

**REPORT ON THE ACCREDITATION,
CERTIFICATION AND QUALIFICATION
REQUIREMENTS FOR ELECTRICAL
WORKERS IN NAMIBIA**

APRIL 2008

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ABBREVIATIONS

ECB	Electricity Control Board
NIMT	Namibian Institute of Mining and Technology
NQA	Namibian Qualifications Authority
NQF	National Qualifications Framework
NTA	Namibia Training Authority
REDS	Regional Electricity Distributors
VTB	Vocational Training Board
VTC	Vocational Training Centre
GG	Government Gazette

ACTS AND LAWS

The Namibian Constitution	The Constitution of the Republic of Namibia
The Competition Act	Act No.2 of 2003
The Electricity Act, 2000	Act No. 2 of 2000
The Electricity Act, 2007	Act No. 4 of 2007
The Electric Power Proclamation	Proclamation No 4 of 1922
The Interpretation of Laws Proclamation	Proclamation No. 37 of 1920
The Labour Act	Act No. 6 of 1992
The Local Authorities Act	Act No. 23 of 1992
The Namibia Qualifications Authority Act	Act No. 29 of 1996
The National Vocational Training Act	Act No. 18 of 1994
The Regional Councils Act	Act No. 22 of 1992
The Vocational Education and Training Bill	Bill of 2007

EXECUTIVE SUMMARY

The current regulation of electrical workers is minimal and fragmented. There are several statutes which contain prescripts as to the health and safety aspects of electricity infrastructure. To a certain degree these statutes regulate the competency requirements of electrical workers. There are certain other statutes that do address competency requirements of electrical workers but there are no uniform national requirements on the qualification, certification and accreditation of electrical workers. Some electricity licensees have internal requirements on this but the latter are not incorporated within statutory law.

As regards local authorities, there are certain requirements contained in local by-laws, the Model Electricity Supply Regulations issued under the Local Authorities Act, the Health and Safety Regulations issued under the Labour Act. The Draft Electrical Regulations Technical to be issued under the Electrical Act, 2007 also lay down certain requirements.

In the first phase of the study, a desktop study investigation was done to ascertain the extent of the application of different laws. The laws that were studied are the following:

- ❖ The Namibian Constitution
- ❖ The Competition Act
- ❖ The Electricity Act
- ❖ The Labour Act
- ❖ The Local Authorities Act
- ❖ The Regional Councils Act
- ❖ The National Vocational Training Act
- ❖ The Namibia Qualifications Authority Act
- ❖ The Vocational Education and Training Bill, 2007
- ❖ The Model Electricity Supply Regulations issued in terms of the Local Authorities Act
- ❖ The Regulations relating to the Health and Safety of Employees at Work (published in Government Gazette No. 1617 of 1 August 1997 – notice number 156/1997);
- ❖ Draft Amendments to the Regulations relating to the Health and Safety of Employees at Work;
- ❖ Draft technical regulations on the qualifications of electrical workers prepared during a previous project on this matter to be issued under the Electricity Act;
- ❖ Draft Regulations for the Accreditation by the Namibia Qualifications Authority of Institutions to offer Courses of Instruction and/or Training (prepared pursuant to section 14 (b) of the Namibia Qualifications Authority Act No 29 of 1996)

The overarching conclusion reached during the study was that the creation of the NTA and its interaction with the NQA would be the vehicle through which a Qualification Framework for Electrical Workers should be established. The function of the ECB in this regard would be to assist the NTA and to encourage all licencees to participate in the process. It appears as if the Vocational Education and Training Bill will be promulgated this year. Whether or not it is promulgated however, the NTA is in a position, through its Memorandum of Understanding with the NQA, to commence work on a Qualification Framework for Electrical Workers.

The second phase of the study focussed on the levels and qualifications of electrical workers currently in existence in the Namibian Electricity Industry as well as the problems experienced in the industry relating to qualifications and competency of trainees. The major role-players in the Namibian Electricity Industry, including such employers such as NamPower, mines, REDS, TransNamib, NIMT, Ministry of Mines and Energy (Renewable

Energy division), Telecom Namibia, and Local Government were approached for information. The investigation indicated that there are shortcomings in the current technical and vocational education and training system in Namibia. This is evidenced by the fact that despite the training conducted by several training institutions before and after independence, the Namibian electricity industry still lacks skilled manpower, and this need is increasing while graduates from these institutions are unemployed. Several recommendations are made to address the situation but again it is felt that the NTA is the dominant vehicle that should be used.

PART I: THE CASE FOR CHANGE

1. INTRODUCTION

This study was commissioned by the ECB of Namibia to provide consultancy services for accreditation, certification and qualification requirements for electrical workers in Namibia.

This report is a summary of the current position of the training and professional recognition of electrical workers in Namibia and proposals are made with regard to the qualifications framework for electrical workers.

2. BACKGROUND

2.1 The Role of the Electricity Control Board

The ECB was established under the Electricity Act, 2000 and reconstituted in terms of the Electricity Act, 2007. In terms of Electricity Act, 2007¹, the ECB is mandated to exercise control over the electricity supply industry and to regulate the various electricity-related activities in accordance with prevailing government policy in order to ensure efficient supply of electricity. Part and parcel of this mandate is to ensure the safe and reliable supply of electricity.

The safe and reliable supply of electricity requires several interventions, one of which would be to ensure the competency of persons (electrical workers) installing, maintaining, etc electricity infrastructure. In order to do the latter it is imperative that there be established qualification requirements for electrical workers.²

2.2 Fragmented Approach to Regulation of Electrical Workers

The current regulation of electrical workers is minimal and fragmented. There are several statutes which contain prescripts as to the health and safety aspects of electricity infrastructure. To a certain degree these statutes regulate the competency requirements of electrical workers. There are certain other statutes that do address competency requirements of electrical workers but there are no uniform national requirements on the qualification, certification and accreditation of electrical workers. Some electricity licensees have internal requirements on this but the latter are not incorporated within statutory law.

¹ Section 3(1) of the Electricity Act, 2007.

² This excludes engineers whose qualifications and registrations are regulated by the Engineering Profession Act, 1986 (Act No. 18 of 1986).

As regards local authorities, there are certain requirements contained in local by-laws, the Model Electricity Supply Regulations issued under the Local Authorities Act, the Health and Safety Regulations issued under the Labour Act and the Electrical Regulations Technical issued under the Electrical Act.

2.3 The Creation of Safe and Reliable Supply of Electricity

The main purpose of creating a national framework for the competency requirements of electrical workers is to create the safe and reliable supply of electricity.

3. METHODOLOGY

This report comprises several parts that were developed in phases. The first phase of this report was a high-level desk-top study of the different pieces of legislation listed in the Terms of Reference³. The purpose was to determine the relationship between the bodies established by that legislation and to identify the powers of the bodies established by the legislation.

The second phase of this report was to determine how many levels and qualifications of electrical workers are currently in existence in the Namibian Electricity Industry and the problems experienced in the industry in this regard. The major role-players in the Namibian Electricity Industry, including such employers such as NamPower, mines, REDS, TransNamib, NIMT, Ministry of Mines and Energy (Renewable Energy division), Telecom Namibia, and Local Government were approached for information.

The third phase of this report was to develop recommendations based on the conclusions reached during the first two phases.

³ The Terms of Reference issued by the ECB in April 2006.

PART II: AUDIT OF CURRENT LEGISLATIVE FRAMEWORK

1. COMPETENCY OF ELECTRICAL WORKERS VS THE HEALTH AND SAFETY REQUIREMENTS IN LAW WITHIN THE CONSTITUTIONAL FRAMEWORK

1.1 Introduction

In order to understand the current legal environment in which electrical workers are educated, trained and employed it is necessary to distinguish between the hierarchy of legislation and the focus areas of the legislator. First and foremost are the provisions of the Namibian Constitution as it relates to the economic freedom of all persons. On the second level one has to distinguish between legislation that regulates the competency of electrical workers and other legislation that addresses health and safety issues. On the third level regulations and by-laws have been promulgated that also needs investigating.

The suites of legislation that were studied as part of this report are:

- ❖ The Namibian Constitution
- ❖ The Competition Act
- ❖ The Electricity Act
- ❖ The Labour Act
- ❖ The Local Authorities Act
- ❖ The Regional Councils Act
- ❖ The National Vocational Training Act
- ❖ The Namibia Qualifications Authority Act
- ❖ The Vocational Education and Training Bill, 2007
- ❖ The Model Electricity Supply Regulations issued in terms of the Local Authorities Act
- ❖ The Regulations relating to the Health and Safety of Employees at Work (published in Government Gazette No. 1617 of 1 August 1997 – notice number 156/1997);
- ❖ Draft Amendments to the Regulations relating to the Health and Safety of Employees at Work;
- ❖ Draft technical regulations on the qualifications of electrical workers prepared during a previous project on this matter to be issued under the Electricity Act;
- ❖ Draft Regulations for the Accreditation by the Namibia Qualifications Authority of Institutions to offer Courses of Instruction and/or Training (prepared pursuant to section 14 (b) of the Namibia Qualifications Authority Act No 29 of 1996)

The current legislative framework is represented in Figure 1 below:

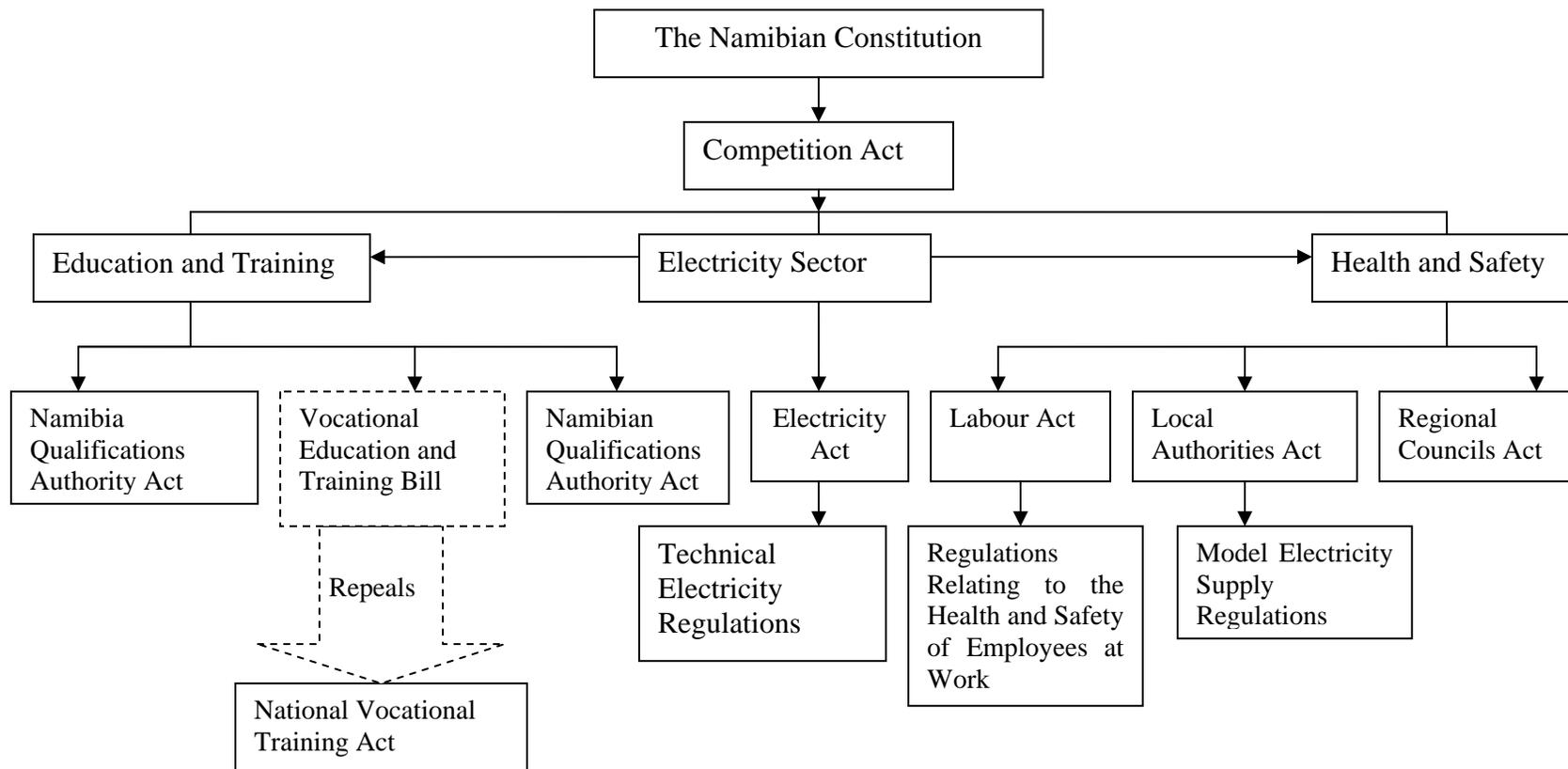


Figure 1: Current Namibian legislative Framework

2. THE NAMIBIAN CONSTITUTION

2.1 Economic Freedom

One of the fundamental freedoms protected by the Namibian Constitution in Article 21 is the right to “practise any profession, or carry on any occupation, trade or business”. These fundamental freedoms or individual rights cannot be exercised freely. Equilibrium of individual rights and the public interest must be sought and the public interest requires a bridled exercise of these individual rights.

