENT at JMRC. Jaipur metro is known for its sharpest curve which is at an angle of 120 degree. Metro official showed us the P- way (Permanent way) on Metro Rail route. There are different points and crossings, different types of fittings are used. One of the different type and important type of fitting used in JMRC is VOSSLOH FITTING. There is a scissor crossing in the Mansarover metro station. A 1 cm thick Thermacol is embedded in each pier to absorb all the shocks and vibration so that it could not reach the pile.

Fig. 3 OCC

Students also saw D-Wall (Diaphagram Wall) which is used to support the underground metro station which consists of Roof slab, Concourse Slab and a Base slab.

Fig. 4 Metro Rail fittings shown by JMRC Engineer.

The students coordinated with JMRC officials in a good manner and asked several queries regarding Railway Engineering. JMRC Engineer Mr. Jeeshan Ali was very much impressed with our students curiosity to know about Metro Construction and able to resolve all the related issues. The industrial visit was full of learning and knowledge.

Fig.4 Group Photographs

Faculty Coordinator:

1. Mr. Vaibhav Jain
2. Mr. Jitendra Kumar
3. Mr. Pankaj Saini

Students Coordinator:

1. Ronit Sharma
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