



A.V.C.COLLEGE OF ENGINEERING

(Approved by AICTE & Affiliated to Anna University, Chennai)

Accredited by NBA & NAAC with 'B' Grade)

Mannampandal-609305, Mayiladuthurai



POWER ZONE Newsletter

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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HOD NEWS

My heartfelt greetings to A.AGNEESWARAN –III year EEE, has got second prize in Tamil Nadu state level indoor field archery championship and also selected for National level competition. I congratulate the students those who got top three positions in university results. I congratulate the staff members and the students who contribute their reasoning of knowledge. I appreciate the team work of our department and my best wishes for their future endeavors.

FACULTY ZONE

MAJOR POWER PLANTS & POWER PRODUCTION IN TAMILNADU

D. VINOCHKUMAR M.E AP/EEE

To satisfy the energy needs of the state, Tamil Nadu Electricity Board has a total installed capacity of 10237.41 which includes Central share and Independent Power Producers. Other than this, the state has installations in renewable energy sources like windmill, Bios mass and

in India constitutes to about 65% of the total energy generation, the fuel resource supplied mainly from the Bengal-Bihar Belt. Modern thermal power stations operate on the thermodynamic principle of Modified Rankine Cycle.

Major Thermal Stations in Tamilnadu are

Ennore (ETPS)

Mettur (MTPS)

North Chennai (NCTPS)

Tuticorin (TTPS)

ENNORE THERMAL POWER STATION

ETPS has total installed capacity of 450 M.W, comprising 2 X60 M.W and 3X110 M.W units.

The total cost of the project was 270 crores.

The units are coal based.

Coal for ETPS is received from Mahanadhi coal fields Limited (Talchar & IB Valley), Orissa and Eastern coal fields Limited, Ranikanj, WestBengal.

METTUR THERMAL POWER STATION

Mettur Thermal Power Station is situated in Salem District.

- This is the first inland thermal Power Station of TANGEDCO.
- The first stage consists of units I & II of 210 M.W at a cost of Rs. 384.30 crores.
- The second stage consists of units III & IV of 210 M.W each at a cost of Rs.351.76 crores.
- All the four units are coal based.
- Coal for MTPS is received from Mahanadhi coal fields Limited (Talchar & IB Valley), Orissa, Eastern coal fields Limited, Ranikanj, West Bengal.

NORTH CHENNAI THERMAL POWER STATION.

- North Chennai Thermal Power Station is situated about 25 KMs from Chennai on Northern side.
- NCTPS has a total installed capacity of 630 M.W comprising 3 units of 210 M.W each.
- All the three units are coal based.
- Coal for NCTPS is received from Mahanadhi coal fields Limited (Talchar & IB Valley), Orissa, Eastern coal fields Limited, Ranikanj, West Bengal.

TUTICORIN THERMAL POWER STATION.

- TTPS is situated near the new port of Tuticorin on the sea shore of Bay of Bengal and spread over an area of 160 Hectares.
- TTPS has a total installed capacity of 1050 M.W comprising 5 units of 210 M.W each.
- The station was erected in III Stages.
- The first stage consists of units I & II of 210 M.W each at a total cost of Rs.178 crores.
- The second stage consists of 210 Unit III at a cost of Rs. 89 crores.
- The third stage consists of Units IV& V of 210 M.W each at a total cost of Rs.804 crores.
- The units are all coal based.
- Coal is transported by sea through ships form Haldia, Paradeep, Vizag ports to TTPS.
- HYDRO POWER STATION
- Major Hydro power Stations in Tamilnadu are

KUNDAH HYDRO POWER STATION

KUNDAH POWER STATION 1

Source from Avalanchi & Emerald Dam

LOCATION	THE NILGIRIS DIST 32 KMS FROM OOTY 90 KMS FROM COIMBATORE
ELEVATION	5353 FEET
INSTALLED CAPACITY	3 X 20 = 60 MW
No. OF UNITS	3

KUNDAH POWER HOUSE 2

Source from Kundah Forbay Dam, Tail Race Water of Power House I

LOCATION	THE NILGIRIS DIST 16 KMS FROM KUNDAH 80 KMS FROM COIMBATORE
ELEVATION	2876 FEET
INSTALLED CAPACITY	5 X 35 = 175 MW
No. OF UNITS	5

KUNDAH POWER HOUSE 3

Source from Pegumbahallah Dam, Nirali Pallam and Kattery Weir

LOCATION	COIMBATORE DIST 40 KMS FROM KUNDAH 80 KMS FROM COIMBATORE
ELEVATION	1429 FEET
INSTALLED CAPACITY	3 X 60 = 180 MW
No. OF UNIT	3