2.2 Economic Freedom Limited

The Namibian Constitution seeks to bridle the individual rights in Article 21(2) and Article 22.

Article 21(2) reads as follows:

“The fundamental freedoms referred to in Sub-Article (1) hereof shall be exercised subject to the law of Namibia, in so far as such law imposes reasonable restrictions on the exercise of the rights and freedoms conferred by the said Sub-Article, which are necessary in a democratic society and are required in the interests of the sovereignty and integrity of Namibia, national security, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence.”

This particular limitation requires reasonable restrictions on the rights which are necessary in a democratic society and are required under certain circumstances.

Article 22 reads as follows:

“Whenever or wherever in terms of this Constitution the limitation of any fundamental rights or freedoms contemplated by this Chapter is authorised, any law providing for such limitation shall:

- (a) be of general application, shall not negate the essential content thereof, and shall not be aimed at a particular individual;*
- (b) specify the ascertainable extent of such limitation and identify the Article or Articles hereof on which authority to enact such limitation is claimed to rest.”*

The emphasis of Article 22 read with Article 21(2) is that a limitation in a law which is placed on the individual right to practise any profession, or carry on any occupation, trade or business is authorised provided that it is of general application and that the law in question identifies the Article/s of the Namibian Constitution which permits the limitation.

It is trite that a requirement in law pertaining to qualifications linked to performance of certain functions is a limitation of one of the fundamental freedoms. Any provision of any law which limits an electrical worker to practise his/her profession or carry on his/her occupation or trade will have to be measured against the criteria laid down by Article 22 of

the Namibian Constitution. However, it is common practice to limit this fundamental freedom when it comes to the performance of various professions in Namibia (i.e. engineers, legal practitioners, medical practitioners, architects, etc are all regulated). It would thus be acceptable to regulate the qualifications of electrical workers in a similar manner.

3. THE COMPETITION ACT

3.1 Restrictive business practices

The primary objective of the Competition Act is to enhance the promotion of and safeguarding of competition in the Namibian market and aims to achieve this by prohibiting restrictive business practices. Restrictive business practises are not defined in section 1 of the Act but are elucidated by a list of actions which the legislator considers to be restrictive⁴. The general prohibition is aimed at commercial undertakings which are involved in activities or conclude agreements which have as objective or have the effect of preventing or substantially lessening competition in trade in any goods or services in Namibia. Exemptions are permitted on application. Although the Competition Act is primarily aimed at commercial undertakings, the state is bound by it and it applies to the activities of statutory bodies as well, except if a law authorises the activities.

3.2 Anti-competitive legislation

The question that arises is whether the ring-fencing of certain functions coupled to a certain qualification could be considered to be a restrictive business practice. Without an exact definition in the Competition Act of a restrictive business practice, it is difficult to reach any conclusion. In addition, the maintenance of professional standards is seen as grounds for an exemption from the provisions of the Competition Act.

In conclusion, it is doubtful whether the ring-fencing of certain functions coupled to a certain qualification is a restrictive business practice as the aim of such ring-fencing is to maintain professional standards in the public interest. Should the Namibian Competition Commission however declare such ring-fencing to be restrictive, the provisions of section 67 of the Competition Act must be adhered to.⁵

⁴ Section 23(3).

⁵ 67 Relationship with other authorities

(1) If a regulatory authority, in terms of any public regulation, has jurisdiction in respect of any conduct regulated in terms of Chapter 3 or 4 within a particular sector, the Commission and that authority-

(a) must negotiate an agreement to co-ordinate and harmonise the exercise of jurisdiction over competition matters within the relevant industry or sector and to secure the consistent application of the principles of this Act; and

(b) in respect of a particular matter within their jurisdictions, may exercise jurisdiction by way of such an agreement.

(2) In addition to the matters contemplated in paragraph (a) of subsection (1), an agreement in terms of that subsection must-

4. EDUCATION AND TRAINING

4.1 Introduction

One way of ensuring the safe and reliable supply of electricity, would be to ensure the competency of electrical workers installing, maintaining, etc electricity infrastructure. Competency is determined by qualification and experience. The education and training environment in Namibia is at present undergoing dramatic reform. Two new laws, i.e. the Namibian Qualifications Authority Act and the Vocational Education and Training Bill will in future govern vocational education and training. The vision of the Ministry of Education is that all qualifications⁶ available in Namibia should be registered on the NQF and all programmes leading to those qualifications should be accredited with the NQA. The NQF is a comprehensive and all-inclusive system that provides for the quality assurance of qualifications and training providers by registering qualifications on the NQF and accrediting the training providers.⁷

It is foreseen that the Vocational Education and Training Bill will be promulgated during 2007 and it is also understood that there is a project management unit within the Ministry of Education that has completed certain work in anticipation of the promulgation of the Bill. The NTA will formally be established in terms of the Vocational Education and Training Bill and although it will repeal the National Vocational Training Act, several of the structures of the National Vocational Training Act will initially be retained, including the state-owned VTCs. The management and control of the state-owned VTCs will devolve on the NTA at the date of commencement of the Bill. The registration of the other VTCs remains in force until a date determined by the Minister by notice in the GG. Until it is repealed, the National Vocational Training Act remains the legal vehicle through which vocational education and training has to be undertaken. For the purposes of this report it is therefore necessary to evaluate all three laws, i.e. the Namibian Qualifications Authority Act, the National Vocational Training Act and the Vocational Education and Training Bill.

In assessing the Namibian Qualifications Authority Act and the Vocational Education and Training Bill it is not possible to determine the exact nature of the relationship between the NQA and the NTA. In terms of the legislation the NTA must be represented on the NQA council and the NQA may delegate its functions to the NTA. In terms of the Vocational Education and Training Bill the NTA is empowered, subject to the Namibian Qualifications Authority Act to develop, amongst others, occupational standards, curriculum standards and

-
- (a) identify and establish procedures for the management of areas of concurrent jurisdiction;
 - (b) promote co-operation between the regulatory authority and the Commission; and
 - (c) provide for the exchange of information and the protection of confidential information.
- (3) An agreement referred to in subsection (1) must be published in the Gazette.

⁶ Qualifications include courses, certificates, diplomas and degrees.

⁷ Training providers may be individuals, companies, training centres, educational institutions, etc.

qualifications. The NQA is however also empowered in terms of the Namibian Qualifications Authority Act to do the same. The interaction between the two bodies relating to occupational standards, curriculum standards, qualifications, accreditation of education and training providers and programmes is not clearly ascertainable in the legislation but the NQA and the NTA have concluded a Memorandum of Understanding.

The primary purpose of the Memorandum of Understanding is to prevent or eliminate the unnecessary and costly duplication of effort between the two organisations. It is envisaged that the NTA will be the National Standards Setting Body for all occupations covered by the vocational education and training sector. The NQA and NTA will co-manage the accreditation of providers that offer courses or programmes covered by the vocational education and training sector up to and including level 5 of the NQF. The NTA will provide technical assessments of the suitability of organisations for accreditation. The NQA will administer the accreditation function, collect of fees, render advice and documentation.

The NTA will be responsible for the following for all occupations (including electricity) in line with the NQA policies and procedures:

- Develop unit standards and qualifications;
- Recommendations to the NQA for the accreditation of programmes ;
- Registering assessors and conducting assessments;
- Issuing certification;
- Negotiating articulation arrangements.

The Standards and Curriculum Council of the NTA will perform the functions of a National Standards Setting Body for vocational education and training sector up to and including level 5 of the NQF. The Industry Skills Councils will report to the Standards and Curriculum Council and act as Standards Generating Bodies for key industry sectors.

The NQA will place all unit standards that are approved by the NTA on the NQF and place all assessment outcomes based on the unit standards that are reported to it by the NTA on the National Learning Record.

For a further discussion of the NTA please refer to Part III paragraph 4.

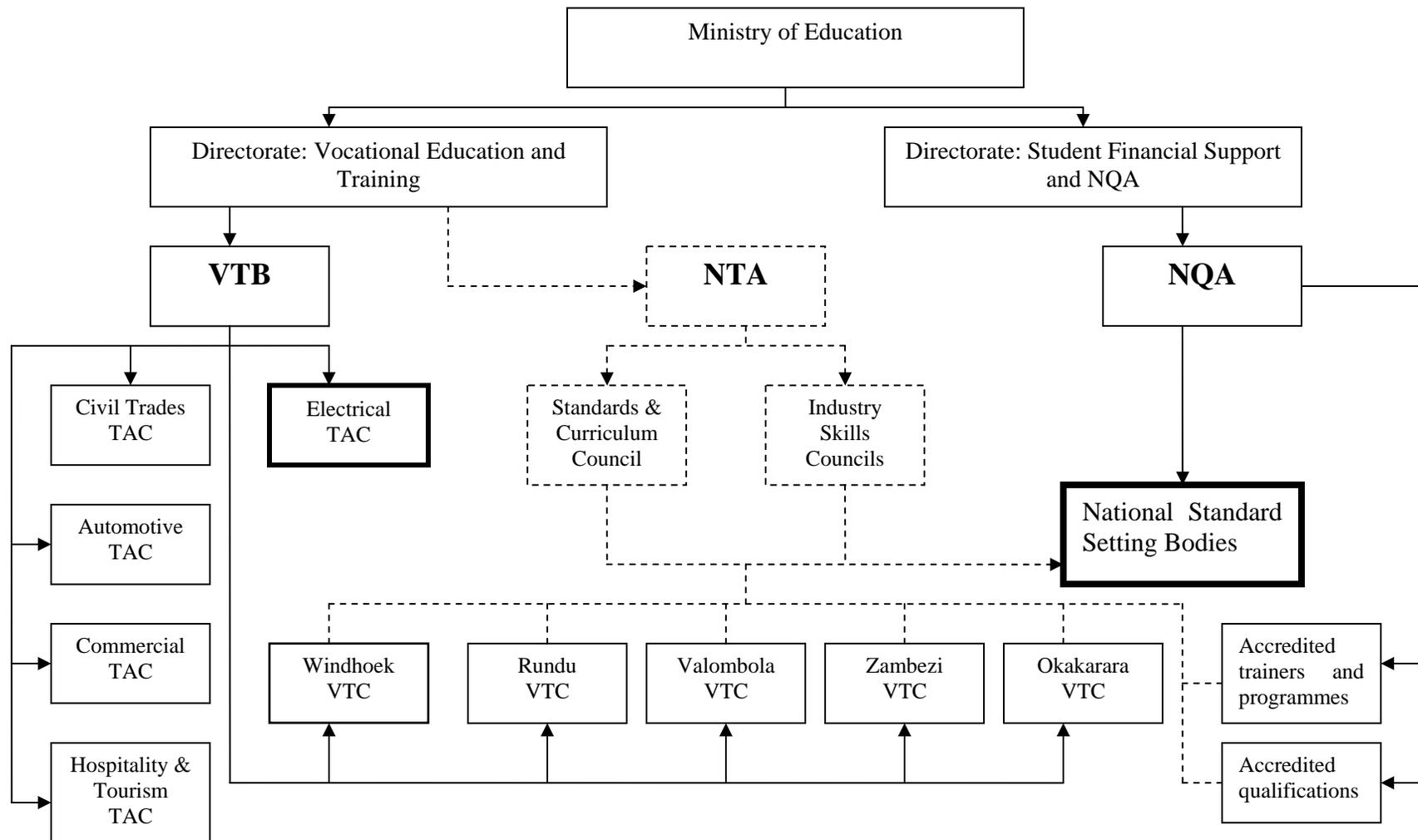


Figure 2: Institutional Framework for Vocational Education and Training Environment

4.2 The National Vocational Training Act

4.2.1 General

The primary purpose of the National Vocational Training Act is to make provision for the regulation of the training of apprentices and vocational trainees. In order to achieve this purpose the Act provides for the following:

- ❖ establishment of the VTB
- ❖ establishment of trade advisory committees
- ❖ establishment and approval of vocational standards
- ❖ designation of trades
- ❖ establishment and approval of training schemes for the trades designated
- ❖ establishment of a National Trade Testing and Certification Centre
- ❖ trade testing and certification of apprentices;
- ❖ registration of vocational training centres
- ❖ imposition of training levels
- ❖ establishment of a Vocational Training Fund

The application of the Act is limited to apprentices and vocational trainees and does **not** apply to, amongst others, persons in the service of or receiving training from the Defence Force and Police Force or persons with a degree, diploma or certificate obtained at an education institution who performs work in a designated trade to gain practical experience.

