

Report on Webinar: 'Super Critical Thermal Power Plant'

Date and Duration: 19th October 2020, 25 minutes

Speakers: Mr. Surendrer Kumar (Principal) TPSDI Mundra, Mr. Pradip Sarkar

Organizers: Mechanical & Automobile Engineering Department

Introduction:

On 19th October 2020, an online expert session on '800 MW Super Critical Thermal Power Plants' was organized by the Mechanical & Automobile Engineering Department for the 7th-semester Mechanical Engineering students. The webinar was facilitated by Tata Power Skill Development Institute (TPSDI), Mundra, Kutch. The primary goal was to acquaint students with the latest technologies employed in Super Critical Power Plants for electricity generation and provide practical insights into their operations in industries.

Webinar Highlights:

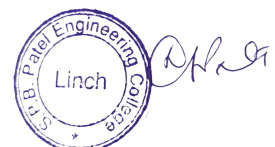
1. Objective and Design:

The webinar aimed to bridge the gap between theoretical knowledge and practical application by focusing on the workings of 800 MW Super Critical Boiler Power Plants. Prof. Kamlesh Samadhiya coordinated the session, ensuring a seamless flow of information.

2. Speakers from TPSDI Mundra:

Mr. Surendrer Kumar, the Principal of TPSDI Mundra, and Mr. Pradip Sarkar, provided valuable insights into the operations of Tata Power Company in India. They specifically elaborated on the intricate workings of an 800 MW Super Critical Boiler Power Plant.

3. Technological Advancements:



The session highlighted the latest advancements in Super Critical Thermal Power Plants, shedding light on the technological intricacies involved in achieving efficient and sustainable power generation.

4. Practical Understanding:

Students were exposed to the practical aspects of operating such power plants in real-world industrial scenarios. The speakers shared their experiences, giving the audience a glimpse into the challenges and solutions encountered in day-to-day operations.

Coordination and Feedback:

Prof. Kamlesh Samadhiya's coordination ensured the smooth execution of the webinar. The session was well-received by the students, who found it both interesting and informative. The interactive nature of the webinar allowed students to pose questions and engage in discussions, enhancing their understanding of the subject matter.

Conclusion:

The webinar on 'Super Critical Thermal Power Plant' organized on 19th October 2020 proved to be a valuable learning experience for the 7th-semester Mechanical Engineering students. The collaboration with TPSDI Mundra provided students with real-world insights and practical knowledge about the operations of an 800 MW Super Critical Boiler Power Plant.

The success of this webinar aligns with the department's commitment to enhancing students' understanding of cutting-edge technologies and their applications in the field of Mechanical Engineering. It is anticipated that such sessions will contribute to the holistic development of students and better prepare them for the challenges of the industry.

Photographs:

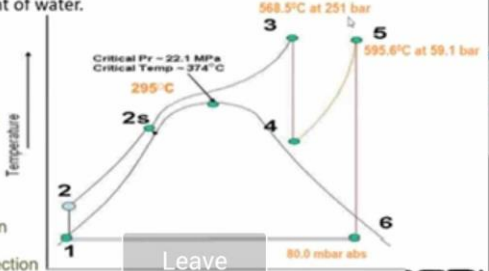
800 MW THERMAL POWER PLANT TECHNOLOGY

Super Critical Power Generation Plant

What is Super Critical Power Generation Plant?

Super and ultra-supercritical power plants operate at temperature and pressure above the critical point of water.

- 1 - 2 > CEP work
- 2 - 2s > Regeneration
- 2s - 3 > Boiler Superheating
- 3 - 4 > HPT expansion
- 4 - 5 > Reheating
- 5 - 6 > IPT & LPT Expansion
- 6 - 1 > Condenser Heat rejection



Temperature

80.0 mbar abs

295°C

568.5°C at 251 bar

595.6°C at 59.1 bar

Critical Pr - 22.1 MPa
Critical Temp - 374°C

1 2 2s 3 4 5 6

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800 MW THERMAL POWER PLANT TECHNOLOGY

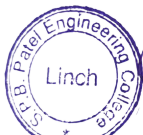




Empowering Skills for Life!



