



Data Centre Services

Overview

From initial grid capacity studies to ultimate plant energisation, PSC engineers simplify the design, grid connection and permitting of high voltage equipment, internal networks, onsite generation, and substations for data centres worldwide. As specialist consultants to the electricity industry, PSC brings an exceptional understanding of power networks and grid connection to the data centre space.

Our power systems engineers provide initial front-end design, grid connection feasibility studies, detailed substation design, HV equipment specification and power systems studies such as load flow, harmonics analysis, integration of on-site generation, fault level and protections, arc flash, earthing and lightning protection

Interconnection Insights

Due to the sometimes sensitive details around compliance and auditing we will list our experience in this area in general terms. PSC has previous experience with:

- NER compliance reporting across a wide range of generation technologies including solar, batteries, diesel, hydro, steam turbines and gas turbines. Within our international PSC business, we've also been involved in offshore and onshore wind projects.
- Preparing for the technical section of audit responses for the AER. This can result in hundreds of individual responses with significant detail on different aspects of the generation compliance clauses.
- Compliance work across most of the states and territories in Australia.
- Due diligence work for the market operator and transmission service providers.

Key capabilities

PSC works hand in hand with utilities, developers and contractors providing specialist technical support, Owner's Engineer services and high voltage installation design.

Power Systems and Design Services

- Power systems studies with PSS/E, DIgSILENT and PSCAD
- Earthing and lightning protection with CDEGS software
- Dynamic and transient studies
- Generator connection studies
- Insulation coordination studies
- Arc flash studies
- Renewable integration studies
- Fault level studies
- Protection grading
- Surge protection device coordination

High Voltage Substations

- Feasibility studies and technical investigations
- Concept design
- Primary systems design
- Secondary systems design

Asset Management

- Independent Engineer roles
- Regulatory support
- O&M Advice
- · Generator testing and modelling
- Cybersecurity

Owner Engineer Services

- Project Management
- · Design management

PSC experts

Our experienced Data Centre Specialist is listed below:

Bradley Railing has over 35 years of electricity utility experience which includes direct involvement with regulated and merchant transmission projects around the world. His extensive experience encompasses technical feasibility studies, conceptual design, technical specifications,

field commissioning, fault tracing, expert witness testimony for HVDC and AC systems, HVDC submarine cable system repair support, root cause analysis, project management, operations

and maintenance with a specialisation in HVDC transmission

PSC relevant projects

A selection of projects which demonstrates our Data Centre experience is shown below:

Client	Role	Grid Connection	Scope of works	Location
Confidential	Technical Advisor	110 kV	Grid connection design and masterplanning	Ireland
Social network platform	Electrical design	220 kV	Grounding/ Earthing installation	Ireland
Web search engine platform	Electrical design	150 kV	Grounding/ Earthing installation	Denmark
Confidential	Electrical design	220 kV	Grounding/ Earthing installation	France
Microsoft	Electrical design	110 kV	Fault level study	Ireland