The institutional framework created by the National Vocational Training Act is represented in Figure 3 below and only the relevant functions are included:

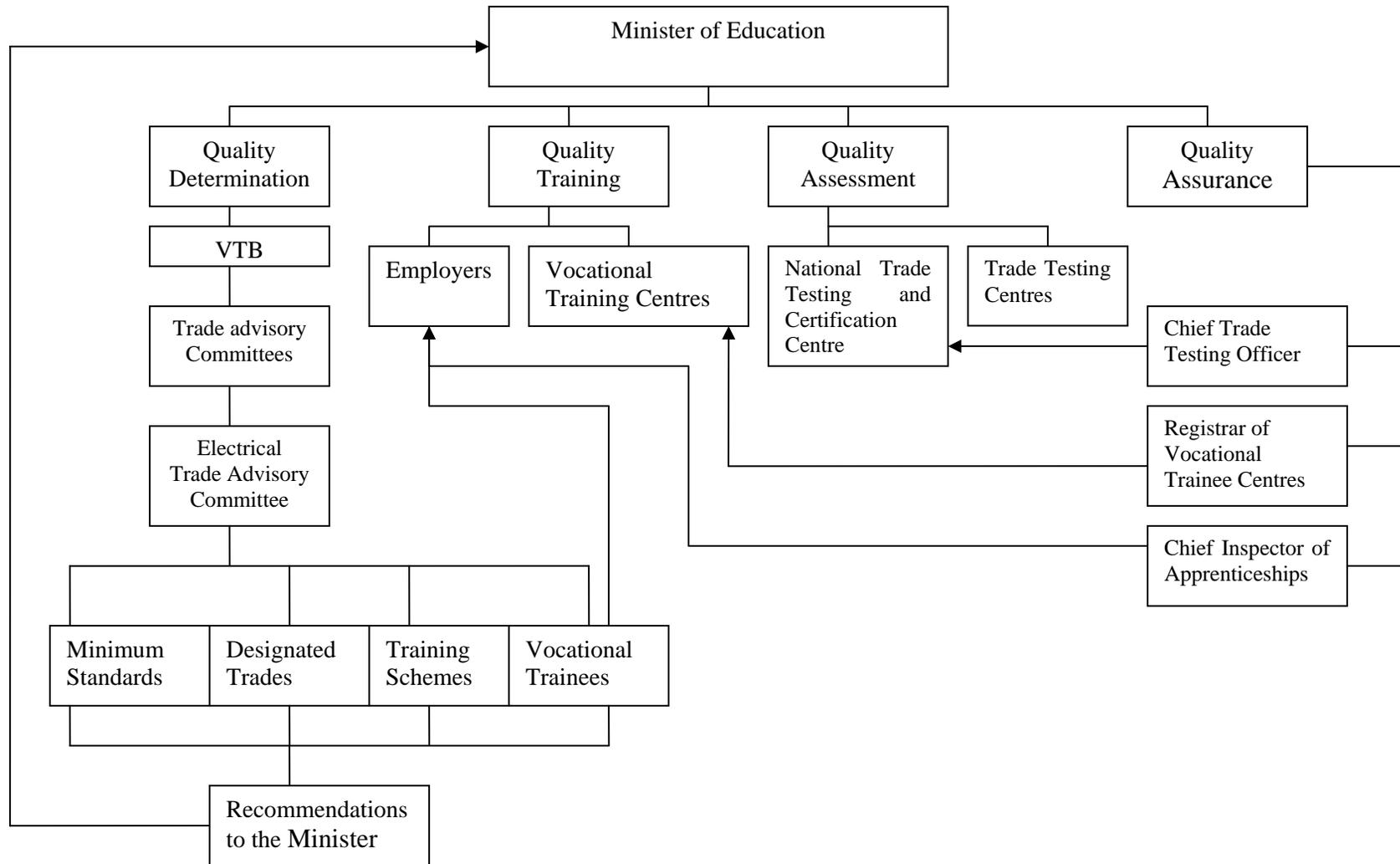


Figure 3: Institutional Framework of the National Vocational Training Act

4.2.2 Quality Determination

The Act establishes the VTB and the Minister appoints its 17 members. The members are persons representing the interests of the state, employers, employees and vocational training centres. It also has three members with special knowledge or experience of vocational training or development. The VTB may also appoint Trade Advisory Committees to assist the VTB in the performance of its functions. A Trade Advisory Committee may inquire into and make recommendations to the VTB regarding the relevant industry⁸ or trade⁹.

The National Vocational Training Act gives the VTB several powers and functions but its primary function is to establish **minimum standards of vocational training** with a view to regulating and promoting the efficiency of such training, including the development of **vocational standards, trade testing procedures** and **certification arrangements**.

It makes recommendations to the Minister regarding several matters, including the:

- ❖ minimum standards of vocational training¹⁰ to be approved by the Minister;
- ❖ the trades to be designated by the Minister;
- ❖ the established training schemes to be approved by the Minister; and
- ❖ the training in particular trades for vocational trainees to be arranged by the Minister.

All of the administrative actions of the Minister as listed above must be published by notice in the Government Gazette.

The powers listed in the four bullets above are not an exclusive list, The VTB has several other powers as well but the report focuses on those listed.

(a) Vocational Standards

The VTB frames vocational standards for a trade in an industry and the standards must define, amongst others –

- ❖ the standard of proficiency, including the level of theoretical and practical training, which is required before an apprentice¹¹ is permitted to undergo any trade test;
- ❖ the content of the practical training component
- ❖ the level and standard of modular tests (practical, theoretical or both) and trade tests
- ❖ the stage or stages during the training at which trade tests are to be undertaken

⁸ "**industry**" includes any class of undertaking or activity, any division or part of an industry or any group of industries, as well as work in private households.

⁹ "**trade**" includes any branch of a trade, or any group of trades or branches of trades.

¹⁰ "**vocational training**" or "**training**" is defined as any training which has as its special aim the improvement of the functional skills of any person for any work performed in, or in connection with, any industry or any trade in an industry or occupation.

¹¹ "apprentice" is defined as any person employed in terms of a contract of apprenticeship registered or deemed to be registered in terms of the provisions of the National Vocational Training Act.

As far as could be ascertained, the VTB has issued vocational standards for the Electrical Trade and these standards were approved by the Minister. Training at NamPower for instance, is done in accordance with these standards.

(b) Designated Trades

The Minister has designated the Electrical Trade¹² as a trade in respect of which the provisions of the National Vocational Training Act applies.

(c) Training Schemes

Once the Minister designated the electrical trade, the VTB had to establish a training scheme for the trade. The training scheme serves as conditions of apprenticeship in the trade and is based upon and specifies the approved vocational standard applicable to the trade. The scheme applies, to all employers and apprentices in the trade.¹³

In terms of the National Vocational Training Act, the scheme **must** contain certain minimum information, such as the qualifications required for apprenticeship, the theoretical and practical training involved, the syllabi of each theoretical subject or course to be completed, the particulars of practical training required, particulars of phased performance assessment, trade testing and certification, etc.

The scheme **may** contain condition of service, such as rates of remuneration of apprentices, remuneration and conditions for sick leave, maximum number of ordinary working hours and overtime which apprentices may be required or permitted to work during any week, number of paid holidays to be allowed, etc.

(d) Vocational Trainees

The Minister may, on the recommendation of the Board, make arrangements for the training in a particular trade or occupation of persons who are not apprentices. The Minister may –

- ❖ issue directives for the registration and training of such persons
- ❖ establish programmes for the training of such persons
- ❖ provide training courses, theory/practice or both, and procedures relating to the testing or certification for qualification of such persons
- ❖ declare any provision of the Act or scheme to be applicable to the trade or occupation

4.2.3 Quality Training

Training is undertaken through employment of persons as apprentices and at vocational training centres. Vocational training centres are declared as such by the Minister by notice in the Gazette. There are 5 registered government vocational training centres are operational in

¹² As far as could be ascertained the designation has been for Electrical General.

¹³ Copies of the applicable training scheme could not be traced.

the country. Sixteen technical trades and 5 commercial, hospitality and craft trades are on offer at these centres.

4.2.4 Quality Assessment

The National Trade Testing and Certification Centre is established by the Act. Although the Minister may approve other centres to do trade testing as well, only the National Centre may issue trade certificates. The Namibia Training and Testing Centre (NTTC) was established and equipped and is operational in Khomasdal.

4.2.5 Quality Assurance

The National Vocational Training Act makes provision for the appointment of three officers, i.e. the Chief Inspector of Apprenticeships, the Chief Trade Testing Officer and the Registrar of Vocational Trainee Centres. Each of these officers have jurisdiction over matters relating to vocational training.

4.2.6 Impact of the National Vocational Training Act on the Labour Act

The provisions of any wage order or collective agreement apply to employers and apprentices in so far as they are not inconsistent with any clause or condition of a training scheme or a contract of apprenticeship registered or deemed to be registered in accordance with the National Vocational Training Act.

4.3 The Vocational Education and Training Bill

4.3.1 General

The Vocational Education and Training Bill will repeal the National Vocational Training Act. Its primary purpose is to regulate the provision of vocational education and training in Namibia, with the exception of the Namibian Defence Force and the Namibian Police Force. Of utmost importance in this Bill is the fact that the Bill prevails in the event of conflict between the Bill and any other law dealing with vocational education and training.

The regulation of the vocational education and training system is undertaken by the NTA, which is established as a juristic person and the NTA is governed by a board. There are a substantial number of clauses which deal with governance of the board, such as composition, meetings, financial provisions, annual reporting, etc. The discussion that follows will not include the governance provisions but will only focus on the new vocational education and training environment that the Bill envisages as represented in figure 4 below.

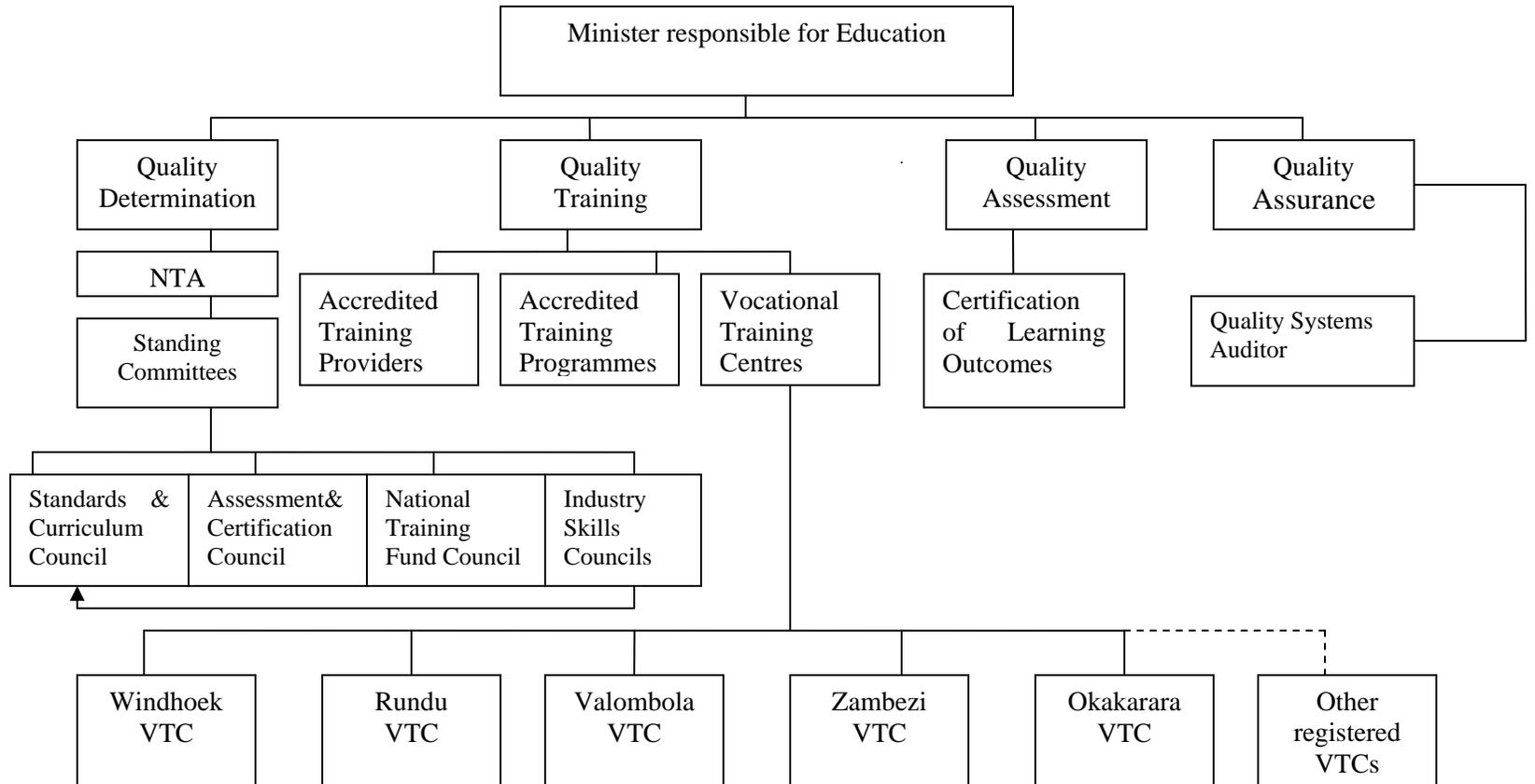


Figure 4: Vocational Education and Training Bill

4.3.2 Quality Determination

The Bill establishes the NTA which is tasked with the obligation to advise the Minister on national policy on vocational education and training. It is also obliged to develop and implement a strategic plan for vocational education and training. Subject to the policies and procedures determined by the NQA, the NTA may –

- ❖ develop occupational standards, curriculum standards and qualifications;
- ❖ accredit education and training providers and programmes;
- ❖ register assessors, conduct assessments, including the recognition of prior learning and conduct quality audits;
- ❖ issue awards and certificates; and
- ❖ negotiate articulation arrangements between vocational education and training programmes and other education and training programmes.

