Position Description

Position title:	Smart Grid Test Engineer
Reports to:	Manager Communication Networks Quality
Business unit:	Electricity Networks
Employment category:	Contract (Employment Agreement)

About United Energy

As an electricity distribution company we provide safe, reliable and affordable power to 700,000 Victorians in Melbourne's east and south eastern suburbs and the Mornington Peninsula.

We use our network of poles, wires and infrastructure to bring power to homes and businesses across almost 65% of Victoria — that's more than 120,000 kilometres of wires and 850,000 poles.

But we do so much more than manage poles and wires. We're also the gateway to a clean energy future, dedicated to finding solutions and harnessing new technology to benefit our customers, communities and the environment. This includes industry leading projects in community batteries, demand management, smart charging for electric vehicles (EVs) and microgrids.

And as more customers choose solar, batteries, EVs and smart appliances — the electricity system is becoming increasingly complex, and so too is the level of innovation required to manage it. That's where you come in.

About the Electricity Networks team you'll be part of

The Electricity Networks team is responsible for the efficient and effective management of our electricity distribution networks and assets. They do this through developing engineering standards, asset strategies and long-term views of the network, network planning, investing in future network technology, asset maintenance planning, network safety and compliance management and bushfire mitigation strategies.

Our core values

Live safely

Improve our business

Be customer and community minded

Be the best you can be

Succeed together

Purpose of the position

The Smart Grid Test Engineer operates within the Communications Networks Quality team and is responsible for ensuring the quality, reliability and regulatory compliance of AMI and Smart Grid systems, including VPN and UE communication networks. The role supports the end-to-end lifecycle of testing and quality control activities – design, build, execution, validation and deployment – while driving continuous improvement in testing practices and automation. Key aspects of the role includes, but not limited to:

- Provide comprehensive testing support for internal and external projects by preparing and executing test plans and test cases that ensure coverage of functional, technical and regulatory requirements.
- Plan and implement rigorous quality control measures across AMI and Smart Grid systems to verify compliance with applicable standards, regulations and business requirements, mitigating operational and business risks.
- Identify, document and report non-compliance, defects and operational issues, supporting thorough root-cause analysis and resolution.
- Drive initiatives to enhance business and testing processes, including the design, development and implementation of test automation frameworks, process optimisations and efficiency improvements.

This position plays a key role in minimising operational risk, supporting project delivery and maintaining high standards of system integrity across both project and business-as-usual environments.

Your key responsibilities

Quality Control and Testing

- Lead acceptance and validation testing of new and existing AMI and Smart Grid technologies to ensure readiness for deployment and maximise business value
- Develop, maintain and implement test strategies, including defining test scope, approach, estimates and acceptance criteria aligned with business, project and regulatory requirements
- Design and maintain structured test plans, procedures and test cases covering functional, integration and system requirements
- Establish and maintain test environments, tools and data to support all phases of testing
- Execute, document and report test activities (manual and automated) with accuracy, traceability and auditability
- Identify, report and support investigation of defects, risks and non-compliance issues
- Establish and enforce quality control processes to ensure compliance with applicable standards, safety and regulatory requirements, including defect and risk management
- Coordinate testing activities with stakeholders and drive continuous improvement of testing methodologies, tools and processes

Test Automation and Continuous Improvement

- Define and prioritise test automation opportunities across AMI, smart metering and smart grid systems to maximise coverage, repeatability and risk reduction
- Design, develop and implement scalable, modular and reusable automated test frameworks and scripts supporting regression, performance, interoperability and end-to-end testing
- Maintain, optimise and expand automation suites to ensure reliability, reusability and effectiveness across firmware, software and configuration updates

- Implement and integrate automated testing tools into test execution workflows and system delivery pipelines to reduce manual effort and accelerate release cycles
- Analyse test results, defect trends and performance metrics to drive data-driven improvements in quality assurance and system performance
- Collaborate with engineering, operations teams and other stakeholder to embed automation into operational workflows and ensure alignment with system and business requirements
- Drive continuous improvement by enhancing testing processes, methodologies, tools and adoption of industry best practices and emerging technologies

