No. 784 ***5* August *2005***

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

Air Defence

publishes the following qualification and unit standards for public comment.

This notice contains the titles, fields, subfields, 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, Haffield Forum West, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the unit standards should reach SAQA at the address ***below*** and ***no later than 5 September 2005.*** **All** correspondence should be marked Standards **Setting** – SGB Air Defence and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

SAQA QUAL ID	*QUALIFICATION TITLE*		
49853	National Diploma: Defensive Mission Control		
SGB NAME		*NSB 08*	*PROVIDER NAME*
SGB Air Defence		Law, Military Science and Security	
QUAL TYPE		*FIELD*	*SUBFIELD*
National Diploma		Law, Military Science and Security	Sovereignty of the State
ABET BAND	*MINIMUM CREDITS*	*NQF LEVEL*	*QUALIFICATION CLASS*
Undefined	**240**	Level **5**	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

This qualification is aimed at persons who work or intend to work in the Command and Control environment as a Defensive Mission Controller or related occupational fields, and who seek recognition for essential skills in the conduct of defensive mission control.

The qualification will also be valuable for those who may have been practising within the discipline, but without formal recognition. This qualification is designed to be flexible and accessible **so** that recipients **of** this qualification know about and will be able to conduct the essential operations in South African Air Force Command and Control.

Recipients of this qualification are able to:

> Demonstrate knowledge of aviation principles.
> Perform mission control functions in a given scenario.
> Plan military defensive air operations.

Practitioners will generally carry out their role within the context of **a** South African Air Force environment.

Rationale:

Defensive mission control relates to providing in-flight command and control to aircrew in combat. This is **a** crucial element in securing the national air space and thereby maintaining the sovereignty of the Republic **of** South Africa. In order to meet the requirements of national security within the context of defensive mission control it is important to be able to identify and recognise the competencies required by the defensive mission controller and to identify how these relate to other military and aviation roles. There is a critical need to provide recognition to persons who are able to function as defensive mission controllers within the South African Air Force Command and Control System.

The majority of the candidates for this qualification are likely to be working in the South African Air Force, with the knowledge gained in this qualification being directly applicable to the mission control fraternity of South Africa. Defensive Mission Controllers may also be used in civilian aviation, and job opportunities include operations officers, co-ordinators and flight dispatchers.

This qualification will give learners the opportunity to build on the skills, knowledge, understanding and experience they already have to earn a formal qualification in defensive mission control. Candidates will learn to work in a high stress situation and to apply integrity, assertiveness, professional conduct and self-

discipline to their daily lives in a competitive environment. Defensive Mission Controllers are also required to provide assistance in defending identified flash points in the area of responsibility that may lead to South African National Defence Force involvement.

RECOGNIZE PREVIOUS LEARNING?

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LEARNING ASSUMED TO BE IN PLACE

The design of this qualification is based on the assumption that learners are already competent in terms of the following outcomes or areas of learning when starting to learn towards this qualification. Any Further Education and Training Certificate with the following three subjects:

> Communication at NQF level **4.**
> Mathematics at NQF level **4.**
> Physical Science at NQF level **4.**

> Computer literacy at NQF level 3.
> Provide radar reporting service NQF Level **4.**
> Perform a ground control and clearance service NQF Level **4.**
> Provide assistance to air traffic services NQF Level **4.**
> Operate communication navigation and surveillance equipment NQF Level **4.**
> Provide aerodrome flight information services NQF Level **4.**
> Interpret and communicate aeronautical information NQF Level **4.**
> Provide flight information services NQF Level **4.**
> Perform the duties of a command and control assistant NQF Level **4.**
> Demonstrate an understanding of aviation regulations and procedures NQF Level **4.**
> Demonstrate understanding of aviation law and procedures NQF Level **4.**
> Demonstrate understanding of Air Traffic Control NQF Level **4.**

Recognition of prior learning:

This qualification can be achieved wholly or in part through recognition of prior learning in terms of the defined exit level outcomes andlor individual unit standards.

