

Learning from others

Using Operational Experience to Improve the Safety of Nuclear Power Plants

Examples of generic topics covered

- External hazards
- Containment systems
- Maintenance
- Safety related valves
- Fuel failures
- Ageing
- Construction and commissioning;
- Supply chain
- Control rods
- Shutdown operations
- Plant modifications
- Cracks and leaks in the Reactor

Cooling System

- ...



Energy is high on the political agenda. Rising oil prices, diminishing supplies of fossil fuels and concerns about global climate change, air quality and security of supply have raised awareness of the global energy situation. Some of these factors are bringing renewed interest on nuclear power in some countries. More than 400 nuclear reactors produce electricity worldwide. In the European Union, nuclear power accounts for almost 30% of total electricity production. In operating these nuclear reactors, reliability is key. The collective knowledge of more than 19 000 cumulated reactor-years of practical experience worldwide forms a valuable source of information. Implementing it allows operators to continually improve both their knowledge and the safety of nuclear installations. The European Union has set up a regional network to improve the collecting and implementing of operational experience (OE). This initiative, called 'the EU Clearinghouse', is organised as a network, operated by a centralised office located at the Joint Research Centre (JRC) of the European Commission. The EU Clearinghouse project is a joint effort of the EU countries with operating nuclear power plants (NPPs) (Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Hungary, Lithuania, Romania, the Netherlands, Slovakia, Slovenia, Spain, Sweden, Switzerland and Ukraine).

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Main activities of the EU Clearinghouse

- Trend analysis of OE databases in order to identify priority areas.
- Topical studies providing in-depth assessment of pre-selected subjects (event families).
- Contributing to quality improvement of the event reports submitted by the countries participating in the International Reporting System jointly operated by the Organisation for Economic Co-operation and Development Nuclear Energy Agency (OECD-NEA) and the International Atomic Energy Agency (IAEA).
- Producing a Quarterly Operational Experience report, disseminating timely information on worldwide recent significant events in NPPs.
- Providing specialized training in areas related to operating experience, like Root Cause Analysis
- Maintenance of a collaborative platform to enhance the communication and sharing of experience between Clearinghouse members.
- EU Clearinghouse is participating in several international cooperation projects on OE, mainly through the IAEA and the OECD-NEA working groups.

European Network on Operational Experience Feedback ('EU Clearinghouse')

The objectives of the EU Clearinghouse are to allow effective and efficient implementation of operational experience (OE) feedback for further improvement of safety of NPPs **through:**

- strengthening cooperation between EU safety authorities, technical support organisations (TSOs) and the international OE community to collect, evaluate and share NPP operational events data and apply lessons learnt in a consistent manner throughout European countries participating in the project;
- establishment of European best practice for assessment of operational events in NPPs;
- strengthening EU resources in OE;
- support to the long-term EU research and policy needs on NPP OE feedback.

Organisation of the EU Clearinghouse

The EU Clearinghouse is organised as a regional network, gathering together safety authorities and TSOs from the EU region, and operated by a centralised office located at the Joint Research Centre in Petten, the Netherlands. The work programme is prepared by the centralised office in coordination with the members, is approved by the participating safety authorities and is executed by the centralised office with the support of the safety authorities and TSOs when necessary.

