Name: **Aditya Bajpai** **8**

Course: **EEE4003:Generation and Utilization of Electrical Energy** Date: August 15,2022

# 1 State Chosen: Uttar Pradesh

# 2 Generating Stations and Their Capacity

Anpara Thermal Power Station 3830 MW

Obra Thermal Power Station 1288 MW.

Panki Thermal Power Station 210 MW.

Parichha Thermal Power Station 1140 MW.

Harduaganj Thermal Power Station 665 MW.

# 3 Central Power Station and its capacity:

Harduaganj Thermal Power Station, located in Qasimpur Powerhouse Colony is the Central Power Station with a capacity of 660MW.

# 4 Renewable Power Generation in the state:

Under the solar park project of the Government of India 600 MW solar park will be developed in the state. Installation of total 600 MW solar park will be done in Jalaun, Etah, Mirzapur, Allahabad and Jhansi district. Development and management of solar parks is designated to state agency which is UPNEDA and shall be made by the joint venture with nodal agency Solar Energy Corporation of India (SECI) of the Government of India. The percentage of share would be 50-50 in the joint venture of UPNEDA and SECI . Under the scheme of the Government of India for developing solar park Rs. 20.00 Lack per MW or 30 percent of the amount of the project, which ever would be less is available.

Major source of Renewable Energy in Uttar Pradesh is bio mass and bio gas.

# 5 Tariff in Kanpur:

In Kanpur, the Uttar Pradesh Regulatory Commission recently adopted a tariff of rs 2.98/kWh to procure 125MW of solar power from grid connected projects to be installed under the Ministry of New and Renewable Energy.

# 6 Improving power quality and surplus power

A joint study by Smart Power India (SPI), NITI Aayog and the Rockefeller Foundation showed that only 55per cent customers were satisfied with the power quality in the state. The report said that the power quality was reported as the number of voltage fluctuations.
Power factor: Reducing power factor requires producing reactive energy as close as possible to connected loads.
Transients: Transient voltage surge suppressors are the best option for protecting against transients in a power system.
Voltage sags and interruptions: The best choice here depends on extent of any interruption. Uninterruptible power supplies and other energy-storage options could do well with shorter-term sags or interruptions, but back-up generators or self-generation equipment is needed when longer outages are encountered.
Harmonics: Active filters are the recommended solution for harmonic mitigation, thanks to their flexibility and high correction performance. Alternative approaches could involve passive filters, multi-pulse arrangement transformers or harmonic correction at the equipment level