

VISIT REPORT
"Chugoku Electric Power Co., Inc."



By Mr. [Khusniddin ALIKULOV](#)

1. Introduction

On November 21st, 2013, N&X Lab students Mr. Zarif AMINOV and Mr. Khusniddin ALIKULOV, together with Professor Nobukazu Nakagoshi, visited Chugoku Electric Power Co., Inc. on research purpose.

Chugoku Electric Power Co., Inc. is the one of largest electric companies in Japan, which has been established on May 1st, 1951. The Company supplies the entire Chugoku region, namely Yamaguchi, Hiroshima, Okayama, Shimane and Tottori prefectures. Stable and quality electricity is provided all throughout the year. Apart from this, the company's aim is to work with neighboring companies in ensuring good quality electricity.

2. Objectives

The visit to Chugoku Electric Power Co., Inc. focused on discussion of technical issues and at the same time getting to know the company's electricity transmission and central load dispatching center. These objectives aimed to the participating students' thesis work.

3. Target parts

At the first stage of the visit, the staff of the Chugoku Electric Power Co., Inc. have warmly greeted and guided the group through Hiroshima Chuo Substation' facilities. The Hiroshima Chuo substation is the electricity transmission facility of the Chugoku Electric Power Co., Inc. with 500, 220 and 110 kV transmission lines. The substation serves as an effective electricity transmission system in the Chugoku and other regions. Table #1 provides the Substation's size and capacity.



Pic. #1

Facility	Specification	This time	Final
Main transformer	220/110 kV 300 MVA	2 banks	3banks
	110/22kV 60 MVA	-	2 banks
	110/6 kV 30 MVA	-	2 banks
Transmission line	220 kV	2 lines	4 lines
	110 kV	9 lines	16 lines
	22 kV	-	8 lines
Reactive power supply equipment	22kV 30 MVA reactor	3 units	4 units
Supervisory control	Continuous remote supervisory control (control from Hiroshima control center)		

Table#1



Pic. #2



Pic. #3

The underground structure (Pic.#1,2,3,4) with 29 meters depth is the most important in the substation's operation facility. The main operation facility is equipped with non-flammable transformers and switch gears for substation's stable workload. By the way, during the trip, the students were impressed in remote control system of the facility, which almost does not require any service staff for operation.

At the second stage the group guided by the Manager of the Environment affairs division, Mr. Takuwa Misao. The General Manager of Environment Affairs Divisions, Mr. Ando Takashi also met the visitors. During the meeting, the students interviewed the general manager.



Pic. #4

At the third stage, Mr. Misao brought the group to the Central Load Dispatching Center of the Company (Pic.#5), in order to introduce the company's head control system and interconnected Power Plants and facilities. An infrastructure of the company contains 166 power generating facilities, which are Hydroelectric Power Plants – 97, Thermal Power Plants – 12 and Nuclear Power Plants – 1. According to the staff, the center operated with three shifts in 24 hours and each shift is managed by 5 specially trained staff.



Pic. #5

At the last stage, the staff responsible for the part of excursion granted an interview with the research students

3. Conclusion

As a result of the visit, the students learned and became acquainted with the operation conditions and infrastructure of the Chugoku Electric Power Co., Inc. They wish to express their gratitude to Prof. Nakagoshi and the Chugoku Electric Power Co., Inc. staff for interesting and worthwhile tour.

[Go back to Nakagoshi & Xuan Lab homepage.](#)