# Position Details

## Research Scientist/Engineer – CSOF6

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| The following information is for applicants |
| Advertised Job Title | Senior Power Systems Research Engineer |
| Job Reference | 100667 |
| Tenure and work schedule | IndefiniteFull-time*We will explore options for part-time and flexible work arrangements based on needs of the role and individual circumstances.* |
| Salary Range | AU$ $131,113 – AU$153,639 per annum (pro-rata for part-time) plus up to 15.4% superannuation |
| Location(s) and office arrangements | Newcastle, NSW (**preferred**) or Melbourne VIC may be considered |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents Only  |
| Position reports to the | Team Leader, Power Systems |
| Client Focus – Internal | 40% |
| Client Focus – External | 60% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Himani Goyal, Team Leader – Power Systems, via email at himani.goyal@csiro.au  |
| Support and workplace adjustments | We offer a range of reasonable supports and workplace adjustments. Please let us know via email Piumi.Desilva@csiro.au (Piumi De Silva – Talent Acquisition Partner) if we can help you to equitably participate in our recruitment process or the role itself. |
| How to apply | Apply online at <https://jobs.csiro.au/> Internal applicants please apply via **Jobs Central**We encourage you to reach out if you require any support or experience difficulties when applying – please email careers.online@csiro.au |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### About CSIRO

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology. Many of our iconic innovations were once considered impossible until someone, just like you, joined us and took on the challenge.

As one of the world’s largest multidisciplinary mission-driven research organisations, we are focused on the issues that matter the most: for our quality of life, for the economy and for our environment. We believe diverse teams are more effective and deliver more innovative outcomes. When we all focus on the big things that really matter, and work in partnership with our communities and [Indigenous Australia](https://www.csiro.au/research/indigenous-science), Australian science and technology can solve seemingly impossible problems and create new value for all Australians. Visit [CSIRO.au](https://www.csiro.au/) for more information.

### Role Overview

The role of Research Scientist/Engineer staff is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. They may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. They will also have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

As Australia move towards a net zero emissions future, the four key components of the energy sector — electricity, industry, transport and exports — are evolving rapidly. There is a large body of work needed across the industry over the next 10 years, which will require a significant increase in the depth and breadth of power system engineering expertise both in academia and industry. CSIRO’s work is helping build the foundation for this through the provision of reliable, actionable, evidence-based research.

The Senior Power Systems Research Engineer will be required to contribute to applied research activities in electrical power systems and energy network modelling and control, working with a range of partners to take the latest optimisation, simulation and analytical techniques to impact the growth of Australia’s electricity system. They will have the opportunity to build and maintain international networks of research collaborators and deployment partners, and pursue new ideas and approaches that create new concepts.

### Duties and Key Result Areas

* Conduct modelling and simulation studies of Australia’s current and next-generation electricity generation, transmission and distribution systems (in near real-time and longer-term timeframes).
* Develop approaches and techniques for solving grid challenges associated with renewable energy integration, managing battery systems or distributed energy resources. This will include benchmarking data models, and deployment and testing of these techniques in real-world, large-scale deployments.
* Contribute to setting priorities and new directions in research for Australia’s power systems including the grid challenges associated with renewable energy integration. (A focus of this position will be the multi-year program – [Australian Research - Power Systems Transformation](https://www.csiro.au/en/research/technology-space/energy/electricity-transition/ar-pst). The successful candidate will be heavily engaged in delivering this work).
* Interact and collaborate with diverse industrial and research partners, including network service providers, universities, energy market and power system operators, start-up companies, and others.
* Act as a trusted advisor, utilising knowledge and understanding of clients’ underlying needs, as well as identifying and adapting quickly to changes in their needs and market directions.
* Undertake feasibility studies, demonstrate a considerable degree of originality, creativity and innovation in solving problems and introduce new directions and approaches.
* Under general direction, use professional expertise, knowledge of other disciplines and research experience and achievement to formulate, develop and assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity and innovation.
* Present results to clients and the scientific community in a meaningful format, through written and oral reports and/or scientific papers for publication.
* Work collaboratively as part of a multi-disciplinary, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD, or an equivalent combination of qualifications and demonstrated research experience, in Electrical Engineering, Mathematics or related fields, with a focus on power systems engineering.
2. Demonstrated experience in electrical generation/distribution/transmission system modelling, planning, optimisation or control.
3. Experience with power systems modelling tools and programming/analysis tools.
4. A demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.
5. Ability to work collaboratively and build strong networks with internal teams and external stakeholders.
6. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems, and an enthusiasm for applied research solving current problems for commercial partners.