Evidence can be presented in various ways, including international andlor previous local qualifications, products, reports, testimonials mentioning functions performed, work records, portfolios, videos of practice and performance records.

All such evidence will be judged in accordance with the general principles of assessment described above and the requirements for integrated assessment.

Access to the qualification:

Candidates applying for this qualification need to communicate effectively. Auditory skills will also limit access to the qualification in certain instances. Clear vision is also a requirement for achieving many of the outcomes of this qualification, and colour blindness or poor vision may hinder applicants from successfully completing this qualification.

QUALIFICATION RULES

Fundamental:

> Candidates must achieve all 50 fundamental credits.

Core:

> Candidates must achieve all 113 core credits.

Elective:

> Candidates must achieve at least 77 credits of their choice from any of the elective credits.

EXIT LEVEL OUTCOMES

1. Demonstrate knowledge of aviation principles.

2. Perform mission control functions in a given scenario.

3. Plan military defensive air operations.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the unit standards:

> Identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made.
> Working effectively with others as a member of a team, group, organisation or community.
> Organising and managing oneself and one's activities responsibly and effectively.
> Collecting, analysing, organising and critically evaluating information.
> Communicating effectively using visual, mathematical and/or language skills in the modes of oral/written persuasion.
> Demonstrating and understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

ASSOCIATED ASSESSMENT CRITERIA

1:
> CAA regulations and standards are adhered to and applied in all aviation practices.
> Flight details are calculated in terms of direction and flying time, taking into consideration the aircraft capabilities and the meteorological conditions.
> The principles of flight are incorporated in flight planning.
> Navigation is conducted in accordance with accepted aviation procedures.

2:
> Mission control functions are performed in accordance with the international laws of armed conflict.
> Mission control is described in terms of aerial warfare concepts.
> Aircraft are controlled in various missions.
> Range: Controlled refers to positive control.
> The position and direction of aircraft is constantly monitored during a mission.
> Calculations are used to provide information to flight crew in order to complete the mission.

3:
> Military defensive air operations are planned in accordance with the international laws of armed conflict.
> Aerial warfare principles are incorporated into air operations in terms of the planning of the defensive operation.
> Air operations incorporate relevant military intelligence in terms of the planning of the defensive operation.

Integrated assessment:

The applied competence (practical, foundational and reflexive competencies) of this qualification will be achieved if a learner is able to undertake Mission Control at a tactical level of war in accordance with military doctrine, legal prescripts and procedures.

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.

The achievement of applied competence of this qualification will be demonstrated if the learner is able to control defensive missions during joint, combined and multi-national operations through advice and support of higher authority and be able to communicate ideas, concepts and arguments verbally and in writing. To ensure this, all specific outcomes, embedded knowledge and critical cross-field outcomes of the unit standards of the qualification must be assessed as well as the exit level outcomes of the qualification.

Integrated assessment processes could be advanced by the "clustering" of unit standards in order to assess them simultaneously and to avoid duplication of assessment of learning outcomes and fragmented assessments. Even though learners will retain credits for those unit standards successfully completed, the learner must, in order to successfully complete the qualification, demonstrate applied competence through an integrated summative assessment of the exit level outcomes of the qualification.

During formative and summative assessments, a combination of a variety of assessment methods could be

used to provide the learner with sufficient opportunity to demonstrate applied competence. Assessment methods could include amongst others observation (e.g. during simulation exercises), product evaluation (e.g. the research tasks) and questioning (oral andlor written). Exit level summative assessments of this qualification should include the assessment of knowledge, skills and values whilst greater weighting should be given to application in the workplace environment in order to integrate theory and practice. Simulated scenarios must be utilised (e.g. planning and execution of interceptions during defensive counter air operations) to enable the learner to demonstrate the ability to integrate the knowledge, concepts and ideas and put into practise the learning outcomes achieved across the unit standards.

Learners must be assessed on individual work and as part of a team during formative and summative assessments.

The above-mentioned assessment processes are also capable of being applied to recognition of prior learning.

