NEA joint projects

NEA joint projects and information exchange programmes enable interested countries, on a cost-sharing basis, to pursue research or the sharing of data with respect to particular areas or problems. The projects are carried out under the auspices, and with the support, of the NEA. Such projects, primarily in the areas of nuclear safety and waste management, are one of the NEA's major strengths. All NEA joint projects currently under way are listed below.

Project	Participating countries	Budget	Objectives
Information System on Occupational Exposure (ISOE Programme) Contact: lazo@nea.fr Current mandate: 1992-Ongoing	Armenia, Belgium, Brazil, Bulgaria, Canada, China, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Lithuania, Mexico, Netherlands, Pakistan, Republic of Korea, Romania, Russia, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, Ukraine, United Kingdom, United States	n/a	• Provide broad and regularly updated information on methods to improve the protection of workers and on occupational exposure in nuclear power plants. • Provide a mechanism for dissemination of information on these issues, including evaluation and analysis of the data assembled, as a contribution to the optimisation of radiation protection.
International Co-operative Programme on Decommissioning (CPD) Contact: claudio.pescatore@oecd.org Current mandate: 1985-Ongoing	Belgium, Canada, Chinese Taipei, France, Germany, Italy, Japan, Korea, Slovak Republic, Spain, Sweden, United Kingdom	≈US$140 000 /year	• Exchange scientific and technical information amongst decommissioning projects on nuclear facilities.
Melt Coolability and Concrete Interaction (MCCI) Project Contact: carlo.vitanza@oecd.org Current mandate: January 2002-December 2005	Belgium, Czech Republic, Finland, France, Germany, Hungary, Japan, Norway, Republic of Korea, Spain, Sweden, Switzerland, United States	≈US$ 4.8 million	• Provide experimental data on melt coolability and concrete interaction (MCCI) severe accident phenomena. • Resolve two important accident management issues: – the verification that molten debris that has spread on the base of the containment can be stabilised and cooled by water flooding from the top; – the two-dimensional, long-term interaction of the molten mass with the concrete structure of the containment, as the kinetics of such interaction is essential for assessing the consequences of a severe accident.
OECD FIRE Project Contact: eric.mathet@oecd.org Current mandate: January 2003-January 2006	Czech Republic, Finland, France, Germany, Japan, Spain, Sweden, Switzerland, United States	≈€100 000 /year	• Define format and collect fire event experience (by international exchange) in a quality-assured and consistent database. • Collect and analyse fire events data over the long-term aiming to better understand such events, their causes and their prevention. • Generate qualitative insights into the root causes of fire events which can then be used to derive approaches or mechanisms for their prevention or for mitigating their consequences. • Establish a mechanism for the efficient feedback of experience gained in connection with fire including the development of defences against their occurrence, such as indicators for risk-based inspections. • Record event attributes to enable quantification of fire frequencies and risk analysis.
OECD Halden Reactor Project Contacts: pekka.pyy@oecd.org carlo.vitanza@oecd.org Halden contact: Fridtjov.owre@hrp.no Current mandate: January 2003-December 2005	Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Japan, Norway, Republic of Korea, Russia, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom, United States	≈US$ 45 million	Generate key information for safety and licensing assessments and aim at providing: • extended fuel utilisation: basic data on how the fuel performs, both at normal operation and transient conditions, with emphasis on extended fuel utilisation in commercial reactors; • degradation of core materials: knowledge of plant materials behaviour under the combined deteriorating effects of water chemistry and nuclear environment, also relevant for plant life-time assessments; • man-machine systems: advances in computerised surveillance systems, human factors and man-machine interaction in support of upgraded control rooms. These activities are collectively known as "The Joint Programme".
OECD ICDE Project Contact: pekka.pyy@oecd.org Current mandate: April 2002-March 2005	Canada, Finland, France, Germany, Japan, Korea, Spain, Sweden, Switzerland, United Kingdom, United States	≈US$150 000 /year	• Provide a framework for multinational co-operation. • Collect and analyse common-cause failure (CCF) events over the long term so as to better understand such events, their causes and their prevention. • Generate qualitative insights into the root causes of CCF events which can then be used to derive approaches or mechanisms for their prevention or for mitigating their consequences. • Establish a mechanism for the efficient feedback of experience gained in connection with CCF phenomena, including the development of defences against their occurrence, such as indicators for risk-based inspections. • Record event attributes to facilitate the quantification of CCF frequency.

