

---

# Steven McFadyen

## Profession

Electrical Engineer

## Current Position

Electrical Services Leader

## Qualifications

MSc Electrical Engineering  
University of the Witwatersrand  
South Africa 1993

GDE Electrical Engineering,  
University of the Witwatersrand  
South Africa 1992

BSc Electrical Engineering  
University of Salford  
United Kingdom 1985

Government Certificate of  
Competency in Mining (South  
Africa) 1987

## Professional Associations

CEng MIET  
Chartered Engineer  
The Institution of Engineering and  
Technology, United Kingdom  
1992

Eur Ing  
European Engineer, FEANI 1994

Pr Eng  
Professional Engineer  
Engineering Council of South  
Africa 1991

Ir The South African Institute of  
Electrical Engineers, 1991

LEED Accredited Professional,  
GBCI, United States 2004

Breeam Certified Assessor  
BRE, United Kingdom, 2009

## Key Experience

---

Chartered electrical engineer with over twenty five years professional experience on major internationally recognised projects in a diverse range of industries including: railways, airports, buildings, petrochemical, pharmaceutical, power systems, mining and industrial.

Extensive experience of all project stages from inception to completion having worked for consultants, client's project team, contractors and as resident site staff. Demonstrated ability to take responsibility for team performance and drive projects forward to a successful completion.

In depth and detailed technical knowledge of electrical systems ranging from extra low voltage up to 33 kV. Focused on achieving the very best technical implementation and keeping up to date on technological developments. Enthusiastic about sharing knowledge and experience and actively mentoring/couching team members.

## Arup Gulf Limited Electrical Services Leader

---

United Arab Emirates  
2007–Present

Responsible for the performance of the electrical group as part of the office management team in Dubai. Design management of large complex projects including people, facilities and resources. Strategic input in to the company's overall business operating plan (setting budgets, resource planning, proposal/tender, regional cooperation, etc.).

Projects range from feasibility studies to iconic high rise developments and covered residential, hotel, office and shopping malls. Typical projects run from conceptual design through to construction with direct interface to developers, architects, local power supply & telecommunication authorities and other specialist consultants. Technical content includes infrastructure and medium voltage distribution, building low voltage systems, building management systems, ICT and fire detection and alarm.

Instrumental in setting up of design and document production processes, standards and ensuring quality control. Mentoring, training and development of team members.

## IDA International Electrical Director

---

Hong Kong  
2005–2007

Responsible for design delivery and business development for Asia Pacific projects. IDA concentrates on Data Centres and other mission critical facilities (due diligence, project management, design and commissioning). Major clients included Goldman Sachs, Macquarie, Credit Suisse, Morgan Stanley, JP Morgan, and Deutsche Bank with facilities located through the region (Hong Kong, China, Korea, Japan and India). Facilities were typically located in high rise buildings with high reliability (tier IV) infrastructure.

Other projects included protection discrimination studies of various mission critical facilities and redesign of the electrical systems within the International Commerce Centre building.

---

## Steven McFadyen

### Contact Details

To find out more about me, please visit my online CV at:

<http://stevenmcfadyen.com>

### **SKM - Sinclair Knight Merz Senior Electrical Engineer**

**New Zealand  
2004–2005**

Team leader various projects including client relationships, proposals, design, time/cost control, risk management, safety, quality and management of employees. Major focus was driving projects to completion within budget by managing a team of engineers, drafters, utilising the resources of other departments and external contractors as required.

Several 33/11 kV zone substations (capital cost NZ\$3m each) encompassing building design, 33/11 kV switchboards, transformers, numerical protection systems, IEC 61850 automation and associated systems.

Electrical team leader for two fresh water pumping stations (total design flow 16 m<sup>3</sup>/s, capital cost NZ\$40m) for North Otago Irrigation Company. Systems included the main 2.5 MW pump motors, ancillary pumping systems, instrumentation and control, air chamber, surge tanks and building services.

