

INDIA

# NUCLEAR BUSINESS P L A T F O R M

Nuclear Power Landscape: Renaissance Expectations and Opportunities in India

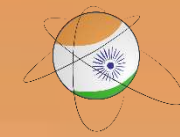
9 - 10 October 2018  
The Courtyard by Marriott Mumbai, INDIA

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INDIA  
NUCLEAR BUSINESS  
P L A T F O R M

India Nuclear Business Platform (INBP) is part of Industry Platform's series of nuclear industry meetings. Asia Nuclear Business Platform (ANBP) is now in its sixth year and has attracted over 1000 global nuclear stakeholders.

The main objective of INBP is to improve the nuclear power business capability in India so that the nuclear industry can benefit to support the elaborate Indian Nuclear Power Program.

Participants to INBP will be able to obtain first-hand updates on nuclear developments in the region.

INBP is developed by the industry for the industry and is helmed by an **international Advisory Board** comprising of over 20 senior nuclear experts. The Board is responsible in developing the agenda and objectives of the meeting.

What makes this industry gathering truly remarkable is the **diversity of the participants** with key people from across the global nuclear supply chain which will provide an excellent opportunity for networking. The likes of reactor vendors, financial institutions, and international energy agencies will be present and they will be complimented by senior decision-makers from India.

We look forward to welcoming the nuclear industry to Mumbai this October!

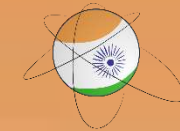
Regards from the Nuclear Business Platform team,

Zaf Coelho

Project Director

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# Nuclear Power Plants & Sites in India



INDIA  
**NUCLEAR BUSINESS  
 PLATFORM**

**रावतभाटा (राजस्थान)**  
 Rajasthan Atomic Power Station (RAPS), Rawatbhata Rajasthan  
 ● 1 x 100 MW  
 ● 1 x 200 MW  
 ● 4 x 220 MW  
 ▲ 2 x 700 MW

**माही-बांसवारा (राजस्थान)**  
 Mahi Banswara, Rajasthan  
 ● 4 x 700 MW

**काकरापार (गुजरात)**  
 Kakrapar Atomic Power Station (KAPS), Gujarat  
 ● 2 x 220 MW  
 ▲ 2 x 700 MW

**मिथि विर्डी (गुजरात)**  
 Mithi Virdi, Gujarat  
 ■ 6 x 1000 Plus\* MW

**तारापुर (महाराष्ट्र)**  
 Tarapur Atomic Power Station (TAPS), Maharashtra  
 ● 2 x 160 MW  
 ● 2 x 540 MW

**जैतापुर (महाराष्ट्र)**  
 Jaitapur Nuclear Power Project (JNPP), Maharashtra  
 ■ 6 x 1650 MW

**कैना (कर्नाटक)**  
 Kaiga Generating Station (KGS), Karnataka  
 ● 4 x 220 MW  
 ● 2 x 700 MW

**कुडनकुलम (तमिलनाडु)**  
 Kudankulam Nuclear Power Project (KKNPP), Tamil Nadu  
 ● 2 x 1000 MW  
 ▲ 2 x 1000 MW  
 ● 2 x 1000 MW

**गोरखपुर (हरियाणा)**  
 Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP), Haryana  
 ▲ 2 x 700 MW ● 2 x 700 MW

**नरोरा (उत्तर प्रदेश)**  
 Narora Atomic Power Station (NAPS), Uttar Pradesh  
 ● 2 x 220 MW

**चुटका (मध्यप्रदेश)**  
 Chutka, MP Atomic Power Project (CMAPP)  
 ● 2 x 700 MW

**हरिपुर (पश्चिम बंगाल)**  
 Haripur, West Bengal  
 ■ 6 x 1000 MW

**भीमपुर (मध्यप्रदेश)**  
 Bhimpur, Madhya Pradesh  
 ■ 4 x 700 MW

**कोवाडा (आंध्रप्रदेश)**  
 Kowada, Andhra Pradesh  
 ■ 6 x 1208 MW

**कल्पक्कम (तमिलनाडु)**  
 Madras Atomic Power Station (MAPS), Kalpakkam, Tamil Nadu  
 ● 2 x 220 MW

Capacity In Operation (6780MW)  
 Capacity Under Construction (6200MW)  
 \*Out of these units, RAPS-1 (100 MW) is owned by the DAE and managed by NPCIL

○ Plants Under Operation  
 ▲ Plants Under Construction  
 ● Approved New Projects  
 ■ Approved Future Sites

India's energy sector is one of the most diverse in the world. Electricity generation sources range from conventional sources such as coal, lignite, natural gas, oil, hydroelectricity and nuclear energy to viable unconventional sources such as wind, solar and agricultural energy. Domestic electricity demand in the country has increased rapidly and is expected to increase further in the coming years.