INTERNATIONAL COMPARABILITY

Germany:

> Command and Control: Effective control and use of airspace directly influences the outcome of campaigns and battles. In Germany, provision for airspace control enables airspace users to operate with minimum mutual interference and without undue restraints. In any military organization worldwide, the use of warning and readiness states has become an imperial necessity. The **SAAF** as well as Germany has also adopted certain warning and readiness states.

> Geometry of the Interception: Modern fighter aircraft intercepting intruders at supersonic speeds need assistance from mission control **so** as to gain maximum tactical surprise over the intruder. The way, in which German Mission Control approaches interception of aircraft, is very similar to that of the South African Air Force. Enemy aircraft is detected, a warning is issued and fighter aircraft is scrambled to counter the threat. The manner in which the fighter pilots are guided towards their target is also very similar.

> Pattern control: In the execution of the combat profile, pattern control can increase the rate of success when intercepting a hostile, unidentified or enemy aircraft. All the factors that might have an influence in the execution of an interception should be taken into consideration. Both the German and **SAAF** consider that pattern control forms the basis of interceptions. Pattern control is utilized to keep mission controllers combat ready.

> Air Defence Operations: Air Defence operations are designed to gain and maintain a favourable air situation to the degree that the enemy is prevented from interfering effectively with our own ground, air and naval operations. It is the first priority task of the SAAF as well as for the German Air Force to gain and maintain a favourable air situation whenever an enemy air force poses a threat.

> The Management Environment: Analysing the external environment is a critical part of the management process. The approach of Germany is similar to the SAAF when making decisions. The situation in which one operates needs to be analysed before one can make a decision. Important factors are taken into consideration while operating in the current situation.

> Electronic Warfare: German Mission Controllers needs to have an understanding of electronic warfare to be able to use it effectively as a decisive element of combat power. SAAF mission control also requires this knowledge to co-ordinate and integrates the use of electronic warfare in the tactical plan. The use of electronic warfare throughout the battlefield can support the synergy needed to locate, identify, damage and possibly destroy command and control structures and associated information systems. Training in electronic warfare provides mission controllers with **a** knowledge that will enable them to understand its integration into all aspects of modern warfare. **SAAF** electronic warfare training emphasizes the vocabulary of electronic warfare, radar and communications principles, electronic countermeasures and electronic protection measures, infrared theory and countermeasures, electronic reconnaissance as well as air defence systems.

> Aircraft Instruments and own Equipment: The Mission Controller should know hislher own equipment and aircraft limitations and must have confidence in own abilities to handle hislher equipment under all conditions of flight. For the controller to be able to render assistance to pilots, he/she must be conversant with aircraft types, rules and regulations, tactics and equipment. The controller should also be fully aware and conversant with the pilot's difficulties when engaging enemy fighters.

Australia:

> Law of Armed Conflict (LOAC): LOAC is based upon the concept of humanity. This concept provides a direct relationship between humanitarian concerns and military objectives. This concept forbids any attack on an enemy that inflicts unnecessary suffering, injury or destruction. There must be valid military objective and the force used must not exceed the minimum required to achieve that objective. These principles are the foundation of all military training so those members understand the laws dealing with the application of military power in combat. The SAAF also adheres to the LOAC and training of this aspect form an integral part of every soldier.

> Military Power and the Principles of War: The principles of war and military power form an integral part of training. These principles are the foundation to a sound decision making process. Mission controllers should understand military power and the application of principles of war, as this will enable him/her to make reasonable assumptions, projections and risk assessments of any battlefield spectrum.

Canada:

> Systems Studies: The core of this field of studies focus on radar, electro-optics, communications, display systems, navigation and guidance and weapons. These are brought into perspective by a study of the issues and techniques of systems engineering and integration.

> Environmental Factors: In order for a mission controller to assist the pilot's survivability in battle (excluding aircraft performance and weapon systems), he/she must have knowledge of the effects the environment has within the battlefield. The workload of the pilot is extremely high. It is therefore expected from mission controllers to be aware especially if it is a single seat, non-radar-equipped aircraft. Clouds, haze, contrail levels and the sun are also contributing factors that can affect a pilot's survivability in battle.