It may also provide financial assistance to employers, employees, trainers, learners, etc, and fund vocational education and training programmes from moneys accrued to the National Training Fund from vocational education and training levies. Inspectors are appointed by the Minister to promote monitor and enforce compliance with the Bill in so far as it relates to the collection of levies by the NTA.

The powers listed above are not an exclusive list. The NTA has several other powers as well but this part focuses on those listed.

One of the standing committees that the board of the NTA must establish is the Standards and Curriculum Council which is to assist the board in the performance of its standard setting functions and to advise the board on these matters. The board determines the membership and other governance rules of the Standards and Curriculum Council. The Minister may, after consulting with the board, make regulations relating to the development and registration of occupational standards, curriculum standards and qualifications in vocational education and training.

4.3.3 Quality Training

The Minister may, after consulting the board, make regulations relating to the accreditation of vocational education and training providers and programmes, including the procedures, criteria and conditions applicable to their accreditation. He or she may also make regulations regarding the governance, management and funding of the State-owned VTCs

4.3.4 Quality Assessment

The Minister may, after consulting the board, make regulations relating to the certification of learning outcomes.

4.3.5 Quality Assurance

The board may designate a person with the relevant expertise as a quality systems auditor to assist the NTA to promote and monitor compliance with the conditions of accreditation,

registration or technical or financial assistance. The board must provide a quality systems auditor with a certificate of designation. Every vocational education and training provider and every employee of such provider must provide reasonable assistance to a quality systems auditor.

The Minister may, after consulting the board, make regulations relating to the accreditation of assessors, including the procedures, criteria and conditions applicable to their registration and accreditation.

4.3.6 Transitional Arrangements

The National Vocational Training Act is to be repealed by the Vocational Education and Training Bill and as a result it is necessary to make provision for the transition from the current system under the National Vocational Training Act to the new system under the Vocational Education and Training Bill. Generally all regulations made, directions, orders or directives issued, requirements prescribed or things done in terms of the National Vocational Training Act are deemed to have been made, issued, prescribed or done under a corresponding provision in the Vocational Education and Training Bill. The Vocational Education and Training Bill make provision for detailed arrangements to ensure a smooth transition from the system established by the National Vocational Training Act to the system envisaged under the Vocational Education and Training Bill. The transitional provisions are summarised below:

- **Assets and liabilities**

The transition of assets, rights, liabilities and obligations from the VTB to the NTA takes place at the date of commencement of the Vocational Education and Training Bill. All assets that vest in the Directorate: Vocational Education and Training, the National Trade Testing Centre and the NTA Project Management Unit devolve to and vest in the NTA on the date of commencement. No transfer or stamp duty is payable on the transfer of assets.

- **Vocational Training Centres**

The management and control of State-owned VTCs devolve upon the NTA on the date of commencement. Non State-owned training centres will retain their registration and apprentices trained at these centres will be tested by the registered trade testing centres until a date determined by the Minister by notice in the GG. For that purpose section 38 of the National Vocational Training Act remains in force until that date. However, the registration of these testing centres may still be withdrawn if they do not perform as required in terms of the National Vocational Training Act but the Board will perform the functions of the VTB when it becomes necessary to withdraw the registration.

- **Inspectors**

Inspectors appointed in terms of the National Vocational Training Act continue to perform their functions until a date determined by the Minister by notice in the GG.

- Functions of the NTA before appointment of the Board members

The VTB continues to exist and must perform the functions of the NTA until such time as the chairperson and other members of the Board of the NTA is appointed.

- Vocational standards

All vocational standards approved in terms of the National Vocational Training Act apply until such time as the Board withdraws, substitutes or alters it by notice in the GG.

- Training schemes

The training schemes approved in terms of the National Vocational Training Act apply until such time as the Board withdraws substitutes or alters it by notice in the GG.

- Apprenticeship contracts

Apprenticeship contracts concluded in terms of the National Vocational Training Act must be dealt with as if that Act had not been repealed except that the Board performs the functions of the VTB until the contract expires. For this purpose Part V of the National Vocational Training Act remains in force until that date.

- National Trade Testing and Certification Centre and other trade testing centres

The National Trade Testing and Certification Centre remains in place until such time as all the apprentices who concluded apprenticeship contracts in terms of the National Vocational Training Act have done their trade testing as required in terms of their contracts. The National Trade Testing and Certification Centre will continue to exist and perform its functions until a date determined by the Minister by notice in the GG. Any approval of other trade testing centres remains in force until a date determined by the Minister by notice in the GG. For this purpose section 32 of the National Vocational Training Act remains in force until that date.

- Appeals

All appeals lodged in terms of the National Vocational Training Act before the commencement of the Vocational Education and Training Bill must be dealt with as if the Act had not been repealed by the Bill and the Board must perform the functions of the VTB. This provision will also cease at a date determined by the Minister by notice in the GG.

4.4 The Namibian Qualifications Authority Act

The primary purpose of the Namibian Qualifications Authority Act is to establish the NQA and to make provision for the set up and administration of the NQF the NQA. The objects of the NQA are, amongst others, to set occupational and curriculum standards for any occupation, job, post or position in any career structure.

The vision of the Ministry of Education is that all qualifications available in Namibia should be registered on the NQF and all programmes leading to those qualifications should be accredited with the NQA. The NQF is a comprehensive and all-inclusive system that provides for the quality assurance of qualifications and training providers by registering

qualifications on the NQF and accrediting the training providers. All electrical qualifications, from certificates issued in terms of the National Vocational Training Act (or the Vocational Education and Training Bill, when it commences) to electric related doctoral degrees will be registered on the NQF and the training providers at all the levels will be accredited. It is understood that the Memorandum of Understanding between the NQA and the NTA makes provision that the certification under the Vocational Education and Training Bill will reach level 5.

The institutional framework created by the Namibian Qualifications Authority Act is represented in Figure 5 and the NQF and its proposed levels and unit standards are represented in Figure 6 below.

