No. 43 **5 February 2010**

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Task Team for

SOVEREIGNTY OF THE STATE

registered by Organising Field 08 – Law, Military Science and Security, 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 5 March 2010.*** All correspondence should be marked **Standards Setting – Task Team for Sovereignty of the State** and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
Further Education and Training Certificate: Engineering Watchkeeping

SAQA QUAL ID	*QUALIFICATION TITLE*		
77983	Further Education and Training Certificate: Engineering Watchkeeping		
ORIGINATOR		*PROVIDER*	
TT - Sovereignty of the State			
QUALIFICATION TYPE	*FIELD*	*SUBFIELD*	
Further Ed and Training Cert	8 - Law, Military Science and Security	Sovereignty of the State	
ABET BAND	*MINIMUM CREDITS*	*NQF LEVEL*	*QUAL CLASS*
Undefined	122	Level 4	Regular-Unit Stds Based

New NQF Level: NQF Level 04

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

PURPOSE AND RATIONALE OF THE QUALIFICATION
Purpose:

This qualification is aimed at persons who work or intend to work in the Navy or Maritime sector as an Engineering Watchkeeper, and who require essential skills in maritime engineering supervision and watchkeeping. Learners may progress from this qualification to become a Marine Engineering Officer (Navy), a Weapons Engineering Officer (Navy), or Chief Engineer in the commercial maritime sector. This qualification follows on from SAN training in Engineering Assistance at NQF Level 3 and leads to the National Certificate: Marine Engineering at NQF Level 5.

The qualification will provide professional status to persons who practise within the discipline. Learners in possession of this qualification will be able to:

- Carry out specified scheduled maintenance activities on board a ship.
- Carry out watch keeping duties in the engine room as chief of the watch.
- Combat fire and flood while on watch.
- Conduct engineering trials on a vessel.
- Conduct fabrication and repair operations on ships.
- Conduct personnel management functions for a team.
- Dismantle, repair and assemble shipboard plant.
- Ensure compliance with maritime pollution prevention requirements.
- Implement safe work procedures for engineering work on a naval vessel.
- Operate equipment to provide electrical power to a vessel.
- Operate propulsion machinery and associated control systems.
- Operate pumping and associated control systems.

Engineering Watchkeepers will generally carry out their role within the context of:

- A marine environment.
- Adequately equipped and serviceable vessels.

• Coherent and interdependent relationships.

Rationale:

The South African Navy (SAN) wishes to provide for the recognition of key clusters of supervisory, management and technical competence which coincide with SAN licensing requirements.

The majority of the candidates for this qualification are likely to have completed the introductory courses to maritime engineering, and wish to progress to engineering watchkeeping within a naval context. This qualification will give them the opportunity to develop and balance their practical skills with the essential knowledge needed to earn a formal qualification in Engineering Watchkeeping, without formal education becoming an impassable barrier.

There is a critical need in the SAN to identify people from different demographic and gender backgrounds who have a sound foundation in basic engineering skills, and who have completed learning and been recognised as competent as an engineering rating. This qualification will provide for them the opportunity to develop the specific skills demanded of those who supervise engineering watchkeeping within a safety conscious and highly regulated sector.

A decision has also been made that the SAN must comply with, or exceed, international marine engineering standards. Traditionally, SAN training has been of a high standard in defined areas, but has not always produced people who meet international maritime licensing requirements such as the International Maritime Organisation (IMO) Standards of Training, Certification and Watchkeeping (STCW), and SAMSA (South African Maritime Safety Association) Codes and conventions. The qualification recognises and makes provision for these additional requirements.

In addition, the policy of the Defence Force, as part of a broader skills development process in South Africa, is to provide Defence Force members with skills, knowledge and competencies that are transferable to sectors outside the Defence Force so as to enable members to obtained employment when they leave the SANDF. This qualification will not only provide the learner with the competencies required to operate effectively within the SAN, but also provide him/her with skills that are usable in the merchant marine as well as in other commercial sectors.