> Communications: Effective communication in aviation is extremely important. Methods or types of tactical communication include geographic broadcast control and tactical control. Communication (ground to air radio network system, ground to air radio communication coverage in the battlefield, voice links between command and control facilities as well as data links between command and control systems and subsystems), has physical limitations such as altitude, range and terrain. It is therefore very important for Mission Controllers to understand communications, as it is the most important tool for the command and control of any military activity.

United Kingdom:

> Scrambling: Once a potential air threat exists, the readiness of aircraft for air defence should be high otherwise the threat can materialize before the defender can react. Almost similar to the Royal Air Force, the SAAF has adopted procedures that predetermined aircraft be scrambled by means of audio and visual signals from predetermined positions for Air Defence.

France:

> Interception Techniques: The use of interception techniques contributes to the various types of interception course, the decisive parameters of an interception as well as the environmental conditions. Regulations for using fighters in interceptions, aircraft configurations, and the different categories of control, anti-collision regulations silent procedures, and supersonic flight regulations as well as the use of combat zones determine the application of the interception aircraft. Mission controllers need to have a extensive knowledge of interception technique to provide superior control for all airborne military missions.

Currently the SANDF does not have formally nationally recognised or accredited programmes in Defensive Mission Control. The successful completion of the ND in Defensive Mission Control will equip South African Air Force Command and Control members with knowledge and skills comparable to other world-class military services as mentioned above.

ARTICULATION OPTIONS

This qualification has been designed and structured so that qualifying learners can be recognised as a Defensive Mission Controller. This qualification acts as a springboard from which learners may progress to qualifications in offensive (learners are normally first trained in defensive mission control before embarking on offensive mission control) mission control, electronic warfare, air operations management and aviation.

Learners can move horizontally or vertically between aviation related qualifications, although in most cases, some standards will be required horizontally before moving to another qualification vertically. This

qualification has horizontal articulation with the following qualifications:

> B Com or BA in Aviation Management (level *6).*
> National Certificate in Air Traffic Management (level 5).
> National Diploma in Applied Military Intelligence (level 5).

Possibilities for articulation outside of defensive mission control include qualifications that lead to the following roles:

> Operational planning and management.
> Flight dispatching.
> Deployment commanding within the SAAF.
> Aircraft accident investigation.

MODERATION OPTIONS

An individual wishing to be assessed (including through RPL) against this Unit Standard may apply to an assessment agency, assessor or provider institution accredited by the relevant ETQA, or an ETQA that has a Memorandum of Understanding with the relevant ETQA.

Anyone assessing a learner against this Unit Standard must be registered as an assessor with the relevant ETQA or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

Any institution offering learning that will enable achievement of this Unit Standard or assessing this Unit Standard must be accredited as a provider with the relevant ETQA or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors registered with the relevant ETQA must carry out the assessment of candidates for any of the unit standards that make up this qualification. However, the following criteria are specified for assessors who assess integration of this qualification:

> Be competent in the outcomes of this qualification.
> Have a minimum of 3 years experience in Defensive Mission Control.

NOTES

N/A

UNIT STANDARDS
(Note: A blank space after this line means that the qualification is not based on Unit Standards.)

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
cow	120039 Determine the integrated influence of the operational environment on a flight operation in accordance with South African Air Force doctrine	Level 5	5	Draft - Prep for P Comment
core	120040 Demonstrate understanding of the concepts of operational command and control	Level 5	2	Draft - Prep for P Comment
core	120043 Integrate the functions of the Air Picture Display System (APDS)	Level 5	20	Draft - Prep for P Comment
Core	120044 Demonstrate knowledge of Airpower	Levd 5	5	Draft - Prep for P Comment
core	120045 Demonstrate understanding of aircraff instrumentation	Level 5	6	Draft - Prep for P Comment
cow	120048 Provide a Flight Authorisation Service	Level 5	4	Draft - Prep for P Comment
Core	120049 Conduct mission control b r practice patterns	Level 5	8	Draft - Prep for P Comment
Core	120050 Control missions outside controlled airspace	Level 5	5	Draft - Prep for P Comment
core	120053 Scramble aircraft for air defence missions	Levd 5	5	Draft - Prep for P Comment
Core	120054 Demonstrate understanding of the components of aerial warfare in mission control	Level 5	8	Draft - Prep for P Comment
core	120055 Conduct mission control for combat profiles	Level 5	15	Draft - Prep for P Comment