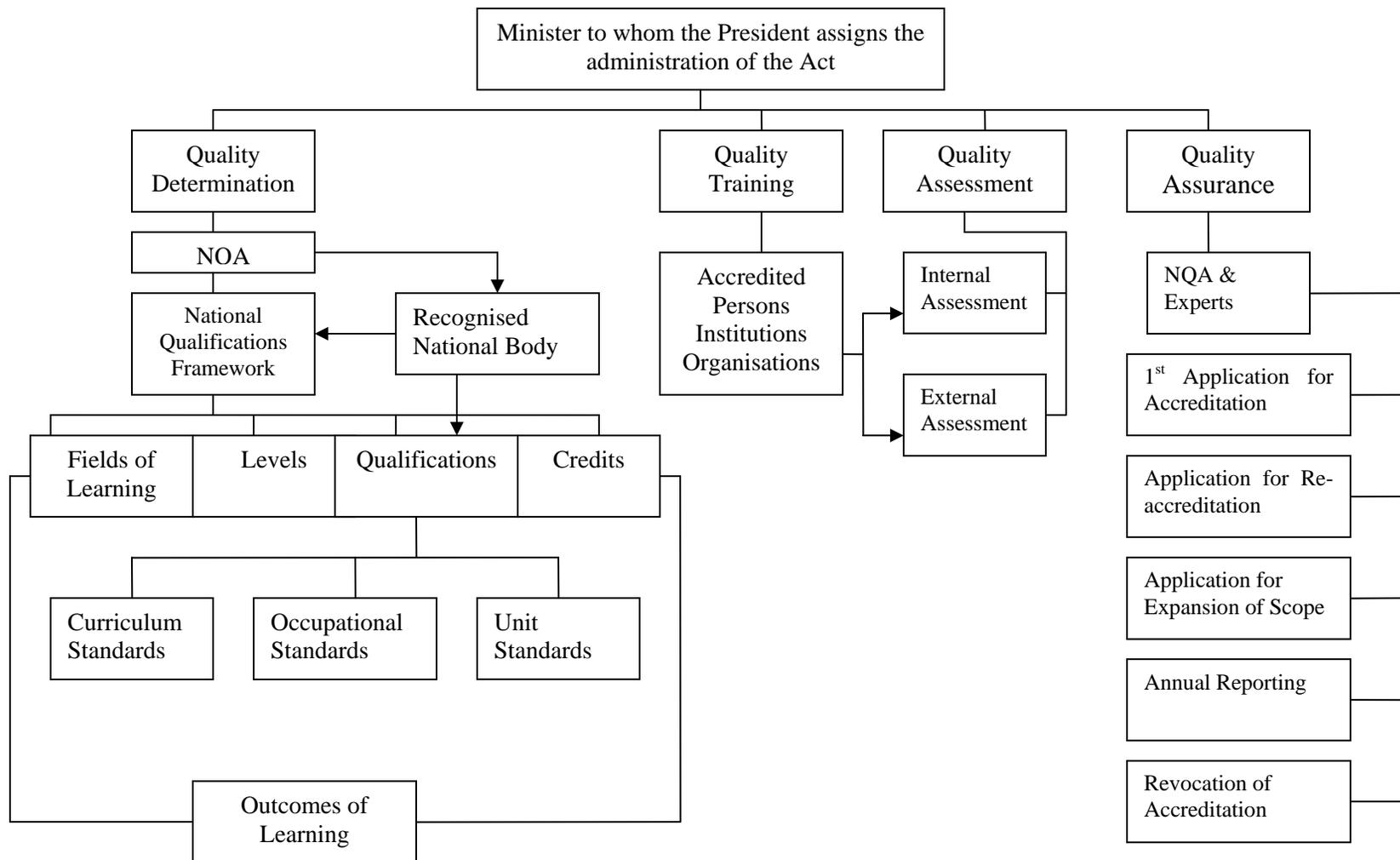


Figure 5: Institutional Framework of the NQA

THE NATIONAL QUALIFICATIONS FRAMEWORK

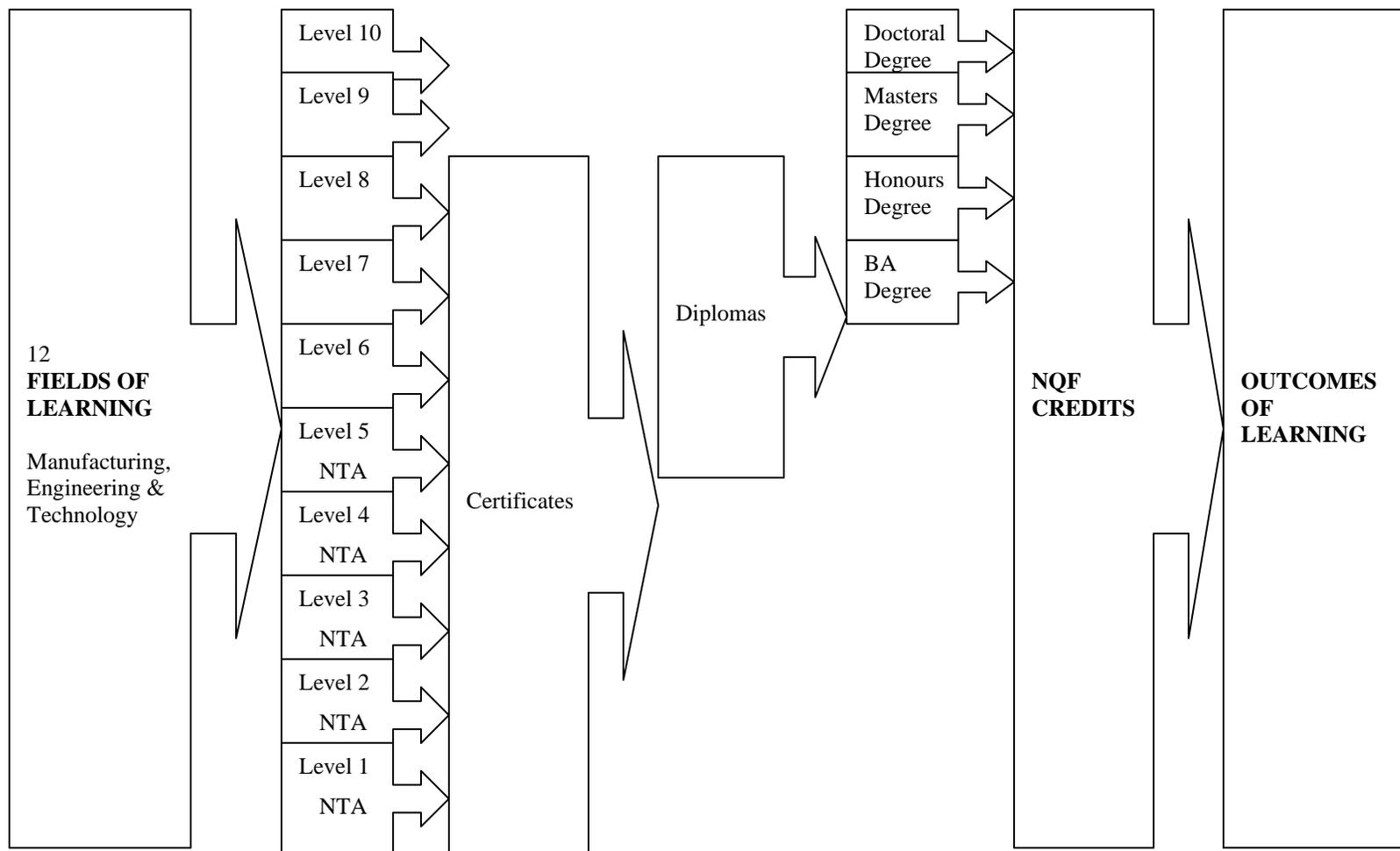


Figure 6: The National Qualifications Framework

4.4.1 Quality Determination

The Namibia Qualifications Authority Act, 1996, provides for an institutional framework in terms of which a national qualifications framework is set up and administered and curriculum standards¹⁴ and occupational standards¹⁵ are set for any occupation, job, post, or position in any career structure by the NQA.

The NQA is also empowered to accredit persons, institutions and organisations providing education and courses of instruction or training of meeting certain requirements. The purpose of the accreditation is to show that the applicant has the capacity to either provide a course or courses of instruction or training and to assess the performance of persons partaking in any such course or that a course of instruction or training provided by the applicant meets the occupational standards or curriculum standards of the NQA for such course.

The NQA is furthermore tasked to evaluate and recognize competencies learnt outside formal education.

In order to achieve its objects the NQA may amongst others, liaise with interested parties to facilitate co-operation in setting national standards¹⁶ for qualifications¹⁷ and determine policies and procedures for the evaluation and recognition of competencies learnt outside formal education.

The constitution of the Council of the NQA is representative of several educational and professional bodies and includes representatives from the Engineering Council of Namibia and the National Vocational Training Board. It may establish committees and delegate and assign any of its powers and functions to staff and committees.

A body which is not accredited may be recognised by the NQA as able to submit national qualifications or unit standards where such a body may readily be acknowledged as having standing in the relevant economic sector or discipline area, such standing being indicated by any or all of the following:

- (a) legislative authority to act within the sphere of competence (governance, registration or other regulatory role)
- (b) an electoral system for representation of the body that includes principal participants in the sector or discipline area

¹⁴ "**curriculum standards**" is defined as a statement by the NQA describing a course of study leading to a qualification.

¹⁵ "**occupational standards**" is defined as a statement by the NQA describing the competencies required to fulfil the duties of an occupation, job, post, or position, and the criteria to be used to determine that such competencies have been achieved.

¹⁶ "**national standards**" is defined as such occupational standards and curriculum standards as the NQA may set for such qualification.

¹⁷ "**qualification**" is defined as any formal recognition of the achievement of proficiency in, and meeting the standards set for, any particular subject or subjects or course.

- (c) sufficient evidence that the group is a reflection of the interests of significant stakeholders (workers, learners, employers, professional bodies, educators, trainers or the State in qualifications and unit standard setting)
- (d) the group is purposely convened by the NQA to develop unit standards or qualifications for a sector or discipline area.

4.4.2 Quality Training

Any person, institution, or organisation providing instruction or training may apply to the NQA for accreditation-

- (a) that he, she or it has the capacity to provide a course of instruction or training and to assess the performance of persons partaking in that course OR
- (b) that a course of instruction or training provided by him, her or it meets the occupational standards or curriculum standards of the NQA for that course.

4.4.3 Quality Assessment

One of the criteria for the registration of qualifications or unit standards on the NQF is to show what the arrangements are with regard to the assessment of the qualification including provision for external quality assessment. External quality assessments are undertaken by moderators.

4.4.4 Quality Assurance

Quality assurance is undertaken by the NQA at different times in the process of accreditation.

(a) First Application for Accreditation

With the first application for accreditation by an applicant, the staff of the NQA, or an industry or subject expert enlisted by the NQA, evaluates the application against the criteria for accreditation and conducts verifications of the contents of the application. After completion of the evaluation a recommendation is made to the Council of the NQA. The accreditation is valid for a period of 3 years after which the person, institution or organisation has to apply for re-accreditation.

(b) Application for Re-accreditation

The first requirement for re-accreditation is that the accredited body undertake a self-evaluation or internal audit of activities conducted by it. The self-evaluation or internal audit must show that, amongst others, it continues to remain compliant with the criteria set for accreditation, remedial action has taken place or are planned to address shortcomings, etc.

This application and the self-evaluation or internal audit report is subject to an audit by the staff of the NQA or an industry or subject expert enlisted by the NQA. The re-accreditation is valid for a period of 3 years.

(c) Expansion of Scope of Accreditation

When an accredited person, institution or organisation offers an additional course or there is an addition to the delivery sites covered by an existing accreditation, he, she or it must apply to the NQA for an expansion of scope of accreditation. The staff of the NQA or an industry or subject expert enlisted must evaluate the application and conduct a verification of the new information submitted.

(d) Annual Reporting

An accredited body must furnish the NQA with an annual report which must contain the current and projected financial position of the body, its major activities and achievements, trends or major challenges faced by it, the response taken to such trends or challenges and an updated list of education services offered.

(e) Revocation of Accreditation

The NQA may revoke an accreditation of an accredited body if that body no longer meets the criteria set for accreditation, has failed to meet its financial obligations or has not submitted annual reports.

4.5 Conclusion

The regulatory environment for the education and training of electrical workers is undergoing a dramatic overhaul at present. Conclusions regarding possible contradictions in law and the level of effectiveness of the new system are premature. However it is clear from the existing legislation that the NQA is the overriding body when it comes to the setting of training standards and accrediting training bodies and individuals. It is envisaged that the NTA will play a seminal role in the development of training standards for electrical workers, once it is legally framed.

Due to jurisdictional exclusivity that is a result of the Namibia Qualifications Authority Act and the proposed Vocational Education and Training Bill and the role played by the NQA in education and training and the role envisaged for the NTA, it is recommended that the ECB not develop occupational standards, curriculum standards and qualifications or do any accreditation education and training providers and programmes. However it is imperative that the ECB supports the process and provides the necessary expertise where possible.

5. HEALTH AND SAFETY

5.1 Introduction

From a health and safety perspective, the current system is far from satisfying. There are various suites of legislation that regulate health and safety in the electrical environment. The Acts that are discussed under this heading are the Labour Act, Local Authorities Act and the Regional Councils Act. Several of the Acts are only enabling and in those instances the enabling provision of the Act is discussed together with the subsidiary legislation issued in terms thereof.

5.2 The Labour Act

5.2.1 General

The Labour Act¹⁸ makes provision for a variety of matters. Amongst others, it makes provision for the regulation of the conditions of employment of employees, unfair disciplinary actions, termination of contracts of employment, industrial relations, establishment of a Labour Advisory Council, a Labour Court, district labour courts and a Wages Commission and the appointment of a Labour Commissioner and Labour Inspectors.

For the purpose of this report however, the emphasis is placed on the regulation of the health and safety of employees at work.

5.2.2 Health and Safety of Employees

Part XI of the Labour Act deals with the health, safety and welfare of employees at work. It places a general duty on every employer (which includes the State) to take all such steps as may be prescribed by the President by regulation in order to ensure the safety, health and welfare at work of all employees. The President has, in terms of section 101 of the Labour Act, and after consultation with the Labour Advisory Council, made regulations regarding, amongst others, the generation, transformation, transmission, distribution and use of electricity and conditions governing the erection, installation, working and use of machinery.

The Regulations Relating to the Health and Safety of Employees at Work, (the Regulations) Government Notice 156 of 1997 commenced on 31 July 1997. The Regulations contain several chapters regulating various aspects of health and safety at the workplace but Chapter 9 of the Regulations is aimed at electrical safety. A draft amendment of Chapter 9 was circulated in 2002 but its status is unsure. An enquiry at the Government Printers indicated

¹⁸ Although a subsequent Act, i.e. the Labour Act 15 of 2004 has been signed by the President it has not yet commenced. As a result this report will only focus on the 1992 Labour Act.

that no amendments to the Regulations were published after 1997. It would appear therefore as if the original Regulations are still valid.

The draft amendments to Chapter 9 of the Regulations update the Regulations to, amongst others, align it with the creation of “licensees” in the Electricity Act and the requirements of the Model By-laws. It makes provision for the registration and occupational profiles¹⁹ of accredited electricians and electrical contractors. It also contains technical amendments and includes definitions for “electrical installation” and “installation work” similar to those definitions in the Model By-Laws and the Technical Regulations.

The focus of this part of the report is on Chapter 9 of the Regulations, and the quality assurance and quality control mechanisms created by it. Figure 7 and paragraphs 5.2.3 and 5.2.4 reflect the institutional framework of Chapter 9 as it stands currently. Figure 8 and paragraphs 5.2.5 and 5.2.6 shows the envisaged institutional framework that will be established if the Regulations are amended as proposed in the 2002 draft. The rationale behind portraying the envisaged institutional framework as well is that there has been a process in terms of which the Regulations were evaluated and it was clearly found inadequate and outdated.

5.2.3 Quality Assurance

(a) Users

A user is defined as an occupier or builder, or the person or persons owning or using the machinery or electrical apparatus. The user is responsible for fencing and enclosures of certain electrical apparatus when situated in a factory. Users are also required to exhibit notices, take certain safety precautions, position switchboards according to the Regulations or permit the use of portable electric tools and lights exceeding 50 volts unless certain requirements are met. Users must also ensure that examinations, repairs or alterations to electrical apparatus are done by competent persons. The user has certain responsibilities relating to earthing and transformer- or switch-rooms and houses.

(b) Competent persons

No electrical apparatus may be reconnected to a supply of electrical energy after an examination thereof or adjustments, alterations and repairs thereto, unless the work was undertaken by a competent person. Only a competent person (or someone under his/her direct supervision) may enter a transformer or switch house.

(c) Suppliers

No installation work which requires a new electricity supply or an increase in electricity supply capacity may be commenced unless the supplier has been notified thereof. Suppliers

¹⁹ No person other than a registered electrical contractor, an accredited electrician or an employee of a registered electrical contractor is permitted to perform installation work. Only accredited electricians may issue certificates of compliance. Electrical contractors and accredited electricians are required to register with the Chief Inspector.

are responsible to ensure that there is sufficient clearance from the ground for electric conductors.

5.2.4 Quality Control

(a) Safety Officers, Work-place Safety Representatives and Work-place Safety Committees

In general, the Regulations provide for work-place safety policies and measures that the employer must put into place²⁰. The Regulations also provide for the appointment of safety officers to monitor and evaluate the employer's compliance with its safety policy, the Act and the Regulations²¹. The work-place safety representatives inspect, investigate and examine each place where employees are employed²². Work-place safety committees make recommendations to the employers.

(b) Chief Inspector and Inspectors

Inspectors are required to satisfy themselves that the user complies with certain of the provisions of Chapter 9. The Chief Inspector is also required to approve codes for the construction of certain transformers, etc. From interviews held with certain representatives from certain training institutions it would appear as if the Chief Inspector is responsible to issue wireman's licences to electricians who undertake the wiring of premises. It is understood, but it could not be verified, that these licences are no longer issued.

²⁰ Regulation 3 of Government Notice No 156 of 1997.