Test Laboratory Management

- Manage and maintain the AMI and smart grid test laboratory, including hardware, software, network configurations, test benches, communication equipment and simulation tools
- Install, configure, integrate and maintain test equipment, meters, communication devices and supporting systems to support evolving technologies
- Ensure laboratory environments accurately replicate field conditions to support reliable and representative testing outcomes
- Ensure all lab equipment, systems and facilities are operational, calibrated and compliant with safety and quality standards
- Develop, implement and enforce standard operating procedures (SOPs) for lab usage, equipment handling, maintenance and test consistency
- Coordinate lab resources, scheduling and access to efficiently support multiple concurrent testing initiatives, including FAT and vendor validation activities
- Maintain accurate inventory, asset records and documentation and provide technical support including troubleshooting and vendor coordination

Communications Systems Operations

- Collaborate with Network Operations, IT Support teams and other stakeholders to align testing activities with AMI network performance, system changes and operational priorities
- Coordinate validation of communications infrastructure (e.g., RF, cellular, VPN) and Head-End System (HES) functionality, including configurations, integrations and data flows
- Support and participate in end-to-end testing across metering, communications networks and enterprise systems to ensure interoperability and reliable system performance
- Lead and contribute to cross-functional incident investigations and root cause analysis for the AMI and Smart Grid network, devices and system issues, ensuring timely resolution with engineering, operations and field teams
- Provide technical input into deployment, commissioning, system enhancements and operational procedures (e.g., firmware updates, remote configuration)
- Support change management activities by validating system updates, patches and configuration changes to ensure minimal operational impact
- Develop and deliver training, documentation and knowledge sharing initiatives to uplift capability across Network Operations, asset management and broader teams

What you'll bring to the business

Education / Qualifications:

- Tertiary or equivalent qualifications in Information Communications Technology, Electrical Engineering, Electronics Engineering, Telecommunications, Computer Engineering, Computer Science or a related discipline
- Relevant certifications or formal training in software/testing methodologies (e.g., ISTQB or equivalent) are advantageous

Knowledge:

Essential

- Strong understanding of AMI and Smart Grid architectures, including smart meters, communications networks (RF, cellular, PLC) and Head-End Systems (HES)
- Familiarity with AMI vendor systems and platforms (e.g., Itron, Landis+Gyr or equivalent)
- Solid knowledge of testing methodologies and lifecycle management, including test strategy, planning, execution, defect management and reporting
- Extensive experience in manual and automated testing of software and devices, including functional, integration, system, regression and end-to-end testing
- Experience with test management tools and platforms (e.g., Micro Focus/HP ALM or equivalent)
- Strong knowledge of test automation frameworks, tools and equipment, including UFT/QTP, NI VISA, LabVIEW, Selenium and similar technologies
- Proficiency in programming and scripting languages (e.g., Python, C#, C++, Java), including APIs, web services and automation interfaces
- Good understanding of communication protocols and networking fundamentals, including Ethernet, TCP/IP, RS-232, MODBUS, GPIB and USB
- Strong knowledge of working within a smart metering and AMI laboratory environment, including test benches, simulation tools, communication test equipment and replication of field conditions
- Experience with smart meter testing tools and instrumentation, including meter test benches, protocol analysers, simulators and diagnostic tools used for validation and troubleshooting
- Experience with system integration and data flows across enterprise platforms (e.g., HES, MDMS, OMS, CIS)
- Familiarity with data analytics and visualisation tools (e.g., Power BI, Tableau or similar) for test reporting and insights
- Strong working knowledge of Quality Assurance systems, including the ability to document, implement and adhere to formal quality processes and procedures
- Understanding of regulatory, safety and cybersecurity requirements, including electrical safety and relevant industry standards
- Highly developed analytical and problem-solving skills, with the ability to identify defects, perform root cause analysis and interpret complex system behaviours
- Strong communication and stakeholder engagement skills, including the ability to produce clear, concise documentation and professional reports
- Demonstrated ability to work collaboratively in cross-functional teams to deliver outcomes within defined timeframes

