No. 330 **27 March 2009**

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Aerospace Operations

registered by Organising Field 10 – Physical, Mathematical, Computer and Life Sciences, publishes the following Qualification and Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualification and Unit Standards. The full Qualification and Unit Standards can be accessed via the SAQA web-site at **www.saqa.org.za**. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualification and Unit Standards should reach SAQA at the address below and ***no later than 27 April 2009.*** All correspondence should be marked **Standards Setting – SGB for Aerospace Operations** and addressed to

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ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Diploma: Aircraft Performance Engineering

SAQA QUAL ID	***QUALIFICATION TITLE***		
66109	National Diploma: Aircraft Performance Engineering		
ORIGINATOR		***PROVIDER***	
SGB Aerospace Operations			
QUALIFICATION TYPE	***FIELD***	***SUBFIELD***	
National Diploma	10 - Physical, Mathematical, Computer and Life Sciences	Physical Sciences	
ABET BAND	***MINIMUM CREDITS***	***NQF LEVEL***	***QUAL CLASS***
Undefined	371	Level 6	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION
Purpose:

The purpose of the Qualification is to provide learners and education and training providers with the standards required to satisfy the challenges of participating effectively in the Flight Operations Support environment which needs to maintain impeccable standards. The Qualification will be useful to both new entrants into the service, and existing workers in the sector. For those who have been in the workplace for a long time, this Qualification can be used in the recognition of prior learning process to assess and recognise workplace skills acquired without the benefit of formal education and training. For the new entrant, this Qualification will give them the opportunity to orient themselves within a new sector, and to develop and balance their practical skills with the essential knowledge needed to earn a formal Qualification in Flight Operational Support without formal education becoming an impassable barrier.

For education and training providers, this Qualification provides guidance for the development of appropriate learning programmes and assessment documentation. For employers, this Qualification enables skills gaps to be identified and addressed ensuring that a safe and efficient flight dispatch/support environment is supported and maintained. The combination of learning outcomes that comprise this Qualification will provide the qualifying learner with vocational knowledge and skills appropriate to the context of flight support operations. The learner will have an understanding of the flight dispatch environment and how he or she should operate within the legislative, safety and quality systems which govern it. It will also equip learners with a foundation for further intellectual development, opportunities for gainful employment and reward for contributions to society.

The Qualification aims to equip learners to produce flight dispatch/support information and monitor operational situations and flight progress in order to ensure the safe and efficient completion of a flight by providing a service which is flawless.

Rationale:

This Qualification is aimed at people who work or intend to work within a Flight Operations Support environment. Typical candidates will be either career flight dispatchers or persons

wishing to progress from other areas of flight operations in to flight dispatch work or from flight dispatch in to other areas of flight operations. In the past many practitioners in the Flight Operations Support area were denied mobility of employment, as a result of a lack of formal Qualifications.

This Qualification will also facilitate the development of a professional community of Flight Operation Support personnel who are able to contribute towards a safe and efficient environment through the application of enhanced knowledge and skills relating to the production of flight dispatch information to aircrew and the provision of in-flight tactical support. The competencies contained in this Qualification are essential for social and economic transformation, empowerment and upliftment within the Flight Operations Support environment, whilst simultaneously improving the skills base of the aerospace industry. This Qualification facilitates further learning in the aerospace operations environment as well as ensuring compatibility and compliance with international regulations and standards and industry best practice.

RECOGNIZE PREVIOUS LEARNING?
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LEARNING ASSUMED IN PLACE

Learners accessing the Qualification will have demonstrated competence in:

> Mathematics at NQF Level 5.
> Communication at NQF Level 5.

Recognition of Prior Learning:

The structure of this Qualification makes the Recognition of Prior Learning possible through challenging the Exit Level Outcomes and Unit Standards. This Qualification may therefore be achieved in part through the recognition of prior learning, which includes formal, informal and non-formal learning and work experience. The learner should be thoroughly briefed on the mechanism to be used and RPL assessors should provide support and guidance. Care should be taken that the mechanism used provides the learner with an opportunity to demonstrate competence and is not so onerous as to prevent learners from taking up the RPL option towards gaining a qualification.

If the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this qualification and/or unit standards, the appropriate credits should be assigned to the learner. Recognition of Prior Learning will be done by means of Integrated Assessment.

Access to the Qualification:

> Access is open to all learners bearing in mind the learning assumed to be in place.

It is recommended that learners complete:

> ID 59256: National Diploma: Flight Dispatch at NQF Level 5.

QUALIFICATION RULES
The Qualification is made up of a combination of learning outcomes from Fundamental, Core and Elective components, totalling a minimum of 371 Credits.

