International Conference on the Management of Spent Fuel from Nuclear Power Reactors 2019: Learning from the Past, Enabling the Future

Monday 24 June 2019 - Friday 28 June 2019

Scientific Programme

The IAEA welcomes high quality contributions that fall under the umbrella of the following tracks.

Each individual track may cover the following cross-cutting aspects: technology (operational and research and development), safety, security, economics, public involvement (acceptability), regulatory framework, knowledge management, safeguards and non-proliferation as well as collaborative options

Please note that Track 1 is not open for general submissions.

Track 1: National Strategies for Spent Fuel Management

Including perspectives on considering the management of spent fuel as an asset (either recycling or direct disposal);

What would be needed to achieve future national energy goals

- Please note, this track is for invited country representatives only and not open for general submissions -

Track 2: Spent Fuel and High Level Waste storage and subsequent transportability

Management of damaged and degraded fuel;
Behaviour of spent fuel during storage (wet and dry);
Ageing management of storage systems (wet and dry);
Ageing of high level waste and related storage systems;
Demonstrating transportability: Specific requirements, including multipurpose canisters, waste packages;
Changing security requirements with time.

Track 3: Transportation in the back-end

Operating experiences, achievements and lessons learned from long term operations (including overseas shipments, transportation plan, security, safety, public engagement);
Evolution of international regulations for transportation;
Special considerations to high burnup (HBU) fuel, damaged fuel, spent fuel, recycling materials.

Track 4: Recycling as a spent fuel management option

Operating experiences and lessons learned;
Recycling evolution:

Fuel and recycling products,
U/Pu co-management (non-proliferation aspects),
Reduction of radioactive waste volume,
Economics;
Improvements in waste management from recycling activities.

Track 5: Impacts of advanced nuclear energy systems on the back-end of the fuel cycle

Accident Tolerant Fuels;
Advanced fuel cycles:
U/Pu Multi-recycling in light water reactors and fast reactors,
Minor Actinides partitioning and transmutation (different systems: fast reactors, accelerator driven system, molten salt reactors etc.),
High level waste partitioning and reuse of valuable material;
Other advanced designs from Gen-IV (small modular reactors, high temperature gas-cooled reactors, etc).

Track 6: Disposal

Discriminating characteristics of heat generating waste on the design of disposal facilities:
Types of spent fuel (uranium oxide, high burnup, mixed oxide), high level waste,
Spacing, host geology, ventilation, backfilled, operational safety, decay heat, timeline,
Retrievability and reversibility;
Predisposal constraints for spent fuel (Cooling, containments, characterization, data);
Safeguards of disposed spent fuel (pre- and post-closure);
Stakeholders engagement, including site selection;
Multinational collaborations;
Post-closure information management.

Track 7: Challenges in an integrated approach for the back-end system (including storage, transport, recycling and disposal)

Consistency of technical requirements across the back-end of the fuel cycle (e.g. waste acceptance criteria, safety requirements, information, knowledge management, etc.);
Conflicts among the drivers and impediments for a back-end strategy (e.g. economics, politics, technology, time, public support, resources);
Risk management and decision making with uncertainties;
Optimization, flexibility and resilience (e.g. how options can be retained for future strategic change and contingency in the event of disruption).