

30th & 31st Oct, 2019

AUSC 2019

National Conference on Advanced Ultra Super Critical Technology

Third Announcement & Call for Papers



Venue

**HOTEL ITC KAKATIYA, BEGUMPET,
HYDERABAD, TS, INDIA**

Website: <https://cmt3.research.microsoft.com/AUSC2019>

Organized by

BHEL, IGCAR & NTPC

Objective

The thermal power plants with steam temperatures above 700°C are referred as Advanced Ultra Supercritical (AUSC) plants. AUSC technology in India is being developed by the consortium of BHEL, IGCAR and NTPC with steam parameters of 310 ata MS pressure and 710/720°C MS/RH temperature under Government funded program. The purpose of adopting higher parameters is to get very high level of efficiency in the range of 46-50%, which results in drastic reduction of emissions.

Benefits of AUSC power plants include:

- Reduced fuel costs due to improved plant efficiency.
- Significant reduction in CO₂ emissions.

As against present installed capacity of 356,000 megawatt (MW), by year 2027, India proposes to have 640,000 megawatts (MW) of power generation capacity out of which, about 40% is proposed to be based on coal. This calls for introduction of advanced power generation technologies to be in sync with Global climate action plan. In fact, genesis of the AUSC program lies in NAPCC (National Action Plan on Climate Change).

The Conference aims to bring together the multi disciplinary community of engineers, scientists, academicians, industry experts, plant managers, opinion anchors, industry captains and regulatory personnel to discuss the recent trends and future directions in AUSC Technology. The event would cover:

- Design of AUSC boiler & turbine components
- Design optimization, Structural and CFD Analysis
- Design life calculations/ estimates
- Materials selection and data generation for AUSC materials
- AUSC materials development & their mechanical behavior
- Creep, fatigue and creep-fatigue interaction

- Damage mechanisms in AUSC materials
- Steam oxidation and corrosion
- Protective coatings
- Non-destructive evaluation
- Effect of flexible operation on AUSC plants
- Manufacturing technology for AUSC materials & components
- Issues in power generation at higher temperatures

Organizers

AUSC2019 is being jointly organized by AUSC consortium partners i.e., BHEL, India Gandhi Center for Atomic Research (IGCAR), Kalpakkam and NTPC Limited.

Bharat Heavy Electricals Limited (BHEL) is the largest Engineering and manufacturing public enterprise in India in the energy and infrastructure sector with the capability to manufacture the entire range of power plant equipment. BHEL caters to the core sectors like Power Generation, Transmission, Industry, Transportation, Renewable Energy, Oil & Gas, Water, Defence & Aerospace, and E-Mobility & Energy Storage solutions and has reference in 82 countries across the globe. Corporate R&D Division, main R&D centre was established in 1974 at Hyderabad with major four research areas viz., Mechanical, Electrical, Electronics and Metallurgy & Materials Engineering areas, including 10 COEs to cater to all the manufacturing and service divisions all over the nation and to compete in the dynamic market and global challenges. BHEL's primary role in this AUSC mission is designing and manufacturing the AUSC equipment for establishing the technology.

Indira Gandhi Centre for Atomic Research (IGCAR) is one of India's premier nuclear research centres, located at Kalpakkam, 80 km south of Chennai, India. It is the second largest R&D establishment of the Department of Atomic Energy (DAE), next to Bhabha Atomic Research Centre (BARC). It was established in 1971 as an exclusive centre dedicated to the pursuit of fast reactor science and technology, due to the vision of Dr Vikram Sarabhai. The centre is engaged in broad-based multidisciplinary programme of scientific research and advanced engineering directed towards the development of Fast Breeder Reactor technology,

in India. IGCAR's major role in development and characterization of AUSC materials like Ni base superalloys, viz., Alloy 617M, Alloy 625M, etc under the guidance of AUSC Mission Directorate.