Project	Participating countries	Budget	Objectives
OECD-IRSN Cabri Water Loop Project Contact: carlo.vitanza@oecd.org Current mandate: 2000-2008	Czech Republic, Finland, France, Germany, Hungary, Republic of Korea, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom, United States	≈US$ 77.5 million	• Extend the database for high burn-up fuel performance in reactivity-induced accident (RIA) conditions. • Perform relevant tests under coolant conditions representative of pressurised water reactors (PWRs).
OECD Masca-2 Project Contacts: eric.mathet@oecd.org Current mandate: June 2003-June 2006	Belgium, Canada, Czech Republic, Finland, France, Germany, Hungary, Japan, Republic of Korea, Russia, Slovak Republic, Spain, Sweden, Switzerland, United States	≈US$ 3 million	• Provide experimental information on the phase equilibrium for different corium mixture compositions that can occur in water reactors. • Generate data on relevant physical properties of mixtures and alloys that are important for the development of qualified mechanistic models.
OECD OPDE Project Contact: eric.mathet@oecd.org Current mandate: June 2002-June 2005	Belgium, Canada, Czech Republic, Finland, France, Germany, Japan, Republic of Korea, Spain, Sweden, Switzerland, United States	≈US$ 100 000 /year	• Collect and analyse piping failure event data to promote a better understanding of underlying causes, impact on operations and safety, and prevention. • Generate qualitative insights into the root causes of piping failure events. • Establish a mechanism for efficient feedback of experience gained in connection with piping failure phenomena, including the development of defence against their occurrence. • Collect information on piping reliability attributes and influence factors to facilitate estimation of piping failure frequencies.
OECD PKL Project Contact: carlo.vitanza@oecd.org Current mandate: January 2004-December 2006	Belgium, Czech Republic, Finland, France, Germany, Hungary, Japan, Republic of Korea, Spain, Sweden, Switzerland, United Kingdom, United States	US$ 3.6 million	• Investigate pressurised water reactor (PWR) safety issues by means of thermal-hydraulic experiments to be conducted at the Primärkreislauf-Versuchsanlage (primary coolant loop test facility) in Germany. • One category of tests focuses on boron-dilution issues. • A second type of test addresses potential accident conditions during shut-down (mid-loop operation).
OECD PSB-VVER Project Contact: carlo.vitanza@oecd.org Current mandate: February 2003-December 2006	Czech Republic, Finland, France, Germany, Italy, Russia, United States	US$ 1.25 million	• Provide the unique experimental data needed for the validation of thermal-hydraulic codes and to support refinements to safety assessment tools for VVER-1000 reactors.
SETH Project Contact: carlo.vitanza@oecd.org Current mandate: April 2001-June 2005	Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Republic of Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States	US$ 4.7 million	• Carry out thermal-hydraulic experiments in support of accident management at facilities identified by the NEA Committee on the Safety of Nuclear Installations (CSNI), such as those requiring international collaboration to sponsor their continued operation. • The first part of the programme addressing primary loop accidents has been completed. • The second part addressing data for computerised fluid dynamics (CFD) code validation for containment applications is under way.
Sorption II Project Contact: sylvie.voinis@oecd.org Current mandate: 2000-2004	Australia, Belgium, Czech Republic, Finland, France, Spain, Germany, Japan, Switzerland, United Kingdom, United States	≈€384 000	• To evaluate the capabilities of chemical thermodynamic models for describing radionuclide sorption phenomena over a range of geochemical conditions in order to increase confidence in the long-term safety analysis of radioactive waste repositories.
Thermochemical Database Project Contact: federico.mompean@oecd.org Current mandate: February 2003-February 2007	Belgium, Canada, Czech Republic, Finland, France, Germany, Japan, Spain, Sweden, Switzerland, United Kingdom, United States	≈€ 1.6 million	• Produce a database that: – contains data for all the elements of interest in radioactive waste disposal systems; – documents why and how the data were selected; – gives recommendations based on original experimental data, rather than compilations and estimates; – documents the sources of experimental data used; – is internally consistent; – treats all solids and aqueous species of the elements of interest for nuclear waste storage performance assessment calculations.