

Providing strategic electrical engineering advice to those who manage electricity supply networks, and those wishing to connect to, and interact with these networks



HILL MICHAEL

BUSINESS PROFILE

Hill Michael specialise in electrical transmission and distribution networks; focused on attracting and developing high-level technical expertise in the behaviour of these networks, as well as the commercial and regulatory environments in which they exist.

Supporting Networks Service Providers in the management and development of their networks.

Providing technical, regulatory and commercial expertise to those wishing to connect to, and interact with the electricity supply network.

Managing connection to, and interaction with, the electricity supply network...

The strategy, engineering and regulatory management around how generation and large-load projects connect to, and interact with, electrical networks is a specialist area of power system engineering. For generation and large-load projects, management of strategic engineering issues associated with connection can provide significant competitive advantage.

Hill Michael provides engineering and commercial services to facilitate connection to electricity transmission and distribution networks. This unique and specialised service

manages your network connection; from establishing the feasibility of connection, to conceptual design, Network Service Provider (NSP) negotiations and EPC management.

Hill Michael is unique in focusing on the 'corridor' of electrical infrastructure connecting major projects to shared network infrastructure. An integrated services approach combining the technical, regulatory and commercial aspects of connection provides optimum project strategy and delivery results.



Major Project Connection Services

1. Feasibility & Due-Diligence Services

Hill Michael's expertise across the technical, regulatory and commercial aspects of major project connection, combined with an ability to understand and evaluate project strategy provides a valuable capability to assess and develop energy and network connection strategy for major projects. Complementing project development and investment banking teams, Hill Michael can assist in the evaluation and delivery of major project investment.

2. Large-Load Connection

- Network planning analysis, including network capacity and economic optimisation.
- Evaluation of technical performance and compliance with National Electricity Rules, including network and connection system performance issues.
- Negotiation of Connection Agreements.
- Analysis and advice on market and regulatory risks and opportunities.

3. Generator Connection

- Network capacity and export constraint analysis.
- Evaluation of technical performance compliance with National Electricity Rules, including transient stability and inter-regional transfer limit analysis.
- Negotiation of access standards for NEMMCO registration.
- Negotiation of Generator and Embedded Generator Connection Agreements.
- Environmental Instrument registration and management, (including GECs, RECs, NGACs in Australia).
- Regulatory compliance for Generator and Connection Assets.

4. Technical Services

- Steady-state & Dynamic network analysis.
- Conceptual design of Connection Assets.
- Protection strategy, design and application.
- Network interaction analysis; harmonics, transients, voltage fluctuations, motor starting and fault studies.
- Earthing system design.
- Physical Connection Asset delivery management.



Hill Michael's capability in managing major project connection has developed from over 20 years experience in providing strategic engineering assistance to Network Service Providers. Pioneering the provision of network development, planning and management advice, Hill Michael applies this understanding of network development and optimisation to both, those wishing to connect to the electricity supply network, as well as those responsible for the operation, management and development of networks.

Services to NSPs are founded on technical expertise, and have grown beyond engineering analysis as Hill Michael has

continued to build a unique and powerful capability to assist NSPs improve both their organisational and their network performance.

The majority of Hill Michael senior engineering staff have significant experience in executive-level technical management roles in Transmission and/or Distribution NSPs. This experience, combined with over 15 years of providing power system software support services to planning, protection and power quality engineering teams ensures Hill Michael has valuable and practical insight into the optimisation of electricity supply networks.

Helping NSPs be better NSPs...

Specific Network Engineering & Management Services

1. Strategic Network Development & Management

Working closely with NSPs, Hill Michael focuses on the facilitation and delivery of medium and long-term network infrastructure development plans. The best people equipped to plan the development of transmission and distribution networks are those within NSPs to improve on the traditional approach to outsourcing planning activities, Hill Michael focuses on facilitating and complementing NSP's capability to deliver planning and strategic engineering projects.

2. Network Revenue & Regulatory Strategy

Hill Michael executive engineering staff have worked closely with, and within, NSPs throughout the regulatory and network pricing evolution of the industry. Having managed regulated revenue strategy and submission in General Management roles within NSPs, as well as involvement with regulators, Hill Michael's capability adds value to NSPs in the development and execution of revenue and broader regulatory management strategy.

3. Technical Services

Technical expertise remains the foundation of Hill Michael's capability. A proven ability to understand complex behavioural issues associated with transmission and distribution system design has established Hill Michael as 'expert to the experts'. Specific technical services include:

- Network revenue and regulatory strategy
- Strategic development and network planning
- Network investigation - dynamic and steady-state analysis
- Protection
- Power quality and Earthing

Hill Michael's unique role with the dominant power system analysis software packages - PSS/E, DINIS, PSS/SINCAL - provides the expertise and capability to develop customised analysis applications to perform voluminous network-wide analysis. This extremely efficient and consistent analysis approach can be employed with great value by those managing, planning and developing networks.

3. Major Connection Management

A core aspect of Hill Michael's capability is an understanding of the technical, regulatory and commercial aspects of connecting major network users to an NSP's shared network. Hill Michael often represents major network users and assists them through the connection process. This same capability can be applied to assist NSPs manage these major connections. As the structure of Network Service delivery and the role of NSPs continue to evolve, the focus of NSPs will increasingly need to be on the planning, development and maintenance of the core Shared Network assets; resulting in a shift toward the facilitation and management, not delivery, of major connections. Hill Michael has the specialist capability to complement and assist NSPs in delivering the connection of major Network Users.

4. Software Products

Hill Michael are distributors and agents for the sales and support for the dominant power system analysis software. As expert power system engineers Hill Michael works closely with NSPs to improve their understanding of software, the representation of their network, and the way software is employed to analyse, manage and operate their electricity supply networks. The software suite Hill Michael represents include the following applications:

- PSS/E
- PSS/SINCAL (successor of PSS/Adept)
- PSS/ODMS and Models on Demand Applications
- DINIS (E)

5. Network Data & Model Management

One of the most challenging issues for NSPs, particularly Distribution businesses, is the management of network data. Hill Michael has the capability, experience and understanding of the software, engineering and process aspects of data management to contribute strongly to improving network information within NSPs. From large-scale model updates, through to sophisticated integration solutions, Hill Michael has worked successfully with NSPs to find solutions that improve the most fundamental and critical aspect of network analysis and management - data integrity.



Hill Michael's Philosophy

- have inspired people working on exciting and significant projects to enhance the physical, commercial and regulatory infrastructure that delivers electricity to our community.
- achieve our aims by enabling our people and our clients to achieve theirs.

Hill Michael has been recognised as one of Australia's fastest growing private companies, being included in the 2005, 2007 and 2008 BRW Fast 100. This success has come through our focus on the success of those we work for and with; and we are thankful to everyone who participates in these relationships.

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Six locations / Over forty staff / Senior Engineers with forty years individual experience
/ Distributors for power system analysis software to every major Network Service Provider in Australia
/ Established in 1987 pioneering network planning consultancy, and still innovating...



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