KUNDAH POWER HOUSE 4

- Source from Pillur Dam ,Tail Race water of Power House III

LOCATION	COIMBATORE DIST 6 Kms. FROM PARALI
ELEVATION	1193 FEET
INSTALLED CAPACITY	2 X 50 = 100 MW
No. OF UNIT	2

KUNDAH POWER HOUSE 5

Source from Western Catchment . 1, Upper Bhavani Dam

LOCATION	THE NILGIRIS DIST 18 KMS FROM KUNDA 10 KMS FROM EMERALD 33 KMS FROM OOTY
ELEVATION	6527 FEET
INSTALLED CAPACITY	2 X 20 = 40 MW
No. OF UNIT	2

KUNDAH POWER HOUSE 6

Source from Western Catchment 2 & 3, Porthimund Dam, Parsons Valley Dam

LOCATION	THE NILGIRIS DIST
ELEVATION	6518.95 FEET
INSTALLED CAPACITY	1 x 30 = 30 MW
No. OF UNIT	1

KADAMPARAI HYDRO POWER STATION

SHOLAYAR POWER HOUSE – I

- Source from Sholayar Reservoir
- Net Capacity at FRL (MCFT) is 4800

LOCATION	MANOMBOLI
ELEVATION	1931 FEET
INSTALLED CAPACITY	2 X 35 = 70 MW

SHOLAYAR POWER HOUSE – II

- Source from Sholayar Reservoir
- Capacity at FRL (in MCFT) is 4800

LOCATION	SHOLAYAR P.H. II
ELEVATION	2750 FEET
INSTALLED CAPACITY	25 MW
No. OF UNIT	1

ALIYAR POWER HOUSE

- Source from Upper Aliyar Dam
- Net Capacity at FRL (in MCFT) is 914.89

LOCATION	ALIYAR/ Coimbatore
ELEVATION	1083 FEET
INSTALLED CAPACITY	60 MW
No. OF UNIT	1

KADAMPARAI POWER HOUSE (PUMPED STORAGE SCHEME)

Source from Kadampari Reservoir/Upper Aliyar Dam
Net Capacity at FRL is 940.38 /737

LOCATION	KADAMPARAI/. Coimbatore
ELEVATION	EL 710
INSTALLED CAPACITY	4 X 100 = 400 MW
No. OF UNIT	4

GENERATION/ERODE

METTUR DAM POWER HOUSE

Source from Mettur Dam

LOCATION	Located around 50kms from Salem
INSTALLED CAPACITY	4 x12.5 MW
No. OF UNIT	4

METTUR TUNNEL POWER HOUSE

Source from Mettur Dam

LOCATION	Located around 50kms from Salem
INSTALLED CAPACITY	4x50MW
No. OF UNITS	4

LOWER METTUR BARRAGE POWER HOUSE -1 / CHEKKANUR

Source from lower Mettur Barrage Power House – I/Chekkanur

LOCATION	Located near Chekkanur village about 8kms. from Mettur in Salem District.
INSTALLED CAPACITY	2X15 MW
No. OF UNITS	2

LOWER METTUR BARRAGE POWER HOUSE -2 / NERINJIPETTAI

- Source from Mettur Dam / Pondage of Kaveri River Net

LOCATION	Located near Nerinjipettai village about 18kms. from Mettur in Salem District.
INSTALLED CAPACITY	2x15MW
No. OF UNITS	2

LOWER METTUR BARRAGE POWER HOUSE-3 KUTHIRAIKKALMEDU (KONERPATTI)

LOCATION	Located near Koneripatti village about 18kms. from Bhavani in Erode District.
INSTALLED CAPACITY	2x15MW

POWER GENERATION/TIRUNELVELI

KODAYAR POWER HOUSE – I

Source from Upper Kodayar (Kodayar Dam-I) Net Capacity at FRL is 2589.8

LOCATION	KANYAKUMARI DISTRICT
ELEVATION	1319.78 M
INSTALLED CAPACITY	1 X 60 MW
No. OF UNIT	1

KODAYAR POWER HOUSE – II

Source from Lower Kodayar (Kodayar Dam – II)

LOCATION	KANYAKUMARI DISTRICT
ELEVATION	340.77 M
INSTALLED CAPACITY	1 X 40 MW
No. OF UNIT	1

SALIENT FEATURES

Source from Servalar Dam (Interlinked with Karaiyar Dam)

LOCATION	TIRUNELVELI DISTRICT
ELEVATION	205.189 M
INSTALLED CAPACITY	1 X 20 MW
No. OF UNIT	1

STUDENTS ZONE

SOME GOLDEN TRICKS OF COMPUTER:

-N.Rajeswari, III EEE.