²¹ Regulation 6 of Government Notice No 156 of 1997.

²² Regulation 10 of Government Notice No 156 of 1997.

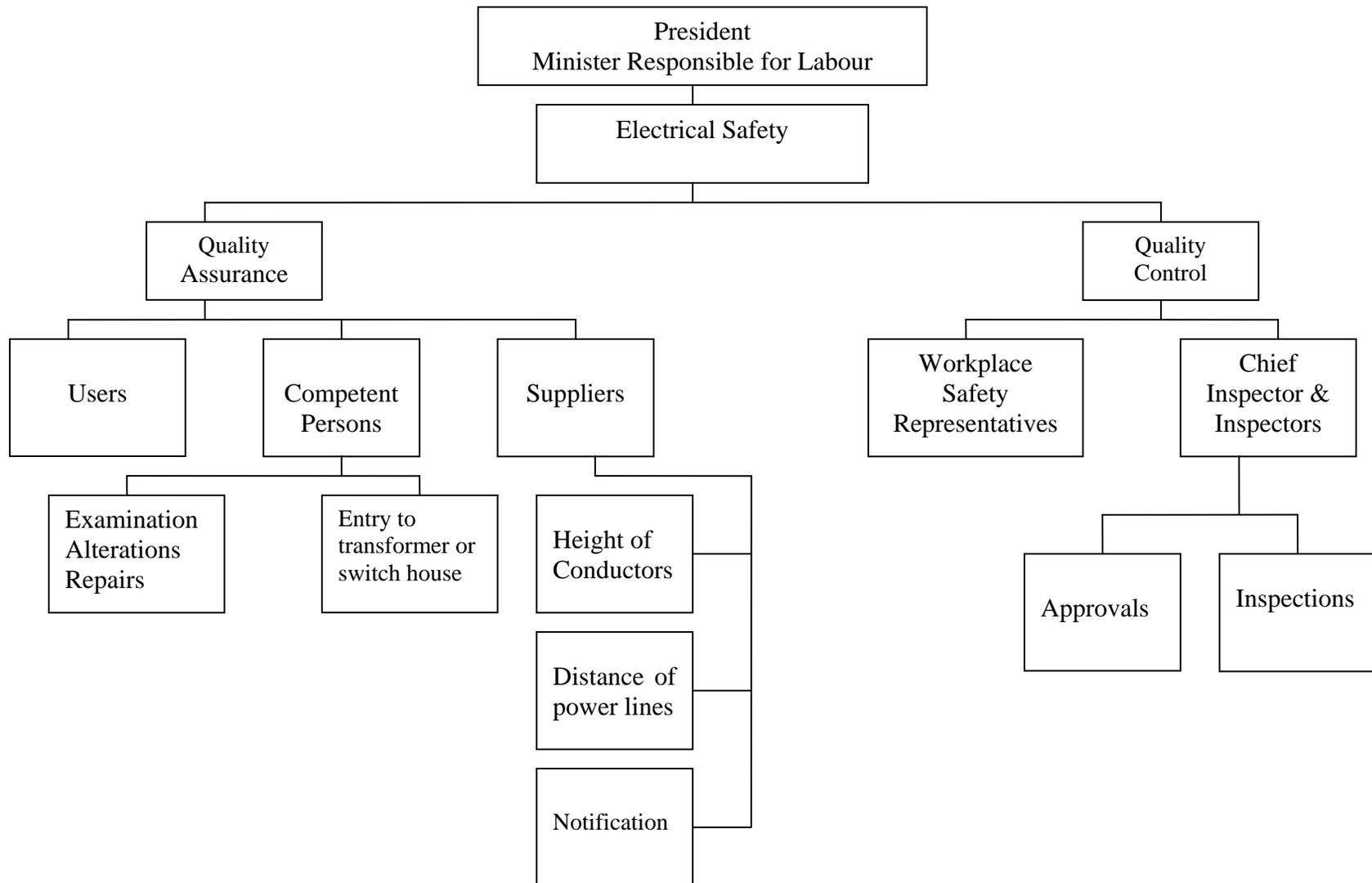


Figure 7: Current Institutional Framework for Electrical Safety Reflected in Chapter 9

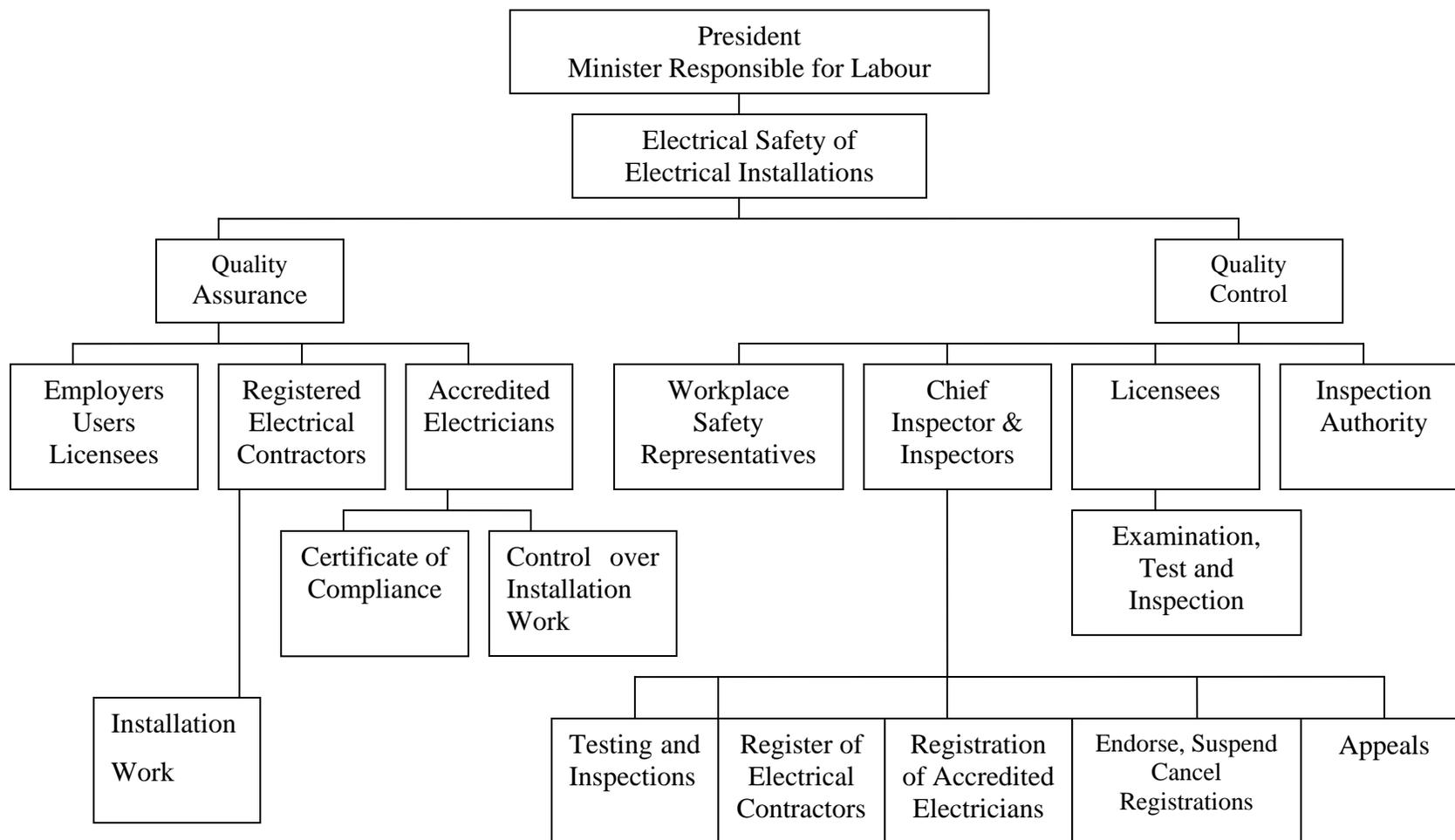


Figure 8: Envisaged Institutional Framework for Electrical Safety Reflected in the Draft Amendment to Chapter 9

5.2.5 Quality Assurance

As stated above, the following discussion focuses on the envisaged institutional framework as reflected in the first draft amendment of the Regulations and not the current institutional framework.

(a) Employers, Users and Licensees

The Regulations place several duties and prohibitions on employers in general, and with regard to electricity on users²³ and licensees²⁴. The user of an electrical installation²⁵ is responsible for the safety, safe use and maintenance of that installation and for the safety of the conductors connecting the electrical installation to the point of supply²⁶. The licensee (and user) has certain responsibilities regarding electrical control gear²⁷, insulators²⁸, fittings²⁹, overhead service connections³⁰, overhead service conductors³¹, height of electrical conductors³² and factors of safety of overhead electrical lines³³. No installation work which requires a new electricity supply may commence unless the licensee has notified the Chief Inspector³⁴. No licensee may connect an electrical installation unless the user produces a certificate of compliance issued by an accredited electrician³⁵. In the absence of legislation such as the proposed amendments under discussion, certain municipalities do require certificates of compliance and rely on the inclusion by reference of SANS 10124 as its mandate to do so.

²³ “user” is defined as an occupier or builder, or the person or persons owning or using the machinery or electrical apparatus.

²⁴ “licensee”, in relation to a particular electrical installation, is defined as a person who provides or contracts or agrees to provide electricity to that electrical installation by virtue of an electricity licence issued to the person in terms of the Electricity Act, 2000

²⁵ “electrical installation” is defined as any machinery, in or on any premises, used for the generation or transmission of electricity from a point of control to a point of consumption anywhere on the premises, including any article forming part of such an installation irrespective of whether or not it is part of the circuit, but excluding:

- (a) any machinery of the licensee related to the supply of electricity on the premises;
- (b) any machinery used for the transmission of electricity of which the voltage shall not exceed 50 volts where such electricity is not derived from the licensee’s supply main;
- (c) any machinery which transmits electrical energy in telecommunication, television or radio circuits;
- (d) an electrical installation on a vehicle, vessel, train or aircraft

²⁶ Regulation 270A of the proposed amendments.

²⁷ Regulation 263B of the proposed amendments.

²⁸ Regulation 263F of the proposed amendments.

²⁹ Regulation 263F of the proposed amendments.

³⁰ Regulation 263G of the proposed amendments.

³¹ Regulation 263G of the proposed amendments.

³² Regulation 269 of the proposed amendments.

³³ Regulation 270 of the proposed amendments.

³⁴ Regulation 270G of the proposed amendments to Government Notice No 156 of 1997.

³⁵ Regulation 270G of the proposed amendments to Government Notice No 156 of 1997.

(b) Registered Electrical Contractors

Only registered electrical contractors and accredited electricians are permitted to perform installation work³⁶. The installation of an electrical installation must be done in accordance with any rule or safety standard applicable to electrical installations³⁷.

The only two requirements for registration as an electrical contractor are that:

- the applicant has a fixed address and a telephone listed in his, her or its name
- the applicant employs an accredited electrician on a full-time basis or is self an accredited electrician³⁸.

The Chief Inspector must keep a register and the registration takes place annually.

The distinction between a registered electrical contractor and an accredited electrician lies not only in the requirements for registration but also in the occupational profile. With regard to registration, any person who wants to undertake installation work may apply for registration as an electrical contractor. An electrical contractor must either be an accredited electrician or must employ an accredited electrician on a full-time basis. Only a person who is qualified as an electrician may apply for registration as an accredited electrician. The occupational profile differs as well. Both a registered electrical contractor and an accredited electrician may perform installation work, but only an accredited electrician may issue a certificate of compliance and perform supervisory work over an electrical installation.

(c) Accredited Electricians

For the purposes of performing installation work an electrician must apply to the Chief Inspector for registration as an accredited electrician. An accredited electrician may undertake installation work and is also responsible to exercise general control over all electrical installation work being carried out³⁹. He or she must in general exercise supervision on a full-time basis over installation work in progress which is being performed by others. He or she must ensure that the work is done in a safe manner and in accordance with the specification of the licensee concerned and any rule or safety standard applicable to electrical installations. He or she must inspect and test all completed work prior to applying for the connection of the electrical installation to the electricity supply⁴⁰. Only an accredited electrician may issue a certificate of compliance in respect of installation work⁴¹.

The criteria for registration as an accredited electrician are proof that the applicant has -

- ❖ sufficient practical experience and knowledge of a trade relevant to the qualifications for registration

³⁶ Regulation 270D of the proposed amendments to Government Notice No 156 of 1997. In Regulation 1 “**installation work**” is defined as the” installation, extension, modification or repair of an electrical installation, including the connection of machinery at the supply terminals of such machinery”.

³⁷ Regulation 270C of the proposed amendments to Government Notice No 156 of 1997.

