



Moltex Energy Job Description

Job title: Nuclear Physicist

Job location: Birchwood, Warrington, United Kingdom

Job purpose:

Provide physics analysis to support the overall goal of bringing Stable Salt Reactor (SSR) technology to market by 2030.

Reporting and working relationships:

The job holder will report to the Lead Physicist and will work closely with other Moltex team members. This job will require effective working relationships with internal and external teams including molten salt chemistry, development engineering, materials science, and manufacturing.

Responsibilities:

Develop and maintain the nuclear physics models and simulations to substantiate the safe operation of the suite of SSRs.

Duties and tasks:

- Develop and validate models and simulations inclusive of steady state, transient, and design-based accident conditions.
- Work with others to couple nuclear physics simulations to thermodynamic and CFD simulations to accurately model core performance.
- Work with and build relationships with industry and academic experts to maximise input of existing knowledge and expertise into the nuclear physics models and simulations, and other R&D activities.
- Present and substantiate nuclear physics to regulatory bodies and other stakeholders.
- Manage the delivery of nuclear physics tasks in accordance with the agreed schedule and budget, and provide regular progress reporting.
- Ensure that all work is delivered in accordance with the Management System.
- Contribute to the technical assessment and management of subcontractors.

Skills, qualifications and experience:

Relevant nuclear physics knowledge is essential to this role. In terms of experience there is greater flexibility. Moltex will consider a wide range of relevant experience, and will tailor the support and mentoring that is provided to the individual job holder accordingly.

Essential

- Higher degree in physics, including nuclear.

- Good knowledge of and practical experience with nuclear reactor physics modelling and simulation.
- Broad science and engineering appreciation with the demonstrable ability and intellect to understand other disciplines and effectively apply these to development and design work.

Desirable

- Detailed knowledge of neutron transport and Monte Carlo solvers, gained through a PhD and/or industry experience.
- Knowledge of the principles of nuclear reactor design.
- Experience in reactor physics modelling and simulation for a wide variety of reactor designs, including Gen IV and other novel approaches.
- Coupling of nuclear physics and molten salt CFD models and simulations.

Behavioural skills and personality:

The company's mission is to bring SSRs to market as quickly as possible. To achieve this the job holder will need to be:

- Ambitious and interested in being a member of an industry leading team in the field of SSR nuclear physics.
- A problem solver who is driven to find simple solutions and not over-complicate development and design work.
- Delivery focused and technically strong.
- A highly effective communicator who can explain, debate, and justify SSR nuclear physics to a range of stakeholders with differing technical knowledge both orally and in writing.
- An excellent team player who will work with others to ensure 'the whole is greater than the sum of its parts' and progress the reactor design as a whole.
- An adaptable and flexible individual who is comfortable in a rapidly growing and changing company.