Chemistry of Fuel Cycle & Waste Management

This Division offers research and service activities focused on the chemistry of the NPP fuel cycles, radwaste management, and assessments of impacts that the fuel cycles and waste management may have on the environment and human health.

The research & development section of the Division deals with:
- Chemical methods applied for reprocessing of spent nuclear fuel;
- Liquid forms of coolant and nuclear fuel as anticipated for the future Generation IV reactors;
- Systems of radioactive waste management;
- Characterization of wastes and samples taken from the environment;
- Methods and technologies of waste sorting, characterization, segmentation, treatment, conditioning, storage and disposal;
- Safety assessments of waste disposal and repository systems.

As regards of the R&D area, the divisional effort also encompasses system analyses executed to optimize the waste management systems, particularly those relevant to the power industry and CO2 dumping.

The service section of the Division offers:
- Technical support given to nuclear plant operators in treatment & conditioning wastes (tests, analyses, evaluations);
- Comprehensive services in the management of radwaste from receiving the waste and its identification and characterization to completing the waste treatment and conditioning and its delivery to Radioactive Waste Repository Authority to dispose;
- Non-destructive & destructive analyses of radionuclides and nuclear materials; monitoring of waste dumps, radwaste repositories and releases into environment;
- Expert activities provided to assess the fuel cycles and systems of waste management; to prepare studies of facility decommissioning, to perform safety analyses and draw up documentation necessary to gain permission for different activities as required by the Atomic Act.