

2.13 Maintenance and repair

2.13.1 RAPS plant area cleaning

Evidence shall show an understanding of RAPS plant area cleaning to an extent indicated by the following aspects:

- a) Needs for clean and tidy plant area
- b) RAPS system components and associated equipment and their location within the plant area

Note:

Associated equipment may include manual fuel pump

- c) Plant area cleaning techniques

Note:

Cleaning techniques include those for dealing with fuel, oil and acid and spills; removal of dust, insects, spiders, animals and removal of non-RAPS equipment

- d) Technique for reporting and dealing with cleaning issues.

2.13.2 RAPS systems battery bank maintenance techniques

Evidence shall show an understanding of RAPS systems battery bank maintenance to an extent indicated by the following aspects

- a) Scope of regular testing, checking and corrective actions
- b) Measurement of specific gravity and voltages of battery cells; checking and topping up electrolyte levels; checking for acid leakage, cracks in battery casing, corrosion of battery terminals and connections, cleaning of terminal connections and treating with an anticorrosive.

2.13.3 RAPS systems generator sets maintenance techniques

Evidence shall show an understanding of RAPS systems generator sets maintenance to an extent indicated by the following aspects

- a) Checking of radiator and oil level; periodic oil change and air, oil and fuel filter change.
- b) Maintaining log books and maintenance regime

2.13.4 RAPS systems photo voltaic array maintenance techniques

Evidence shall show an understanding of RAPS systems photo voltaic array maintenance to an extent indicated by the following aspects:

- a) Cleaning of photo voltaic modules; checking of module connections, connecting cable and integrity of the array structure
- b) Maintaining log books and maintenance regime

2.13.5 RAPS systems wind generator maintenance techniques

Evidence shall show an understanding of RAPS systems wind generator maintenance to an extent indicated by the following aspects

- a) Checking the integrity of support structure; visual inspection of wind generator operation
- b) Maintaining log books and maintenance regime

2.13.6 RAPS system use auditing techniques

Evidence shall show an understanding of effective RAPS systems use to an extent indicated by the following aspects:

- a) Tidiness of RAPS plant area
- b) Appropriate use of RAPS system components

Note:

Appropriate use includes not overloading system components, using generator supply for heavy loads and the like.

- c) State of RAPS system components

2.13.7 RAPS systems maintenance scheduling

Evidence shall show an understanding of RAPS systems maintenance scheduling to an extent indicated by the following aspects:

- a) Limitation of the role of the RAPS service worker
- b) Periodic maintenance planning procedures

Note:

Planning includes:

1. Development of vehicle booking procedures, check lists for replacement equipment, items to be checked, items to be replaced and procedures for recording and reporting.
2. Scheduling of maintenance at a number of homeland communities.
3. Check list for preparation of service vehicle and tools and equipment needed to carry out the maintenance
4. Processes for sourcing and funding replacement components

2.13.8 Scheduled maintenance processors

Evidence shall show an understanding of maintenance processors to an extent indicated by the following aspects:

- a) Maintenance principles encompassing:
 - maintenance function
 - role of maintenance department
 - occupational health and safety requirements
- b) Maintenance systems encompassing:
 - maintenance terminology
 - preventative maintenance
 - predictive maintenance
 - corrective maintenance
- c) Data acquisition encompassing:
 - plant history cards/files
 - inspection techniques
 - predictive maintenance
 - remote visual inspection
 - non-destructive testing
 - thermography

- vibration analysis
 - oil analysis
- d) Maintenance plan encompassing:
- characteristics of plant operation
 - assessment of failure characteristics
 - link failure characteristics to maintenance systems
 - identify production windows
 - resources
 - labour
 - materials
 - establish plan
 - implementation procedures
- e) Review of maintenance plan encompassing:
- analysis of records
 - manual recording methods
- f) Computerised recording methods

2.13.9 Business equipment fundamentals

Evidence shall show an understanding of business equipment to an extent indicated by the following aspects:

- a) Type of equipment
- b) Operating principles
- c) Component parts
- d) Routine faults and repairs
- e) Maintenance.

Note:

Documentation requirements for recording the maintenance process and results

2.13.10 Cooling plant maintenance procedures

Evidence shall show an understanding of cooling plant maintenance procedures to an extent indicated by the following aspects:

- a) Cooling towers/evaporative condensers encompassing:
 - Types, applications.
 - Cleaning,
 - Decontamination.
- b) Humidifiers encompassing:
 - Types, applications.
 - Cleaning,
 - Decontamination.
- c) Condensate Trays and drains encompassing:
 - Fall,
 - Cleaning.
- d) Water treatment encompassing:

- Water tests,
 - Water testing procedures,
 - Ph,
 - Microbiological,
 - Suspended solids,
 - Corrosion,
 - Bleed,
 - Filtration,
 - Chemical Treatment,
 - Cathodic Protection.
- e) Air Filters encompassing:
- Types, applications.
 - Pressure drop,
 - Face Velocity,
 - Cleaning, Changing,
 - Fit.
- f) Maintenance programs encompassing:
- Purpose,
 - Methods of establishing specific requirements,
 - Planning,
 - Manual and Computer programs,
 - Log books
- g) Personal Safety encompassing:
- Risks to service personnel and public,
 - Safe practices,
 - Person protective equipment.
- h) Legal Requirements encompassing:
- Duty of Care.
- i) Codes and regulations encompassing:
- Regulation under Workplace Health and Safety Act,
 - NH&MRC recommendations,
 - Code of practice,
 - AS3666.