In summary, the purpose of the qualification and its unit standards is to:

• Describe the standard required for competent performance in the SAN and the international arena as a naval engineering watchkeeper.
• Provide a framework of learning and competencies for that would allow for Recognition of Prior Learning (RPL).
• Provide access and progression via a coherent learning pathway for engineering personnel wishing to follow a career in marine engineering.
• Provide access to candidates formerly denied opportunities for a career in maritime defence, which in turn promotes personal (and thus national) skills development.

The maritime industry, and in particular the South African Navy, have a need to keep watch over engineering activities.
The majority of the candidates for this qualification are likely to be working in the South African Navy, with the knowledge gained in this qualification being directly applicable to a naval engineering watchkeeper. Experienced engineering ratings and/or watchkeepers are also in general demand in the commercial maritime industry, and career opportunities include container vessels and fishing.

This occupation is highly regulated through international organisations and agreements and thus has a major influence on the construct of this qualification.

RECOGNIZE PREVIOUS LEARNING?
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LEARNING ASSUMED IN PLACE
- Mathematics at NQF Level 3.
- Communication at NQF Level 3.

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 and/or individual unit standards.

Evidence can be presented in various ways, including international and/or 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 in this document and the requirements for integrated assessment.

Access to the Qualification:

Learners applying to enrol for this qualification need to comply with given medical requirements in order to perform the activities and functions of a watchkeeper on board a ship. Learners who do not comply with these medical requirements may find difficulty in achieving many of the unit standards associated with this qualification.

QUALIFICATION RULES
This Qualification consists of a minimum of 122 Credits made up as follows:

Fundamental:

The Qualification consists of a Fundamental, a Core and an Elective Component.

To be awarded the Qualification learners are required to obtain a minimum of 122 credits as detailed below.

Fundamental Component:

- The Fundamental Component consists of Unit Standards in:
  - Mathematical Literacy at NQF Level 4 to the value of 16 Credits.
  - Communication at NQF Level 4 in a First South African Language to the value of 20 Credits.
  - Communication in a Second South African Language at NQF Level 3 to the value of 20 Credits.

It is compulsory therefore for learners to do Communication in two different South African languages, one at NQF Level 4 and the other at NQF Level 3.

Mathematical Literacy is defined as the ability to apply basic mathematics within a variety of real life contexts.
All Unit Standards in the Fundamental Component are compulsory.

Core Component:

- The Core Component consists of Unit Standards to the value of 56 Credits all of which are compulsory.

Elective Component:

• Learners must select additional Unit Standards from the Elective component to achieve a minimum of 10 Credits.

EXIT LEVEL OUTCOMES

1. Execute watchkeeping duties.

2. Use tools effectively for maintenance and repair.

3. Operate shipboard machinery and equipment.

4. Carry out planned and corrective maintenance.

5. Respond to emergencies as an engineering watchkeeper.

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:
o The function requires critical thought, problem-solving and responsible decision making across a wide range of technical and personnel situations and contexts. The function requires identifying deviations from the norm, identification of the cause, and selection of appropriate responses to solve problems.

• Working effectively with others as a member of a team, group, organisation or community:
o The operator is part of an engineering team as well as a damage control team. As watchkeeper, the operator directs the activities of others and achieves aims and objectives by these means. The operator is also part of the broader picture of the ship's company and plays a part within that greater whole.

• Organising and managing oneself and one's activities responsibly and effectively:
o Naval vessels are complex entities and there are a variety of service and maintenance functions scheduled on a daily, weekly and monthly basis. It is essential that the operator is well organised and able to execute the tasks efficiently and effectively as planned to promote the safety of personnel and vessel.

• Collecting, analysing, organising and critically evaluating information:
o It is essential that an accurate picture of the condition of the vessel is maintained at all times so that it is ready and fit-for-purpose as required by the command aim. Information must be gathered and reported consistently to form and maintain this picture.

• Communicating effectively using visual, mathematical and/or language skills in the modes of oral/written persuasion:
o Communication in a technical environment frequently makes use of diagrams. Instructions and requirements must be effectively communicated and feedback and input accurately interpreted and evaluated for the function to operate as intended.

• Using science and technology effectively and critically, showing responsibility towards the environment and health of others:
o The entire function revolves around the critical and responsible use of technology, both in the operation of the plant as well as the detection of faults, and fabrication, maintenance and repair