



Project: International Thermonuclear Experimental Reactor (ITER)

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India's participation in ITER – Technology challenges and Industry response



Abstract:

- Indian commitment to ITER is in the form of in-kind 9 deliverable packages consisting of cryostat, in-vessel neutron shielding blocks, the cryo-distribution and cryo-lines, cooling water systems, diagnostic neutral beam, ICRH and ECRH RF systems, diagnostics and power supplies. Considering that ITER is a machine operated in nuclear environment, several aspects of materials, manufacturing and quality needs as per French nuclear standards need to be considered during the manufacturing of these components. Extensive interactions of ITER-India with Indian industries has resulted in developing several prototypes successfully as per standards and most of the components are now under manufacture. Role of Indian industry as equal partners in the development of the desired technologies in a short time has been a highlight of the learning process. This experience will go a long way in developing fusion technologies from the Indian perspective in future. A brief overview of the packages, their technological requirements and experiences with the Indian industry will form the highlights of the presentation.

About the Speaker:

- Mr. Baruah is Project Director of the Indian Domestic Agency (ITER-India, Institute for Plasma Research, Gandhinagar) for Indian contributions to ITER. Institute for Plasma Research, Gandhinagar. He holds a Masters in Electrical Engineering from IIT, Madras. His research interests are in high power Neutral Beam Systems, Power Converters and High and extra-High Voltage Systems used in Fusion Research. Indigenous development of complex engineering systems and transfer of technology to local industry is his mainstay.