India operates **22 operational nuclear reactors**, totaling 6.78 GW of installed capacity, spread over 8 nuclear power generation sites, and has 6 nuclear reactors under construction totaling 6.2 GW.

The Indian government unveiled in mid-May 2017 a **construction project for ten Indian-designed heavy water reactors**, with a total power of 7 GW. The construction of nuclear reactors with Indian technology is one of the cornerstones of the flagship program "**Make in India**" launched in 2014 by Prime Minister Narendra Modi, already deployed in wind and solar energy.

Currently, nuclear power currently represents only a small fraction of India's energy mix, providing only 2% of the country's electricity with an installed capacity of 6.78 GW in October 2017. India is showing ambition to reach 63 GW of nuclear origin by 2032, the equivalent of the current French nuclear power plant. India should thus constitute the 2<sup>nd</sup> largest world market for new reactors in the period 2018-2032, behind China.

India is currently planning to build 20 reactors at nine sites. The next project to start construction will be the Kudankulam 3 and 4 plants in Tamil Nadu, comprising Russian-supplied VVERs, began construction in 2017 with operation to begin in 2022 to 2023. In total, India is planning to build 18,300 MWe of nuclear power.

# // ADVISORY BOARD

The 2018 Advisory Board consists of nuclear stakeholders from across the value chain. The esteemed Advisory Board lends credibility and ensures top-level backing from the industry. The Board is responsible for advising on the content, themes, objectives and speakers for the conference to ensure what is presented is highly relevant and cutting-edge.



**Dr. Suresh Gangotra**  
Head of Safety and Security and Studies Division, Nuclear Controls and Planning Wing  
Department of Atomic Energy  
India



**Dr. A.U.Sonawane**  
Head, Directorate of Regulatory and International Collaboration Affairs  
Atomic Energy Regulatory Board  
India



**Dr. Jitendra Kumar**  
International Nuclear Liability Expert  
IAEA  
India



**Anil Parab**  
Executive Vice President & Head – Process Plant & Nuclear Business  
L&T Heavy Engineering  
India



**Ashok Chauhan**  
Director, Technical (former)  
Nuclear Power Corporation of India Limited  
India



**Kishore Jayaraman**  
President, India & South Asia  
Rolls Royce  
India



**Parag Tokekar**  
Head of Sales- Nuclear, Thermal & Process Plants Business  
Hindustan Construction Company  
India



**Anil Bhargava**  
Group Director – Corporate Affairs  
Avantha Group  
India



**Kaustubh Shukla**  
Chief Operating Officer, Industrial Products Group  
Godrej & Boyce  
India



**Upendra Joshi**  
Partner  
Legasis Partners  
India



**Frédéric Lelièvre**  
Senior Executive Vice President, Sales, Regions and I&C  
Framatome  
France



**Dr. Vijay Sazawal**  
Principal  
International Atomic Energy Consulting  
USA



**Mohit Saraf**  
Senior Partner  
Luthra & Luthra  
India



**Shah Nawaz Ahmad**  
Senior Advisor, India  
World Nuclear Association  
India



**Paul Murphy**  
Managing Director  
Gowling WLG  
USA



**Elina Teplinsky**  
Partner  
Pillsbury Winthrop Shaw Pittman  
USA



**Andrey Shevlyakov**  
CEO, South Asia  
Rosatom  
Russia



**Tom Weir**  
Vice President, New Plants Project Development  
Westinghouse  
USA



**Session 1: Keynote** **Tuesday 9 October 2018**

0845	<b>Chairperson's opening remarks</b>
0900	<b>The Growth of Nuclear Power in India – Vision 2050</b> Dr. M R Srinivasan, Member & former Chairman, <b>India Atomic Energy Commission</b>
0915	<b>Status from NPCIL of their new build program with each vendor/country - Challenges and lessons learned</b> Shri S. K. Sharma, Chairman & Managing Director, <b>Nuclear Power Corporation of India Limited</b> <i>(invited)</i>
0930	<b>Indian Nuclear Leaders Panel: Opportunities, challenges and solutions for achieving target of installing 63GW of nuclear energy capacity as part of the accelerated Indian nuclear program</b> <i>India aims to increase nuclear generation to 25 percent of its energy mix by 2050. India's current nuclear power market is estimated at \$150 billion and will grow further if its expansion plans are realized. The country is currently planning to build 20 reactors at nine sites. This panel will feature key stakeholders from the Indian nuclear industry and discuss the key opportunities, challenges and potential solutions to achieve the country's ambitious nuclear power plans.</i> <b>Invited Panelist:</b> <ul style="list-style-type: none"><li>▪ Shri S. A. Bhardwaj, Chairman, <b>Atomic Energy Regulatory Board</b></li><li>▪ Shri S. K. Sharma, Chairman &amp; Managing Director, <b>Nuclear Power Corporation of India Limited</b></li><li>▪ Dr. R B Grover, Member, <b>India Atomic Energy Commission</b></li><li>▪ Shailendra Roy, CEO &amp; Managing Director, <b>L&amp;T Power</b></li></ul>
1015	Morning Coffee Break