Core	120056 Conduct mission control b r recovery control profiles	Level 5	5	Draft - Prep for P Comment
Core	120057 Demonstrate knowledge of electronic emission theory	Level 5	12	Draft - Prep for P Comment
Core	120059 Demonstrate an understanding of the principles of operation and use of radio aids in air navigation	Level 5	8	Draft - Prep for P Comment
Core	120051 Conduct mission control b r a combination of profiles	Level 6	5	Draft - Prep for P
Elective	7997 Managing self-development	Level 4	12	Reregistered
Elective	13939 Apply technical knowledge and skill in order to manage risk in emergency planning	Level 4	3	Registered
Elective	114589 Manage time productively	Level 4	4	Registered
Elective	115465 Use a hand held compass for navigational purposes	Level 4	2	Registered
Elective	115468 Interpret a topographical map for navigational purposes	Level 4	2	Registered
Elective	7876 Conduct on-the-Job-Training	Level 5	8	Reregistered
Elective	11994 Monitor, reflect and improve on own performance	Level 5	3	Registered
Elective	15096 Demonstrate an understanding of stress in order to apply strategies to achieve optimal stress levels in personal and work situations	Level 5	5	Registered
Elective	15225 Identify and interpret related legislation and its impact on the team, department or division and ensure compliance	Level 5	4	Registered
Elective	15230 Monitor team members and measure effectiveness of performance	Level 5	4	Registered
Elective	15233 Harness diversity and build on strengths of a diverse working environment	Level 5	3	Registered
Elective	115753 Conduct outcomes-based assessment	Level 5	15	Registered
Elective	120046 Demonstrate understanding of the military intelligence environment	Level 5	20	Draft-Prep for P Comment
Elective	120052 Manage short range communications specific to aircraft	Level 5	3	Draft - Prep for P Comment
Elective	7859 Lead and manage teams of people	Level 6	6	Reregistered
Elective	7881 Manage workplace diversity	Level 6	5	Reregistered
Elective	7888 Monitor staff performance	Level 6	5	Reregistered
Elective	120060 Manage HF, UHF and data communication speck to aeroplanes	Level 6	4	Draft - Prep for P Comment
Fundamental	10622 Conduct communication within a business environment	Level 5	8	Reregistered
Fundamental	15234 Apply efficient time management to the work of a department/division/section	Level 5	4	Registered
Fundamental	15237 Build teams to meet set goals and objectives	Level 5	3	Registered
Fundamental	117985 Demonsbate an understanding of the Law of Armed Conflict during multi-national operations	Level 5	10	Registered
Fundamental	120041 Demonstrate understanding of the principles of fliht	Level 5	6	Draft - Prep for P Comment
Fundamental	120042 Interpret meteorology for aviation	Level 5	7	Draft - Prep for P Comment
Fundamental	120047 Demonstrate understanding of human performance and limitations in aviation	Level 5	5	Draft - Prep for P Comment
Fundamental	120058 Demonstrate understanding of the principles of navigating an aircraft	Level 5	7	Draft - Prep for P Comment

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 1

SAQA US ID	*UNIT STANDARD TITLE*		
120045	Demonstrate understanding of aircraft instrumentation		
SGB NAME		*NSB 08*	*PROVIDER NAME*
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		*FIELD DESCRIPTION*	*SUBFIELD DESCRIPTION*
Regular		Law, Military Science and Security	Safety in Society
ABET BAND	*CREDITS*	*NQF LEVEL*	*UNIT STANDARD TYPE*
Undefined	***6***	Level 5	Regular

SPECIFIC OUTCOME 2

Describe automatic flight control systems for heading height control.

