



OVERVIEW OF THE ROLE

As an Electrician you will install, operate and maintain a station's primary diesel generation power source. You will work on electrical reticulation systems, including all refrigeration plant, the building monitoring and control system (BMCS) and the automatic fire detection/alarm systems. You will also assist other trades as required.

An Instrument Electrician installs, tunes and maintains instrumentation and SCADA systems for complex plant. This may include reverse osmosis units, a waste water treatment plant and wind turbines.

Electricians work in summer or winter jobs. Shorter winter opportunities may also arise. There are Electricians at all three Antarctic stations as well as Macquarie Island.

WHAT YOU WILL DO ON THE JOB

As an Electrician you will be required to undertake some or all of the following:

- In conjunction with the mechanics, ensure the efficient and effective operation and maintenance of the diesel power generation facilities at a station.
- Operate and maintain the electrical distribution facilities and equipment.
- Operate and maintain all refrigeration equipment.
- Maintain the automatic fire alarm systems including all fire detection and protection equipment.
- Operate and maintain the BMCS.
- Maintain the electrical and refrigeration stock inventories and coordinate the reorder of spare parts, materials and equipment.
- Perform preventative maintenance routines including periodic electrical testing, and test and tag.
- Prepare and submit monthly and annual reports.
- Operate a computerised maintenance management system.
- Assist science programs where necessary.
- Wintering Electricians will be required to participate in an on-call roster to respond to out-of-hours alarms generated by critical plant and equipment.

As an Instrument Electrician you will be required to undertake some or all of the following in addition to the tasks listed above:

- Maintain and install control systems and associated equipment. Tasks will include troubleshooting, routine maintenance, calibration and fault-finding.

- Install, configure and troubleshoot instruments and sensors including flow meters, variable speed drives, temperature sensors, pressure and level transmitters, air quality sensors, communications devices and interfaces.
- Carry out limited control programming and configuration changes such as the development of alarm settings, sensor limits, time schedules, temperature set points, control strategies and interface graphics.
- Maintain complex plant and associated control systems such as reverse osmosis units, waste water treatment plant and wind turbines

As a proactive and positive member of the community you will:

- Maintain a personal and practical commitment to AAD policies and standard operating procedures (including work, health and safety and environmental policies). Training and guidance in regard to all responsibilities relevant to your position will be provided.
- Perform duties to support the community life of the expedition, such as general kitchen duties, garbage clearance, general cleaning duties, and assisting other expedition members with official programs.
- Work in areas outside of your primary role, for example, providing assistance to other areas or science projects, or participating in general labouring tasks such as clearing snow or handling cargo.

The [General Information for Applicants](#) document contains critical information about living and working in Antarctica, and must be read in conjunction with this job description prior to applying.



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Electrician - Technical Criteria

These technical criteria are used to assess your application for Electrician and/or Instrument Electrician.

There are additional qualification and skill requirements for Instrument Electricians. You do not need to have these to apply for Electrician.

1. Essential

To apply for this role you must have the skills and licences listed below.

1. **Qualifications/licences** (provide copies in your application):
 - A current, unrestricted electrical worker's licence which qualifies you to undertake electrical work in Australia.
 - A Certificate III or IV in Electrical Instrumentation (**Instrument Electrician only**)
 - A White Card (issued after May 2009).
 - A current, unrestricted "C" class (manual) Australian driver's licence.
2. Broad general experience within the electrical trade (usually at least three years post-trade).

2. Highly Desirable

These are not essential to the role, but they will make you more competitive against other applicants. To increase the likelihood of your application being successful, you will need to have at least some of these.

Recent hands-on experience (within the last 5 years):

- Installation, commissioning and/or maintenance of complex automatic control equipment, including relay logic, programmable logic controllers (PLCs), BMCS and SCADA systems.
- Technical reporting and mark-up of schematic diagrams.
- Operation of a computerised maintenance management system.
- Experience with new electrical installations and with general electrical programmed and reactive maintenance.
- Working knowledge of current relevant Australian Standards



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3. Desirable

These are not essential to the role. To be suitable you do not need any of these, but they may make you more competitive against other applicants.

Qualifications/licences (provide copies in your application):

- Qualifications in the Installation and Maintenance of Electrical Equipment in Hazardous Areas and High Voltage Switching Operations will be highly regarded.

