

Career path for fire safety personnel in the municipal environment

By Petrus Brits, senior district manager for fire safety, Ekurhuleni Emergency Services



The fire service, fire brigade, fire and rescue service or emergency, whatever it is called by people, is governed by mainly two acts, one being the Constitution of South Africa and the other the Fire Brigade Services Act.

The Constitution of South Africa, Schedule 4: Part B states that the running of a "fire fighting service" is the responsibility of Local Government. In Chapter 7, Schedule 155 (6) (a) and (7) it states that provinces

are responsible for the monitoring and support to Local Government regarding service delivery.

The Fire Brigade Services Act, Section 3(1) states that, "A local authority may establish and maintain a service in accordance with the prescribed requirements" In Section 5(1) it states that, "A controlling authority shall appoint a person who possesses the prescribed qualifications and experience, as chief fire officer to be in charge of its service".

The above mentioned acts clearly indicates who's responsibility it is to establish a service as well as who will render support to them to perform at their level best. The concern, however, is the reference to the "prescribed" qualifications a person must have to be appointed as chief fire officer. As we all know there is no set of qualifications gazetted in an act or regulation for these positions and it solely leaves this up to the individual local authority to decide upon if they wish to establish a service. Remember, the Fire Brigade Services Act states that they "may" establish a service instead of "must". The failure of these prescribed qualifications has a rippling effect downwards on all positions as it is not clearly identified due to the lack of a career path or career profile for fire services.

In terms of the Fire Brigade Services Act, a "service" means a fire brigade service intended to be employed for:

- Preventing the outbreak or spread of a fire
- Fighting or extinguishing a fire
- The protection of life or property against a fire or other threatening danger

(a) Preventing the outbreak or spread of fire	<ul style="list-style-type: none"> Inspect premises for fire safety compliance Inspect and register premises for use, storage and handling of dangerous goods/flammable liquids Inspect and approve/not-approve vehicles for transporting dangerous goods/flammable liquids Inspect and register premises for compliance to the major hazard installation regulations Enforcement of applicable legislation and municipal bylaws Provide and conduct public education and awareness campaigns
(c) The protection of life or property against a fire or other threatening danger	<ul style="list-style-type: none"> Evaluate, comment and recommend on approval/non-approval of: <ul style="list-style-type: none"> Building plans Rational designs SDP applications/submissions Land use related applications/submissions Special event applications/submissions Fire risks assessments Conduct fire cause and origin determination after fires Issue fire clearance certificates for new buildings

Some of the duties and activities listed that are performed

- d. The rescue of life or property from a fire or other danger
- e. Subject to the provisions of the Health Act, 1977 (Act No 63 of 1977), the rendering of an ambulance service as an integral part of the fire brigade service or
- f. The performance of any other function connected with any of the matters referred to in paragraphs (a) to (e).

Section (a) and (c) in the paragraph above is a direct instruction of what duties must be performed by a service and these duties are normally performed by the fire prevention section as established in terms of SANS 10090:2003 in larger services or by a single person in our smaller and rural services. In

the table above are some of the duties and activities listed that are performed in terms of (a) and (c):

What we have currently

Needless who perform these duties, said person needs to be qualified in order to deliver a competent service to the community. The question now comes to mind, what qualifications does this person need to possess and where or how will it be obtained? Again, this is left to the local authority to decide on. Currently in South Africa we have the following qualifications and providers available delivering some sort of fire safety qualifications to the industry as per the table below.

What do we need?

In order to progress with the development of qualifications for fire safety personnel, it is necessary to follow the following three processes: A. Identify the roles applicable to the fire safety section. The National Fire Protection Association (NFPA) codes identify four types of roles which can be used as guidelines and is listed as:

1. Fire inspector: An individual who conducts fire code inspections and applies codes and standards.
2. Plan examiner: An individual who conducts plan reviews and applies codes and standards.
3. Fire investigator: An individual who has demonstrated the skills and knowledge

Emergency Training Solutions (ETS)	Fire Protection Association of Southern Africa (FPASA)	Tshwane University of Technology (TUT)	Southern African Emergency Service Institute (SAESI)	Institute of Fire Engineers (IFE)
<ul style="list-style-type: none"> Plan Examiners Fire Inspection and Code Enforcement Fire Investigator 	<ul style="list-style-type: none"> Fire Prevention and Safety Strategies Advanced Fire Prevention Fundamentals of Fire Investigation Advanced Fire Investigation Techniques CFPA Europe – Fire Safety Engineering CFPA Europe – Ordinary Diploma in Fire Prevention 	<ul style="list-style-type: none"> National Diploma: Fire Technology B-Tech: Fire Technology M-Tech: Fire Technology 	<ul style="list-style-type: none"> Fire Fighter 1 and 2 Fire and Life Safety Educator 1 and 2 Public Information Officer Fire Investigator Fire Officer 1 and 2 Higher Certificate: Fire Technology Diploma: Fire Technology Higher Diploma: Fire Technology 	<ul style="list-style-type: none"> Level 2 Certificate: Fire Science, Operations and Safety Level 3 Certificate: Fire Science, Operations, Fire Safety and Management Level 3 Diploma: Fire Science and fire Safety Level 4 Certificate: Fire Science and Fire Safety