SPECIFIC OUTCOME 3

Describe on-board warning and recording equipment.

SPECIFIC OUTCOME 4

Describe powerplant and systems monitoring instruments.

SPECIFIC OUTCOME 5

Manage on board environment.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 2

SAQA US ID	UNIT STANDARD TITLE
120047	Demonstrate understanding of human performance and limitations in aviation

SGB NAME	NSB 08	PROVIDER NAME
SGB Air Defence	Law, Military Science and Security	

UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular	Law, Military Science and Security	Safety in Society

ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 5	Regular

SPECIFIC OUTCOME 1

Demonstrate understanding *of* human factors which influence the performance of persons within the aviation environment.

SPECIFIC OUTCOME 2

Demonstrate understanding *of* aviation physiology and health maintenance.

SPECIFIC OUTCOME 3

Demonstrate understanding *of* aviation psychology.

SAQA US ID	UNIT STANDARD TITLE		
120048	Provide a Flight Authorisation Service		
SGB NAME		NSB 08	PROVIDER NAME
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Law, Military Science and Security	Sovereignty of the State
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 5	Regular

SPECIFIC OUTCOME 1

Co-ordinate information regarding all military flights operating in the area of responsibility.

SPECIFIC OUTCOME 2

Process an Air Movement Issue.

SPECIFIC OUTCOME 3

Process mission orders.

SPECIFIC OUTCOME 4

Process airspace booking requirements.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 4

SAQA US ID	*UNIT STANDARD TITLE*		
120049	Conduct mission control for practice patterns		
SGB NAME		*NSB 08*	*PROVIDER NAME*
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		*FIELD DESCRIPTION*	*SUBFIELD DESCRIPTION*
Regular		Law, Military Science and Security	Sovereignty of the State
ABET BAND	*CREDITS*	*NQF LEVEL*	*UNIT STANDARD TYPE*
Undefined	*8*	Level *5*	Regular

SPECIFIC OUTCOME 1

Demonstrate understanding of practice pattern control technique.

SPECIFIC OUTCOME 2

Accept positive control of aircraft for practice patterns.

SPECIFIC OUTCOME 3

Provide positive control of practice patterns.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: **5**

Control missions outside controlled airspace

SAQA US ID	***UNIT STANDARD TITLE***
120050	Control missions outside controlled airspace

SGB NAME	***NSB 08***	***PROVIDER NAME***
SGB Air Defence	Law, Military Science and Security	
UNIT STANDARD TYPE	***FIELD DESCRIPTION***	***SUBFIELD DESCRIPTION***
Regular	Law, Military Science and Security	Sovereignty of the State

ABET BAND	***CREDITS***	***NQF LEVEL***	***UNIT STANDARD TYPE***
Undefined	***5***	Level ***5***	Regular

SPECIFIC OUTCOME 1

Demonstrate understanding of Search and Rescue (SAR) missions.

SPECIFIC OUTCOME 2

Accept positive control of aircraft outside controlled airspace.

SPECIFIC OUTCOME 3

Provide positive control of SAR mission.

SPECIFIC OUTCOME 4

Demonstrate understanding of marshal missions.

SPECIFIC OUTCOME 5

Hand over control of aeroplane.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: **6**

SAQA US ID	***UNIT STANDARD TITLE***
120051	Conduct mission control for a combination of profiles

SGB NAME	***NSB 08***	***PROVIDER NAME***
SGB Air Defence	Law, Military Science and Security	
UNIT STANDARD TYPE	***FIELD DESCRIPTION***	***SUBFIELD DESCRIPTION***
Regular	Law, Military Science and Security	Sovereignty of the State

ABET BAND	***CREDITS***	***NQF LEVEL***	***UNIT STANDARD TYPE***
Undefined	***5***	Level 6	Regular

SPECIFIC OUTCOME 1

Demonstrate understanding of the difference between single and multiple profile control techniques.

