

IPS 2018

International Power Plant O & M Conference



Technological Challenges –Risks & Opportunities in Power Generation

Commercial Feature

NTPC DELIBERATES DYNAMIC 'POWER' NEEDS OF NEW INDIA @ IPS 2018

New India is emerging much faster than world's anticipation, which will be among the fastest growing global economies. The recent global ratings on India stand testimony to the fact that the sleeping giant has now awaken and determined to play a global role. In this quest to give a constructive shape to the vision, grit and determination of over 1.2 billion Indians- there is need to adopt global best practices into every bit of economic activity. Power is one sector that has to play a pivotal role as the new India will leap into new generation of emobility, substitute its dependence on oil imports and operate its power plants in conditions that will be challenging but require consistent and safe

TRANSFORMATIVE CHANGE IN THE INDIAN POWER SECTOR IS **ESSENTIALTO POWERTHE GROWTH AND DEVELOPMENT IN** NEW INDIA. IT IS ANTICIPATING THATTHEREWILL BERISEIN E-MOBILITY DEMAND, GREATER **ENVIRONMENTAL CONCERNS IN** LINEWITH GLOBALTREND. ALSO, INDIA WILL NEED TO COMPREHENSIVELY ADDRESS THE CHALLENGES AROUND INTEGRATING RENEWABLE POWERTOTHE GRID, SO ASTO CRUISE AHEAD AND BECOME ONE OF THE WORLD FASTEST GROWING ECONOMY.

production of power to light up each and every household in urban as well as remote villages.

Acting in this direction, India's leading Maharatna PSU- NTPC has built a unique global platform to bring world best practices and business opportunities to India. The seventh edition of IPS 2018 with theme Technological Challenges- Risks and Opportunities in Power Generation will reflect upon rapid changes that global power sector is witnessing today with world over projects being awarded through competitive bidding, environment rules getting stricter and large scale renewable capacity addition bringing in an era of new challenges like operations at low loads, frequent units start up and shut downs, assessment of life consumptions and timely measures for life enhancement etc.

No wonder, many countries in the already undergone similar phases and have developed strategies to address the emerging issues. India needs to understand their journey and strategies to be adopted and here the IPS 2018 will open the gateways to ongoing technology revolution in the arena of digitalisation



- which includes use of Artificial Intelligence (AI) in many areas, augmented reality, cloud services, quantum computing. Business environment is going to be transformed in a big way and power sector will not be an exception. Integration of various digital capabilities in different functions will help the sector in a big way. A swift and prudent adaptation to the changing technologies and business environment would be key to remain profitable and competitive both in short term and long term for New India.

ADVANTAGE @ IPS 2018

First unit of NTPC was synchronised on 13th February, 1982 at Singrauli. To commemorate the day, an International Operation & Maintenance (O&M) Conference is being conducted every year in NTPC. Its aim is to reinforce our commitment to make a difference on an organisational level and endeavour to capture contemporary challenges and future scenarios.

In the span of 36 years since the first unit synchronisation, NTPC has emerged as a reputed power utility not only in India but also on International power scenario. Accordingly, the Conference has become a prestigious event and has attracted participation from major power generators in India such as SEBs, DVC, Vedanta, Reliance Power, JSW Energy, Nabha Power, NLC Ltd. RRVUN Ltd. THDC. BBMB. Sasan Power Ltd. etc., and also from across the world such as USA, UK, Japan, Australia, South Africa, Germany, Russia etc. Equipment manufacturers and service providers such as Toshiba, SKF, Ljungstrom, Doosan Power, Megger, Steag, EPRI, Black & Veatch, KSN Ventures etc. participate in a big way



to demonstrate the advances in power generation technology and latest systems being used for O&M of Power plants. This O&M Conference of NTPC, 'Indian Power Stations 2018', shall be one step in the direction of meeting the challenges of strict environmental norms, cyclic operation of conventional generation, renewable integration in grid, low load operation, coal mining & extraction etc. The design of proceedings of the conference shall also target to have interaction on relevant experience with global fraternity and enrich knowledge base of every participant and thus benefitting the whole power sector.