**Desirable**

1. Experience in planning and leading successful research projects, including collaborations between academia and industry.
2. Previous experience with tools such as SINCAL, PowerFactory, OpenDSS, PSCAD, Python, Matlab, R, or Julia PowerModels.
3. Experience supervising project teams and junior staff.
4. Experience in one or more of the nine research topic areas identified in the [CSIRO AR-PST Roadmap for Australia](https://www.csiro.au/en/research/technology-space/energy/electricity-transition/ar-pst) *(Applicants are strongly encouraged highlight how their previous professional experience relates to addressing one or more of the nine research topics identified as high priority in the CSIRO GPST Roadmap for Australia, or less specifically, how it relates to solving grid challenges associated with renewable energy integration).*

## **Not sure if you meet all the criteria?**

While it is CSIRO policy that the successful candidate must meet all the essential criteria, there are many ways to demonstrate this. Don’t let the list discourage you. If you are unsure about applying, please reach out to the contact on page 1 of this document so we can discuss the role further.

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other team as well as industry colleagues.
* **Influence and Communication:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious, proposals / ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to and manages the increasing rate of organisational change by adjusting strategies, goals and priorities.

## **Setting you up for success**

We understand that not everyone works in the same way and sometimes people may require reasonable support and adjustments to perform at their best. Whether related to the recruitment process and or the role itself, this may include options such as providing different methods of communication, flexible hours or physical adjustments to work methods. If you feel comfortable, we encourage you to share any support and adjustments you may need to carry out the inherent requirements of the role. Please let us know via email Piumi.Desilva@csiro.au (Piumi De Silva – Talent Acquisition Partner) if we can help you to equitably participate in our recruitment process or the role itself.

## **Life at CSIRO and flexible working arrangements**

We [work flexibly at CSIRO](https://www.csiro.au/en/careers/life-at-csiro/Flexible-work), offering a range of options for how, when and where you work.  We can discuss flexible work arrangements with you during the recruitment process. CSIRO also offers a range of leave entitlements, [benefits](https://www.csiro.au/en/careers/life-at-csiro/Benefits) and [career development](https://www.csiro.au/en/careers/life-at-csiro/Career-development) opportunities. To learn more, visit [Careers at CSIRO](https://www.csiro.au/en/careers).

We celebrate the uniqueness of our workforce and are committed to creating [diverse and inclusive teams](https://www.csiro.au/en/careers/life-at-csiro/Diversity-inclusion-belonging) where everyone feels they belong. CSIRO is an equal employment opportunity organisation dedicated to recruiting people based on merit, and reflecting the diversity of the community we serve. We recognise true diversity encompasses all ages, nationalities, abilities, cultures, genders, sexualities, faiths, levels of education, diversity of thought and many more aspects of identity. By empowering diverse teams, our community is reflected in the solutions we create.

## **CSIRO values**

CSIRO is a values-based organisation committed to values-based leadership.

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| **Value** | **Descriptor** | **Behaviour** |
| **People first** | Our priority is the safety and wellbeing of our people. We believe in, and respect, the power of diverse perspectives. We seek out and learn from our differences.  | * Respectful
* Caring
* Inclusive
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| **Further together** | We achieve more together than we ever could alone. We listen and collaborate, in teams, across disciplines, across boundaries. We embrace ambiguity and use discussion and persistence to generate unique solutions to complex problems. | * Accountable
* Authentic
* Courageous
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| **Making it real** | We do science with real impact. We thrive when taking on the big challenges facing the world. We take educated risks and defy convention. We celebrate successes and failures and leverage them to learn as we strive to be the force for positive change. | * Partnering
* Cooperative
* Humble
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| **Trusted** | We’re driven by purpose but remain objective. We fight misinformation with facts. We earn trust everywhere through everything we do. We trust each other and we hold each other accountable. Together our actions drive Australia’s trust in CSIRO. | * Curious
* Adaptive
* Entrepreneurial
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## **Child safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.