SPECIFIC OUTCOME 2

Scramble multiple aeroplanes for a combination of profiles.

SPECIFIC OUTCOME 3

Accept positive control of multiple aeroplanes.

SPECIFIC OUTCOME 4

Provide positive control of two combat profiles simultaneously.

SPECIFIC OUTCOME 5

Provide positive control of a combination of practice patterns.

SPECIFIC OUTCOME 6

Provide positive control of multiple recovery profiles.

SPECIFIC OUTCOME 7

Positively hand over control of multiple aeroplanes.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 7

Manage short range communication specific to aircraft

SAQA US ID	*UNIT STANDARD TITLE*		
120052	Manage **short** range communication specific to aircraft		
SGB NAME		*NSB 08*	*PROVIDER NAME*
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		*FIELD DESCRIPTION*	*SUBFIELD DESCRIPTION*
Regular		Law, Military Science and Security	Safety in Society
ABET BAND	*CREDITS*	*NQF LEVEL*	*UNIT STANDARD TYPE*
Undefined	3	Level 5	Regular

SPECIFIC OUTCOME 1

Describe the principles of **VHF** (very high frequency) radio communication.

SPECIFIC OUTCOME 2

Demonstrate the use of procedures relating to VHF communication.

SPECIFIC OUTCOME 3

Conduct standard radio communication procedures relevant to radio.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

UNIT STANDARD: 8

SAQA US ID	UNIT STANDARD TITLE
120053	Scramble aircraft for air defence missions

SGB NAME		NSB 08	PROVIDER NAME
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		**FIELD DESCRIPTION**	**SUBFIELD DESCRIPTION**
Regular		Law, Military Science and Security	Sovereignty of the State
ABET BAND	**CREDITS**	**NQF LEVEL**	**UNIT STANDARD TYPE**
Undefined	5	Level 5	Regular

SPECIFIC OUTCOME 1

Prepare to scramble aircraft.

SPECIFIC OUTCOME 2

Demonstrate understanding of scrambling aircraft,

SPECIFIC OUTCOME 3

Scramble air defence aircraft.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 9

Demonstrate understanding of the components of aerial warfare in mission control

SAQA US ID	*UNIT STANDARD TITLE*
120054	Demonstrate understanding of the components of aerial warfare in mission control

SGB NAME	*NSB 08*	*PROVIDER NAME*
SGB Air Defence	Law, Military Science and Security	
UNIT STANDARD TYPE	***FIELD DESCRIPTION***	***SUBFIELD DESCRIPTION***
Regular	Law, Military Science and Security	Sovereignty of the State

ABET BAND	*CREDITS*	*NQF LEVEL*	*UNIT STANDARD TYPE*
Undefined	***8***	Level ***5***	Regular

SPECIFIC OUTCOME 1

Describe the concept and characteristics of an air force.

SPECIFIC OUTCOME 2

Demonstrate understanding of defensive counter air operations.

SPECIFIC OUTCOME 3

Compare airborne platforms.

SPECIFIC OUTCOME 4

Demonstrate knowledge of defensive weapon systems.

SPECIFIC OUTCOME 5

Demonstrate knowledge of mission control rules and regulations.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: **10**

SAQA US ID	*UNIT STANDARD TITLE*
120055	Conduct mission control for combat profiles

SGB NAME	*NSB 08*	*PROVIDER NAME*
SGB Air Defence	Law, Military Science and Security	

UNIT STANDARD TYPE	*FIELD DESCRIPTION*	*SUBFIELD DESCRIPTION*
Regular	Law, Military Science and Security	Sovereignty of the State

ABET BAND	*CREDITS*	*NQF LEVEL*	*UNIT STANDARD TYPE*
Undefined	15	Level 5	Regular

SPECIFIC OUTCOME 1

Demonstrate understanding of cornbat profile control techniques.

SPECIFIC OUTCOME 2

Scramble aeroplanes for cornbat profiles.

SPECIFIC OUTCOME 3

Accept positive control of aircraft for combat profiles.