The current qualifications and providers in South Africa

Limited National Qualifications Framework (NQF)-aligned tertiary education available for fire services		
Higher Education Quality Committee (HEQC) qualification types	NQF levels	Quality Council For Trades and Occupations (QCTO) qualification types
Doctoral degree: (professional)	10	Not available on QCTO
Master's degree: (professional)	9	Not available on QCTO
M-Tech: Fire Technology	8	Occupational certificate level 8:
B-Tech: Fire Technology	7	Occupational certificate level 7:
National diploma: Fire Technology	6	Occupational certificate level 6:
Higher certificate:	5	Occupational certificate level 5: Currently called National Certificate: Emergency Services Supervision: Fire and Rescue Operations
National certificate	4 Grade 12	Occupational certificate level 4: Fire and Rescue Operations
Intermediate certificate	3 Grade 11	Occupational certificate level 3
Elementary certificate	2 Grade 10	Occupational certificate level 2
General certificate	1 Grade 9	Occupational certificate level 1

Limited NQF-aligned tertiary education available for fire services

- necessary to conduct, coordinate, and complete an investigation.
- 4. Fire marshal: A person designated to provide delivery, management, and/or administration of fire protection and life safety related codes and standards, investigations, education, and/or prevention services for local, county, state, provincial, federal, tribal, or private sector jurisdictions as adopted or

- determined by that entity.
- B. Identify the job levels applicable to the fire safety section and once again the NFPA codes can be used can be used as guidelines and is listed as:
 1. Inspector I: An individual at the first level of progression, conducts basic fire inspections and applies codes and standards
 2. Fire inspector II: An individual at the second or intermediate level of

- progression, conducts most types of inspections and interprets applicable codes and standards
- 3. Fire inspector III: An individual at the third and most advanced level of progression, performs all types of fire inspections, plans review duties, and resolves complex code-related issues
- 5. Plan examiner I: An individual at the first level of progression, conducts basic plan reviews and applies codes and standards
- 6. Plan examiner II: An individual at the second or most advanced level of progression, conducts plan reviews and interprets applicable codes and standards.

C. Identify the educational subjects or courses applicable to the fire safety section and its personnel. Examples can be:

- Fire engineering science (hydraulics and chemistry)
- Fire engineering (fire dynamics)
- Fire engineering (fire models)
- Fire engineering (design and assessment)
- Fire protection engineering (active)
- Fire protection engineering (passive)
- Smoke control
- Interaction between fire and people
- Egress and risk assessment

NQF-aligned tertiary education that we need for fire safety		
HEQC qualification types	NQF LEVELS	QCTO qualification types
Doctoral degree: Fire safety technology	10	Not available on QCTO
Master's degree: Fire safety technology	9	Not available on QCTO
Bachelor's degree: Fire safety technology	8	Occupational certificate level 8: Fire safety
Advance diploma: Fire safety technology	7	Occupational certificate level 7: Fire safety
Diploma: Fire safety technology Advanced certificate: Fire safety technology	6	Occupational certificate level 6: Fire safety
Higher certificate: Fire safety technology	5	Occupational certificate level 5: Fire safety
National certificate	4 Grade 12	Occupational certificate level 4: Fire and rescue operations
Intermediate certificate	3 Grade 11	Occupational certificate level 3
Elementary certificate	2 Grade 10	Occupational certificate level 2
General certificate	1 Grade 9	Occupational certificate level 1

NQF-aligned tertiary education that we need for fire safety

- Building engineering
- Building construction for the fire service
- Building regulations, codes, standards and legislation
- Fire prevention practices
- Fire safety risk assessments
- Community risk reduction
- Codes and inspection procedures
- Fire investigation (origin and cause determination)
- Building plan examination
- Fire and life safety educator
- Public information officer

After the above mentioned processes have been followed a career path for the fire service and its personnel needs to be develop.

Unfortunately, this will not be an easy task taking into consideration the different types of fire services in the country, their functionality and staffing levels available. However, without the 'skeleton', no meat can be put on as the bones are providing the backbone and direction needed with developing qualifications.

An example of such a career path is listed in the table below:

Proposed way forward

We need to realise that no fire service in South Africa is a mirror image of each other and that is due to:

- Different municipal classifications (metro, district, local)
- Different organisational structures (size of staff complement)
- Different risks in area of jurisdiction (farm land vs petroleum depots)
- Different topography in area of jurisdiction (built-up vs rural)

There is no professional body representing the fire service in South Africa and although there is a fire service directorate in the Department of Cooperative Governance and Traditional Affairs, they cannot attend to all issues due to limitations of staff. The Fire Brigade Board is not functioning as desired and perhaps the new Fire Brigade Services Act will address this shortcoming via the route of a professional body. This will greatly assist with developing careers and qualifications needed for the service and gazetted in legislation to be adhered to by all.

A mind-set needs to take place at top management level in fire services to move towards prevention, protection and education instead of response as this will contribute to a more safe community and lesser fire losses which have huge impacts on the economy.

No specific tertiary qualification exists for fire safety personnel and this can be achieved via:

- Research international qualifications and convert adapt them for the South African environment
- Compile and draft a 'new' qualification or expand the current tertiary qualification available to cover more fire safety areas and submit for approval by the South African Qualifications Authority (SAQA)
- Engage tertiary education institutions to provide 'distance learning' on this program throughout South Africa
- The current short courses as provided by eg FPASA, ETS and SAESI/IFSAC can be included in the 'new' qualification as this approach is standard in the USA degree programs

As no career path exists for fire services, there is an urgent need that one be drafted for all sections in the service. This career path needs to be based on roles rather than ranks and needs to be included as a regulation in terms of the new Fire Brigade Services Act.

The envisaged goal for a fire safety qualification can be achieved by establishing a small working group to draft a career path for fire safety and there after a qualification using capable and competent persons. ⚠



Example of such a career path