

PRESENT'S A LEARNING SESSION ON "How to Achieve the Lowest Specific Water Consumption (SWC) Water Foot Print in a Coal based Thermal Power Station?"

(Learn from the achiever, who brought down SWC from 3.4 to 2.6 m³/MWh in 2007, further reduced it to 2.02 m³/MWh in 2017-18, hinterland thermal power stations, shares his method of Analytics and improvements)

A close nexus lies between water and energy production. Water is needed for energy production, and in turn, energy is utilized for pumping, conveying and treating water. Water is used to extract and produce energy, as per Rankine cycle. With the rising scarcity of water, energy production too is facing a shrinking supply of freshwater due to the mounting cost of water along with growing pollution of water sources. The Ministry of Environment, Forest and Climate Change (MOEFCC) brought out a notification that set limits on how much water a thermal power plant can use per unit of electricity generated, called '**specific water consumption (SWC)**'. These regulations mandated that TPPs set up before January 1, 2017, should not use more than 3.5 m³/MWh of water (equivalent to 3.5 liters of water per unit (KWh) of electricity generated) and those built after the date cannot exceed 3 m³/MWh. Now, as per MOEFCC, the standard condition stipulated for EC as on 19th Nov, 2018, the new power plants that are proposed are required to use a maximum of 2.5 m³/MWh as specific water consumption. The Training Let the Participants know how to achieve the lowest possible SWC. It further evaluates various alternatives for water conservation in thermal power plants.

Learn from someone who achieved many awards and accolades for achieving the lowest Specific Water Consumption for hinterland plants ahead of time requirement. Please Learn from the expert who has set limit and achieved of 2.0 Litres/Unit through his 25 years of rich experience whereas 53% of the plants are not even able to meet the regulation of 2.5 Litres/Unit. **Learnt it, Then Implement in your plant!**



See Live Example on: Data Remains Data, unless transformed into meaningful actionable insight!

- The limiting Factors for reduction in specific water consumption
- How water is used in a power plant, map/water balance diagram
- Developing a plan is to construct an overall plant water balance depicting the current plant water picture.
- Collecting adequate data to model the plant water and wastewater streams precisely.
- Develop a plant wide water management program
- Inclusion of seasonal and historical data and its impact on the plant water balance is desirable, such as periodic degradations in water supply qualities that reduce cooling tower operating cycles.
- Finding Correct COC of Cooling Water and right chemicals, Understand the mass balance of contaminants present in the plant water and wastewater streams.
- Employment of Portable flow monitors and sample collection devices
- Improved site water management and identification of increased reuse and recycle opportunities can result in lower water supply, and an improved sustainability rating or good neighbour image.

Once the analytics is over plant operators get meaningful insight using this water balance to assess how operational changes or stream redirection might allow the plant to reduce its water footprint



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+25 years' experience in Power Plant Chemistry & Environment (Season Trainer on Power Station Chemistry)
Mr. S Banerjee has worked with Tata Power, Adani Power, Jindal Power, LPGCL as HOD Power Station Chemistry and Environment. He is also written a guide book of professionals "Practical guide to thermal power station chemistry".

Course Duration: 3 Hours + 1 Hour for Q&A (2 pm to 6 pm IST)

Course Fees:

Venue: Online, through Microsoft Teams

Date and Time: As per demand

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There is always a way!