A REPORT ON
INDUSTRIAL VISIT AT
“220 kV SUB-STATION, AGIYOL”
ON
3\textsuperscript{RD} FEBRUARY 2015

ORGANISED BY:
E.E.E. & ELECTRICAL ENGINEERING DEPARTMENT
GROW MORE FACULTY OF ENGINEERING
An Industrial Visit to “Agiyol 220 kV Sub-station” was organized by E.E.E. & Electrical Engineering Department for 8\textsuperscript{th} Semester E.E.E & 4\textsuperscript{th} Semester Electrical Students on 13/02/2015, Friday. 30 Students of 8\textsuperscript{th} Semester E.E.E & 40 students of 4\textsuperscript{th} Semester E.E.E & Electrical have visited “Agiyol 220 kV Sub-station” under guidance of Prof. B. D. Suthar, Prof. M. J. Patel, Prof. Manish Patel, Prof. Chintan Patel, Prof. Helly Patel & Prof. Mamta Solanki.

The main purpose for this visit was to be familiar with industrial environment and to get practical knowledge of electrical power transmission and distribution.

There were two main sections of Agiyol 220 kV Sub-station: (1) Switchyard, & (2) Control Room. GETCO has provided us their two engineers to explain technical aspects to students. So, we divided 8\textsuperscript{th} Semester E.E.E students into 2 batches, each of 15 and 4\textsuperscript{th} Semester E.E.E & Electrical into 2 batches, each of 20 students.

There are many types of sub-stations in terms of their functioning like step-up substation, step-down sub-station or distribution sub-station etc. Among these, Agiol sub-station is a Step-Down sub-station which steps 220 kV incoming voltage down to 66 kV and distributes them among various transmission lines like NIKODA, DHANSURA, PRANTIJ, GAMBOHI etc.

There was a huge step down transformer which takes 220 kV at its primary and gives 66 kV at its secondary (output). Engineers have given knowledge to students regarding its working, troubleshooting, cooling and maintenance. Students have also seen distribution section which includes bus bars, capacitor banks for load correction, and color schemes for distribution lines respective to their area of supply. There was a constant churning sound inside whole sub-station
which indicates very high voltage was carried out by transmission lines. Students were also strictly instructed to be careful and not to touch any line or instruments.

The engineers have explained whole substation working & how each electrical devices are in connection with each other. They explained about different load condition as per different situation and methods to correct them. Students were very enthusiastic by seeing live operations, they were asking frequent questions and actively visited Switchyard section.
After learning the Switchyard section, students visited to Control Room section which was the indoor section and contains Control Panels which controls the operations of whole substation. The engineers explained different controlling mechanism to students.

After visited the substation, students were very positive and realized their technical knowledge after seeing actual operations of different electrical devices. The faculty members and students reported to the institute at 01:00 PM after concluding the industrial visit.