

**Qualification Title:** New Zealand Certificate in Aeronautical Engineering (Applied Skills) (Level 4) with strands in Aeronautical Composites, Aeronautical Non-Destructive Testing, Aircraft Mechanical, Aircraft Powerplant, Aircraft Structures, Armament, Avionic Electrical Repair, Avionic Instrument Repair, Avionic Radio Repair, Avionic Maintenance, and Rotorcraft

**Qualification number:** 2909

**Date of review:** 19 May 2022

This report refers to all graduates awarded this qualification prior to: **31 December 2021**

**Final decision on consistency of the qualification: National consistency is confirmed**

#### **Threshold:**

The threshold to determine sufficiency with the graduate profile was determined as evidence of graduates being able to:

- Complete aircraft maintenance integrating the fundamental principles of aircraft construction and maintenance in an aeronautical engineering workplace and:
- Complete maintenance and repair tasks within the scope of their chosen strand by integrating the specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Reflecting the fact that this qualification is required to meet the requirements of both the Civil Aviation Rules and New Zealand Defence Force Airworthiness Policy, the threshold statement is the graduate profile outcomes (GPOs).

#### **Education Organisations with sufficient evidence**

The following education organisations have been found to have sufficient evidence.

MOE Number	Education Organisation	Final rating
9068	ServiceIQ	Sufficient

#### **Introduction**

This Level 4 qualification comprises 110 core credits plus 100 credits in one of 11 specific strands and is designed to for graduates who are specialised as aeronautical engineering trades personnel.

All learners are employed within the industry and operate in a highly regulated environment where each job must be conducted as per current standard operating procedures and formally signed off by both the trainees and their supervisors. Aircraft maintenance records

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are legally binding documents retained for the life of the aircraft and subject to discovery and investigation in the event of an operational incident.

As the Transitional Industry Training Organisation (TITO), ServicelQ facilitates workplace learning and unit standards-based assessment of this qualification through either benchmarking partnerships with large employers via their extensive Qual Link process, or via approved assessments developed by ServicelQ and the industry. In both cases, ServicelQ has worked with the employers to ensure that in-house training programmes and assessments meet qualification requirements.

There has been a total of 117 graduates between 2017 and 2021, with many of these undertaking more than one strand. In all, 200 strands have been completed. Of the eleven strands, most graduates have completed Aircraft Mechanical, Aircraft Powerplant or Aircraft Structures (58,63 and 43 graduates respectively). Avionic Maintenance and Rotorcraft stands have, to date, 15 and 19 graduates respectively. There has been only one graduate to date in Aeronautical Non-Destructive Testing and Avionic Instrument Repair Strands, while no graduates have completed the other four strands (Aeronautical Composites, Armament, Avionic Electrical Repair, Avionic Radio Repair).

Graduates of this qualification are equipped for careers in the aeronautical engineering industry, progressing to become licenced engineers. Many progress to higher level qualifications within the discipline, in particular the New Zealand Diploma in Aeronautical Maintenance Certification (Level 6).

### Evidence

The education organisation provided a range of evidence to demonstrate that their graduates met the graduate profile outcomes.

The criteria used to judge the evaluation question were:

- The nature, quality and integrity of the evidence presented by the education organisation
- How well the organisation has analysed, interpreted and validated the evidence, and used the understanding gained to achieve actual or improved consistency
- The extent to which the education organisation can reasonably justify and validate claims and statements relating to the consistency of graduate outcomes.

Examples of evidence provided included:

- A description of the highly regulated environment within which trainees complete workplace tasks to current standard operating procedures and formally record those tasks
- Details of how the TITO's benchmarking and quality assurance processes demonstrate that workplace training aligns to the unit standards that guide the assessment of learners seeking this qualification
- Outcomes of moderation processes
- Feedback from graduates and employers about their perceptions of the graduate outcomes attained

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### **How well does the self-assessment and supporting evidence provided by the education organisation demonstrate that its graduates match the graduate outcomes at the appropriate threshold?**

The TITO provided a comprehensive portfolio of evidence demonstrating that the graduate outcomes are consistently achieved. The regulatory context in which workplace training is legally required to take place provides considerable assurance that the graduates have acquired the required skills. Both the learners and their supervisors may be liable if any work does not follow the current procedures and requirements.

Overall, the self-assessment and supporting evidence supplied by this organisation found sufficient, demonstrates that their graduates meet the graduate outcomes at the determined threshold.

### **Special Focus** (includes special focus on a strand or outcome)

There was a special focus on the consistency of diverse strands within the qualification.

### **Examples of good practice**

- The Qual Link benchmarking process is comprehensive and ensures that workplace training is designed to align with the graduate outcomes of the qualification. It also provides the basis for effective ongoing relationships with larger employers. Similarly, there is a close working relationship with smaller employers designed to ensure the same level of consistency
- Moderation systems are demonstrably effective
- The self-assessment included a tabulated assessment of the relative value and strengths of the different types of evidence for consistency.
- This is an industry-led qualification whose graduates are required to meet -and be accountable for meeting - stringent regulatory requirements in their routine work practice.

### **Issues and concerns**

Graduate feedback was weak, especially given the diversity of strands. The TITO recognises this issue and has plans in place to work with employers to increase responses and to expand the number of telephone interviews with graduates.

### **Recommendations to Qualification Developer**

The qualification was initially due for review by December 2020, but this was delayed by both the Reform of Vocational Education (RoVE) and COVID-19. As part of the RoVE, the responsibility for the qualification has now transferred to the Ringa Hora Workforce Development Council. Advisory group meetings are now planned for July 2022.

While the qualification in general is clearly fit for purpose, given both the size and specialist nature of the qualification, there are potentially questions around whether graduates of this qualification with a required specialist strand are effectively operating at Level 5 rather than at

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Level 4. Reinforcing this consideration is that the key progression pathway for graduates of this qualification is to the New Zealand Diploma in Aeronautical Maintenance Certification (Level 6).