NTPC Limited is an Indian Public Sector Undertaking, engaged in the business of generation of electricity and allied activities having the headquarters at New Delhi. It was founded by Government of India in 1975. It was conferred Maharatna status by the Union Government of India, one of the only eight companies to be awarded this status. From fossil fuels it has forayed into generating electricity via hydro, nuclear and renewable energy sources. This foray will play a major role in lowering its carbon footprint by reducing green house gas emissions. The total installed capacity of the company is 55,126 MW (including JVs) with 21 coal based, 7 gas based stations, 2 Hydro based station and 1 Wind based station. Although the company has 15.56% of the total national capacity, it contributes 22.74% of total power generation due to its focus on high efficiency. NTPC's primary role in the AUSC mission project is to enable the plant designs/ R&D, field testing and carry out project planning, systems engineering, project management, commissioning of the technology demonstration plant proposed to be commissioned at Sipat, Chhattisgarh, India.

Conference Structure:

Conference is structured with invited lectures apart from contributed papers as podium presentations.

Conference Policies on Presentation:

At least one author of the paper is expected to register and participate in person to present the paper. A maximum of two presentations will be permitted for a registered delegate.

Important Dates:

Last date for registration: 25.10.2019
Conference dates: 30th & 31st Oct, 2019.

Payment of registration fees can be made through online bank transfer. The details required to make the online payment is as below:

Registration Fee Payment Details

Account Name: **BHEL-AUSC 2019**

Bank: State Bank of India, BHEL R&D Complex, Hyderabad (Branch Code: 10622), India

Account Number: 38748202892

IFSC Code: SBIN0010622

Swift Code: SBININBB312

GST No: 36AAACB4146P1ZG

Registration payment can be made also via "Cheque or Demand Draft" drawn in favour of **BHEL-AUSC 2019**, Hyderabad. **Bank charges shall be borne by the participants.** "Before proceeding with the registration please complete the payment process either by On-line bank transfer / Cheque / Demand Draft"

Note: Any further enquiry regarding the confirmation of your payment or registration status may please be sent to ausc2019@bhel.in.

VENUE:

The Conference will be held at Hotel ITC Kakatiya, Begumpet, Hyderabad.

HYDERABAD: From the City of Symbolism of Peace & Harmony, Tech Savvy and a hub of Research and development centres, Hyderabad is working constantly to create technology of tomorrow. Hotel ITC Kakatiya is located in the Centre of the City, Hyderabad. The hotel is equipped with all the latest amenities/ facilities and well connected to road, rail and airport.

Hyderabad also offers a variety of tourist attractions ranging from heritage monuments, lakes, gardens, resorts, and museums to appetizing cuisine and a delightful shopping experience. To the traveller, Hyderabad offers a fascinating panorama of the past, with a richly mixed cultural and historical tradition



Connectivity: Hyderabad has good connectivity by air, road and train. Several International Carriers connect Hyderabad with rest of the world with multiple flights per day. Hyderabad has plentiful of Hotels of all budgets to suit individual and family. Hyderabad has pleasant weather in the month of October with a high of 31°C and low of 20°C. Hyderabad is famous especially for bangles and pearls

Registration: Registration is necessary to take part in AUSC2019 conference and for paper presentation. Registration fee details are given below.

Conference fee:

Indian Delegate:	Rs. 5,900/ (incl 18% GST)
Academics/ Students & Research Scholars:	Rs. 2,950/ (incl 18% GST)
Foreign Delegate:	US Dollar 118 (incl 18% IGST)

Note: Bank charges shall be borne by the participants

ORGANIZING COMMITTEE

1. **Dr Kulvir Singh, General Manager, Corp R&D, BHEL, Hyd**
2. **Shri Anil Kumar, General Manager, AUSC, BHEL, NOIDA**
3. **Shri Sanjay Pande, General Manager (NI- AUSC), NTPC**
4. **Shri Utpal Borah, Head, MFTS, IGCAR**
5. **Shri Ritwik Banerjee, DGM, Corp Office, BHEL**
6. **Shri Shirish Panda, Sc 'D', Office of PSA**
7. **Prof M Kamaraj, IIT Madras**
8. **Prof N Narasaiah, NIT Warangal**

CONTACT DETAILS FOR CORRESPONDENCE

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