

**Convention on Nuclear Safety –
Highlights from 5th Review Meeting of Contracting Parties**

India presented the safety status of its nuclear power plants, and its regulatory and safety review system to an international gathering of experts in the 5th Review Meeting of the Convention on Nuclear Safety (CNS), held at the Headquarters of the International Atomic Energy Agency in Vienna from 4-14 April 2011. India is a Contracting Party to the Convention, which has 72 member countries. The Convention requires the member countries to present the safety status of their nuclear power programme every three years. A thirteen member high-level Indian delegation led by Shri S.S. Bajaj, Chairman, Atomic Energy Regulatory Board (AERB), participated in the CNS Review Meeting. The delegation included scientists from Atomic Energy Regulatory Board, Nuclear Power Corporation of India Ltd., Bhabha Atomic Research Centre, Indira Gandhi Centre for Atomic Research, and Permanent Mission of India in Vienna. 60 Countries participated in the review meeting. India's report and its presentation elicited considerable interest, with discussion on areas like India's regulatory frame work, human factors & safety culture and processes for new reactor licensing & siting and others. Some of the highlights of the presentations and subsequent discussions were as follows.

The safety status of the existing nuclear power plants, safety improvements carried out in older NPPs and safety aspects of the reactors under construction and commissioning including the Prototype Fast Breeder Reactor were highlighted. The safety improvements carried out in the Indian NPPs as a result of Periodic Safety Reviews, Life Extension considerations and from operating experience feed back such as that following a tsunami in 2004 were acknowledged by the contracting parties.

India also presented the safety research programmes including experimental programmes undertaken at Bhabha Atomic Research Centre and Indira Gandhi Centre for Atomic Research. The large scale test facilities used for safety research related to the future reactors like Prototype Fast Breeder Reactor and Advanced Heavy Water Reactor were highlighted. The convention also recognised India's work on development of severe accident management guidelines and provisions and human resource development programme.

Also highlighted was the fact that all NPPs in India have undergone external peer reviews by World Association of Nuclear Operators (WANO), there is a strong programme of operating experience feedback both at utility as well as by AERB.

The contracting parties also noted that AERB has updated its regulatory requirements in the areas of NPP design, quality assurance, NPP operations and digital instrumentation and control. These updates reflect current national and international standards and practices as well as experience feedback.

Some of the unique design safety features adopted in the newly designed Indian PHWRs of 700 MWe capacity, which are at start of construction stage at Kakrapar 3&4 and Rajasthan 7&8, were particularly appreciated.

The CNS was informed that India is developing a seismic qualification program by experience data base which is nearing completion. Contracting parties appreciated the work as a pioneering effort by India.

India also informed about the initiatives taken to ensure safety in the Indian NPPs in the wake of Fukushima accident which includes the formation of a high level committee by AERB to re-examine the capability of Indian NPPs to withstand external events and adequacy of provisions available to ensure safety in such events. Also the actions taken by NPCIL were briefed.

The 5th review meeting was the first major international nuclear safety meeting following the events at Fukushima Daiichi NPP caused by earth quake and tsunami on March 11, 2011 and accordingly the discussions were influenced by this event.

While expressing their sympathies for the tragedy suffered by Japan, countries discussed their initial technical response and plans to review and strengthen the safety of their own nuclear power plants, as found necessary, in the light of this accident. It was also decided to hold a focussed additional review meeting in 2012 to analyse the relevant issues from Fukushima Daiichi accident.