OECD/NEA Activities Related to Partitioning and Transmutation

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Abstract

The OECD Nuclear Energy Agency (NEA) is pursuing a number of activities related to Partitioning and Transmutation (P&T) of irradiated nuclear fuel in response to the interest in Member Countries. One of key components of these activities is the organization of biennial Information Exchange Meetings on P&T, which were started in 1990 and which provide the scientific community with an important forum to present and discuss on-going developments in the field.

The current NEA activities of direct relevance to P&T comprise a review of Integral Experiments for Minor Actinide Management and a study of Minor Actinide Burning in Thermal Reactors. The outcome of a special investigation of Potential Benefits and Impacts of Advanced Nuclear Fuel Cycles with Actinide Partitioning and Transmutation was published in 2011.

In addition to the above mentioned studies, the NEA also has various activities related to advanced fuel design and its impact on the fuel cycle, in particular an Expert Group on Innovative Fuels covering technical issues associated with the development of innovative fuels and cladding materials targeted for use in advanced reactors and fuel cycles, and an Expert Group on Multi-scale Modelling of Fuels in support of current fuel optimisation programmes and innovative fuel designs.

The NEA has also the potential to extend its existing databases of integral experiments, especially the International Reactor Physics Benchmark Experiments (IRPhE) and International Fuel Performance Experiments (IFPE) databases, to provide the means to validate modelling methods as applied to fuels with high minor actinide content.