In this year's conference, out of 103 papers, 18 international papers are expected with representations from USA, Australia, Japan, Germany, Italy, South Africa etc. Apart from foreign

NTPC's SUSTAINABILITY REPORT UNVEILED @IPS 2018

he global O&M event- IPS 2018 being organised by NTPC from 13-15 February 2018 reflects the global focus on safety and sustainability, observed R K Singh, MoS (I/C), Power, New and Renewable Energy, while releasing the e-compendium of proceedings of the conference at IPS 2018, along with release of compendium of best practices and the Sustainability Report of NTPC. Further, while presenting the Business Excellence Awards 2016-17 to various NTPC units, Singh added that NTPC is today respected for its corporate size, unequivocal focus on safety and strict adherence to global best practices. "Going forward- NTPC should ideally grow into a India focused global major in power generation business with a diversified energy mix," Singh emphasised.

companies, there will be around 36 papers from Indian participants such as Doosan Power, JSW Energy, Reliance Power, NLC Ltd, CEA, TERI, Vedanta etc. NTPC will be presenting about 49 papers. It is because of this format of the conference that a platform is available to all stake holders for knowledge sharing and fruitful discussions. As a consequence, all participants, big and small share their views on contemporary subjects for mutual benefit. It is expected that the technological challenges deliberated during the conference will throw light on the risk and opportunities in power generation. The conference will deliberate, share on various issues & challenges being faced and work out solutions and strategies for generating the power with minimum carbon foot print.

R K SINGH, MoS (I/C) - Power and New & Renewable Energy



A'New India' has just started to evolve. India has the potential to meet its power needs and even help its neighbours like SriLanka, Nepal, Myanmar and Maldives to name a few. Hence stakeholders in

power generation sector should reckon a bright future. NTPC is today respected for its corporate size, unequivocal focus on safety and strict adherence to global best practices. Going forward-NTPC should ideally grow into a India focused global major in power generation business with a diversified energy mix.

P K PUJARI Chairperson, CERC



TPC's IPS over the Yyears has evolved into a premium event and helped power plants, O&M professionals and other stakeholders to address host of issues to achieve higher plant efficiency. With

focus shifting to renewables the structure of power sector is all set to change. There will be new entrants in the markets and this makes the theme of IPS 2018 so apt to facilitate knowledge sharing on tech advancements to cut emission and yet continue the focus to produce affordable

AJAY BHALLA



NTPC deserves due praise for organising IPS 2018 at such a global scale. Today, challenges in the power sector continue to evolve. Having augmented demand-Power Sector

now has the challenge to maintain it at a level that power shortages remain a thing of past for the country. We hope IPS 2018 witness meaningful deliberations on significant IT enabled monitoring systems and diagnostic capabilities that enables power plants to perform efficiently and safely.

RKVERMA Chairperson, CEA



A new era beckons the power sector in India with emphasis shifting to flexibilisation and integration of renewables into the grid. This will lead to a new set of O&M challenges and based on the strengths of NTPC in

the O&M segment, it should take lead as a global power company and come out as a star in this new era. The hydro potential in India that lies largely untapped could be one such segment that NTPC can look at investing as a future avenue as it looks at a green future for the country.

GURDEEP SINGH CMD, NTPC



NTPC is likely to be among the top ten global power producing entities by the next fiscal from the present 12th position. As we grow, we believe future success will rest on

increased focus on safety and conformity to stringent environment norms. Reliable and affordable power in future will come in form of a hybrid flexible model with shift to higher share of renewables, while coal is likely to remain relevant for coming decades.

PRAKASH TIWARI Director (Operations), NTPC



TPC is fortunate to have at inaugural session - the dynamic Shri RK Singh, MoS (I/C) Power and New & Renewable Energy along with a galaxy of stalwarts, regulators and policy

makers to grace the IPS 2018. The power sector in India is undergoing a major transition and NTPC will continue to seek our patrons continued guidance to build IPS as a global knowledge building and sharing platform for the power sector

NTPC's Vision for Renewables

- Vision is to embrace green power through locally available resources at affordable price, promoting clean energy.
- Commissioned 870 MW of solar PV projects and 50 MW of wind power projects.
- Implementation Agency) to set up of 15000 MW of Grid-connected Solar PV Power Plants under
- National Solar Mission (NSM).
- Generated more than one Billion units of renewable energy in FY 2017-18.
- NTPC envisages a broad base generation mix by evaluating conventional and alternate sources of energy to ensure long run competitiveness and mitigate fuel risks.

