Our expertise:

Ageing monitoring of nuclear power plant

Performance assessment of radioactive waste containment

Management of nuclear facilities

Management of military nuclear facilities
Ageing monitoring of nuclear power plant

Your issues:
Nuclear powerplant life extension and power uprates.
  • Assessment of concrete containment building integrity
  • Temperature mapping of steam generators during service life
  • Steam and water leak detection and localization
  • Service temperature monitoring of electric turbogenerator

Our solutions:
  • Non Destructive In-Service Inspection of NPP
  • Long-Term Temperature and Strain Monitoring of Concrete Structures (radioactive resistant vibrating wire sensors MicroVib\textsuperscript{TM} with 30 + year feedback)
  • Data interpretation and Concrete Expertise (Creep/Shrinkage, Damage, Microcracking)
  • Distributed Optical Fiber Monitoring of Temperature and Strain SensoLux\textsuperscript{TM} (Continuous Mapping, Leak detection and localization)
  • Corrosion monitoring of Reinforced Concrete structures (CorroVolta\textsuperscript{TM})
  • In situ Stress evaluation (InsideStress\textsuperscript{TM})

Our added value:
  • Double expertise in material ageing science and structural engineering
  • Cost effective combination of instrumentation and numerical analysis
  • Collaboration between professional engineers and academic researchers

Our references:
Areva, Bouygues Nuclear Services, CEA, EDF, IRSN, SCK CEN, Vinci Construction...
Performance assessment of radioactive waste containment

Your issues:

• Assessment of mechanical stress and integrity of concrete nuclear packages
• Concrete Mix Design and Optimization for Long Term Nuclear Confinement
• Quality Control and Traceability of Precast Concrete Containers
• Water content measurement of nuclear wastes

Our solutions:

• Non Destructive investigation of microcracks and permeability characterizations
• Embedded concrete Pressure, Strain and Temperature sensors (radioactive resistant vibrating wire sensors, PressioVib™ and MicroVib™)
• Data interpretation and Cementitious Material Expertise (Creep/Shrinkage, Cracking)
• Corrosion monitoring and inspection
• Restrained Shrinkage test for concrete mix design optimization (ViscoVib™)
• Radioactive resistant TDR water content sensors (HydraPter™)

Our added value:

• Cement and Concrete expertise (early age behavior and durability specifications)
• High Value Added Instrumentation for quality control and precast process optimization
• Collaboration between material expert and measurement experts
• Thermo-Hydro-Mechanical simulation of concrete containers

Our references:

Andra, Bonna Sabla, Bouygues Nuclear Services, CEA, Eiffage, IRSN, SCK CEN, SOCODEI, Sogefibre, Vinci...
Management of nuclear facilities

Your issues:
- Quality Control and Traceability during concrete nuclear facility construction
- Concrete Ageing Assessment of numerous nuclear buildings
- Long Term Nuclear Waste Facility Surveillance
- Environmental monitoring of nuclear facilities

Our solutions:
- Non Destructive investigation for cracks and permeability characterizations
- Embedded concrete Pressure, Strain and Temperature sensors (radioactive resistant vibrating wire sensors, PressioVib™ and MicroVib™)
- Data interpretation and Civil Engineering Expertise
- Corrosion monitoring and inspection
- Radioactive resistant TDR water content sensors (PressioVib™)
- Ground water monitoring (optical piezometric and temperature measurements)

Our added value:
- Cement and Concrete expertise (early age behavior and durability specifications)
- High Value Added Instrumentation for quality control and construction optimization
- Collaboration between cementitious material expert and measurement experts
- Thermo-Hydro-Mechanical simulation of concrete structures

Our references:
Andra, Areva, Bouygues Nuclear Services, CEA, Eiffage, IRSN, Nuvia, SCK CEN, Vinci...
Management of military nuclear facilities

Your issues:
- Quality Control and traceability during construction
- Service Life Maintenance Optimization
- Long Term Facility Surveillance of critical assets

Our solutions:
- Structural Health Monitoring of critical military infrastructures
- Risk-based prioritization of inspections
- Technical support for economical maintenance operations through criticality evaluation
- Concrete Ageing Expertise
- Corrosion monitoring and inspections
- Environmental monitoring
- Ground Penetrating Radar Inspections

Our added value:
- Our confidentiality management process with a military scope
- Our Quality Management System
- High Value Added Instrumentation for long term and reliable monitoring
- Collaboration between civil engineers and measurement experts
- Thermo-Hydro-Mechanical evaluation of structures and infrastructures

Our references:
CEA, French Ministry of Defense, ONERA, SID...