



GAS. POWER. WATER. TELCO.

POWER



Who is Zinfra?

Zinfra is a leading power, gas, water and telco infrastructure service provider. We offer a comprehensive range of engineering, construction and maintenance services to the utility infrastructure industry.

Zinfra knows power. We have emerged from an entity that managed services on more than \$9 billion of Australian utility assets, including transmission, substations and distribution.

Our clients include asset owners, transmission and distribution managers, mining companies and land owners.

We deliver our work, manage our projects and fulfil our contracts using the skill and commitment of over 1,500 passionate Zinfra staff, nationwide.

Our capability

We have the skill and resources to offer the power sector:

- Construction and installation
- Management and service of assets
- Engineering and SCADA
- 24/7 operations
- Maintenance
- Integrated capital works
- Project delivery

We have extensive experience in managing complex projects, an intimate knowledge of the industry and are able to deliver fully integrated solutions that are safe, reliable and cost-effective.

Why Zinfra?

- Zinfra is a single provider for your infrastructure development needs - ensuring greater compliance, and more integration
- We have a national resource pool that can be mobilised regionally
- We self-perform all core functions, so we can deliver certainty, quality and cost-effective outcomes
- Strong safety culture and compliance discipline
- National footprint, proven delivery in urban, rural and remote, FIFO locations
- Strong technical and commercial compliance to contractual scope
- Access to an established network of industry-accredited suppliers, delivery partners and subcontractors

Zinfra Group is fully accredited and approved to work on major electricity, gas, water and telecommunications networks throughout Australia.



Substantive ownership backing of the Singapore Power group of companies.

Zinfra experience

Zinfra has successfully completed work for most major infrastructure owners, including:

- ActewAGL
- AGL
- Aurora
- Ausgrid
- AusNet Services
- Endeavour Energy
- Energex
- Ergon
- Essential Energy
- Fortescue Metals Group (FMG)
- HydroTasmania
- Powercor
- Transend
- TransGrid
- United Energy



Signature projects:

Project:

Mount Beauty Terminal Station

Client:

AusNet Services

Project Details:

- Rebuild Mount Beauty Terminal Station 220kV switchyard, plant and infrastructure
- Installation of eight new 220kV switchgear bays including new foundations
- Remote operated switches, automated circuit breakers, capacitor voltage transformers
- Replacement of 220kV buses with aluminium type tubular buses
- Replacement of existing 200kV dropper conductors to new monitoring equipment
- Installation of new secondary panels, relays and control equipment
- Testing and implementation

Project:

FMG – Solomon Mine Transmission Lines

Client:

Fortescue Metals Group Ltd (FMG)

Project Details:

- Construction of 54km of transmission lines
- 177 specially designed poles, catering for hilly terrain, poor/corroding soils and cyclonic conditions were installed
- 10km of underground cable was fitted
- 8km of fibre optic cable used
- A team of 80 employees were mobilized from around the country and managed against heat stress, fatigue and the remote location
- Remote FIFO location in the Pilbara, WA

Project:

United Energy Network Service

Client:

United Energy

Project Details:

- Day-to-day operations and maintenance of the northern region of the United Energy (UE) electricity network
- Operations and maintenance includes the replacement of existing assets or construction of new assets
- ZNX, as part of Zinfra Group, is one of two core service providers to the UE electricity network
- UE distributes electricity to more than 640,000 customers across east and south east Melbourne and the Mornington Peninsula. UE manages a network of 209,000 poles and over 13,000 kilometres of wires.



Transmission.

Zinfra has a reputation for quality outcomes, achieved with high safety standards. We add value by working collaboratively with our clients to find solutions that enable us to deliver their projects on time and to budget.

We have expertise in the engineering and construction of transmission lines up to 500kV.

Our transmission lines team combines technically trained specialists and core capability to manage and deliver large transmission line construction projects across Australia.

We deliver transmission construction projects using specialist transmission line plant and equipment. This includes modern conductor and OPGW tension stringing equipment.

Electricity transmission capabilities include:

- Design and construction
- Civil works
- Design management services
- Procurement
- Line survey and design verification
- Foundations
- Structure assembly and erection
- Access and vegetation services
- Stringing conductor, ground wire and optical power ground wire (OPGW)
- Tension stringing
- Live line capability
- Maintenance services
- Substations terminal spans and strung busbar.

Live line work

Zinfra is a leader in its field. Working for AusNet Services, we have developed procedures that enable us to work on live 220kV lines. Our live line procedures mean we can deliver maintenance works safely, with no outages and minimal cost and inconvenience to our clients and their customers.