Fundamental component:
> All Unit Standards to the value of 35 credits are compulsory.

Core component:
> All Unit Standards to the value of 315 credits are compulsory.

Elective component:

> The elective component consists of individual Unit Standards from which the learner must choose Unit Standards based on the area in which they work or in which they are interested. Learners are required to choose Unit Standards totalling a minimum of 21 credits.

EXIT LEVEL OUTCOMES

1. Demonstrate knowledge and understanding of safe processes and procedures in the field of flight operations support.

2. Produce aircraft operational support data for the safe and efficient completion of an air operation.

3. Control aircraft weight and balance.

4. Publish and provide aircraft performance and operational support data.

5. Conduct performance forensic audits to ensure flight safety and efficiency.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcomes 1:

1.1 The legal framework which governs flight operations support is explained in terms of requirements and minimum standards.
1.2 Non-compliant situations/scenarios are identified and evaluated in order to take action to rectify these.
1.3 Non-standard events and situations are determined in terms of their impact on flight operations and safety.

Associated Assessment Criteria for Exit Level Outcomes 2:

2.1 Aircraft performance characterises are determined in accordance with national and international requirements.
2.2 The way in which aircraft performance data shall be used is explained and discussed with operating crew and dispatchers to safely and efficiently conduct a flight.
2.3 Airport and flight path characteristics are explained in terms of aircraft performance.
2.4 Corrections are applied for the effects of aircraft configurations and atmospheric conditions.

Associated Assessment Criteria for Exit Level Outcomes 3:

3.1 Aircraft weight is accurately explained and calculated considering all the required data for the `flight and aircraft.
3.2 Aircraft basic weight is determined based on the particular aircraft involved.
3.3 Centre of gravity index is determined in order to ensure that an aircraft is loaded and trimmed for operational flight.
3.4 The human factors that can affect and influence the aircraft weight and balance are explained in order to take appropriate actions to ensure compliance.

Associated Assessment Criteria for Exit Level Outcomes 4:

4.1 South African Civil Aviation Regulations (SA-CARs) and South African Civil Aviation Technical Specifications (SA-CATS) are explained with examples.

4.2 Flight crew and operational support staff are supplied with the information required in accordance with time frames for each flight.
4.3 Balance and trim sheet data (AHM560) is produced in accordance with national and international regulations.
4.4 The produced aircraft performance and operational support data is assessed in terms of compliance with the aircraft manufacturer's structural and performance limitations.

Associated Assessment Criteria for Exit Level Outcomes 5:

5.1 Flight planning principles, aircraft performance, fuel burn characteristics, weight and trim effects are explained with examples pertaining to each aircraft type and model.
5.2 Data is gathered and extracted from aircraft monitoring system, flight schedules and planning data.
5.3 Data is analysed and utilised to identify and explain anomalies in order to correct planning reference material.
5.4 Findings are reported in order to maintain accuracy of flight planning and level of aircraft performance and observed anomalies.

Integrated Assessment:

The importance of integrated assessment is to confirm that the learner is able to demonstrate applied competence (practical, foundational and reflexive) and ensure that the purpose of this Qualification is achieved. Both formative and summative assessment methods and strategies are used to ensure that Exit Level outcomes and the purpose of this Qualification are achieved.

Formative assessment is an on-going process which is used to assess the efficacy of the teaching and learning process. It is used to plan appropriate learning experiences to meet the learner`s needs. Feedback from assessment informs both teaching and learning. If the learner has met the assessment criteria then s/he has achieved the Exit Level Outcomes of the Qualification.

Summative assessment is concerned with the judgement of the learning in relation to the Exit Level Outcomes of the Qualification. Such judgement must include integrated assessment(s) which test the learners` ability to integrate the larger body of knowledge, skills and attitudes, which are represented by the Exit Level Outcomes.

Integrated assessment must be designed to achieve the following:

> An integration of the achievement of the Exit Level Outcomes in a way that reflects a comprehensive approach to learning and shows that the purpose of the Qualification has been achieved.
> Judgement of learner performance to provide evidence of applied competence or capability.

INTERNATIONAL COMPARABILITY
The purpose of this International Comparability study is to facilitate the development of a meaningful learning path and its associated curriculum incorporating both theoretical and practical vocational skills which will ensure compatibility, comparability and compliance with existing training standards for ICAO signatories. South Africa, as a signatory to these ICAO standards is obliged to comply with ICAO Standards and Recommended Practices (ISARPS). Thus this International Comparability exercise is made directly with the ICAO Standards and NOT with training offered by individual countries.

The following countries are examples of signatories to ICAO and therefore this Qualification is indirectly compared to training and development offered in these particular countries:

> Australia.