

EXCELLENCE ENHANCEMENT CENTRE

FOR INDIAN
POWER SECTOR

(AN INITIATIVE OF THE INDO-GERMAN ENERGY COOPERATION)

From the desk of President, EEC

I am happy to inform that with your support and guidance, EEC has started its full operational activities mandated towards performance enhancement through technology identification, sharing best practices and facilitating specialized skill enhancement programmes.

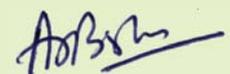


The power sector is on the threshold of another take off as new challenges that have emerged need to be resolved sooner than later to ensure targeted economic growth. This would require multipronged approach such as new generation capacity addition, ensuring fuel availability, addressing environmental concerns, strengthening discom's financial viability and upgrading transmission and distribution systems.

Considering the constraints being faced by the power sector, it is of utmost importance to maximize the performance of the existing facilities. It is in this context, I look for EEC to play an important role through various facilitating efforts including demonstrating technology interventions, disseminating national and international best practices in plant operation and providing platform for skill enhancement and expert's interaction.

To achieve the above objective I seek your support through active participation, sharing your experiences, identifying issues of concern and importantly becoming part of EEC as its member.

With best wishes



A.S. Bakshi
President, EEC

New and outgoing member of the Governing Body of EEC



Shri Major Singh took over as Member, (Planning), CEA in May 2013 and also has become Vice President of EEC. Mr. Singh has extensive experience of 33 years in the field Hydro, Grid, Operation&Distribution and Planning. He

held the position of Member (Power) Narmada Control Authority and was member Secretary of the 18th EPS committee and has contributed papers on Hydro-Electric Planning, Performance Monitoring, Small Hydro Development and Crisis & Disaster Management.

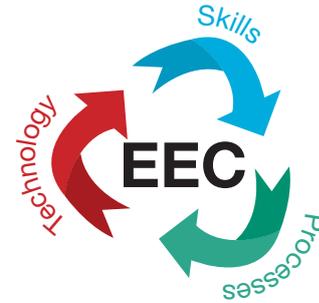


Ms. Neerja Mathur, Chief Engineer C&E, CEA has been elevated to the position of Member (Go&D), CEA. In her role as Member Secretary of EEC she has supported the society with her guidance, technical advice and vast

experience in the Indian power sector. EEC is thankful to Mrs. Mathur for her crucial work towards EEC's success.

Membership & Network

EEC has conducted two technical workshops, in New Delhi and Bangalore in cooperation with VGB Powertech. Five speakers from Germany (ABB, Durag, EON, KWS, VGB) and four from India (CEA, L&T, MHI, Reliance) presented the latest developments in the field of thermal power generation.

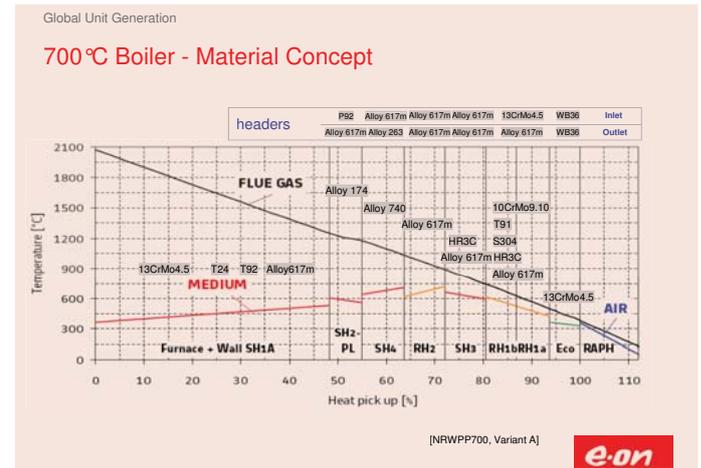
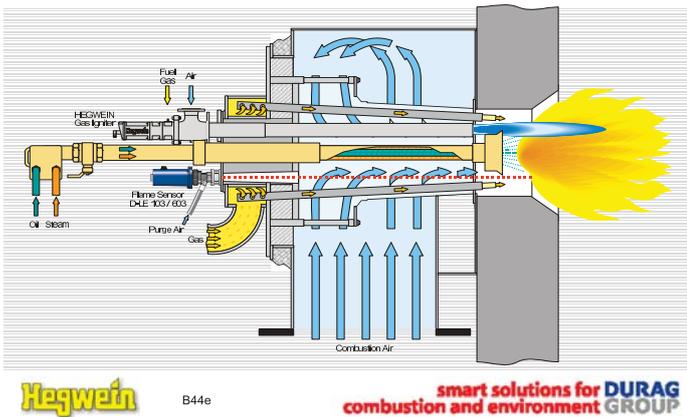


Some of the topics covered:

- Ignition of flames and flame scanning
- Life cycle management and upgrades of existing automation system.
- VGB Guidelines - Methodology for formulation of industry standards.
- Project Management & Operation - Best Practices
- Operation experience and procedures for Super Critical and Ultra-Super Critical Boilers
- Concept & Development activities in the field of 700C
- Ultra Super Critical Boiler
- Furnace cameras and dust monitoring
- Best practices at Dahanu Thermal Power Station

Around 100 delegates from various organisations, such as NTPC, BHEL, Thermax, Adani, Lanco, Bajaj, etc. participated actively in both events.

Gas Fired Igniter for Cold Combustion Air



Many actual problems and their possible solutions, presented by the delegates were discussed during the sessions. EEC has received more than 60 suggestions for technical work, in order to support the power sector. This suggestions will be prioritised according to their relevance and will be handled by studies, technical working groups or guide lines.

