

INNOVATION
BY EXPERIENCE



NUCLEAR POWER



Optimal solutions for maximum customer benefits

ÅF's Nuclear Energy unit is maintaining the highest level of standards by gathering top experts and qualified engineers experienced in practically all aspects of nuclear energy including the nuclear fuel cycle.

We have accomplished nuclear assignments in more than 35 countries for Utilities, Suppliers, Designers, Authorities and IFIs and gained versatile know-how on PHWR, PWR, BWR, represented mainly by Candu, EPR, AP1000 and VVER platforms.

ÅF's nuclear experts are engaged in activities ranging from design of new plants, upgrading, safety, operation support, construction and retrofits to the following services concerning the decommissioning including rad-waste management of nuclear facilities.

New Build

- Feasibility studies and design concepts
- Investigations, analyses and pilot studies
- Risk, system and safety analyses
- Thermo-hydraulic reactor simulations (RELAP)
- Special analyses (FHA, FMEA, DiD, IV&V, Reliability) and calculations
- Probabilistic safety analyses, accident analyses
- Radiation protection concepts
- Environmental services
- Plant design
- Facilities and systems design
- Technical systems design calculations
- Design of electro and instrumentation & control systems
- Licensing and procurement
- Development/Evaluation of bidding documentation
- Support in contracting aspects
- Preliminary project planning and detailed project planning
- Design and evaluation of project organizations
- Formation of project organizations
- Project management
- Quality assurance and control

Operation and Maintenance Support

- Assessment and optimizing of NPP operation
- Procurement engineering
- Elaboration of PSA documents
- Preparation and update of safety analysis reports
- Preparation for WANO and OSART missions
- Cost analyses / cost reductions
- Evaluation and optimizing of utilities / interfaces
- Safety culture consulting
- Emergency planning, Preparation of NPP organization in emergency preparedness
- O&M staff and Emergency training
- Development and Updating operational manuals

INNOVATION
BY EXPERIENCE



Plant Upgrade

- Due Diligence services
- Investigations, analyses and pilot studies
- Risk, system and safety analysis
- Safety analysis reports
- PSA documentation and data acquisition
- Plant design
- Electrics, automation and industrial IT
- Upgrading of instrumentation & control systems
- Heating and ventilation
- Technical calculations
- Guarantee inspections
- Design and evaluation of project organizations
- Formation of project organizations
- Procurement engineering
- Environmental services

Decommissioning

- Concept planning including economic aspects
- Licensing procedure support
- Design and evaluation of project organizations
- Formation of project organizations

Waste Management

- Radioactive waste – storage and repository concepts
- Waste characterization, volume definition, volume reduction and separation procedures, logistics, waste packages types
- Definition of features, events and processes and scenario development for geological radioactive waste repositories
- Numerical radiological safety analysis for nearfield release, geosphere transport and dose calculation
- Surveys on scientific, socio-economic and legal issues of radioactive waste disposal
- Studies on chemo-toxic waste compatibility
- Safety analyses for deep geological repositories in clay, salt and granite formations
- Numerical modelling of the release and transport of radionuclides and chemical contaminants

Contact persons: Pavel Šotola, COO and Vice President Nuclear Energy DI, pavel.sotola@afconsult.com, +420 702 058 720 (Division International), Yogesh Parmar, Head of Nuclear Energy, Switzerland, yogesh.parmar@afconsult.com, +41 56 483 15 20, Jarmo Raussi, Head of Nuclear Energy Finland, jarmo.raussi@afconsult.com, +358 40 348 5124, Jan Fejt, Head of Nuclear Energy Czech Republic, jan.fejt@afconsult.com, +420 724 325 706, Thomas Nilsson, Business Area Manager, ÅF-Industry AB (Sweden), thomas.nilsson@afconsult.com, +46 10 505 94 20