**Session 2: Economics of Nuclear Power and Financing of New Build** **Tuesday 9 October 2018**

1110	<b>Chairperson's opening remarks</b>
1115	<b>How can new nuclear projects be financed in India</b> Nitin Chaudhary, General Manager (Finance), <b>Nuclear Power Corporation of India Limited</b> <i>(invited)</i>
1135	<b>Overview and Insights on the India energy tariff model: Can nuclear retain its competitiveness in India and can foreign reactors compete in the price competitive Indian energy marketplace?</b>
1155	<b>Model Contract Terms for new NPP build- Easing out the cash flows to ensure dispute free contracts</b> Elina Teplinsky, Partner, <b>Pillsbury Winthrop Shaw Pittman</b>
1215	<b>Panel - Considerations on the Export Credit Financing for NPPs</b> <b>Invited Panelist:</b> <ul style="list-style-type: none"><li>▪ Edward McGinnis, Principal Deputy Assistant Secretary for Nuclear Energy, <b>U.S. Department of Energy</b></li><li>▪ Kazuhisa Yumikura, Global Head of Infrastructure and Environment Finance Group, <b>Japan Bank for International Cooperation</b></li><li>▪ Nitin Chaudhary, General Manager (Finance), <b>Nuclear Power Corporation of India Limited</b></li></ul>
1300	Lunch Break



Session 3: Manufacturing and Supply Chain: 'Make in India' Policy I

Tuesday 9 October 2018

1355	<b>Chairperson's opening remarks:</b> Parag Tokekar, Head of Sales- Nuclear, Thermal & Process Plants Business, <b>Hindustan Construction Company</b> ( <i>invited</i> )
1400	<b>Vendor Perspectives: Assessment, Gaps and Way forward for Indian Industry to participate in LWR localization</b>
1420	<b>Identifying segments of the nuclear to be localized right from start and what to include in a progressive plan</b>
1440	<b>Best practices to selecting, supporting credible local companies to increase their level of readiness and for the local companies to design and manufacture according to RCC</b>
1500	<b>Panel - Size and pace of localization program: Success factors in order to contribute to timely project delivery</b> <i>Prime Minister Narendra Modi "Make in India" program has a global objective of stimulating industrial cooperation between international and Indian manufacturers. The nuclear industry is one of key strategic areas of the Make in India Framework. For a fleet of nuclear reactors using foreign technologies to be implemented in India, the potential for localizing the manufacturing components and equipment is substantial. However, the size and pace of the localization program shall be based on the capacity and capability of the local supply chain. What factors will contribute to its success?</i> <b>Invited Panelist:</b> <ul style="list-style-type: none"><li>▪ Kaustubh Shukla, Chief Operating Officer, Industrial Products Group, <b>Godrej &amp; Boyce</b></li><li>▪ Dr. Vijay Sazawal, Principal, <b>International Atomic Energy Consulting</b></li></ul>
1545	Afternoon Coffee Break

Session 4: Manufacturing and Supply Chain: 'Make in India' Policy II

Tuesday 9 October 2018

1625	<b>Chairperson's opening remarks:</b> Lokesh Kumar, ED (Procurement), <b>Nuclear Power Corporation of India Limited</b> ( <i>invited</i> )
1630	<b>Assessment of the current nuclear supply chain sector in India and potential growth opportunities</b> Anil Parab, Executive Vice President & Head – Process Plant & Nuclear Business, <b>L&amp;T Heavy Engineering</b> ( <i>invited</i> )
1650	<b>Design and technology localization in India: Meeting India requirements from reference plant/country of origin design</b>
1710	<b>Technology transfer and protection of IP rights in India</b>
1730	<b>Formation of JVs to pursue opportunities in the nuclear supply chain</b>
1750	Networking Reception
1850	End of Day 1

0855 **Chairperson's opening remarks:** Dr. Jitendra Kumar, International Nuclear Liability Expert, **International Atomic Energy Agency**

0900 **Are concerns regarding the CLNDA all addressed for domestic manufacturers?**  
Jayant N Khobragade, Director (er), **Department of Atomic Energy** (*invited*)

0920 **Nuclear Liability Insurance: Supplier's Perspective**  
T.T.Mani, Managing Director & CEO, **Avasarala Technologies Limited** (*invited*)

0940 **Navigating supplier's liability through insurance**  
*Key risk for nuclear suppliers under the current liability regime. How does the proposed insurance package mitigate risk profile?*  
Mohit Saraf, Senior Partner, **Luthra & Luthra**

1000 **Panel - India's nuclear insurance pool: Providing comfort to suppliers, how it will work, what are the remaining concerns?**  
*India's nuclear insurance pool which was put in place by the Department of Atomic Energy in June 2015 and set up by GIC and 10 other public and private insurance companies- provides insurance coverage to operators and suppliers for any nuclear liability towards the third party under the Civil Liability of Nuclear Damage Act (CLNDA), 2010.*

**Discussion points include:**

- Explanation of India's nuclear insurance pool
- Assessment of concerns arising out of CLNDA for Foreign Reactors
- What would be the way forward to allay concerns arising out of CLNDA?