Desirable

- Experience and knowledge of electricity distribution and electricity metering
- Exposure to large-scale AMI deployments or meter rollout programs
- Understanding of data platforms, and analytics tools used in smart grid environments
- Understanding of asset management systems and operational processes within utility environments
- Knowledge or experience in developing software and/or embedded applications for smart metering, AMI, or smart grid systems, including firmware-level interactions and device integration
- Understanding of electricity distribution networks and electricity metering principles

Experience:

- Minimum 5 years of demonstrated experience in software and/or hardware testing, including both manual and automated approaches.
- Proven experience in the design, development, and execution of test automation systems for instrumentation, devices, and/or software.
- Hands-on experience with device and software test automation tools and equipment, such as UFT/QTP, NI VISA, LabView, and similar platforms.
- Familiarity with working in electrical or electronics laboratory environments, including smart metering labs, and using associated test benches, simulators, and measurement equipment.
- Experience with communication protocols (e.g., Ethernet, TCP/IP, RS-232, MODBUS, GPIB, USB) in testing and integration environments.
- Demonstrated experience in working collaboratively with equipment vendors, application vendors, and service providers to support system development and testing activities.
- Proven track record in problem determination, root cause analysis, defect tracking, and issue resolution in complex systems.
- Experience in end-to-end testing and system integration across smart meters, AMI communications, HES, MDMS, and related Smart Grid systems.
- Experience using test management and defect tracking tools (e.g., Micro Focus/HP ALM or equivalent).
- Ability to document and apply formal quality procedures and test protocols, producing clear, professional reports for technical and management audiences.
- Demonstrated ability to work effectively in cross-functional teams, delivering testing outcomes on schedule and ensuring alignment with project objectives.

The skills and competencies you'll have

'Thought' competencies (select 1-3 most important)

1. Tech savvy: Anticipating and adopting innovations in business-building digital and technology solutions
2. Cultivates innovation: Creating new and better ways for the organisation to be successful
3. Manages complexity: Making sense of complex, high quantity and sometimes contradictory information to effectively solve problems

'Result' competencies (select 1-3 most important)

1. Plans and aligns: Planning and prioritising work to meet commitments aligned with organisational goals
2. Optimises work processes: Knowing the most effective and efficient processes to get things done, with a focus on continuous improvement
3. Resourcefulness: Securing and deploying resources effectively and efficiently

'People' competencies (select 1-3 most important)

1. Collaborates: Building partnerships and working collaboratively with others to meet shared objectives
2. Communicates effectively: Developing and delivering multi-mode communications that convey a clear understanding of the unique needs of different audiences
3. Interpersonal savvy: Relating openly and comfortably with diverse groups of people

'Self' competencies (select 1-3 most important)

1. Manages ambiguity: Operating effectively, even when things are not certain or the way forward is not clear
2. Nimble learning: Actively learning through experimentation when tackling new problems, using both successes and failures as learning fodder
3. Self-development: Actively seeking new ways to grow and be challenged using both formal and informal development channels

'Leadership' competencies (only applicable for people leaders)

1. Manage self: Willing and able to assess and apply own skills, abilities and experience. Being aware of own behaviour and how it impacts on others.
2. Take the lead: Taking the lead and pushing for performance. Take charge, declaring, decisive. Push, hold people accountable.
3. Enable others: Creates conditions for others to lead and contribute. Empowers others. Listens, open to influence. Supports, treats people well.
4. Strategic focus: Position your team for the future. Set direction, drive improvements and growth, embrace innovation.
5. Execution and results: Position your team for the future. Set direction, drive improvements and growth.

Other relevant information

- Travel to other work locations / sites may be required