



Role Description

Title	Base Engineer (Power/Mechanical)	Incumbent	
Manager's Title	Engineering Supervisor	Date of Last Review	2 February 2022
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 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 facilities and equipment at Scott Base with a focus on power generation, fuel supply, heating, ventilation and refrigeration systems.

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.
- Use Discovery (our document management system) to create and maintain accurate and complete electronic records of all work activities.
- Use our asset management software (Smart Asset) to plan, execute and record all routine and non-routine maintenance or improvement work undertaken. Operate and maintain:
 - Power generation equipment (including CAT 3406 diesel generators and 330kW E33 wind turbines).
 - Fuel storage and supply systems at Scott Base
 - Heating (including hot water boilers), ventilation and refrigeration equipment utilising the Building Management System (BMS).



- Act as Duty Engineer on a rostered basis (usually one week in three).
- Handle bulk fuel in a safe manner and maintain oversight of fuel storage and handling for transport to field locations in accordance with Antarctica New Zealand procedures and relevant legislation.
- Maintain a clean and safe work environment.
- Update and maintain records of spares and materials used/held and assist with procurement of replacement items.
- Provide assistance to field parties (either in person or via radio) with plant set up, operation, diagnostics and repair.
- Provide assistance to other engineering team members as required (including but not limited to completing the Water Engineer’s daily rounds) and work as a team to maintain and improve plant. Support visiting contractors with asset maintenance and servicing work.
- Identify opportunities for process or system improvement and communicate these to the Engineering Supervisor.
- Proactively contributes to the overall base community.
- Rostered duties on the Scott Base Fire Crew and other base tasks as required.
- Any other tasks assigned by the Engineering Supervisor.

Key Challenges

- Maintenance of engineering facilities which operate in a harsh environment.
- Working in challenging climatic conditions while continually considering environmental impacts.
- Participation in an on-call Duty Engineer roster and being able to respond to emerging issues at any time.
- 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.
- Resilience to living in a small communal environment for up to 13 months (e.g. shared rooms, communal bathrooms etc.).
- The location and role may place pressure on the physical and mental well-being of the incumbent (e.g. at times long 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 • Engineering Maintenance Manager • Asset Management Engineers • Scott Base Leadership Team • Operations Solutions 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">• A New Zealand Trade Certificate (or recognised equivalent) in a relevant engineering discipline.• 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's Licence (Class 1) and be experienced in operation of vehicles with manual gearbox• Be certified as 'medically fit' by Antarctica New Zealand's Medical Assessor. <p>Preferable (but not essential) to hold:</p> <ul style="list-style-type: none">• A current Tracks and endorsements (Unit Standards 16703)• A current Forklift operator's certificate (Unit Standard 10851).• A Telehandler operator's certificate (Unit Standard 23637).
Knowledge, Skills and Experience	<ul style="list-style-type: none">• At least 5 years post-qualification experience.• General engineering maintenance and fabrication• Proficiency in computer use, particularly for record keeping.• Preferably some experience in:<ul style="list-style-type: none">• Medium size diesel generator operation and maintenance• Wind turbine operation and maintenance including applying safety isolations• Heating systems - including hot water boilers• Refrigeration systems• Mechanical fault finding• Bulk fuel handling and storage (including LPG)• Building Management Systems• Understanding of and commitment to learning about 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.• Excellent communication skills.• Ability to accept/provide feedback



Antarctica New Zealand Values

To honour our obligation to Antarctica:

- We are passionate about what we do
- We care for each other and the environment
- We work together
- We act with integrity
- We aspire to the highest standards

Role Authorisations

I confirm that this Role Description accurately describes the work of the Base Engineer
(Power/Mechanical):

GM Antarctic Operations

Date

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

Base Engineer (Power/Mechanical)

Date

File Name: 2022 Base Engineer Power RD.docx