Central Electricity Authority (CEA)

By IASToppers | 2023-10-17 15:30:00

Central Electricity Authority (CEA)

Tamil Nadu's peak power demand in September as per the data from the Central Electricity Authority (CEA), under the Union Ministry of Power.

[Ref: moneycontrol]

About Central Electricity Authority (CEA):

- The CEA is a **statutory** organization under the **Union Ministry of Power** to advises the **government on policy matters** and **formulates plans for electricity system development.**
- It constituted under **section 3(1) of the Electricity Supply Act 1948,** now superseded by **section 70(1) of the Electricity Act 2003.**
- Its responsibilities include prescribing standards for **electrical plants, electric lines, connectivity to the grid,** and **safety and grid standards.**
- Plays a pivotal role in promoting integrated operations of regional power grids and the evolution of a national grid.

About Electricity Act, 2003:

- It was enacted to transform the **power sector in India**.
- It consolidates laws related to **electricity generation, transmission, distribution, trading,** and **use.**
- It aims to promote **competition, protect consumer interests, rationalize tariffs,** and **ensure transparent policies**.

Key Features:

- Generation is **de-licensed**, with certain exceptions for hydro and nuclear projects.
- Open access in transmission with **provisions for surcharge**.
- State governments are required to unbundle **State Electricity Boards**.
- Mandatory setting up of **State Electricity Regulatory Commission (SERC).**
- Introduction of an appellate tribunal for appeals against decisions of **CERC** and **SERC**.
- Metering of **electricity supply** made mandatory.
- Provisions to **combat electricity theft**.
- Recognition of trading as a distinct activity.

- Emphasis on **rural electrification** and management by local bodies.

Tamil Nadu's Energy Composition:

- Total installed power capacity: **34,706.16 MW** as of (April 2023).
  - **Wind energy:** 8,739.01 MW (25.18%).
  - **Solar energy:** 6,539.23 MW (18.84%).
  - **Tangedco's thermal power capacity:** 4,320 MW.
  - **Conventional installed capacity** (including State's share from Central Generating Stations and power purchase agreements): 16,417.38 MW.

About Pumped Storage System:

- It is a type of **hydroelectric power generation** method used to store and manage energy.
- It uses **two water reservoirs** at different elevations; during periods of low electricity demand, excess electricity is used to pump water from the lower to the upper reservoir.
- During periods of **high electricity demand**, the stored water is released from the upper reservoir to the lower reservoir, passing through turbines to generate electricity.

