



Role Description

Title	Base Electrician	Incumbent	
Manager's Title	Engineering Supervisor	Date of Last Review	January 2023
Team	Engineering	Location	Scott Base
Work Environment	This role will require the incumbent to travel to Antarctica for an extended period which requires a medical clearance.		

Organisational Context

Antarctica New Zealand is a Crown Entity established on 1 July 1996 under the New Zealand Antarctic Institute Act to develop, manage and execute New Zealand's activities in respect of Antarctica and the Southern Ocean.

Our key activities include facilitating scientific research in Antarctica, protection of the environment and raising public awareness of the global significance of the continent and surrounding Southern Ocean.

Antarctica New Zealand operates in a hazardous environment. The management of safety and risk are critical to achieving the New Zealand Antarctic programme objectives. The highest standards of environmental care and responsibility are required in all tasks.

This role is responsible for ensuring that the electrical facilities at Scott Base are well maintained and operated to contribute to ongoing availability of a base for New Zealand's activities in Antarctica.

Our Goal for New Zealanders

New Zealand continues to play an influential role in the kaitiakitanga (guardianship) of Antarctica and the Southern Ocean as a natural resource devoted to peace and science.

Role Purpose

To safely operate and maintain the Scott Base power generation, distribution and electrical control systems and facilities while ensuring compliance with New Zealand electrical standards and regulations.

Work of Role

- Fulfil accountabilities as documented in the Health, Safety and Environmental Management Systems including proactive management of risks and resources to prevent harm.
- Fulfil accountabilities as described in the Information and Records Management Policy for creating and centrally storing accurate and complete records.
- Use our asset management software (Smart Asset) to plan, execute and record all routine and non-routine maintenance or improvement work undertaken.
- Perform routine and non-routine maintenance on electrical aspects of Scott Base buildings, plant and equipment, including:
 - Heating, Ventilation and refrigeration systems
 - Diesel Generators



- SCADA (Supervisory Control and Data Acquisition) and BMS (Building Management System)
- Water Production and Waste Water Treatment
- Fuel Systems
- Fire protection systems (VESDAS, fire pumps, fire panels)
- Portable equipment for field use - including generators and huts with associated power outlets and lighting.
- Lead all onsite works (electrical and mechanical) associated with routine and non-routine maintenance on the Ross Island Wind Energy System (including Wind Turbines, High Voltage and Transformers/Cables).
- Act as Duty Engineer on a rostered basis (usually one week in three).
- Carry out and record periodic inspections and testing including RCD checks and appliance testing. Maintain a clean and safe work environment.
- Update and maintain records of spares and materials used/held and assist with procurement of replacement items.
- Complete all electrical assurance documentation for electrical works (Certificate of Compliance and Electrical Safety Certificate) as per the Electrical Regulations.
- Undertake instrument testing and calibration where required including but not limited to VOC detectors, LPG detectors, CO₂ detectors, ozone sensors.
- Provide assistance to other engineering team members as required (including but not limited to completing the Power and Water Engineer's daily rounds) and work as a team to maintain and improve plant.
- Support visiting contractors with asset maintenance and servicing work.
- Provide assistance to visiting personnel (either in person or via radio) with equipment set up, operation, diagnostics and repair.
- Proactively contributes to the overall base community.
- Identify opportunities for process or system improvement and communicate these to the Engineering Supervisor.
- Rostered duties on the Scott Base Fire Crew and other base tasks as required.
- Any other tasks assigned by the Engineering Supervisor or SBLT.

Key Challenges

- Maintenance of electrical and power generation facilities which operate in a harsh environment.
- Maintenance and repair of electrical and power generation facilities in challenging climatic conditions.
- Participation in an on-call Duty Engineer roster and being able to respond to emerging issues at any time.
- Operating in a two-person team during the summer months to prioritise, divide and complete work utilising individual strengths.
- Ability to maintain a positive outlook while under pressure and responding to rapidly changing priorities.
- Maintaining motivation and work quality (including repetitive tasks) 6 days a week for up to 13 months. This may include proactively seeking work during quieter periods.
- The location and role may place pressure on the physical and mental well-being of the incumbent (e.g. at times long work hours, 24-hour daylight/darkness); the incumbent's family and other close relationships.



Key Functional Relationships

Internal	<ul style="list-style-type: none"> • Engineering Supervisor • Scott Base Leadership Team • Engineering Maintenance Manager • Asset Management Engineers • Operations Solutions Manager • Planning and Delivery Manager
External	<ul style="list-style-type: none"> • United States Antarctic Programme personnel

Minimum Capability Necessary to Work to Role

Capability Area	Description
Qualifications, Certificates and Memberships	<ul style="list-style-type: none"> • Have a New Zealand Electrical Trade Certificate or equivalent. • Hold a current New Zealand Electrical Certificate of Registration and electrical practicing license. • Hold a current First Aid qualification (Unit Standard 6401, 6402). • Hold a current Working at Heights qualification (Unit Standards 17600, 15757, 23229). • Hold a current confined space and gas detection qualification (Unit Standards 17599, 18426). • Hold a current Full New Zealand Driver Licence (Class 1) and experienced in operation of vehicles with manual gearbox. • Be certified as 'medically fit' by Antarctica New Zealand's Medical Assessor.
Knowledge, Skills and Experience	<ul style="list-style-type: none"> • At least 5 years post-qualification experience • Proficiency in computer use, particularly for record keeping. • Preferably some experience in: <ul style="list-style-type: none"> • Power generation, particularly wind turbines and diesel generators • Electrical fault-finding • HV electrical work (up to 4.16 kV) including permitting, applying isolations and earths • Industrial instrumentation, including Distributed Control Systems, or Building Management Systems • Electrical work within Hazardous Areas • Domestic wiring • Understanding of and commitment to tikanga and Treaty of Waitangi principles.
Judgement, Temperament and Influence	<ul style="list-style-type: none"> • Demonstrates the personal qualities required to fit in socially and professionally with a diverse range of people in a potentially stressful environment. • Able to work without direct supervision • Ability to positively accept/provide feedback • Excellent communication skills



Antarctica New Zealand Values

To honour our obligation to Antarctica:

- **Ka ngākau whiwhita tātou ki ā tātou mahi katoa**
We are passionate about what we do
- **Ka tiaki tātou i a tātou anō, ka tiaki hoki i te taiao**
We care for each other and the environment
- **Ka mahi tahi tātou**
We work together
- **He ngākau pono ō tātou**
We act with integrity
- **Ka whai tātou i ngā taumata tiketike**
We aspire to the highest standards

Role Authorisations

I confirm that this Role Description accurately describes the work of the Base Electrician:

GM Antarctic Operations

Date

I accept this Role Description accurately describes the work of the role for which I am accountable:

Base Electrician

Date