Multinational Design Evaluation Programme (MDEP)

The MDEP is a unique international initiative undertaken by the nuclear regulators of Canada, China, Finland, France, Japan, the Republic of Korea, the Russian Federation, South Africa, the United Kingdom and the United States with the purposes of co-operating on safety design reviews of new reactors and identifying opportunities for possible harmonisation and convergence on safety licensing review practices and requirements. The International Atomic Energy Agency (IAEA) participates in many of the MDEP activities, including the harmonisation efforts.

2009 highlights

At its March 2009 annual meeting, the MDEP Policy Group, which is comprised of the heads of the ten participating national regulatory bodies, approved the conversion of the MDEP into a long-term programme that should focus on specific interim results. The Policy Group also directed the MDEP to communicate the results and achievements of MDEP activities more widely, notably to stakeholders in the industry and to non-MDEP regulators. In its role as Technical Secretariat, the NEA in co-operation with the MDEP country representatives organised and helped successfully conduct at the OECD Conference Centre, on 10-11 September 2009, the first MDEP Conference on New Reactor Design Activities to support efforts to communicate MDEP activities to important stakeholders including reactor vendors, suppliers, operators, standards development organisations, other industry entities and non-MDEP regulators. Over 170 people attended from 23 countries and 11 international organisations.

In organisational terms, in addition to the Policy Group which provides overall objectives and guidance for the Programme, the MDEP Steering Technical Committee implements MDEP activities and directs the various working groups, such as the two design-specific and three issue-specific working groups.

The design-specific working groups include the EPR Working Group and the AP1000 Working Group, which co-operate on the safety reviews of AREVA's European pressurised reactor (EPR) and Westinghouse's AP1000 designs. The EPR Working Group includes regulators from China, Canada, Finland, France, the United Kingdom and the United States. The AP1000 Working Group involves the regulators facing reviews of that design such as Canada, China, the United Kingdom and the United States.

The issue-specific working groups have been tasked with studying the similarities and differences in regulatory requirements and practices. For instance, in the Codes and Standards Working Group, the MDEP regulators are working with the various mechanical codes standards development organisations to study why and how the codes differ among the MDEP participating countries. Similar efforts are being undertaken by the Digital Instrumentation and Control Working Group, but in the field of digital control and safety systems. The Vendor Inspection Co-operation Working Group is coordinating inspections of reactor parts manufacturers among interested MDEP countries.

Overall, the MDEP continued to make progress in 2009 on sharing design review information to ensure the safety of new reactors. MDEP efforts are proving to be key to understanding the differences and similarities among regulatory review and licensing requirements and practices, and are helping to identify opportunities for harmonisation and convergence of licensing approaches.

The MDEP Conference on New Reactor Design Activities, September 2009.