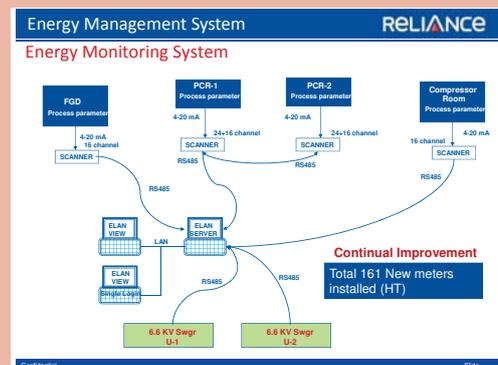
Please visit our new homepage: www.eecpowerindia.com for more information on these workshops (presentations, photos, delegates, etc.) and other future and past events of EEC.

Share of Best Practices of Indian Utilities – Dahanu TPS

Reliance company operates 500MW coal based Thermal Power Plant at Dahanu (Maharashtra). DTPS has adopted modern power station O&M practices to make the power station highly reliable, efficient through system approach in all its activities. DTPS had taken up numerous initiatives in fuel management by blending of coal, Innovative O&M practices to generate reliable, efficient and clean power. The performance improvement & Fuel management helps in achieving:

- Increase Availability & Reliability with less outages
- Increased power generation and thereby reducing the demand supply gap
- Reduction in power generation cost
- Reduction in Green house gas emissions and Global warming

These efforts have resulted in considerable improvement in Key Performance indicators i.e. achieving best heat rate, lowest



Specific Oil consumption, lower auxiliary power consumption, Highest Plant load factor and plant availability along with improved Environmental performance.

For more information, please contact: Mr. Suhas Patil, Phone: +91 9325119742, Email: suhas.patil@relianceada.com

EEC Projects

One of the major pillars of EEC's activities is the solution for common challenges and elaboration of recommendations for power plant operators.

For identification of topics for technical studies, guide lines and technical working groups, EEC had detailed interaction with stakeholders of the power sector. The first few topics, which EEC has picked up, include the following:

Best Practices in Water Usage in Coal Based Thermal Power Plants

Water is increasingly becoming a premium commodity in terms of cost and availability. The study methodology is targeted to include the following:

- Collect data for water usage in few plants located in water scarce areas
- Short list 1-3 projects and carry out measurements and develop water balance
- Develop road map for improvement through operational modifications and technology interventions.

The study works out cost-benefit analysis taking in to account value of water use

Compendium of Best Practices in Coal Based Thermal Power Plants

The study is intended in identifying the best practices being adopted in Germany vis-a vis in India. The areas covered would include:

- Planning and construction of a new super critical power plant
- Operation and maintenance practices (Separately for sub-critical and supercritical plants)

The outcome is a compendium of recommendations for planning, construction, operation and maintenance of power plants, considering Indian circumstances.

Condenser Operational Performance Monitoring

Experience has shown that major deviation from design value/target efficiency is due to under performance of the condenser. Continuous monitoring of various parameters is a critical factor in order to maintain the performance. The study develops a system for monitoring and trend evaluation, which enables the plant operator to take a conscious and timely decision for possible interventions.

Suggestions for studies, projects, material, advice, trainings etc. are welcome at: contact@eepowerindia.com



New EEC website www.eepowerindia.com

EEC has restructured and updated its web presence and incorporated many user friendly features and information. The new website provides details on EEC, its background, membership and activities.

For members of EEC, the website provides a Forum, for power related interaction with each other, for seeking of advice and discussion on common challenges.

Please visit www.eepowerindia.com for more information.

EEC Membership

Are you interested in becoming a member of EEC?

Join a network for all stakeholders of the Indian and international power sector, join organisations such as Siemens, BHEL, NPTI, CESC, GSECL, Durag, and many others.

For more information on membership, membership benefits and how to apply, please visit www.eepowerindia.com and proceed to the "Membership" section.



Shri A.K. Gupta, Head of EEC welcomes Shri Rajendra Kumar, Durag India as new member of EEC.

Upcoming trainings and events

As a part of EEC's mandate to improve the efficiency and performance of the Indian power sector, the development and execution of technical workshops and trainings plays a crucial role. In cooperation with VGB Powertech, STEAG Energy Services India, CBIP (Central Board of Irrigation and Power) and others, EEC offers a wide range of capacity development.

Some events, which will be conducted in the next few weeks and months are:

ADVANCES IN POWER PLANT CHEMISTRY

- Introduction to advances in Power Plant Chemistry
 - Modern water treatment practices
 - Management of cooling water system
 - Water Chemistry for supercritical plants
- Etc.

BOILER OPERATION AND MAINTENANCE:

- Carnot and Rankine cycles, Thermodynamic principles and laws
 - Boiler construction, pressure parts, boiler drum internals.
 - Fans, mills, tubes, combustion equipments, oxygen controls
 - Pre-checks, boiler shutdown and emergencies
 - Boiler losses and efficiency, tube failures
- Etc.

ESP O & M and PERFORMANCE ENHANCEMENT

- Electrostatic precipitator theory and practice including back filter
- Resistivity effects



- Power supply and automatic voltage control description and operation
 - Troubleshooting
 - Factors affecting precipitator performance
 - Alternative cleaning techniques (acoustics)
- Etc.

COMBUSTION MECHANISM & OPTIMIZATION:

- Combustion process
 - Coal and ash properties
 - Combustion optimization tools and techniques
 - O & M practices relating to combustion optimization
- Etc.

ADVANCE LEVEL HEAT RATE AWARENESS:

- Impact of design on Performance
 - Operational efficiency Vs design
 - Factors affecting Heat Rate
 - Auxiliary power, factors affecting auxiliary power
 - Sustaining performance
 - Boiler performance testing techniques
 - Turbine performance testing and performance analysis
- Etc.

Visit www.eecpowerindia.com for more information and online registration for all EEC trainings and workshops



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