Job Description
Advanced Research Engineer and Research Engineer Combined

ROLE TITLE: Advanced Research Engineer
Reports to: Engineering Capability Lead (ECL)

Direct reports including contractors: None
Budget: None
Key relationships:

- Reports into, collaborates with and acts as a technical advisor to ECL
- Advises ECL and HoVs on technical strategy/ road-mapping
- Advises/influences S&BD
- Represents and advocates for NCC at technical forums
- Engages with Academia

ROLE PURPOSE:

- To solve and appraise technical engineering tasks in line with project requirements. This will be in a range of complex and non-complex contexts.

MAIN ACTIVITIES:
Technical

- Identify the need for a literature survey to be completed. You will review and assess completed surveys to provide technical direction utilising your advanced knowledge of NCC and industry best practice.
- Analyse and assess how an NCC engineering capability can be developed by strategically aligning technology development to the short and medium term technology roadmaps.
- Solve a range of complex and non-routine tasks to support project requirements by analysing and comparing mathematical and scientific theory and by assessing practical tasks.
- You will provide technical or specialist knowledge and guidance to RE's.
- Review and justify innovative approaches to direct and appraise technical solutions in a range of complex and non-routine contexts. You have substantial technical autonomy in your specialist area. This level of innovation is evolutionary and may include a new concept to replace the primary function of an existing process or capability and is medium-high risk.
- Review and appraise technical documents. Construct project proposals by integrating multi-disciplined technical activities for the statement of work.

Customer Interaction

- Ensure the appropriate capture and dissemination of technical information to internal and external customers to strengthen customer relationships.
- Build and develop collaborative working opportunities internally and externally at a national level. You will have a technical network and foster an environment that emphasises knowledge sharing and multi-disciplined and/or cross-functional participation.
- You will expand your sphere of influence to better position NCC's technical capability to create new collaborative opportunities.
- Provide advice and direction on the types of technical collaboration to pursue that will be of benefit to the NCC.

This Job Description is not an exclusive or exhaustive list of all activities that an individual in this position may be asked to perform. You may be required to undertake other responsibilities or activities, as requested by your line manager, to support your team or wider NCC activities.

PERSON SPECIFICATION

Essential	Desirable
• Masters in Mechanical/ Materials Engineering or other relevant degree/qualification • Or significant engineering experience with non-composite materials	Qualifications/Experience • Significant composite engineering work experience • PhD in specialist area • CEng
Essential Behavioural Competencies • Proven ability to analyse and review technical solutions and justify substantiated conclusions • Competently address engineering problems involving some uncertainty, and non-routine technical and non-technical factors • Demonstrable ability to justify alternative engineering approaches and compare potential outcomes against appropriate criteria to justify an optimal or new engineering concept • Understands and shows the value of alternative and multi-disciplined viewpoints, academic advice and the importance of professional networking • Awareness of broader fields of science, engineering and technology from which new ideas and interfaces may be drawn and readily engages with professionals from these fields to exchange ideas and exploit collaboration opportunities • Able to represent the NCCs short/medium term strategic technical engineering position to the broader community	• Has professional gravitas, smart and confident as a technical ambassador of the NCC • Negotiating – to technical and non-technical audiences and using appropriate media best suited to the audience and context • Able to express advanced and a range of complex technical information effectively and succinctly, issuing instruction, engaging in discussion, justifying arguments, debating and • Proven ability to seek out new developments in your engineering specialisation and apply advanced knowledge and systematic processes to analyse and assess potential • Able to prepare exemplary engineering documents and presentations pertinent to the audience **Desirable Behavioural Competencies** • Understands the importance of being a member of a professional technical community, learning from its knowledge and standards and able to actively contribute to its advancement

ROLE TITLE: Research Engineer
Reports to: Engineering Capability Lead

Direct reports including contractors: None
Budget: None
Key relationships:

- Reports to ECL
- Provides information to/ liaises with ECL, HoVS and TPMs
- Mentors Graduate and Developing RE's

ROLE PURPOSE:

- To complete technical engineering tasks in line with project requirements. This will be un-supervised in some complex and non-complex contexts.

MAIN ACTIVITIES:
Technical

- Complete literature surveys through the analysis of existing and state-of-the-art activities to make a qualitative assessment and justification for a recommended approach to the technical challenge.
- Prepare and examine how an NCC engineering capability can be developed by explaining how this will meet future engineering needs.
- Complete tasks to support project requirements by applying and analysing mathematical and scientific theory and performing practical tasks to complete a range of technical activities in complex and non-routine circumstances.
- Assist and leads Graduate Research Engineers and Associate Research Engineers with theoretical applications.
- Apply and analyse innovative approaches to investigate, evaluate and develop technical solutions in basic and some complex contexts. This level of innovation may include concepts for a new generation of an existing system or process where limited existing knowledge exists. This is medium risk.
- Complete technical documents giving a comparative assessment of the technical activity. Contribute to project proposals by identifying technical activities for the statement of work.

Customer Interaction

- Actively engage and present customers with informative updates on progress, successes and challenges until activity completion to enhance customer relationships.
- Pursue opportunities for multi-disciplined working (internally and externally) by proactively working with others to achieve shared goals and better position NCC technical capabilities/deliverables.
- Openly share information to facilitate the accomplishment of broader objectives.

This Job Description is not an exclusive or exhaustive list of all activities that an individual in this position may be asked to perform. You may be required to undertake other responsibilities or activities, as requested by your line manager, to support your team or wider NCC activities.

PERSON SPECIFICATION

ESSENTIAL	DESIRABLE
Qualifications/Experience • Masters in Mechanical/ Materials Engineering or other relevant degree/qualification. • Or considerable engineering experience with non-composite materials	Qualifications/Experience • Considerable composite engineering work experience • Working towards CEng
Essential Behavioural Competencies • Ability to produce technical solutions and construct substantiated conclusions. • Competently address engineering problems involving some uncertainty, and non-routine technical and non-technical factors • Ability to justify alternative engineering approaches and compare potential outcomes against appropriate criteria to justify an optimal or new engineering concept • Awareness of the value of alternative and multi-disciplined viewpoints, academic advice and the importance of professional networking • Attempts to seek out new developments in your engineering specialisation and apply technical knowledge and systematic processes to discover potential • Able to prepare coherent engineering documents and presentations pertinent to the audience • Understanding of the NCCs short term strategic technical engineering position	• Able to express both routine and some complex technical information effectively, including giving some technical direction to Graduates and Associate RE's, using appropriate media best suited to the audience and context • Presents a professional image in all circumstances including relations with internal and external customers, visitors and other stakeholders **Desirable Behavioural Competencies** • Understands the importance of being a member of a professional technical community and learning from its knowledge and standards