### **Hyder Consulting Limited Resident Engineer (E&M)**

**Hong Kong  
(18 month contract) 2002–2004**

Responsible for the control and automation systems for the West Rail Project's two interchange (KCRC to MTR) stations. Nam Cheong (contract value HK\$3.1 billion, my works HK\$375m, 42,000 passengers per hour) and Mei Foo (contract value of HK\$1.2 billion, my works HK\$200m, 40,000 passengers per hour).

Exercised autonomy as the owner's representative in ensuring systems were designed, installed and commissioned successfully. Management of engineers, inspectors, design consultants, main contractor, and systems contractors.

Works included dual redundant PLC control systems, environmental & air-conditioning, smoke extraction, fire detection and alarm, power distribution, lighting and signage, KCRC master control, platform screen doors, escalators, lifts, track ventilation and tunnel lighting and OPC integration.

### **Leighton Contractors Asia Design Manager**

**Hong Kong  
(12 month contract) 2001–2002**

Accountability for the E&M Works associated with Cargo Stand expansion for Hong Kong International Airport (contract value HK\$162m, works under my control HK\$75m). Works included 400Hz and 50 Hz power distribution, control systems, high mast lighting, airfield lighting and aviation fuel supply.

Reported to the Leighton's Director of Civil works and interfaced directly with Airport Authority's project & airfield operation teams. The project was highly successful exceeding the clients expectations, was completed early and significantly under the planned budget.

### **Airport Authority Construction Engineer**

**Hong Kong  
(28 month contract) 1996–2000**

Responsible for the design and construction of the airports two HK\$ 225m seawater-pumping stations. These were the largest cooling water pumping stations in Hong Kong and provide cooling water for all Airport facilities on the 12.5 million m<sup>2</sup> development.

---

## Steven McFadyen

Works covered electrical and mechanical plant in the pumping stations (including high/low voltage motors & variable speed drive systems, control systems, pumps, filtration systems, chlorination plant, building services, etc.). Managed a team of engineers ensuring consultants and contractors performed to meet the technical and commercial objectives of the Airport Authority.

### **Waste Management Group** **Hong Kong & China** **Technical Manager** **1994–1996**

Employed by Woodward-Clyde (New Zealand) to manage the construction and commissioning of the E&M services of the SENT Landfill. Works included, road lighting, offices, laboratories, treatment plant, substations (11kV/400V), emergency generators, workshops etc.

Following completion of the SENT landfill moved into Rust Asia Pacific's P&I division, specialising in design and construction of facilities in China. Projects included FDA approved pharmaceutical plants for Johnson & Johnson and Allergan and manufacturing plants for International Paper, Duracell and Amway

### **Conalec Pty Limited** **South Africa** **Principal Electrical Engineer** **1990–1993**

Overall design responsibility for large turnkey petrochemical, mining and industrial projects. As principle electrical engineer supervised a team of engineers, designers, cad operations and contract labour.

Main projects included the Air Separation & LNG Plant for Mossgas (world's largest natural gas to liquids facility), stackers, reclaimers and precipitators for mining companies and power stations. Design covered MV/LV reticulation, motors (up to 18MW), substations, transformers & switchgear, protection systems, UPS, hazardous areas, instrumentation, control systems, harmonic analysis, power factor correction and earthing/lightning protection.

### **Watson Edwards & V.D.Spuy** **South Africa** **Electrical Engineer** **1988–1990**

Responsible for the design and site coordination for several large township reticulation projects (including the Tokoza, Moleleki and Katlehong East Rand projects). Developed software to automatically size / route cables for the Mossgas project.

### **General Mining Union Corporation** **South Africa** **Section Engineer** **1985–1987**

Appointed as section engineer under the Mines and Works Acts for the maintenance, functioning and upgrading of all electrical and mechanical equipment for two shafts at Winkelhaak Gold Mine.

Equipment included shaft winding (people & materials), electrical distribution, ventilation systems, pumping (water & sludge), compressed air systems, hazardous areas, etc.