FEU INSTITUTE OF TECHNOLOGY

COMPUTER ENGINEERING DEPARTMENT

REACTION PAPER

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Student #: 201511954	Faculty: Engr. Maribel Misola
Section: E41	Locations: International Broadcasting Station (IBB) / One Subic Power / PAGASA Weather Station
Schedule: W (9:00 – 16:30)	Tour guide: Angeline Lundang, Lin Bei Fong
Date Submitted: February 27, 2019	Date: February 20, 2019

Background of the field trip locations

Various types of central control stations are scouted within specific locations in Tarlac and Subic cities. These control stations range from power plants to broadcast stations to weather stations, with each component that is related to our currently enrolled program elaborated by excellent tour guides.

In Concepcion, Tarlac, an American government-operated television broadcasting plant named the International Broadcasting Bureau (IBB), is located. The station is enclosed by more than two thousand acres of land, with rice and sugar surrounding the station itself. Several parabolic dishes are erected just outside the control station, complementing the power lines and even fields.

Within the Freeport Zone in Subic Bay, a diesel power plant owned by One Subic Power provides electrical energy to various cities in Metro Manila, averaging at about 100 MW relayed across power lines suspended on large towers.

A weather station operated by the Philippine Atmospheric Geophysical Astronomical Services Administration (PAGASA) inside the International Airport of Subic Bay, Zambales generates accurate temperature, wind pressure, speed and direction, humidity, and precipitation measurements to nearby locations.

Introduction

The three control stations we visited on February 20, 2019 are well-maintained by its employees. People that work there, even the guards and supervisors are so much welcoming towards us students and the professors that accompanied us. Among the three technical sites, namely IBB, One Subic Power, and the PAGASA station, all of them provided excellent tour guides truly well-versed in their work. The underlying computer engineering concepts used to operate the networks, devices, applications, satellites, generators, and terminals.

Brief discussion of field locations

Before every trip around the station, students are organized into double files so as nobody will get lost or left out. Then, we are walked and led around by the enthusiastic tour guide. In the IBB, Ms. Angeline Lundang, an electrical engineer currently on duty on that day, showed us the way to their mission control room. Large TV screens subdivided into smaller screens for different channels, with their central command and several terminals for positioning or setting up the satellites and broadcast channels with the right frequency amplitude modulation. Their job is to ensure that the correct audio and video feeds are sent to the receiving stations in different countries on time.

Although our visit to the One Subic Power's diesel power plant is the shortest, it is not the least fruitful. The tour guide only showed us the viewing window towards the generator, then brought us to the

control room, wherein one of the Engineers on-duty basically explained how the energy grid functions. There is a market of power plants and power distributors, from which the distributors create energy demands in kilowatts with the corresponding market price that plants can then accept. Once a demand has been accepted, only then will the power plant be activated to consume diesel and transform it into electricity.

At the final destination in a weather station of PAGASA, a PowerPoint presentation is discussed detailing the basics of what actually the national corporation does. They detailed how weather works, and how their devices are measuring them in real time, taking into account the different time zones. Their weather forecast is then reported to the Subic Bay Airport so that planes arriving and departing can be notified right away to prevent catastrophic failures and other difficulties while ensuring safe travel.

Insights / reactions / reflections

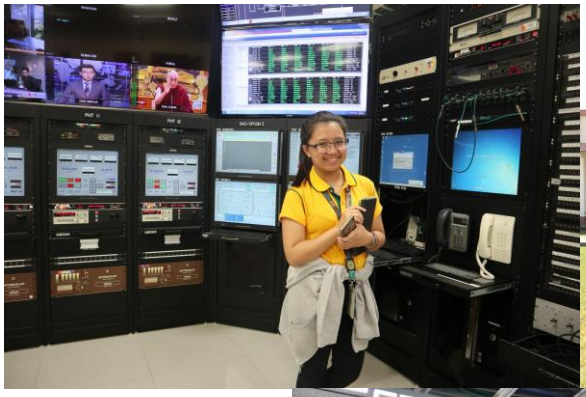
Among the three sites visited, I noticed that all of them are operated mostly automatically. A large central processor system is equipped with all the connections and control mechanisms of nearly the entire station. Mostly, the job of the people in those companies that explained their system to us is simply to monitor and maintain the system to operate successfully as expected.

Taking a detailed tour of the IBB made me think that being a communications engineer really takes a lot of technical wisdom. Knowing which transmitter and how to activate or deactivate it cannot be executed properly without being a certified communications engineer. Even the network connections provided by the Cisco products are also important, and that is where we as computer engineers come in so that we may be able to be of use to such large companies.

Not only being an engineer is a crucial skill in being an employee of the One Subic Power, but the technical entrepreneurship and marketing strategies can be applied. I learned in this little trip that the energy grid is essentially an integral part of society, and being able to work for a company that either distributes or produces electricity can be rewarding.

Even the simplest skill of learning to read and numerically articulate the current weather can become profitable, because it is just as useful. Mostly the changes in the atmosphere are useful for radio communications, but the visibility and stability of the air is mission critical to aerial vehicles. I am highly fascinated by the interplay of the job of weather forecasters and that of pilots as discussed by the presentor.

Pictures

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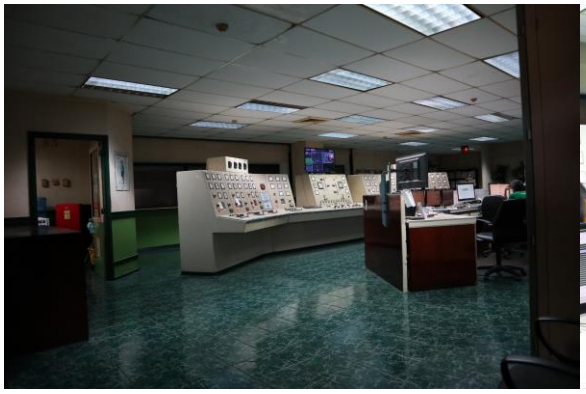


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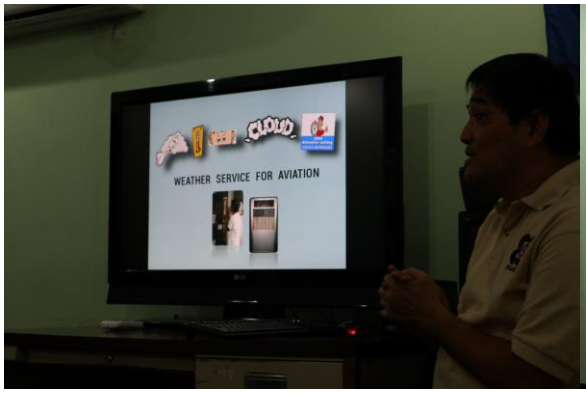
One Subic Power


WEATHER SERVICE FOR AVIATION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