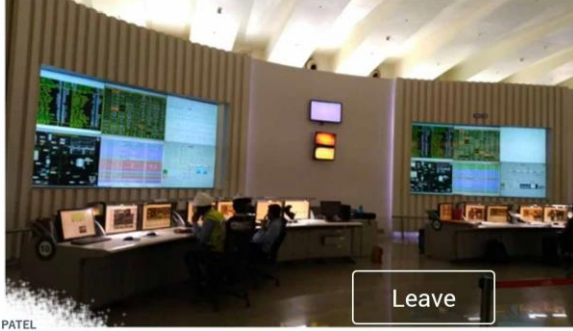

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800 MW THERMAL POWER PLANT TECHNOLOGY

CGPL 800X5=4000MW Power Plant Main Control Room (MCR)

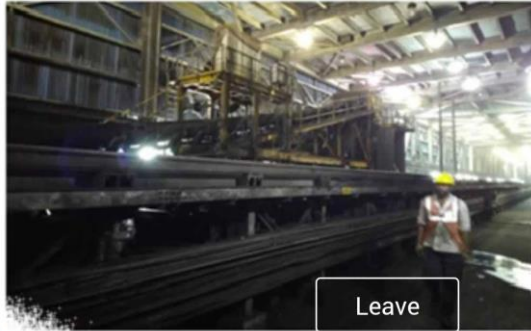


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800 MW THERMAL POWER PLANT TECHNOLOGY

CGPL 800X5=4000MW Power Plant Main Control Room (MCR)



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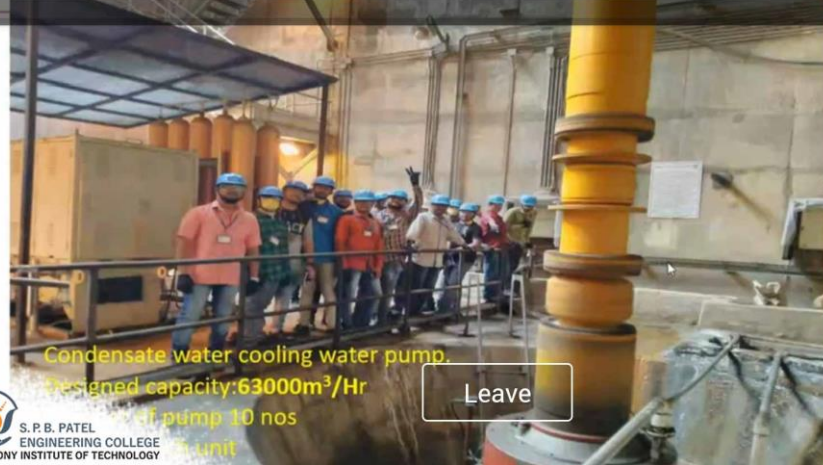
800 MW THERMAL POWER PLANT TECHNOLOGY

CGPL 800 MW TURBINE HALL



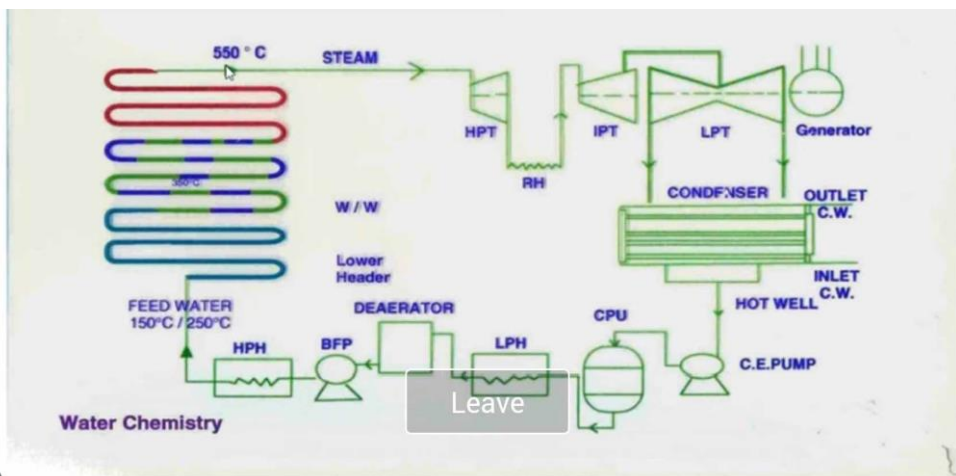
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800 MW THERMAL POWER PLANT TECHNOLOGY



Condensate water cooling water pump.
 Designed capacity: 63000m³/Hr
 of pump 10 nos
 in unit

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