SPECIFIC OUTCOME 4

Provide positive control of combat profiles.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Established in terms of Act 58 of 1995

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: 11

Conduct mission control for recovery control profiles

SAQA US ID	UNIT STANDARD TITLE
120056	Conduct mission control for recovery control profiles

SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Law, Military Science and Security	Sovereignty of the State
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 5	Regular

SPECIFIC OUTCOME 1

Demonstrate understanding of basic approach control procedures.

SPECIFIC OUTCOME 2

Demonstrate understanding of radar control procedures.

SPECIFIC OUTCOME 3

Demonstrate understanding of recovery control techniques.

SPECIFIC OUTCOME 4

Provide positive control of recovery profiles.

SPECIFIC OUTCOME 5

Hand over control of aeroplane.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT *STANDARD:* 12

SAQA US ID	*UNIT STANDARD TITLE*		
120057	Demonstrate knowledge of electronic emission theory		
SGB NAME		*NSB 08*	*PROVIDER NAME*
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		*FIELD DESCRIPTION*	*SUBFIELD DESCRIPTION*
Regular		Law, Military Science and Security	Sovereignty of the State
ABET BAND	*CREDITS*	*NQF LEVEL*	*UNIT STANDARD TYPE*
Undefined	12	Level 5	Regular

SPECIFIC OUTCOME 1

Demonstrate knowledge of radar concepts.

SPECIFIC OUTCOME 2

Demonstrate knowledge of radio communication concepts.

SPECIFIC OUTCOME 3

Demonstrate knowledge of electronic warfare environments.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: **13**

SAQA US ID	***UNIT STANDARD TITLE***		
120058	Demonstrate understanding of the principles of navigating an aircraft		
SGB NAME		***NSB 08***	***PROVIDER NAME***
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		***FIELD DESCRIPTION***	***SUBFIELD DESCRIPTION***
Regular		Law, Military Science and Security	Safety in Society
ABET BAND	***CREDITS***	***NQF LEVEL***	***UNIT STANDARD TYPE***
Undefined	***7***	Level 5	Regular

***SPECIFIC OUTCOME* 2**

Explain magnetism in navigation.

***SPECIFIC OUTCOME* 3**

Utilise aeronautical charts.

SPECIFIC OUTCOME 4

Conduct dead reckoning navigation (DR).

SPECIFIC OUTCOME 5

Navigate an aircraft in equatorial and mid latitude flights.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD: **14**

120059	Demonstrate an understanding of the principles of operation and use of radio aids in air navigation

SGB NAME		***NSB 08***	***PROVIDER NAME***
SGB Air Defence		Law, Military Science and Security	
UNIT STANDARD TYPE		***FIELD DESCRIPTION***	***SUBFIELD DESCRIPTION***
Regular		Law, Military Science and Security	Safety in Society
ABET BAND	***CREDITS***	***NQF LEVEL***	***UNIT STANDARD TYPE***
Undefined	***8***	Level 5	Regular

SPECIFIC OUTCOME 1

Describe radio wave propagation.

SPECIFIC OUTCOME 2

Describe different types of radar systems used in aviation.

SPECIFIC OUTCOME 3

Describe area navigation systems.

SPECIFIC OUTCOME 4

Demonstrate an understanding of satellite navigation systems.

SPECIFIC ***OUTCOME*** 5

Describe the use of radio aids to facilitate navigation.

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

SAQA US ID	UNIT STANDARD TITLE
120060	Manage HF, UHF and data communication specific to aeroplanes

SGB NAME	NSB 08	PROVIDER NAME
SGB Air Defence	Law, Military Science and Security	

UNIT STANDARD N P E	FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular	Law, Military Science and Security	Sovereignty of the State

ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 6	Regular

SPECIFIC OUTCOME 2

Conduct HF, UHF and data communication procedures.

SPECIFIC OUTCOME 3

Describe the general principles of UHF (Ultra High Frequency) and HF (High Frequency) radio wave propogation and allocation of frequencies.

SPECIFIC OUTCOME 4

Describe the general principles of data link communications.