Position details

Title of Position:	Senior Network Protection Engineer
Reports to (position title):	Network Protection Manager
Division:	Network
Function:	Network Protection
Number of Direct Reports:	Nil
Grade:	7

Health, Safety & Wellbeing

ElectraNet is committed to co-creating a workplace of choice and enriching the communities in which we operate.

As an industry leader, ElectraNet is at the forefront of the clean energy transition. We are socially and environmentally ambitious, and our continued commitment to developing, operating and maintaining our network in a way that creates opportunities for people and nature to thrive is essential to achieving our vision of energising South Australia's Clean Energy future.

Our commitment also drives our focus to create a physical and psychosocial environment that supports the health, safety and wellbeing of our people.

We all contribute to ElectraNet's workplace culture and have a duty of care to ourselves and one another to work safely, assess and manage risk, courageously speak up and promptly report any unsafe working practices, hazardous working conditions or security threats and to collectively learn and grow from every opportunity.

Position Overview

Senior Protection Engineers (RTDS) specialise in power system planning and network protection systems analysis. They have a sound understanding of underlying principles and established techniques and spend their days applying creativity and innovation to plan for the future requirements and possibilities of our protection systems. They enjoy the challenge of generating and implementing new ideas and solutions that continually transform our network to meet customer needs, ensuring its capabilities result in resilient performance.

Key Responsibilities

Strategic Influencing

- Take initiative, drive for outcomes, take ownership, make independent decisions and formulate policies and procedures within established frameworks to obtain the best performance and results.
- Plan, direct, coordinate and supervise work of other employees including professional employees.
- Provide ongoing, balanced feedback that rewards positive results and supports employees to learn and grow.
- Inspire, motivate, mentor and develop employees to be engaged, accountable and achieve best practice in their respective disciplines.

Operational & Technical

Develop technical deliverables & make technical decisions in accordance with the ElectraNet Technical Authority Framework.

You will be accountable for delivering technical advice and operational support in key areas of focus and/or specialisation from the below:

- Providing strategic leadership and functional design for specific requirements associated with primary protection systems and Remedial Action Schemes
- Contribute to ElectraNet's engagement in the GPSRR (General Power System Risk Review) by providing specialist input on protection systems, control systems, and Remedial Action Schemes (RAS).
- Preparation, including validation of ongoing protection modelling to be used in power system protection studies in PSS/E, PowerFactory, PSCAD and RSCAD.
- Provide ongoing maintenance and governance of protection and control system modelling database.
- Undertake primary protection studies in steady-state, RMS and EMT time domains.
- Perform protection system and scheme performance review for ongoing and future transmission network configurations.
- Carry out maintenance of secondary systems and protection operational databases (such as fault clearing times and rating limits).
- Identify opportunities for enhancement of ElectraNet's Application Design Manual standards (ADM).
- Detect and assess deficiencies within the transmission network's existing and proposed protection systems and recommend appropriate corrective measures.
- Close interaction with Asset Engineers undertaking Fault Investigation and routine maintenance activities.
- In coordination with Project Engineering and Asset Engineering, conduct and supervise specific primary protection system testing in RTDS/RSCAD environment.
- Develop and maintain PowerFactory and RSCAD model for the ElectraNet Transmission network

Behavioural

- Build and maintain strong working relationships with and between internal and external stakeholders, delivering a high level of customer service.
- Create and develop a respectful workplace environment that values cultural diversity, innovation, open discussion and cross functional collaboration to help drive high performance.
- Lead by example; role model desired behaviour and priorities, demonstrate personal accountability for self-development and for achieving quality and timely result.
- Demonstrate behaviour that is consistent with ElectraNet's values, Code of Conduct and Acceptable Use of Technology Resources Policy while performing the role in a professional and ethical manner.
- Promote safe work practises that support the safety of all workers and the security of ElectraNet's assets, proactively reporting safety incidents, near misses and security threats.

Significant Working Relationships

- External Customers & Suppliers
- Internal divisions of ElectraNet
- SA Power Networks (SAPN)
- Australian Energy Market Operator (AEMO)

Equipment & Technology Used

- PSS/E
- PSCAD
- PowerFactory
- RSCAD/RTDS
- Wide Area Monitoring Scheme
- Other specialist analysis tools, e.g. PLEXOS, Mudpack & Matlab

Selection Criteria

Knowledge & Experience

Essential

- Applying theoretical and practical knowledge to solve commonly encountered problems
- Strong theoretical and practical understanding of various protection system and control schemes applied in transmission and distribution networks.
- The application of analytical engineering techniques planning, system design and operational support.
- Well-developed analytical, investigation and problem-solving skills coupled with the ability to share and communicate with impact and effectiveness to others
- The application of analytical engineering techniques planning, system design and operational support.
- Strong understanding and application of physics and mathematical principles in conducting system planning and operational support.
- Technical ability to produce protection design settings and calculations
- Proficiency in the use of secondary system and protection test equipment.
- Ability to write technical reports and protection philosophy documents to satisfy specific project requirements.
- Experienced in coordinating / developing an array of smaller projects as part of a larger business plan or working in a specialist capacity monthly to six monthly.
- Ability to work unsupervised and consistently meet milestones within established timelines.
- Demonstrable, advanced written and verbal communication skills; good interpersonal skills.
- Demonstrable ability to work as a team member and actively promote office harmony.
- Applying economic impact of solutions to technical problems.
- The application of engineering analytical techniques planning, system design and operational support.
- Application of legislated industry requirements (National Electricity Rules, ESCOSA, OTR, AEMO Guidelines)
- Applying established methods and approaches to engineering problems
- Proprietary protection configuration software such as GE EnerVista, GE MiCOM Agile, Siemens SIPROTEC 4/5, Schweitzer AcSELerator, ABB CAP 542/PCM600, etc.
- Substation primary plant equipment such as transmission lines, high voltage cable, power transformers, circuit breakers, instrument transformers, and disconnector switches.
- Secondary systems, protection, SCADA, and substation design on different substation environments, including IEC61850 and process bus applications.

- Substation and SCADA architecture and communication protocols such as DNP3, IEC61850, Modbus, etc.
- Telecommunication networks protocols and standards applied to protection systems in transmission networks.
- Transmission system security and reliability.

Desirable

- Minimum 7 years' experience and demonstrable capability in an Engineering related role
- Programming skills such as Python or similar

Qualifications

- Tertiary qualification in Electrical Engineering or relevant discipline (essential).
- Eligible for membership of Engineers Australia or professional association (essential)
- Chartered status with Engineers Australia or equivalent (desirable)

Background Checks

- Pre-employment checks, including background and security checks (such as global criminal checks) are required for this position, completed prior to commencement and repeated on a regular basis after appointment.

NOTE: Copies of the above listed qualifications/licences/certificates are required as evidence on appointment.