



POWER INFRASTRUCTURE

At Engenuity Solutions, we have exceptional capability to provide high-quality power systems design and analysis services to meet all our clients' needs. We:

- Have a proven track record of using our in-depth knowledge to provide you with the best design at the lowest cost.
- Have a deep understanding of working plant operational requirements, enabling us to design safe & practical systems.
- Perform studies to identify potential problems in your network & provide practical, cost-effective solutions to mitigate your risk.
- Offer strategic partnerships with experienced specialists, suppliers and fabricators.
- Bring extensive and insightful experience from a variety of industries to the table.
- Value our customers and base our success upon satisfied clients.

OUR SOLUTION OFFERING

Safe & sustainable power systems infrastructure is the bedrock of our client's electrical systems. Ensuring that you have the most cost effective, highest quality and safest design and installation is part of our DNA.

We have wide-ranging experience in providing power systems designs and studies to our clients, ranging from feasibility studies and detailed design to upgrading and commissioning plant and equipment throughout Australia and the world.

Our projects have included sites ranging in scope from 1 to 250 MW, where the power supply varies from grid supply and local diesel/heavy fuel oil generators to solar farm and hybrid systems. Our clients have included miners, generation plants, commercial developers and theme park operators.

We seek to be a one-stop-shop of power system design, with just some of the services we offer being:

- Detailed power system analysis using state-of-the-art software, including arc flash analysis
- High voltage and earthing system design
- Switchboard & LV Motor Control Centre (MCC) design
- Generator plant protection, control and ancillary system design
- Tender reviews and recommendations
- Construction support and commissioning assistance

Supporting our design services is our power system analysis capability. We provide high-quality fault studies, protection coordination, load flow modelling, system stability studies, power quality reviews, generator studies, earthing system modelling and arc flash analyses. These inform our designs and recommendations, making sure we provide a safe, reliable and compliant system for you and your operations.

Finally, we pride ourselves on our knowledge of arc flash, its dangers and its mitigation. Not only do we regularly perform arc flash analyses, we have also presented on arc flash issues in industry safety forums, as well as developed white papers and other informative communications for our clients – ensuring you get the best advice possible.

SAMPLE PROJECTS

OceanaGold – Waihi HV Upgrades (NZ)

Upgrades and additions to the site high voltage network, primarily focussed on the underground network but also considering the supply substation on the surface. We also act as the nominated electrical engineer responsible for the site.

Newcrest Mining – Lihir Island HV Upgrades (PNG)

Upgrades and additions to the site high voltage network and generator plant. This included design, client consultation, vendor management, installation support, commissioning and handover for a new 33 kV & 11 kV substations & distribution, 80 MW diesel generation plant addition, 60 MW geothermal and 72 MW diesel power station upgrades & assisting with partner company site wide intelligent power system management implementation

Gold Coast Water Authority – Bypass Station Switchboard Upgrades (QLD)

Detailed design & construction support for new 3.3 kV and 415 V switchboards as part of a full electrical system upgrade, including power systems studies, protection philosophy and settings design, arc flash analysis, vendor drawing review and full LV reticulation design.

Cape Byron Management – Data Centre HV Reticulation Design (NSW)

Detailed design, construction support & commissioning for a new 11 kV system to supply eight 2.5 MVA data centres at a biofuel generator site, including HV & LV reticulation, power systems studies, protection philosophy and settings design & arc flash analysis.



WHY ENGENUITY SOLUTIONS

Trusted experts - We are experts in our field and value the trust placed in us by our clients.

Innovative - We offer a holistic and innovative approach to our audits and investigations, maximising value from your assets while maintaining integrity and safety.

Mindset - We possess not only a depth of auditing expertise, but a breadth of experience in a variety of other industries which fuels our inventive thinking.

Solutions - We have a proven track record of delivering valuable & original solutions to complex & challenging problems.

Quality - We execute systematically and with discipline to ensure high quality; yet remain nimble enough to quickly respond to a project, market or technological change.

Outcomes - We work with you to find the best possible solution for challenges that others can't solve, delivering nothing less than the best.