NTPC's Safety highlight @ IPS 2018

- Safety is a part of our core values.
- We believe that all accidents are preventable.
- All our stations are OHSAS 18001 certified. We conduct regular safety audits for all sites.
- We have a Disaster Management Plan in place for all stations.
- We conduct regular safety training for NTPC employees & agency
- Bringing safety performance into vendors as well as employees performance evaluation.

NTPC's roadmap to greener power

- 10 million tree planted during last financial year (2016-17) under accelrated afforestation programme. Also 1 million trees planted in current fy (2017-18). With this, till date NTPC has planted more than 33 million trees.
- Transmission of online data (cems, egms & aagms) from all station to state and central regulator on real time basis.
- New environment policy of company released in 2017. ■ Water policy of company released in 2017; maiden power company
- having separate water policy in India.
- All NTPC stations moving ahead towards "Zero Liquid Discharge (ZLD)".
- Co-firing of biomass initiated.
- Exploring opportunities in Electric Vehicle charging infrastructure.
- Installing FGD units for environment protection.

IPS 2018 theme based technical sessions to keep global stakeholders engaged for 3 days

TPC's International Operation Maintenance (O&M) Conference with its themes for the Indian Power Stations event has managed to capture several of current challenges and futuristic opportunities. in the Indian and global power sector. IPS theme is also a commitment of NTPC to make a difference on an organisational level and endeavour to capture contemporary challenges and future scenarios.

The NTPC's global event over the past six editions has embraced path breaking themes. Over the years these themes have proved as success mantras for stakeholders as they have helped to create roadmap to positively impact the plant performance. Novel and innovative ideas emerging from

conference the discussions had been converted into action plans and their implementation has facilitated in improving reliability and efficiency plants across the sector. From the

further up. theme 'Building on Integration of Renewable Power in the Grid...Path Ahead in 2017' IPS 2018 with its theme Technological Challenges- Risks and

Opportunities in Power Generation-

NTPC –India's Powerful Maharatna

51,383 MW capacity under operation

21,000 MW under construction (incl. 1320 MW international projects)

22,000 + committed workforce

has once again raised stakeholders expectations from expert technical sessions which had been worked out to raise the bar even further up.

On day one, paper on the present scenario and future challenges of Indian power sector was presented by Member CEA. Later, a paper from

Over the years NTPC's IPS with novel

and innovative ideas have generated

several success mantras and has

thus enriched the plant performance.

IPS 2018 with its theme

Technological Challenges- Risks and

Opportunities in Power Generation-

is determined to raise the bar even

JCoal described the about plant safety management especially in the O&M area. They outlined about legal framework of power plant safety in Japan and the Standard procedures and

practices in Japan with focus on high-risk tasks and nearmiss incidents. EPRI outlined the recent development of materials for advanced ultra-supercritical (A-USC)

coal-fired power plants. Uniper described their efforts to improve availability, capacity, reliability. flexibility, efficiency and cost as is most appropriate to our own plants. Going further CMD, NTPC shall

inaugurate TECHNOLOGALAXY, an exhibition by power sector vendors on 14th February followed by technical sessions on Renewable Energy, Control & Instrumentation, Electrical Operation Systems, Commissioning, Steam Turbine and Auxiliaries, Energy Efficiency & Conservation, Hydro Generation, Fuel & ash management, Steam Generator & Auxiliarires, O&M Issues in Power Generation and Flexible operation. In addition to this there will be session for academicians for power generation. To bring the eventful deliberation to another successful close, technical session on 15th Feb will be on technological challenges in power stations, Chemistry & Environment Management and Management.