**Invited Moderator:** Dr. G. Balachandran, Consulting Fellow, **Institute for Defence Studies and Analyses**

**Invited Panelist:**

- G.Srinivasan, Chairman & Managing Director, **The New India Assurance Co., Ltd.**
- Upendra Joshi, Partner, **Legasis Partners**

1045 Morning Coffee Break

1125 **Chairperson's opening remarks:** Philippe Montarnal, Nuclear Counsellor, **French Embassy in India** (*invited*)

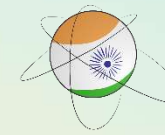
1130 **Update and lessons learnt from AP1000 construction in US and China**  
Tom Weir, Vice President, New Plants Project Development, **Westinghouse** (*invited*)

1150 **Progress of Rosatom's existing international projects and initiatives on the new projects**  
Andrey Shevlyakov, CEO, South Asia, **Rosatom** (*invited*)

1210 **Update and lessons learnt from global construction of EPR technology**

1230 **Augmenting UK's Robust Nuclear Power Training Program with Innovative Classroom Simulators**  
Michael Chatlani, Vice President of Marketing & Sales, **L3 MAPPS**

1245 Lunch Break



Session 7: Operations & Maintenance

Wednesday 10 October 2018

1325 **Chairperson's opening remarks:** U.C. Muktibodh, Director (Technical), **Nuclear Power Corporation of India Limited** *(invited)*

1330 **Plant life extension via technical improvements, safety upgrades and key modifications**

1350 **Developing a comprehensive PSA strategy for new-build: Lessons learnt**

1410 **Cybersecurity issues for nuclear power projects: A probabilistic approach**

1430 Afternoon Coffee Break

Session 8: Nuclear Industry: International Cooperation

Wednesday 10 October 2018

1525 **Chairperson's opening remarks**

1530 **Enhancing bilateral cooperation and strategic partnership in the peaceful uses of nuclear energy**  
Shinjiro Takeda, Director, Office for International Nuclear Energy Cooperation, **Ministry of Economy, Trade and Industry** *(invited)*

1550 **Success stories of how a positive public opinion was built in support of nuclear energy**  
Ravi Shankar, Head, Public Awareness Division, **Department of Atomic Energy** *(invited)*

1610 **Importing uranium to meet fast-growing fuel requirements of Indian nuclear reactors**

1630 End of Conference





## 6 editions held in Asia



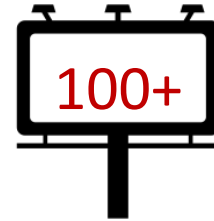
1200+

participants



1000+

Companies



Sponsors &  
Exhibitors



60% Buyer attendees

50% Director, VP, HOD



Over 1 Million USD

Media Value





*Conduct one-on-one meetings with selected attendees to explore partnerships and create opportunities*



*Speak or invite your clients to share existing case studies on the main stage*



*Share your insights with media and get exclusive interview coverage*



*Network, exchange views and forge new collaborations with decision makers from buyer countries*

# WHAT DO **YOU** HOPE TO ACHIEVE?



*Showcase your latest products and solutions to targeted audience in the closed door exhibition*



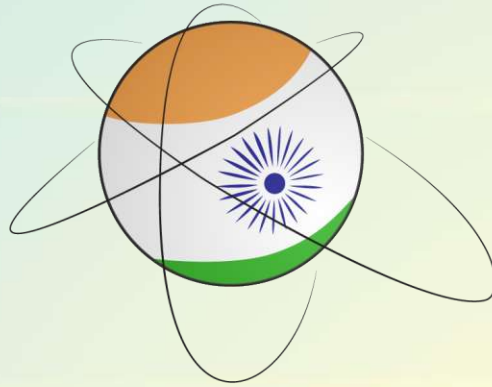
*Demonstrate your technology or track record to attendees during coffee breaks*



*Moderate or participate in panel discussions with other thought leaders*



*Host a private workshop or networking session for your prospects or clients*



# INDIA NUCLEAR BUSINESS P L A T F O R M

**Nuclear Power Landscape: Renaissance Expectations and Opportunities in India**

SEE YOU AT INDIA NUCLEAR BUSINESS PLATFORM 2018!

For participation opportunities, contact:

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