- 1. TO PROTECT WORD/EXCEL DOCUMENTS FROM HACKERS:**
 - Instead of “save” the file “save as” the file.
 - Click “Tools” then select “General option”.
 - Give passwords in 2 separate box and click ok.
 - Then we use passwords for open our files safely.
- 2. TO SEND IMPORTANT EMAILS FOR CONFIDENTIAL AND AUTHENTICATION PURPOSE:**
 - Go to <http://oneshar.es/>
 - Click “create one new” and type our message and set timing.
 - Copy the generated URL link and send it for our recipients.
 - This mail is only one time readable after that it is invisible.
- 3. TO HIDE FILES FROM OTHERS FOR SAFETY:**
 - Right click folder and go to properties and in General select hidden and apply.
 - Then go to tools -> folder options -> view -> don't show hidden files and then apply.
- 4. TO PLAY VIDEO IN MS PAINT:**
 - Play video in any player and open Ms Paint.
 - Click print screen during playing, then click ctrl+v in paint and don't minimize the player.
- 5. TO MAXIMIZE TC EXE SCREEN IN WHICH IT WAS NOT SUPPORTED IN WINDOW 7/VISTA:**
 - Go to TC EXE ->right click -> properties ->screen tab ->select windows ->apply-> ok ->run TC ECE -> right click on border -> properties > change font to **lucida** and size to **28**.
- 6. TO RESTORE OUR SYSTEM:**
 - Right click the “my computer” ->properties -> system properties ->click system restore and then ok.
- 7. CREATE FOLDERS WITH INVISIBLE(WITHOUT ANY NAME):**
 - Right click folder ->rename -> alt & type 01600(use only right side number).
- 8. DELETING OUR PASSWORDS IN FIREFOX:**

Sometimes, by mistake we click “remember password” in Firefox or any other browsers. In that we delete the saved password by the following step otherwise anybody hack our password.

At the top of the Firefox window, click on the Tools menu and then select Options & Click the Security panel.

Click Saved Passwords... and the Password Manager will open

To see the passwords you have saved, click Show Passwords. When we close the window, your passwords will be automatically hidden.

 - Use the search box to find a particular website or username. Click the X in the

search bar to clear our search and see the full list again.

- To remove a username and password, select it from the list and click Remove.
- To remove all stored usernames and passwords, click Remove All. After confirming this choice, all of your stored usernames and passwords will be deleted.

9. IN COMMAND PROMPT:

✓ TO LOCK THE SCREEN:

- Go to run type “cmd” and then type “syslock1.2.1”.

✓ TO KNOW ABOUT WINDOW VERSION:

- Click “winver” in cmd.

✓ TO KNOW OUR COMPUTER NAME:

- Click “Hostname” in cmd.

KUDANKULAM NUCLEAR POWER PLANT

- E.SUGANYA, III EEE

Kudankulam nuclear power plant is constructed 650km south of Chennai at Thirunelveli district in Tamilnadu. Two 1000MW pressurized water reactor units based on Russian technology are being erected in phase one of the project. The plant is also scheduled to be added with 4 more PWR's as per the agreement signed between India and Russia in December 2008. Atomstroyexport, a subsidiary of the Russian state nuclear energy corporation Rosatom, is the supplier of equipment and fuels for the nuclear power project. Kudankulam NPP will have a production life of 60 years, which is extendable by another 20 years. The plant is expected to supply power at a cheaper rate of about INR 2.50 per unit. The home state Tamilnadu is allocated 50% (925MW) of the power generated from KNPP. The neighboring states will share 35% of the residual power, including 442MW for Karnataka, 266MW for Kerala and 67MW for puducherry. The other 15% of the generated power will remain unallocated and be added to the central pool. Kudankulam is India's first nuclear plant to use imported PWR

technology. The existing nuclear plants in India use prescribed heavy water reactor technology or boiling water reactor technology. The plant uses the advanced version of Russian developed PWR nuclear technology called VVER. VVER stands for Vodo-Vodyanoi Energetichesky reactor, which means water-water power reactor. The KNPP is installed with AES-92, the latest version of the third generation VVER-1000, that offers greater safety and longer lifespan.

The AES-92 design features a combination of active and passive safety solutions. It retains the traditional active safety provisions, such as the use of neutron absorbing control rods to control the reactivity. The passive safety system incorporated in the design relies on natural factors, such as pressure differentials, gravity or natural convection to ensure protection against malfunction of the reactor during emergency situations. The passive safety facilities of the AES-92 reactor system include the fast injection of high pressure boron, provision of extra tanks for long-term supply of borated water to the reactor in a passive way and the system for inter

containment area passive filtration. The reactor building is provided with a series of passive hydrogen re-combiners to convert abnormal production of hydrogen into water. The design also includes a system for containing the molten core of the reactor during severe accident. The AES-92 reactor has a double protective containment with the inner envelope made of steel and the outer envelope made of heavy reinforced concrete steel, to prevent radioactive release into the environment during possible disasters including earthquakes, a tornado or aircraft crash. The inner containment is equipped with a water sprayer system to ease the steam pressure in the reactor.

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