

Job Description for Professional Posts

Reference: NE2025/09

Position and Grade:	Associate Nuclear Engineer (Advanced Water-Cooled Reactors), P2
Organizational Unit:	Nuclear Power Technology Development Section Division of Nuclear Power
Duty Station:	Vienna, Austria
Type/Duration of Appointment:	FT – JPO, 1 year

Organizational Setting

The objective of the Department of Nuclear Energy (NE) is to foster the efficient and safe use of nuclear power by supporting interested Member States in: improving the performance of nuclear power plants, the nuclear fuel cycle, and the management of nuclear wastes; catalysing innovation in nuclear power and fuel cycle technologies; developing indigenous capabilities around the world for national energy planning; deploying new nuclear power plants; preserving and disseminating nuclear information and knowledge; and advancing science and industry through improved operation of research reactors.

The department has a dynamic, participative and interactive operating environment with inputs received from the Board of Governors, the General Conference, policy and decision-makers, and technical counterparts in Member States and the international development community.

The Division of Nuclear Power comprises the Nuclear Power Engineering Section, the Nuclear Power Technology Development Section, the Nuclear Infrastructure Development Section and the INPRO (International Project on Innovative Nuclear Reactors and Fuel Cycles) Section. The Division provides core engineering, technological, human resource development and management support to interested Member States in the field of nuclear power.

The Nuclear Power Technology Development Section assists Member States in developing safe, environmentally benign, economically viable, proliferation resistant and sustainable innovative solutions for all civil reactor technologies, including water-cooled reactors, gas-cooled reactors, fast neutron systems (both critical and sub-critical) as well as small and medium-sized reactors. The section fosters international collaboration on technology development for reactor plants and for non-electric uses of nuclear power by facilitating coordinated research projects, technical meetings, and training courses. The section also maintains the Advanced Reactor Information System (ARIS) and Thermophysical Properties of Nuclear Materials (THERPRO) databases.

Main Purpose

The Associate Nuclear Engineer (Advanced Water-Cooled Reactors) assists NPTDS and the Advanced Water-Cooled Reactors Team in their activities on advanced nuclear energy technologies, by supporting on-going and planned IAEA's projects and by preparing, verifying, finalising, and distributing information and technical documents on innovative water-cooled reactor designs. She/he reports to the Team Leader/ Technical Lead of Water-Cooled Reactors Technology Development Team.

Role

The Associate Nuclear Engineer (Advanced Water-Cooled Reactors) fulfils the role of a technical expert by providing assistance in managing the on-going and newly launched databases and platforms: HOPS, SANIS, THERPRO and ARIS. She/he will assist in preparing, organizing and conducting the relevant meetings, workshops and courses and will contribute and assist in the development and testing of new eLearning modules and part-task simulators.

Partnerships

The Associate Nuclear Engineer (Advanced Water-Cooled Reactors) works closely with members of the Water-Cooled Reactors Team and the NPTDS, as well as with the counterparts from Member States and international institutions for data collection and organisational discussions.

Functions / Key Results Expected

- Assist in collecting, analysing and incorporating newly available information and data for THERPRO and SANIS databases, by especially focusing on new reactor's material data and reactor behavioural phenomena during severe accidents in water cooled reactors of advanced designs.
- Participate in organizing and conducting IAEA Coordinated Research Projects (on supercritical water-cooled reactors, and on nuclear-renewable hybrid energy systems) managed by the Water Cooled Reactor Technology Development Team within NPTDS.
- Provide assistance to the Technical Lead on the ongoing technical activities of the project, gain an overall understanding of the project outputs/outcomes and support preparation of technical reports and documents.
- Support the ongoing activities in the organization of the Technical and Consultants Meetings in 2025 and 2026. Both technical and managerial assistance is essential.
- Develop basic training material (to be converted to eLearning module/s) on Terms for describing advanced reactor systems – based on the IAEA NES No. NR-T-1.19.
- Contribute to the updates of reactor designs in ARIS database.
- Contributes to the part-task developments and testing within the IAEA HOPS platform.
- Prepare end-of-term report and presentation demonstrating experience and results obtained during the term.

Competencies and Expertise (do not revise or edit)

Core Competencies		
Competence	Occupational Role	Behavioural Indicator
Communication	Individual Contributor	Communicates orally and in writing in a clear, concise and impartial manner. Takes time to listen and understand the perspective of others and proposes solutions.
Achieving Results	Individual Contributor	Takes initiative in defining realistic outputs and clarifying roles, responsibilities and expected results in the context of the Department/Division's programme. Evaluates his/her results realistically, drawing conclusions from lessons learned.
Teamwork	Individual Contributor	Actively contributes to achieving team results. Supports team decisions.

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Planning and Organizing	Individual Contributor	Plans and organizes his/her own work in support of achieving the team or Section's priorities. Takes into account potential changes and proposes contingency plans.
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Functional Competencies		
Competence	Occupational Role	Behavioural Indicator
Analytical Thinking	Associate	Gathers and analyses information, identifying critical relationships and patterns among data and proposes workable solutions
Judgement/decision making	Associate	Consults with supervisor/manager and makes decisions in full compliance with the Agency's regulations and rules.
Partnership building	Associate	Develops and maintains partnerships needed for his/her work. Establishes and nurtures positive relations with partners and stakeholders.
Technical/scientific credibility	Associate	Acquires and applies new skills to remain up to date in his/her area of expertise. Reliably applies knowledge of basic technical/scientific methods and concepts.

Expertise	
Expertise	Description
Nuclear Engineering Advanced Nuclear Power Systems	Expertise in research and technology development in the field of innovative reactor designs. Familiarity with severe accident analysis in water cooled reactors. Background in reactor designs.
Nuclear Engineering Nuclear Engineering and Technology	Knowledge of water-cooled reactor technology, simulation and modelling under steady-state and transient conditions

Education, Experience and Language Skills

- University degree in nuclear engineering, mechanical engineering or reactor physics.
- Minimum two years of experience in using and developing computer codes for reactor simulation and modelling (either neutronics, thermal hydraulic or/and coupled).
- Familiarity with innovative nuclear reactor concepts, specifically advanced water-cooled reactor designs.
- Published papers on nuclear engineering is an asset.
- Excellent oral and written command of English. Knowledge of other official IAEA languages (Arabic, Chinese, French, Russian and Spanish) is an asset.

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