³⁸ Regulation 270E of the proposed amendments to Government Notice No 156 of 1997.

³⁹ Regulation 270F of the proposed amendments to Government Notice No 156 of 1997.

⁴⁰ Regulation 270F(2) of the proposed amendments to Government Notice No 156 of 1997.

⁴¹ Regulation 1 definition of “certificate of compliance” of the proposed amendments to Government Notice No 156 of 1997.

- ❖ gained sufficient knowledge of the theory applicable to electrical installations
- ❖ gained sufficient knowledge of the rules and safety standards applicable to electrical installations.

However, as the amendments have not been published and implemented, it is not possible to ascertain what would be considered relevant qualifications for registration, sufficient proof of practical experience, theoretical knowledge and sufficient knowledge of the rules and safety standards. It is understood that the Ministry of Labour considered making provision for the accreditation in three categories, i.e. Category 1: Single-phase installation, Category 2: Single-phase and three-phase installation, high rise and low rise and Category 3: Installation in hazardous areas that requires specific qualifications. The training requirements and establishment of the proposed categories would then need to be reflected in an appropriate training scheme and approved in terms of the National Vocational Training Act, if still applicable or developed as unit standards by the NTA for accreditation by the NQA. As stated above the amendments have not been implemented as yet.

5.2.6 Quality Control

(a) Safety Officers, Work-place Safety Representatives and Work-place Safety Committees

The general provisions regarding safety officers, safety representatives and Work-place committees remain in place and apply to all employers.

(b) Chief Inspector & Inspectors

The Chief Inspector is required to register electrical contractors on an annual basis and must keep a register⁴². He or she is responsible for the registration of accredited electricians. He or she may revoke a registration of an electrical contractor or endorse, suspend or cancel the registration of an accredited electrician in the event of gross misconduct⁴³. If a dispute arises over the interpretation of any rule or standard between a user, the accredited electrician or the licensee, the affected person may appeal against that interpretation to the Chief Inspector⁴⁴. The Chief Inspector also approves the type and construction of earth leakage protection devices, connector boxes and codes for individual double wound isolating transformers and double insulation⁴⁵.

Section 104 of the Labour Act grants inspectors several powers. It has the power to enter premises and to search and seize, he or she may question persons, examine documents etc. Specific powers in relation to electrical powers contained in the Regulations include the power to require proper fencing off of electricity generating plants in factories, the use of portable electric lights, protection of supports which are used to carry overhead conductors,

⁴² Regulation 270E of the proposed amendments to Government Notice No 156 of 1997.

⁴³ Regulation 270J(2) of the proposed amendments to Government Notice No 156 of 1997.

⁴⁴ Regulation 270L of the proposed amendments to Government Notice No 156 of 1997.

⁴⁵ Regulation 263G of the proposed amendments to Government Notice No 156 of 1997.

(c) Licensees

A licensee is defined in the proposed amendments as a person who has been issued with a licence in terms of the Electricity Act. In the proposed amendments several of the user's duties has reverted to the licensee. A licensee may at any reasonable time inspect or test any electrical installation⁴⁶. The test or inspection does not relieve the electrical contractor from any responsibility for a fault or a defect in the electrical installation⁴⁷. The test or inspection is not a guarantee of workmanship nor does it transfer the responsibility for the loss or damage which may be caused by fire or by any accident as a result of the wiring⁴⁸.

(d) Inspection Authority

The Chief Inspector may approve any organisation which manufactures or tests electrical machinery as an inspection authority⁴⁹. The Chief Inspector may require the organisation to submit such particulars of its technical equipment and resources, the extent of the competence and experience of its staff and such other matters as the Chief Inspector considers necessary. The Chief Inspector may permit any function, investigation, testing, sampling analysis or training to be performed by an approved inspection authority.

One of the functions of an inspection authority in terms of the Regulations is the issuing of certificates to users certifying that electrical machinery used by the user (for the manufacturing of or in close proximity to dangerous goods) has been manufactured and tested for the groups of dangerous articles in terms of the rules or safety standards applicable to such machinery⁵⁰.

5.3 The Local Authorities Act**5.3.1 General**

The primary purpose of the Local Authorities Act was to provide for the establishment of local authority councils and to define the powers, duties and functions of local authority councils. The Act is so structured that it grants a local authority council several general powers to enable it to perform its functions and in later Parts regulates the exercise of these powers in more detail.

5.3.2 Enabling Provision in relation to Electricity Control

Section 30(1)(f) grants a local authority council the power to supply electricity to the residents in its area and Part X contains detail relating to this particular power. For the purposes of this report it is not necessary to discuss Part X in detail due to the fact that it

⁴⁶ Regulation 270B(4) of the proposed amendments to Government Notice No 156 of 1997.

⁴⁷ Regulation 270B(5)(a) of the proposed amendments to Government Notice No 156 of 1997.

⁴⁸ Regulation 270B(5)(b) of the proposed amendments to Government Notice No 156 of 1997.

⁴⁹ Regulation 263K of the proposed amendments to Government Notice No 156 of 1997.

⁵⁰ Regulation 263C of the proposed amendments to Government Notice No 156 of 1997.

addresses various non-related issues such as the supply of electricity to persons other than residents, assisting residents in acquiring appliances for electricity provision and the failure by a town council or village council to adequately discharge its functions. The salient provision of this Part is the power of a local authority council to establish, acquire, construct or provide, for purposes of the supply of electricity to the residents in its area, any works and machinery (within or outside its area) and maintain and carry on such works and machinery. It may furthermore lay and connect cables, wires and conduits for conveying electrical current.

5.3.3 Competency Requirements

One matter that warrants further discussion is the competency requirements for the persons installing or maintaining electrical infrastructure for a local authority council. The competency of persons installing or maintaining electrical infrastructure for a local authority council is addressed by the Model Electricity Supply Regulations.

Model Electricity Supply Regulations were issued by the Minister of Regional and Local Government and Housing in terms of section 94(2)(a) read with section 94(1) of the Local Authorities Act, 1992. It would appear as if these Regulations were issued in 1995. Section 94(2) empowers the Minister of Regional and Local Government and Housing to issue Model Regulations on any matter that is listed in section 94(1)⁵¹. The Model Regulations apply to local authority councils until such time as the local authority councils, other than municipal councils, issue their own regulations, if at all. The Model Regulations do not apply to municipal councils automatically. The municipal councils have to either adopt the Model Regulations as Council Regulations or issue its own regulations. From a test sample of the municipalities some, such as Swakopmund, have adopted the Model Electricity Supply Regulations, and others, such as Windhoek and Walvis Bay, have promulgated their own regulations. It would appear from discussions held with City of Windhoek that their regulations are similar to the Model Electricity Supply Regulations and it also provides for the registration of contractors.

The Model Electricity Supply Regulations regulates various aspects of electricity supply such as the general conditions of supply, service connections and service apparatus, the responsibilities of consumers regarding installations on their premises, electrical systems, inspections and tests and the registration of electrical contractors. Of importance to this study is Part 6 which deals with the registration of contractors.

The Model Electricity Supply Regulations is not a vehicle for new qualifications and competency testing. It has merely created a register of electrical contractors who the Municipal

⁵¹ In terms of section 94(1) a local authority council may, after consultation with the Minister, issue regulations in relation to the supply of electricity, the registration and cancellation of registration, of contractors carrying out electrical work, the qualification required of applicants for such registration, the control or prohibition of the undertaking of any such work by persons who are not so registered and in general in relation to any matter which the local authority council may consider necessary or expedient to prescribe or regulate in order to attain or further the objects of the Local Authorities Act.

Council⁵² deems competent to perform certain identified work due to their existing qualification and knowledge of the Model Electricity Supply Regulations and the Wiring Regulations⁵³. No person may perform the identified work unless they are registered by the Council and no owner or occupier of premises may engage the services of or permit a person to do such identified work unless that person is registered with the Council. The Council may cancel or suspend a registration if wiring or associated work⁵⁴ is carried out in a negligent, unsafe or inefficient manner or in contravention of the Regulations or the Wiring Regulations. The regulations promulgated by the City of Windhoek have similar provisions. From discussions held with the City of Windhoek negligent, unsafe or inefficient work usually comes to their attention as a result of complaints submitted by the public. The majority of problems are work that is performed by persons who are not registered with the municipality or who are employed by the Municipality but performing private work.

❖ Accepted qualifications

The Model Electricity Supply Regulations do not specify the qualifications of an applicant for registration. It merely requires that the application for registration be accompanied by proof of “qualifications, training and experience as the Engineer⁵⁵ may require. Before registering an applicant the Council must be satisfied that the applicant is a “qualified electrician” or “electrical engineer” or has a comparable qualification approved by the Council. Neither concept is defined in the Regulations. The same applies to the City of Windhoek. In the local regulations the qualifications requirements are few and are not strictly stipulated. The City Electrical Engineer evaluates the applications and if the applicant has a Trade Diploma (Level 3) and a wireman’s licence, the applicant will be registered as a contractor. Although wireman’s licences should be issued by the Ministry of Labour, it would appear as if this practice has ceased. The City of Windhoek does however accept wireman’s licences issued by NIMT. NIMT conducts two examinations per annum.

❖ Proven knowledge

The Model Electricity Supply Regulations also require that an applicant has “adequate knowledge” of the Regulations under discussion and the Wiring Regulations. The Regulations does not state whether proof of a specific qualification is deemed sufficient proof of such knowledge. It does however permit the Engineer to test an applicant for the purpose of evaluating the applicant’s skills in electrical wiring work or his/her knowledge of the relevant legislation.

⁵² The definition of “Council” includes a municipal council, town council and village council. In terms of section 30 however, a village council may only supply electricity if the power to do so has been assigned to it by the Minister in the Government Gazette.

⁵³ The Wiring Regulations is defined as the Standard Code of Practice for the Wiring of Premises SABS 0142/1993, which has been renamed by the South African Bureau of Standards as SANS 10124.

⁵⁴ The phrase “wiring work” is defined as the installation, alteration, repair or testing of any conduit, wire, fitting or apparatus upon any premises.

⁵⁵ “Engineer” is defined as the official of the Council charged with the function of exercising control over the supply of electricity by the Council..

❖ Identified work

No person is permitted to undertake to or carry out any new electric wiring installation⁵⁶ which is intended to be connected to the supply main⁵⁷ or the modification or extension of any existing electric wiring installation which is connected or intended to be connected to the supply main unless such person is registered as a contractor. Any work required to be carried out on the internal portion of the service connection⁵⁸ may only be carried out by a registered electrical contractor.

(b) Applicability of the Electric Power Proclamation

With regard to the applicability of the Electricity Act, 2000, section 30(1)(f) of the Local Authorities Council Act grants the local authority councils the power to supply electricity. However, due to the fact that this Act was promulgated in 1992, the exercise of this power was made subject to the Electric Power Proclamation which proclamation was subsequently repealed by the Electricity Act. In terms of the Interpretation of Laws Proclamation which applies to interpretation of every law, any reference in a law to the provisions of a repealed law must be construed as a reference to the provisions re-enacted⁵⁹. As a result the power of a local authority council to supply electricity is currently subject to the Electricity Act and all subsidiary legislation issued in terms thereof.

5.4 The Regional Councils Act

The only power relating to electricity that is granted to a regional council in terms of the Regional Councils Act is that a regional council may undertake the planning of the development of its region with a view to the existing and planned infrastructure, such as electricity in such region⁶⁰. Furthermore, a regional council may conclude an agreement with a local authority council to perform certain functions on its behalf. In such an instance a regional council could supply electricity on behalf of a local authority council.

⁵⁶ "installation" is defined as the entire electrical installation on a consumer's premises, including all conduits, wires, cables, fittings, lamps, motors, cooking and heating appliances, instruments and equipment and all other material used or intended to be used for or in connection with the supply of electricity supplied at any one tariff rate on such premises, but does not include the metering installation or controlling devices or any part of the service connection.

⁵⁷ "supply main" is defined as any electric cable or overhead line or distribution cubicle forming part of the Council's electrical distribution system to which the service connection is connected.

⁵⁸ In every service connection, the section between the point on the exterior of the building at which the cable terminates or is fixed and the service apparatus, be known as the internal portion of the service connection

⁵⁹ Section 11(1)determines "Where a law repeals and re-enacts, with or without modification, any provisions of a former law, references in any other law to the provisions so repealed shall, unless the contrary intention appears, be construed as references to the provisions so re-enacted."

⁶⁰ Section 28 of the Act.

