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Power generation in Odisha

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ABSTRACT

Nowadays, as we know the importance of power. Power is like a backbone of life because without power we can't do anything easily. Now a day's power is everything's. As we know, power is generated by various methods. In this, we study the various method of power generation. And we also know, how much power is generated by which power plant and what the capacity of this plant is. We also mention the data, how much has been generated in the last two years. In this, we mention the location of the power plant and which power plant is best. We also mention which power plant occur how much land and which method is the cheapest and on which power plant the atmosphere does not affect.

Keywords— Power generation method, About power plant, Location

1. INTRODUCTION

Power is an important part of our life. In every field, power plays an important role. Around us, everything is related to power. Odisha is the first state in the country to bring the power sector under regulatory regime by establishing the Odisha state electricity regulatory commission. Everything that helps us to improve life that all things were run off electricity. I.e. phone, motor, fan, washing machine etc. And almost whole the device at homes, businesses and industries are running because of power.

The various methods of power generation in Odisha.

1. Thermal power plant.
2. Hydro power plant.
3. Solar power plant.

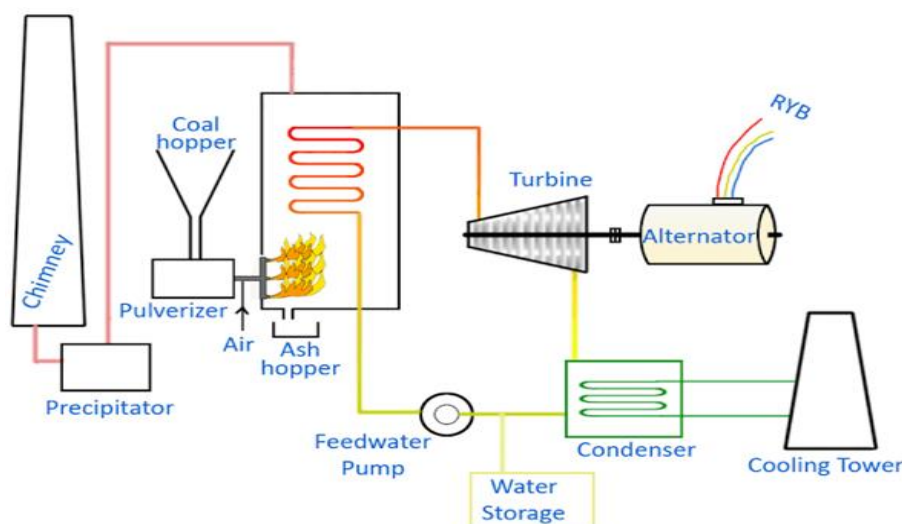


Fig. 1: Power generation block diagram

2. THERMAL POWER PLANT

There are ten thermal power plants in Odisha.

They are:

1. IB thermal power plant
2. Talcher super thermal power plant
3. Talcher thermal power plant
4. Angul Jindal India thermal power plant
5. Darlipali super thermal power plant/station
6. IMFA thermal power plant
7. Hindalco captive power plant
8. Lanco babandh power station
9. GMR power station
10. Captive power plant

The major power plant in Odisha

Odisha Power Generation Corporation LTD. (OPGC)

(i) IB thermal power plant

- The capacity of this plant is 420MW. The Construction of two more units of capacity 1320MW has commenced at the same location and each unit 660 MW
- Primary fuel- Coal
- Operator- OPGC
- Location- Banharpali, District - Jharsuguda

(ii) Talcher super thermal power plant

- Capacity- 3000 MW, It has 06 units.
- Commission date- Feb 1995
- Primary fuel- coal
- Name plate capacity- 3000 MW
- Location- Kaniha (District of Angul)
- Status - Operational

(iii) Talcher thermal power plant

- Commission date- Feb 1968
- Primary fuel- coal.
- Location- talcher of Angul district
- Name plate capacity- 460 MW.
- Units operational- 6units (4 units of 60MW and 2 units of 110)

(iv) Angul Jindal India thermal power station

- Capacity- 1800MW, it has 3 units of 600MW.
- Primary fuel- coal
- Location- Derang

(v) The darlipali super thermal power plant

- It has 2 units of 800MW
- Primary fuel- coal
- Location- sundargarh
- Status- under construction
- Name plate capacity-1600MW

(vi) IMFA thermal power plant

- Primary fuel-coal
- Location- chaudwar
- Name plate capacity- 108MW

(vii) Hindalco captive power plant

- Capacity- 467.5MW
- Primary fuel- Coal
- Location- Hirakud in sambalpur
- Name plate capacity- 467.5M

(viii) Kawai thermal power plant

- It has 2 units of 660MW.
- Primary fuel-coal
- Location- Dhenkanal
- Name plate capacity-1320MW

(ix) GRM power Station

- Capacity- 1050MW.It has 3 units of 350 MW
- Location- Kamalanga in Dhenkanal
- Status- operational
- Name plate capacity- 135MW