Recent hands-on experience (within the last 5 years):

- Installation, maintenance and operation of automatic fire detection/alarm systems.
- Installation, maintenance and operation of commercial and domestic refrigeration plant.
- Installation, commissioning and/or maintenance of single and three phase diesel gensets up to 500 kVA.
- Installation, maintenance and operation of high voltage distribution systems (6.6kV) and associated switch gear and protection equipment.
- Installation, maintenance and operation of electrical equipment in hazardous areas.
- Maintenance and operation of reverse osmosis potable water production plant and waste water treatment plant.
- Maintenance of large scale wind turbines and their associated control systems (**Instrument Electrician only**)

4. Additional

Should your application be successful, it is useful to have some understanding of any additional licences you have.

- Confined space
- Supervise asbestos removal
- Dogging
- Rigging
- Operation of a crane
- Telescopic materials handler
- Dozer
- Loader
- Excavator
- Skid steer loader (Bobcat)
- Skidder
- Forklift

All successful winter Electricians and Instrument Electricians will need to attain *Forklift (High Risk) Licence* before starting work with the AAD. You do not need this to apply, but please include it in your application if you have it.



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Personal Qualities Criteria

The Australian Antarctic Division assesses individual personal qualities in terms of the attributes required to successfully live and work in an isolated Antarctic or subantarctic community. Successful candidates will meet the personal qualities criteria detailed below. Personal qualities are assessed at a later stage in the assessment process.

1. Demonstrate a strong work ethic

Evidenced by a proven history of efficient, effective, responsive and productive work performance.

Applicants for supervisory positions will be expected to demonstrate supervisory capabilities, including a good knowledge of workplace diversity, workplace relations, work, health and safety and environmental management practices and principles.

2. Demonstrate that they can make a positive contribution to community and team

Evidenced by:

- demonstrating the capacity to cope with physical and emotional isolation and the resilience to overcome hardship;
- demonstrating the capacity to work productively, contribute to the success of small isolated work groups and the overall community including recognising the effect their behaviour has on others;
- demonstrating a capacity to address and resolve issues of conflict;
- demonstrating the capacity to exercise sound judgement;
- demonstrating flexibility, tolerance and acceptance of changing circumstances;
- demonstrating qualities of robustness, motivation and confidence whilst displaying sensitivity, situational awareness and support and respect to fellow workers;
- demonstrating good social skills and taking pride in their appearance and maintaining socially accepted standards of hygiene;
- responsible use of alcohol; and
- not exhibiting behaviour that could endanger others' safety or be seen as being abusive, threatening or offensive to others.

3. Demonstrate that they can respond to authority and are compliant with the law, legislative requirements and AAD policies and procedures

Evidenced by:

- a history of complying with authority and supporting lawful instructions;
- demonstrating a commitment to and compliance with appropriate environmental management policies and practices;
- demonstrating a knowledge and history of compliance with work health and safety practices and principles; and
- recognition of harassment and discrimination issues and demonstrated compliance with associated legislative requirements.

4. Demonstrate a commitment to AAP specific requirements

Evidenced by:

- demonstrating commitment to supporting the Australian Antarctic Science Program;
- demonstrating willingness to participate in "common duties" and activities in support of the community generally; and

- demonstrating commitment to fully participate in all required training and associated activities.

Other Criteria

If you progress through the technical criteria and personal qualities stage of the process, the next stage will require you to undergo medical, psychological and character screening. Meeting and maintaining suitability in relation to these requirements is mandatory.

Medical

The AAD's Polar Medicine Unit will determine your medical fitness for duty in Antarctica or the subantarctic following tests conducted on our behalf by a nominated medical practitioner. If required, this may include comprehensive drug screening for compliance to undertake Safety Sensitive Aviation Activities (SSAA).

Candidates considered for a role at Macquarie Island may be required to complete a fitness assessment.

Psychological

You may be required to undertake an adaptability assessment.

Character

You will be subject to a police records check.

Training

You must undertake all training requirements as outlined by the AAD.

You will be required to attain the following qualifications/licences prior to commencement with the AAD:

1. A current statement of attainment in the following units of first aid:
 - Provide First Aid (HLTAID003) valid for at least 12 months beyond the date of commencement; and
 - Provide CPR (HLTAID001).
2. For a wintering role, a valid Forklift (High Risk) Licence.



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