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Nuclear safety consultant

25 years' experience

Profile

- Skilled engineer specialized in nuclear safety, from initial design to final dismantling
- Involved in numerous projects in France, UK, Belgium and Finland
- Supporting nuclear operators, safety authorities, and major contractors
- Familiar with licensing processes and stakeholders' interactions
- Ready for relocation worldwide

Skills

- Nuclear safety and licensing, operational safety
- Radiation protection and health physics
- Fire protection
- Risk assessment, safety case
- Occupational health and safety
- Environment, effluent and waste management
- Quality assurance / quality control
- Teaching (university and industry)

Situation

- French citizenship
- 47 years old
- Single

Languages

- French: native
- English: fluent
- Italian: intermediate

Qualifications

- **Master's degree "Radiopathology – Radioprotection"**, Joseph Fourier University, Grenoble (France)
  Main field of study: Health physics, radiation protection, nuclear safety

- **Master's degree "Industrial safety and hygiene"**, University of Quebec, Trois-Rivières (Canada)
  Main field of study: Occupational health and safety, protection of the environment

- **Engineering degree "Prevention of industrial risks"**, Polytech, Grenoble (France)
  Main field of study: Industrial risks, occupational health and safety, protection of the environment

- **Technical certificate "CFPA Europe"**, National Centre for Prevention and Prevision, Vernon (France)
  Main field of study: Fire protection

- **Bachelor's degree "Sciences of structures and matter"**, Joseph Fourier University, Grenoble (France)
  Main field of study: Mathematics, physics, chemistry, computer science

Current position

2020-2023, Nuclear safety consultant at Tractebel Engineering (ENGIE), Brussels (Belgium)

Provide nuclear safety support for several projects of Belgian Utility ELECTRABEL (ENGIE Group) at Tihange nuclear power plant:

- **Implementation of technical and administrative independence of the spent fuel storage facility (water-basin type) attached to reactor #3:** consolidation of the project's nuclear safety requirements (Belgian and American regulations, IAEA, WENRA, etc.), safety support to competence centers responsible for pre-feasibility studies and verification of their technical deliverables (cooling systems and other utilities, HVAC, fire, electricity, and instrumentation and control), drafting of nuclear safety concept notes for the design of new buildings and ancillary systems (control room, diesel generators, effluents and waste, etc.), examination of administrative scenarios for modifying the operating license (royal decree), coordination of additional safety studies, various presentations with the licensee and the Belgian nuclear safety authority FANC/Bel V, technical negotiations with FANC/Bel V as part of the pre-licensing process
- **Calculation of radiological consequences to the population during the dismantling of reactor #2:** drafting or verification of several calculation notes in case of accident (fire, drop of load, seism), update of the safety analysis report
- **Irradiation calculations for safety-related electrical switchboards in case of LOCA on reactor #2:** drafting of a calculation note showing that the maximum qualification dose delivered to the equipment is not exceeded, action proposals
- **Calculation of radiological consequences to the population in case of feedwater pipe rupture on reactor #1:** methodologic support to a junior engineer, technical verification of his note, update of the safety analysis report of the unit

Main references in last 15 years

2019-2020, Nuclear safety consultant at AREVA NP, Olkiluoto (Finland)

Provide technical and management support to the CFS consortium for the commissioning of OL3 EPR nuclear power unit:

- **Incident management:** overhaul of the unexpected incident management process (simplification, optimization, efficiency and response time), investigation and assessment of unexpected events (commissioning, operation, maintenance) and proposal for corrective actions, follow-up of corrective actions implementation in the field, overall assessment of events and definition of priorities, identification of root causes and proposal for preventive actions, dissemination of lessons learned in the supplier's teams and their contractors
- **Nuclear safety culture (NSC):** collection and processing of weak signals (events and near-misses, deviations, violations of procedures, shortcuts…), promotion of the periodic NSC survey among the plant owner, the supplier and the contractors, assessment of the NSC survey results and proposal for corrective action plan with priorities (roles and responsibilities, communication, procedure adherence, training…), presentation of the NSC survey results to the contractors
- **Organization and management:** drafting and negotiation of a core procedure for the organization of the nuclear safety integrated team (plant supplier + plant owner) (organization charts, roles and responsibilities, allocation of tasks, skills requirements…), optimization of the meetings within the nuclear safety team (attendants and back-ups, guidelines…), update of the bar-chart for open positions and associated budget, drafting of requisition files to recruit new team members, review of operational procedures (lock-out / tag-out, permit to work, permit to test, fault notifications…), participation to workshops to simplify and optimize selected internal processes
- **Technical specifications:** review and reporting of discrepancies, assessment of preventive maintenance activities and their compliance with the requirements (scheduling of the maintenance vs plant modes, completion times, need for deviation requests to the Finnish nuclear safety authority STUK…)
- **Oversight:** drafting of an inspection procedure, participation in focused inspections in the field (main control room, entrance of the reactor building, common outdoor areas…) in conjunction with HSE and site management, root cause analysis about rules enforcement and sanctions policy
- **HSE:** participation to the weekly HSE meetings, close collaboration for common topics (lock-out / tag-out, fire protection, chemicals, events reporting, collection and sharing of weak signals…), nuclear safety training of HSE officers
- **Radiation protection (RP):** close collaboration for common topics (radiological zoning, reporting of events to STUK)
- **Foreign material exclusion (FME):** assessment of issues based on OSART / WANO reports, event reports, staff interviews and walkdowns in the field, proposal for a remedial plan before the first fuel loading, nuclear safety training of FME officers
- **Training:** design, organization and performance of tailor-made training modules (nuclear safety, technical specifications), feedback on existing training modules (HSE and RP inductions, nuclear professionalism, human performance tools, foreign material exclusion, confined space…), review of the training strategy and proposal for improvements
- **Communication:** drafting of a nuclear safety joint statement ("policy") for the OL3 project, drafting of safety messages, various presentations in technical and project meetings, active involvement in the "Safety Day" activities on the site

2010-2018, Nuclear safety and licensing consultant at EDF, Tricastin (France)

Assist the General manager for the ten-yearly nuclear safety review of the facility (renewal of operating license):

- Collection and analysis of the operating experience feedback of the facility over the past ten years
- Inventory of the facility as built, and assessment of the compliance with all regulatory requirements
- Drafting of technical deliverables including risk analysis (fire protection, radiation protection, waste management…)
- Drafting of the complementary safety assessment report ("stress tests") following the Fukushima-Daiichi accident
- Assistance to the operator during steering meetings with the French nuclear safety authority (ASN), onsite visits and technical meetings with the experts of ASN's technical support (IRSN)
- Drafting of technical deliverables to answer IRSN's nuclear safety queries as part of the reviewing process (including fire/explosion, radiation protection, confinement, earthquake, flooding, man-made hazards…)
- Negotiation of the action plan with ASN and IRSN, and drafting of the operator's letter of commitments
- Implementation of the requirements pursuant to the provisions of ASN's regulatory decision
- Update of the safety report (RS) and the technical specifications (RGEs) of the facility
- Update of the dismantling plan of the facility
- Drafting of the regulatory files aimed at ASN for material and documentary modifications

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2014-2015, Emergency preparedness consultant at EDF, Tricastin (France)

Assist the General manager for the overhaul of the existing emergency plans according to EDF's new standards:

- Drafting of all organizational and operational documents, and update of conventions with third parties
- Justification of the sizing and operability of the emergency plans
- Definition and justification of the trigger criteria leading to the launching of the emergency plans
- Definition of the maintenance requirements of the emergency equipment, and drafting of associated records
- Definition of the training theoretical and practical requirements, and drafting of training material and final knowledge tests
- Drafting of the regulatory file aimed at the French nuclear safety authority (ASN)

2013-2014, Nuclear safety consultant at ITER, Cadarache (France)

Provide nuclear safety support to owner for the European Union domestic agency (Fusion for Energy - F4E) in charge of nuclear buildings, utilities and site facilities:

- Review of nuclear safety related documents submitted by the architect engineer and its contractors during design and construction phases, drafting of related assessment sheets, and technical advice where needed
- Training and mentoring of a newly appointed junior engineer in charge of nuclear safety support to owner

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2011-2013, Nuclear safety consultant at Federal Agency for Nuclear Control (FANC), Brussels (Belgium)

Assist the Head of the nuclear installations and waste Department on specific issues related to nuclear safety:

- Drafting of the Belgian stress tests progress report, final report and action plan for nuclear power plants aimed at the European Commission in response to the Fukushima-Daiichi accident
- Drafting of the provisional evaluation report related to the Doel 3 and Tihange 2 reactor pressure vessels issue
- Drafting of a national information file aimed at the public about the radioactive effluents released by the Belgian nuclear facilities (class I and class IIA)
- Preparation of the International Regulatory Review Service of the national regulator by IAEA (processes dealing with operational experience feedback, safety culture and graded approach)
- Drafting of new provisions in a royal decree and associated application guide about decommissioning of nuclear facilities
- Technical review of press releases prior to their publication on the Agency's website, and briefing of the Agency's spokeswoman in selected areas

2011, Fire protection consultant at Tractebel Engineering (ENGIE), Brussels (Belgium)

Assist the Project manager in charge of the fire hazard analysis of ELECTRABEL (ENGIE Group) Belgian nuclear power plants (7 PWR reactors):

- Identification of the safety and control systems to be protected from fire for Tihange 1 and Tihange 2 units based on the technical specifications
- Review and qualification of a newly developed software aimed at simulating fire propagation within the nuclear buildings
- Drafting of technical arguments for the Belgian nuclear safety authority's technical support (BelV)

2009, Nuclear safety consultant at Institute of Radiation protection and Nuclear Safety (IRSN), Avignon (France)

Review and assess the risk analysis provided by a nuclear operator to decommission and dismantle a defense nuclear fuel production facility:

- Assessment of the operator's technical studies, reports and calculation sheets
- Improvement of the initial project including further safety requirements
- Drafting of a full and detailed assessment report aimed at the French nuclear safety authority (ASND) about the dismantling strategy and the safety requirements

2007-2008, Nuclear safety consultant at ORANO Cycle, Cadarache (France)

Assist the project manager with respect to nuclear safety for the dismantling of two nuclear facilities producing MOX fuel:

- Preparation of all technical meetings with the experts of the French nuclear safety authority's technical support (IRSN) (fire protection, criticality, radiation protection, containment…)
- Drafting of all technical answers and commitments for each risk
- Drafting of the report for the definitive cessation of operation of the two facilities
- Update of the decommissioning and dismantling safety reports of the facilities

2006-2007, Nuclear safety consultant at BNG / Project Services, Gloucester (England)

Assist the English engineers in designing a new radioactive waste management facility for EDF according to French rules and regulations:

- Assessment of the preliminary design of the whole facility (general layout, process, utilities…)
- Review and improvement of the design to comply with the technical specifications and regulatory requirements
- Risk assessment (fire protection, radiation protection, confinement, ventilation, handling, earthquake…)
- Translation of technical deliverables into French
- Final presentation of the project to the client EDF for the nuclear safety and radiation protection topics

2006, Radiation protection and environment consultant at EDF, Chinon (France)

Carry out a dosimetry analysis (ALARP) and an environmental analysis (ISO 14001) for the dismantling of a facility:

- Optimization of the collective and individual dosimetry of the whole work site
- Optimization of the waste, effluents, and harmful effects of the whole work site on the environment

Previous experience

Since 1996, more than 30 other missions for various customers in the nuclear sector including:

- EDF Superphénix, Creys-Malville (France) – Dismantling
- CEA, Cadarache (France) – Design, operation, dismantling
- Ministry of Defense, Brest (France) – Design
- European Space Agency, Toulouse (France) – Design
- EDF, Chinon (France) – Operation, dismantling
- ORANO Cycle, Cadarache (France) – Design, operation, dismantling