Project:

Portland: 500kV Transmission Line Conductor Replacement

Client:

AusNet Services

Project Details:

This large, critical lines project involved replacement of a bundled conductor on the HYTS-APD 500kV transmission line.

A complex project, Zinfra was required to:

- Restrung with new conductor between T591 and APD
- Erect "Lindsey" emergency restoration structures
- Remove the bundled conductors from the existing HYTS-APD No 1 & 2 circuits
- Make technical cuts into existing transmission lines
- Work to strict, short outage windows to maintain supply
- Manage landowner stakeholders



Substations.

We offer experience and quality in design, project management, construction, operation and maintenance of zone substations, transmission terminal stations and power station switchyards.

Our civil, overhead and underground distribution capabilities mean we can offer a fully integrated substation installation service in brownfield and greenfield environments.

Our substation capabilities include:

- Engineering services and design
- Project management
- Substation construction
- Maintenance services
- Live substation services
- Terminal stations and switchyards
- Transformer installation
- Protection and control services
- SCADA and communications systems
- Equipment testing and commissioning
- 24/7 emergency fault response.

Zinfra has expertise in specialist substation work, including:

- Complex asset renewal programs
- Progressive brownfield rebuilds of live substations.
- High speed monitoring infrastructure and integration
- Asset condition assessment
- Thermal surveys
- Metering services
- Calibration insulating oil diagnostic analysis
- Commissioning
- 24/7 emergency fault response.

Project:

Sydney West Substation Upgrade

Client:

TransGrid

Project Details:

- Upgrade of secondary side 132kV equipment including design, testing and commissioning (currently the largest substation in NSW)
- Challenging environment due to size, complexity and age of the substation
- Range of very old to current, modern equipment requiring knowledge and capability across numerous types of equipment
- Scope of works included:
 - » Design/design management
 - » Civil, drainage, concreting, conduit and cable installation including power and control cabling
 - » Replacement of major outdoor 132kV equipment
 - » Major protection systems and SCADA equipment upgrade
 - » Design, testing and pre-commissioning



Distribution - overhead and underground.

In addition to transmission lines, Zinfra has strong capabilities in the construction, maintenance and integration of high voltage overhead and underground lines.

Our strength is our ability to manage and deliver a project from the ground up, literally. Starting from a blank sheet of paper, we can provide a turnkey solution offering engineering, civil, overhead and underground construction, substation, metering and maintenance works.

Power distribution capabilities include:

- Engineering and design
- Project management
- Network operations
- End customer initiated works and asset relocations
- Overhead lines -
- Underground cable services -
- Substation and transformer installation and commissioning
- SCADA and communication systems
- Energy metering installation and replacement (AMI)
- Asset inspections
- Asset management and maintenance

Project:

Kelvin Grove Distribution Works (Queensland)

Client:

Energex

Project Details:

- Upgrade overhead and underground distribution network to accommodate increased capacity from newly constructed substation
- Scope of works included:
 - » Multiple HV and LV pole replacements
 - » Replacement of underground cables
 - » Reconductoring of HV overhead power lines
 - » Replacement of multiple pole mounted transformers
 - » Challenging environment due to high density urban area with significant traffic and pedestrian control required
 - » Extensive community consultation due to sensitivity of area and other major infrastructure works



Power Engineering and SCADA.

Zinfra's engineering and design capability is based on extensive operational and delivery experience and includes engineering and design for electricity transmission and distribution substations, distribution and sub-transmission lines, field SCADA and communications and host SCADA systems.

Zinfra provides services for all stages of a project from Front End Engineering Design (FEED), conceptual design, planning, detailed design through to commissioning including:

- Feasibility studies and preliminary design
- Engineering content for tender submissions
- Scope development and specification
- Concept and detailed design
- Design management and project engineering
- Equipment specification
- Engineering support during construction and commissioning phases.

We have developed processes for delivery of integrated design incorporating a strong design management methodology.

SCADA

Zinfra's SCADA (Supervisory Control and Data Acquisition) team provides systems engineering to our clients, specialising in telemetry design, installation and providing professional, reliable 'end-to-end' implementation of clients' control and protection systems.

Our wide range of experience includes integrating legacy systems to the implementation of state-of-the-art control solutions.

Our services include:

- Turnkey SCADA project implementation
- Systems engineering and integration
- Substation control systems
- Protocol application development
- Custom made RTU hardware and optimized solution based design
- Telemetry systems
- Industrial ethernet networking
- Project management
- Audit and consultancy services
- Technical support.

In addition to these services, Zinfra has been certified as the GE Digital Energy value added reseller (VAR) for Australia. With an installed base of over 100,000 systems throughout the world, GE Energy Services Control Systems are considered a world leader in the supervisory control and data acquisition business.





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