

In the company of...

SOLVERS



Business area: Nuclear and Power

Requirements: Minimum 2.2 Bachelor's/BEng degree in Chemical or Process Engineering

Our teams and what they do

Our Nuclear & Power business works collaboratively across the industry, building trust and delivering exceptional engineering solutions to our key clients. It's a really exciting time to be a part of our team, with decades of nationally and internationally critical projects in the pipeline. For you, this means unrivalled opportunities to develop your career by joining a growing team operating in a fast-paced environment and delivering solutions to our clients' most challenging engineering requirements.

Our process engineering capability is focused on supporting our clients to operate safely and efficiently, in the nuclear, power and net zero technology domains. We cover all phases of design, from feasibility and concept to operations support and into decommissioning. We use the latest technology solutions to deliver efficient nuclear power today and safeguard our energy future.

In joining our Nuclear & Power business, you'll be part of one of three key teams in the UK:

- Power New Build
- Energy Net Zero
- Reactor Operations & Decommissioning.

Team Details

Power New Build

Locations within this team: Bristol, Epsom, Warrington.

As part of our process team, you would be involved in technically demanding projects, providing system descriptions, technical specifications and delivering multidisciplinary design optimisation. There is a strong motivation for problem solving, often taking failed designs and improving them. We are focussed on using core chemical engineering principles to provide systems design throughout a project lifecycle:

- Defining the performance requirements for a system e.g. material characteristics, input and output duties, safety constraints.
- Front end engineering design (concept design). Using optioneering and hazard identification to determine appropriate technologies.
- Detailed design: Building from a process flow diagram to a process and instrumentation diagram.

As a Graduate Chemical and Process Engineer within our team, you will have the opportunity to be involved a broad range of technically demanding projects. Projects our team are currently involved with include:

- UK SMR (Small Modular Reactor) programme in collaboration with Rolls Royce including concept and detailed design of reactor island duty, liquid, gas, solid waste and systems.
- Developing waste processing designs for HPC from detailed design through commissioning. Our team offers site support and secondment opportunities in the UK Design Centre at Edvance and on-site at HPC.

- Preliminary and detailed design of the tokamak exhaust reprocessing loop at UKAEA's H3AT facility, providing novel solutions to aid in the processing and storage of tritium.
- Our team also offers secondment opportunities the UKAEA's fusion centre in Oxford, Culham.
- Potential international projects including technical advisor for the development of multiple large-scale green hydrogen and derivative plants for TAQA in UAE.
- Detailed design of gas systems for semiconductor manufacturing, providing high precision flow networks and safely designing for toxic and flammable materials.
- Opportunities on nuclear decommissioning sites with clients such as Magnox and Sellafield.
- Opportunities to work for the UK's defence sector across nuclear safety case and detailed design alongside other key partners such as Rolls Royce Submarines, Mott MacDonald, and Babcock.

Our team offers tailored training opportunities and chartership mentoring. The team is committed to developing new graduates and using your unique skills to push a low-carbon energy future.

Energy Net Zero

Locations within this team: Bristol, Glasgow, Edinburgh, Stockton.

As a graduate process engineer in any of the four offices, you'll find yourself working primarily on projects within the NZEB process engineering team. Our team provides consultancy advice and engineering design work for new build projects, alongside improvement and maintenance services for clients' existing assets. Our portfolio of clients encompasses a variety of energy sectors, from conventional power to new low carbon technologies, with a particular focus on decarbonisation projects in both large scale and decentralised energy assets.

In your first year of the 3-year graduate development programme, you will find yourself diving straight into projects. As your experience grows, so will your responsibilities. The broad nature of the NZEB client portfolio means you will be working on a variety of projects ranging from large interdisciplinary design projects to concept studies to supporting clients with discipline specific technical advice. Typical projects include:

- Early design study for a hydrogen production facility
- Input into a multi-disciplinary concept study for hydrogen purification in subsurface hydrogen storage (i.e., in caverns).
- Concept development modelling study of carbon capture and storage (CCS) technologies.
- Detailed process modelling to optimise an existing asset's performance (i.e., creation of a process digital twin).
- Development of a decarbonisation roadmap for a hard-to-abate industrial sites.
- Safety support including consequence modelling and risk assessments for a variety of plants including power generation, low carbon technologies and chemicals/refining.
- Operational support and process studies to support the existing operation of high hazard industrial assets, including process integrity studies, process simulation and safety studies.

The above will provide you with a diverse experience of process engineering work and training opportunities. Key accountabilities will include performing engineering calculations, carrying out process modelling using various engineering software packages, producing technical reports, carrying out site visits and working closely with clients. Along with the technical focus, you will also be developing a variety of soft skills through technical report writing, client presentation, vendor engagement, proposal development, STEM outreach, internal process improvement, etc. All of these will develop you into a well-rounded engineering professional.

We're looking for candidates with a BEng (or MEng) Chemical or Process Engineering degree who have a keen interest in delivering engineering projects for clients in the net zero energy systems market. A desire to learn and develop your technical understanding, to apply process engineering concepts and solve complex problems for our clients is key. Being a committed and trustworthy team player with integrity as well as exhibiting a desire to ensure quality and do the right thing are both essential to maintaining our client relationships and strong company reputation.

Reactor Operations and Decommissioning

Locations within this team: Derby, Sheffield

Our mission is to solve complex nuclear engineering problems to keep the lights on, keep everyone safe and ensure the clean evolution of the UK nuclear estate. Our purpose is to build lasting relationships where we are valued and can develop our people across the widest variety of challenges. Our vision is to be the 'go to' community for creative solutions, known for empowering and trusting our people, and where our nuclear expertise is sought after to secure the future.

As a Graduate Chemical and Process Engineer within Reactor Operations and Decommissioning, you will join a growing and vibrant team and find yourself immersed in a diverse portfolio of work covering the entire nuclear lifecycle in both the civil nuclear sector and UK defence industry. With the knowledge and skills that you've gained throughout your studies, you'll be ready to start this exciting next chapter within a diverse team of highly skilled engineers. As part of our team, you will be empowered to gain broad experience across our portfolio of work with key clients such as EDF, Magnox and Rolls-Royce.

You can expect to gain experience in a variety of working environments, including being based in our AtkinsRéalis offices around the UK, as well as gaining valuable site-based experience supporting our clients on their operating sites at the forefront of carbon neutral electricity generation. Day-to-day, you should expect to support optioneering, design, analysis and assessment of novel and existing technologies and systems, whether that be stand-alone technical tasks or as part of large multi-year consultancy support contracts. You'll also identify customer requirements, produce specifications, hazard assessments, support project management activities, and collaborate with clients as well as your AtkinsRéalis colleagues and our supply chain partners. All of this adds up to an outstanding environment to gain varied experience that will aid you with your professional development and progress towards professional registration.

Locations for this business will include: Bristol, Epsom, Warrington, Glasgow, Edinburgh, Stockton, Derby, Sheffield

To apply, please return to the main job specification