


# Principal Planning Engineer – Modelling & Simulation

Working for the future of our state

September 2026

HORIZON POWER

| Position Title | Principal Planning Engineer – Modelling & Simulation (S7007H09) | | |
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| Division | Commercial | Business | Energy Planning |
| Leader Title | Planning Manager Modelling & Simulation | Location | Bentley |
| Level | 9 | Direct reports | No direct reports |
| Horizon Power's purpose and link to this position | Delivering clean energy solutions for regional growth and vibrant communities with our shared purpose, values and empowering beliefs driving our culture. This role contributes to the Horizon Power Purpose by:<br><br>Providing principal technical advice and expert services in relation to dynamic and other complex power system modelling across Horizon Power. The role owns Horizon Power's power system modelling methodology, model governance and internal model estate; drives modelling excellence and capability uplift within the Energy Planning Centre of Excellence; and ensures that modelling-derived risks are understood and applied to Horizon Power's projects and Annual Planning Cycle. | | |

## Position requirements

- Travel to regional WA as required
- WA Driver's License Class 'C' or 'C-A'
- Reasonable additional hours
- Responsibilities outlined below are indicative only and do not limit Horizon Power in assigning additional responsibilities within the employee's competency, experience, knowledge, and qualifications

## Responsibilities – Our Ways of Being

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| Modelling methodology and governance | • Own, develop and maintain Horizon Power's power system modelling processes, guidelines and work instructions, lodged within the Energy Planning guideline register<br>• Establish and maintain model governance, including model data standards, validation, version control and change management for Horizon Power's system models<br>• Monitor ongoing compliance with modelling guidelines and governance procedures across Energy Planning and external study providers<br>• Set study methodology and provide technical review of complex steady state, dynamic (RMS) and electromagnetic transient (EMT) studies<br>• Develop and maintain the framework and acceptance criteria for proponent-supplied generator and plant models, supporting generator performance compliance assessments<br>• Evaluate and recommend modelling tools, software and techniques to improve modelling capability, accuracy and efficiency<br>• Drive automation and standardisation of planning study workflows, developing scripted, repeatable study pipelines that improve throughput, consistency and quality |
| Model development and planning delivery | • Build out, maintain and manage Horizon Power's internal model estate, including steady state, dynamic, EMT and dispatch models of Horizon Power's power systems<br>• Undertake complex steady state, dynamic (RMS) and EMT studies to support power system development, new connections and the integration of new technologies<br>• Validate and benchmark models against measured system performance and disturbance events to maintain model fidelity<br>• Develop and maintain models of synchronous generation, inverter-based resources, energy storage and distributed energy resources, and their primary and secondary control systems<br>• Contribute to delivery of the Annual Planning Cycle, including the models, data and analysis that underpin it<br>• Contribute to studies which inform the development of power system control philosophies |

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| Technical leadership and capability | • Provide principal technical advice and expert services in relation to dynamic and other complex power system modelling across Horizon Power<br>• Drive modelling excellence within the Energy Planning Centre of Excellence, including modelling capability uplift, knowledge sharing and consistent modelling practice across planning teams<br>• Coach, mentor and provide technical direction to planning and modelling engineers, and review the work of graduate engineers and contractors<br>• Identify and articulate modelling-related project risks and ensure project, commercial and operations teams understand how they apply to specific projects<br>• Provide expert technical support to major projects, connection proponents and operations teams on complex modelling matters<br>• Represent Horizon Power's modelling practice with software vendors, consultants, industry bodies and other network operators |
| Stakeholder relationships – Leading purposeful change | • Developing and maintaining strong, effective working relationships with key stakeholders.<br>• Internal: Energy Planning team, Commercial division, Microgrids division, Remote Community division, and Pilbara Network & Projects division.<br>• External: Modelling software vendors, engineering consultants and contractors, connection proponents and their consultants, industry bodies and other network operators |
| Enterprise Safety Leadership | • Comply with Enterprise Safety standards, systems, procedures and guidance, and take personal responsibility for working safely in the delivery of their role.<br>• Identify hazards, follow established controls, report incidents and speak up about risks that may impact themselves, others, customers, communities or public safety. |
| Ad hoc requirements | • Completing ad hoc work in a timely manner as and when required<br>• Acting in the Planning Manager Modelling & Simulation role on a higher duties basis as required |

