

Internal/External Advertisement

DIVISION: Operations
DEPARTMENT: SAFARI-1 Research Reactor
VACANCY: **Senior Nuclear Analyst (Structural and Finite Element Analysis)**
SALARY BAND: D1E
REF NO: **C3E01NE030**



Job Profile:

SAFARI-1, a research reactor department at Necsa, is seeking to add a Senior Nuclear Analyst to its department to perform engineering safety and design analyses to assess the safety and licence-ability of the SAFARI-1 facility in terms of design, operations, modifications and process changes, as well as the experimental, research and utilisation programmes performed at SAFARI-1. Principal modeling and analysis tools include RELAP5, STAR CCM+, Solid Edge and ANSYS.

Key Performance Areas

- Develop the capacity within SAFARI-1 in various disciplines including neutronics (core analysis), structural analysis, computational fluid dynamics, thermodynamics, mathematics and thermal hydraulics to assess and integrate results effectively and efficiently;
- Perform peer review of work provided by service providers in the above fields. This entails understanding and interpreting results as well as evaluating calculation methods;
- Participate in physical engineering activities in the SAFARI-1 facility;
- Perform design and safety analysis according to international guidelines and regulatory requirements by using RELAP5 and STAR-CCM+;
- Perform structural analysis for design and safety analysis according to international and regulatory requirements using software such as Solid Edge and ANSYS;
- Lead code and model verification and validation efforts of thermal hydraulic and neutronic codes to ensure conformance to RD-0016;
- Plan and lead practical experiments (SAFARI-1 Flow Loop) to verify results obtained from calculations;
- Support the development of processes and procedures to perform safety analysis calculations (RELAP 5, STAR CCM+, ANSYS);
- Perform safety analyses and assessments on possible isotope irradiations and SAFARI-1 designs;
- Participate in product development;
- Perform data processing and maintain in-house developed fuel and core management codes;
- Support development of the Operating Technical Specification and Safety Analysis Report of SAFARI-1; and
- Manage stakeholder relationships with service providers and clients.

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Key Knowledge & Skills

- Scientific computer skills, Reactor/Nuclear Engineering; Safety Assessment and licensing.
- Knowledge and application of quality systems.
- In-depth technical knowledge of the reactor and associated issues.
- Demonstrated neutronics analytical skills including at least five years of experience with RELAP 5, STAR CCM+, Solid Edge and ANSYS.
- Strong thermal-hydraulic analytical skills, including experience with specified code suites.

Competencies (Job Specific and Behavioural)

- Drive (and resilience).
- Relevant research reactor knowledge.
- Proven track record.
- Expert in at least one major applicable discipline.
- Demonstrate effective technical communication skills.
- Internationally recognised.
- Integrity.

Qualifications and Experience:

Education:

- BSc/BEng (Mechanical/Nuclear Engineering).

Technological Experience:

- Five to ten years of applicable experience in the field of reactor engineering / reactor safety analysis / reactor utilisation and isotope production.

Closing date: **11 August 2020.**

CONTACT PERSON

Ms. Lydia Lebona

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Room: 0116 (first floor)

Please forward your updated CV with certified copies of your educational qualifications to lydia.lebona@necsa.co.za

GENERAL:

Should you not hear from us within 30 days of the closing date, please consider your application unsuccessful.

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Necsa Group is committed to Employment Equity when recruiting. Therefore, priority will be given to African Females, African Males and people with disabilities, in support of achieving our Employment Equity targets.