(x) Captive power plant

- Capacity- 1200MW
- Primary fuel- coal
- Location- Angul
- Status- Operational

3. HYDRO POWER PLANT

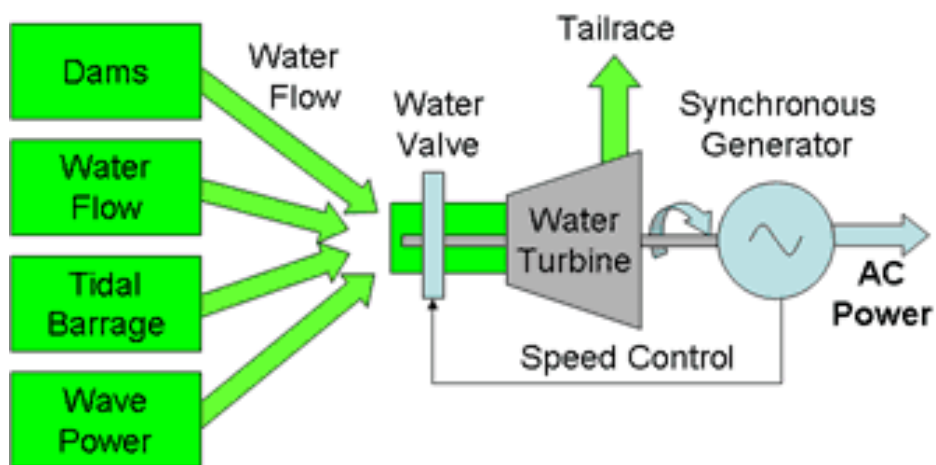


Fig. 2: Hydro Electric power generation

There are six hydro power plants in Odisha:

- Balimela Hydroelectric project
- Hirakud hydroelectric project
- Machkund hydroelectric project
- Rengali hydroelectric project
- Upper indravati hydroelectric
- Upper kolab hydroelectric project

(i) Balimela hydroelectric project

- Purpose- irrigation, power
- Opening date- 1988
- Installed Capacity- 510MW
- Location- Malkangiri
- River- Sileru
- Basin- Godavari

(ii) Hirakud hydroelectric project

- Construction began- 1947
- Opening date- 1957
- Installed capacity- 347.5 MW
- Location- Sambalpur
- River- Mahanadi
- Basin- Mahanadi

(iii) Machkund hydroelectric project

- Design capacity- 120 MW
- Unit- 6
- 3*23+3*17 MW

- Constructed date- 1995
- Location- Koraput
- River- Machkund
- Basin- Godavari

(iv) Rengali hydroelectric project

- Installed capacity- 250 MW
- Opening date- 1975
- Location- Angul
- Basin- Brahmani and Baitrani
- River- Brahmani

(v) Upper Indravati hydroelectric project

- Opening date- 2001
- Installed capacity- 600 MW
- Construction began- 1978
- Location – 30 km from Nabarangpur, Odisha
- River- Indravati
- Basin- Godavari

(vi) Upper kolab hydroelectric project

- Installed capacity- 320 MW
- Unit- 4
- Location- Koraput
- River- Kolab
- Basin- Godavari
- The power project approved by the planning commission during Aug 1975

4. THE SOLAR POWER PLANT IN ODISHA

(i) Raajratha energy

- Capacity- 1 MW
- Location- Bolangir
- Second best location in India in terms of solar radiation received

(ii) Solar plant

- Capacity- 10 MW
- Location- at Kaniha near Talcher

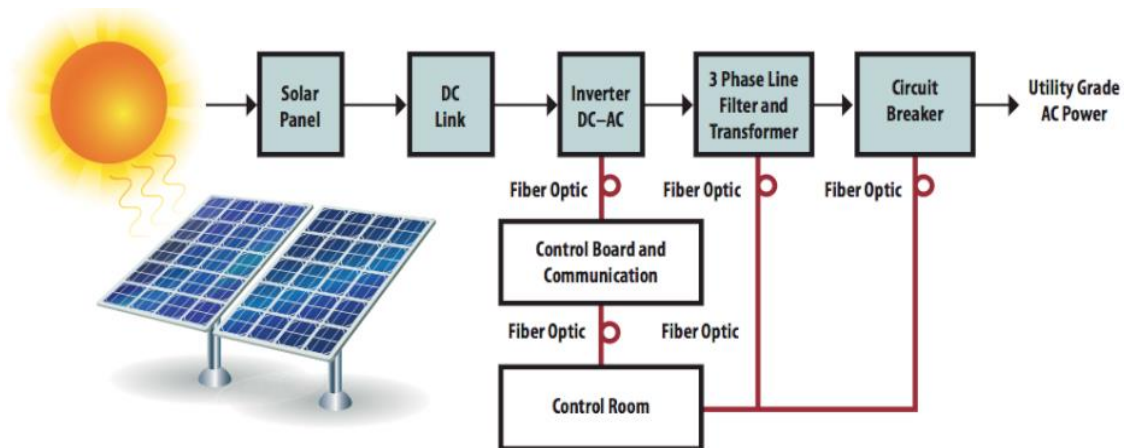


Fig. 3: Solar plant block diagram

5. CONCLUSION

In this we studies about the power generation in Odisha and we also known about the capacity of power generating of the power plants and its location. The cheapest and simple operated power plant is solar plant. According to given data we prepared for the future planning we hence know that solar plant suits best for us.

6. REFERENCES

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