CONSTRUCTION AND OPERATIONS
Encapsulation plant and Final Disposal Facility for Spent Nuclear Fuel – Case Posiva
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ROLES IN RADIOACTIVE WASTE MANAGEMENT IN FINLAND

OPERATOR TEOLLISUUDEN VOIMA OYJ
- Municipal waste
- Operating waste repository
- Recyclable waste 78%

OPERATOR FORTUM OYJ
- Municipal waste
- Operating waste repository
- Recyclable waste 81%

Posiva Oy
- Final disposal of spent nuclear fuel, ONKALO®
SAFE AND FEASIBLE FINAL DISPOSAL CONCEPT AT OLKILUOTO
ONKALO® SITE AT OLKILUOTO

ENCAPSULATION PROCESS AND SYSTEMS
ONKALO®

- Perform site confirming studies after Olkiluoto site selection
- Develop Construction Methods for a DGR
- Carry out demonstrations at the disposal level
- A learning experience for Posiva’s own staff and contractors
- Both an underground research facility and a final disposal facility
- Rehearse construction under supervision of a nuclear safety authority
CONSTRUCTION OF THE FINAL DISPOSAL FACILITY

- Repository capacity is 6500 tU (about 3250 canisters)
- The repository consists of four shafts, a ramp, central tunnels, deposition tunnels, auxiliary rooms for parking and maintenance, social rooms
- Depth of the tunnel system - 400-455 m and the extent is about 2 km²
- The volume of the underground rooms about 2 million m³
- Tunnel length about 60-70 km in total
- Construction and operating time approximately 100 years
PREPARING FOR THE OPERATIONAL PHASE

- A programme launched aiming at gaining an operating license: an operating license application, as-built documentation of the facilities, commissioning test
- Production phases and disposal frequency decided
- Operating organization and outsourced resources defined
- Purchase strategy and processes to support the operations at the site and in the final disposal facility defined
- Supply chain definition and management including logistical solutions