| Qualifications | |
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| Education | • Tertiary qualification in Engineering is mandatory<br>• Postgraduate qualification in power systems engineering or a related discipline is desired<br>• Chartered membership of the Institution of Engineers Australia is desired |
| Experience | • Extensive experience in power system modelling and simulation, including steady state, dynamic (RMS) and electromagnetic transient (EMT) studies<br>• Extensive experience with DIgSILENT PowerFactory, including model development, scripting and automation<br>• Extensive experience with the development of modelling standards, guidelines and technical procedures<br>• Extensive experience modelling synchronous generation, including governor, excitation and power system stabiliser models<br>• Significant experience modelling inverter-based resources, battery energy storage and distributed energy resources<br>• Significant experience modelling secondary control systems, including power station controllers, power and energy management systems, and frequency and voltage control schemes<br>• Significant experience in energy systems (generation, transmission and distribution) planning, design and operation<br>• Significant experience working with senior stakeholders and translating technical outcomes into business and project risk<br>• Demonstrated experience providing technical leadership, review and mentoring to engineers |

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| Key skills and abilities | **Essential**<br>• Expert power system modelling, model development and model management capability<br>• Expert application of PowerFactory for steady state, RMS and EMT simulation<br>• Advanced proficiency in Python (or similar) for modelling automation, data analysis and tool development<br>• Advanced technical writing skills, with well-developed verbal communication and interpersonal skills<br>• Demonstrated capacity to assess risks and communicate them clearly to technical and non-technical audiences<br>• Expert understanding of power system dynamics, stability and control for synchronous and inverter-based generation, and their representation in RMS and EMT models<br>• Sound knowledge of power system planning principles, technical rules and generator performance requirements<br><br>**Desired**<br>• Experience with PSCAD or other EMT platforms, and with generation dispatch modelling tools<br>• Knowledge of the Western Australian electricity industry regulatory environment |
| Competencies | |
| Thought | • **Makes Decisions:** Making good and timely decisions that keep the organisation moving forward<br>• **Innovates:** Creating new and better ways for the organisation to be successful<br>• **Business Insight:** Applying knowledge of business and the marketplace to advance the organisations goals<br>• **Tech Savvy:** Anticipating and adopting innovations in business-building digital and technology applications<br>• **Balances Stakeholders:** Anticipating and balancing the needs of multiple stakeholders |
| Results | • **Action Oriented:** Taking on new opportunities and tough challenges with a sense of urgency, high energy and enthusiasm<br>• **Ensures Accountability:** Holding oneself and others accountable for meeting commitments<br>• **Drives Results:** Consistently achieving results, even under tough circumstances<br>• **Directs work:** Providing direction, delegating and removing obstacles to get work done<br>• **Plans and Aligns:** Planning and prioritising work to meet commitments aligned with organisational goals<br>• **Optimises work processes:** Knowing the most effective and efficient processes for getting things done, with a focus on continuous improvement |
| People | • **Collaborates:** Building partnerships and working collaboratively with others to meet shared objectives<br>• **Communicates Effectively:** Developing and delivering multi-mode communications that convey a clear understanding of the unique needs of different audiences<br>• **Builds effective teams:** Building strong-identity teams that apply their diverse skills and perspectives to achieve common goals<br>• **Interpersonal Savvy:** Relating openly and comfortably with diverse groups of people<br>• **Builds Networks:** Effectively building formal and informal relationship networks inside and outside the organisation<br>• **Organisational Savvy:** Maneuvering comfortably through complex policy, process and people-related organisational dynamics |

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| Self | • **Self-Development:** Actively seeking new ways to grow and be challenged, using both formal and informal development channels<br>• **Situational Adaptability:** Adapting approach and demeanour in real time to match the shifting demands of different situations<br>• **Manages Ambiguity:** Operating effectively, even when things are not certain, or the way forward is not clear<br>• **Nimble Learning:** Actively learning through experimentation when tackling new problems, using both successes and failures as learning fodder<br>• **Being Resilient:** Rebounding from setbacks and adversity when facing difficult situations |