5.5 Conclusion

One of the mechanisms utilised by legislation to ensure the health and safety of electrical workers at the workplace is to create systems of registration of electrical workers. The Model Electricity Supply Regulations (and regulations issued by municipalities) enable the registration of contractors and certain work may only be performed by the registered contractors. The competency levels and qualifications of these contractors are not prescribed. However, it would appear as if a Trade Diploma (Level 3) and wireman's licence is deemed to be sufficient. In terms of the Regulations Relating to the Health and Safety of Employees at Work, 1997 only a "competent person" and in certain instances a "qualified or competent person" is permitted to perform certain work. A "competent person" is defined as a person who is certified in writing by an inspector to be competent to perform a specific task. The competency levels and qualifications of these persons are not prescribed. The proposed Amendments to the Regulations Relating to the Health and Safety of Employees at Work make provision for the registration of registered electrical contractors and accredited electricians. Certain work may only be performed by the registered contractors and accredited electricians. The competency levels and qualifications of these contractors and electricians are not prescribed.

The problems identified by stakeholders did not revolve around the concept or contents of the legislation but rather on the fact that certain of the legislative requirements were not met, such as the issuing of wireman's licence. The validity or correctness of last mentioned information could not be verified.

With regard to the issuing of certificates of compliance for electrical installations, the local authorities are requiring certificates of compliance and rely on the inclusion by reference to SANS 10124 in the Model Electricity Supply Regulations and municipal regulations as its mandate to require certificates of compliance. It could not be ascertained whether all local authorities apply this particular requirement.

6. ELECTRICITY SECTOR

6.1 General

The primary function of the ECB is stipulated in section 3 of the Electricity Act, 2007 which mandates the ECB to exercise control over the electricity supply industry. The primary mechanism for such control created by the Electricity Act, is a licensing system. Any person who establishes or carries on any undertaking for the generation, transmission, supply, distribution, importation, trading or export of electricity⁶¹ must apply to the ECB for a licence that authorises that particular activity. Licensees are required to submit information to and to obtain approval for procedures and certain activities related to the supply of electricity from the ECB in terms of the Electrical Regulations: Technical, 2004, (the Technical

⁶¹ In the Electricity Act, 2007 the trading of electricity was included as an activity for which a licence must be obtained in addition to the activities identified in the Electricity Act, 2000.

Regulations). Although education and training is addressed by the Technical Regulations it is not done in the same fashion as contemplated in the various Acts discussed above. The safety issues that are addressed by the Technical Regulations are similar to that contained in the Model Electricity Supply Regulations issued in terms of the Local Authorities Act and the Health and Safety Regulations issued in terms of the Labour Act.

6.2 Education and Training

The Electricity Act makes no direct provision for any education and training functions. However, the general power afforded the ECB by section 3, mandates the ECB to exercise control over the electricity supply industry. Competent electrical workers are a necessary element of the industry to ensure that there is effective control by the ECB. In terms of regulation 5 of the Technical Regulations a licensee must utilise suitable technical resources to operate and maintain its electrical system and must annually submit to the ECB information on the technical resources that it utilises. Technical resources include human resources. The qualifications and training of these technical human resources are not described in any detail. There are references to accredited persons and electrical contractors but these are cross-referenced to the Labour Act.

6.3 Health and Safety

The health and safety aspects of electrical supply are eventually to be governed by the Health and Safety Regulations issued in terms of the Labour Act, the 2002 amendments thereto and the Safety Code issued in terms of the Electricity Act, 2007: The Safety Code to be issued by the ECB as a standard is supplementary to the Health and Safety Regulations referred to above and the Safety Code does not replace the above-mentioned Regulations. The suites of legislation referred to in this paragraph must be read in conjunction with one another. The Minister of Labour will be requested to incorporate the Safety Code into Chapter 9 of the Labour Act. Enforcement of the Safety Code will be the responsibility of the ECB and non-compliance could result in the withdrawal of the licence. Enforcement of the Health and Safety Regulations will be undertaken by the inspectorate of the Ministry of Labour. It is understood that the ECB envisages the conclusion of the Memorandum of Understanding with the Ministry of Labour in terms of which the ECB will act on behalf of the inspectorate of the Ministry of Labour and that enforcement by the ECB in terms of last-mentioned Memorandum of Understanding will result in the broadening of its enforcement powers.

There is a minor component of monitoring and control of safety in the Technical Regulations, 2004 which are to be promulgated under the Electricity Act, 2007. In terms of regulation 5 of the Technical Regulations a licensee must utilise suitable technical resources to operate and maintain its electrical system and must annually submit to the ECB information on the technical resources that it utilises. Technical resources include human resources, plant and equipment.

6.4 Governance

From a governance point of view, it is best practice to provide checks and balances by dividing functions along clear lines. One could, in the case of a technical profession that has an impact on the safety of society as well as on the development of the economy, separate the regulatory function from the educational and user functions. In accordance with this policy, the regulatory function should contain powers to e.g. register persons practicing the profession, and prescribing requirements for such registration, as well as the conduct of the profession. The educational arm should set standards for training as well as prescribe the contents of training material, while legislation regulating the user arm should reinforce the educational and regulatory arms. As far as government is concerned, the functions should align as closely as possible with the line functions of existing Ministries regulating the electricity industry.

This is not the case with the current legislation but an investigation of the policy establishing the ECB and the ECB's enabling legislation the regulator function as seen above is not suited to the ECB. The ECB's regulatory function is exercised through the issuing of licences and setting of licence conditions not through the creation of registers, etc.

6.4 Conclusion

The involvement of the ECB in the education and training and health and safety of electrical workers in the workplace is ring-fenced by its enabling legislation. The purpose of ECB is not the control of qualifications and quality of the profession of electricity workers nor is it required to regulate health and safety matters. The underlying policy and trend in the enabling legislation is that these matters be addressed by the licensees themselves.

It appears as if both the Technical Regulations and the Model Electricity Supply Regulations will have concurrent application to due to the fact that the Model Electricity Supply Regulations are not repealed by the Technical Regulations. Although municipalities apply both the Model Electricity Supply Regulations and municipal regulations this is not necessarily a fragmented approach due to the fact that the legislation appears to be similar.

PART III: TECHNICAL AND VOCATIONAL TRAINING IN NAMIBIA

1. INTRODUCTION

The wealth or poverty of nations depends on the quality of education. Technical and vocational education and training is the branch of education most concerned with the preparation of human resources for the labour market or self-employment. The pivotal role of technical and vocational education and training is to prepare people of all ages in all socio-economic contexts for productive, satisfying and socially responsible work. The two key phases in technical and vocational education and training are skills acquisition and sound scientific knowledge. These provide the ability to use one's hands and machines for production, maintenance, self-reliance and confidence to do things by one-self.

Rapid technological and socio-economic development, globalisation and the revolution in information and communication technology are taking place in the economies of many countries including Namibia. In order to remain relevant, technical and vocational education and training should keep up with the technological and socio-economic developments in the workplace.

There is a broad appreciation on the African continent that technical and vocational education and training offers a realistic approach to poverty alleviation and economic growth. This is only true if the country concerned has achieved a certain level of technological development, which is the ultimate outcome of effective and well-implemented policies in technical and vocational education and training and it is only possible if there is total and sustained commitment by all stakeholders to achieve this goal.

Despite the fact that the eight established VTCs and several parastatals and private companies in the country have been training "skilled" manpower for several years, pre and post Independence, the Namibian electricity industry still lacks the services of skilled and relevantly skilled manpower. The purpose of Part III is to highlight the shortcomings in the current technical and vocational education and training system, to briefly discuss the new government initiatives in education and training and to make recommendations regarding the role of the ECB in an ever changing environment.

2. FROM THE PAST TO THE PRESENT

2.1 Qualifications Framework

The technical and vocational system in Namibia has gone through many different phases over the last twenty years. Most of the electrical workers in industry today are products of this vocational system. The system described here is similar for most of the engineering trades inclusive of the electrical trade.

From 1938 to 1994 electrical workers were trained as per directive of the Apprentices Ordinance of 1938. According to the Ordinance the trainee was required to be employed by a

company and to sign an apprenticeship contract with that employer. The apprentice was then sent to an institution where he/she was taught the general curriculum of the trade after which he/she returned to the employer to get on-the-job training. This allowed the learner to associate what he/she learned at the institution with what was happening on the shop floor. Also since there are so many engineering machines and configurations the apprentice had the chance of learning the employer's specific curriculum whilst he or she was working for the employer. After completion of this course the apprentice underwent a trade test through a different assessing institution and on successful completion of the trade test he or she was presented with a Trade Diploma.

The course balanced theory and practice, with the practical part done by industry at the place of work where the particular apprentice would possibly be employed in the future. Most of the technical colleges were owned by industry e.g. TCL, Namdeb and NamPower (then known as Swawek). In addition, there were some public institutions in Namibia and South Africa that provided theory and their products were taken up on the apprenticeship schemes as detailed above.

The National Vocational Training Act of 1994 repealed the Apprentice Ordinance of 1938. Through this Act the training was changed to include institutional training in addition to the apprenticeship scheme. Most VTCs were established as institutions of training with the primary focus on the general curriculum of vocational training. For practical training trainees are sent to industry.

The final qualification of the system adopted in 1994 to 1996 is a Trade Diploma. Trainees who did not receive sufficient on-the-job training obtained this trade diploma as well. The final certificate awarded was again changed from 1996 to 2004 in accordance with the National Vocational Training Act. Although the apprenticeship scheme and the institutional training remained in force, the final certificate awarded changed from a diploma to a National Certificate (NVC) at Level 2 and a National Diploma (NVD) at Level 4.

The latest change in the apprentice training system came in 2004. Again the type of training entailed apprenticeship training and institutional training, but the certificate awarded was changed to National Vocational Certificates NVC L1, NVC L2 and NVC L3. There are therefore electrical workers in the industry who have left the training institutions at different levels of training. Some VTCs only issue NVC L3 while others issue NVC L1 through to NVC L3. NVC L1 and NVC L2 are low skills levels.

2.2 Vocational Training Centres

Five VTCs were established by Government to address the need of skilled manpower and they are the Windhoek Vocational Training Centre in Windhoek, Okakarara Vocational Training Centre at Okakarara, Valombola Vocational Training Centre in Ongwediva, Rundu Vocational Training Centre near Rundu and the Zambezi Vocational Training Centre in the Caprivi Region. In addition to the five VTCs established by Government, three other

vocational training centres are run by industry, which are NIMT in Arandis, Namdeb Training Centre in Oranjemund, and NamPower Training Centre in Windhoek.

In addition to the eight VTCs there are other parastatals and private companies that are conducting training and they are Telecom Namibia, NamWater, TransNamib and a South African company known as Lomar Electric. Last mentioned company trained a percentage of REDs electricians on high voltage. These companies are mainly using company specific curricula to train candidates from the main VTC for their own purposes.

3. DEFICIENCIES WITHIN THE TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING SYSTEM

The socio-economic environment of today dictates that technical and vocational education and training should not only facilitate skills acquisition and sound scientific/theoretical knowledge, but it should be of such quality that it remains relevant in an ever changing technological milieu and that it contributes to poverty alleviation and economic growth. It is within this context that the current system should be evaluated.

While the demand in industry for skilled persons is increasing, many of the individuals who have graduated from the various training institutions are unemployed. From the interviews held it would appear that there is a certain percentage of employees who qualified from these training institutions but who are not performing as required by the employers. The inability of the graduates in finding employment in the industry or self employment as well as their performance levels in industry is indicative of shortcomings in the current technical and vocational education and training system and they are discussed below.

3.1 The Curriculum

There are eight VTCs in the country. Most VTCs teach in accordance with a curriculum they have designed and developed. Despite the fact that all of the VTCs follow a level based framework there is no uniform curriculum for training in the electrical trade.

The five Government VTCs have electrical trade related theory in their course. Due to a lack of theoretical material within the trade related curriculum the VTCs have adopted the South African N-course theory although this theory is not tested by any external examiner. The N-courses offered by these five VTCs range from N1 to N2, with certain VTCs offering up to N3.

Although the VTCs are using the N-course theory to replace their trade related theory their products indicate a lack of theoretical knowledge in the work place. As one manager at one of the REDs put it, he does not interview anybody that does not know Ohm's law, a very basic and essential law for the understanding of electricity. It therefore appears as if there is a perception with prospective employers that the qualifications obtained by electrical workers at the VTCs are not up to standard.

As stated above, five out of the eight VTCs have electrical trade related theory in their course. The remaining three VTCs (Namdeb, NamPower and NIMT) have adopted the South African N-course, examined externally in South Africa by the N-course system owners. It would appear as if the curriculum presented by these VTCs affords the artisans solid theoretical background and produce knowledgeable artisans. These three VTCs are permanently linked to employers who provide the necessary training.

As stated above each VTC uses its own curriculum and there are no uniform standards. Apart from the trade test that takes place externally to the VTCs, most assessments are done by the staff within the VTCs. These assessments cannot be claimed to be bias free.

It would appear that the quality of artisans who qualify from the various VTCs vary significantly due to the fact that:

- There is no uniform curriculum followed by the VTCs;
- Although all of the VTCs use the N-course theory only three of them have external examinations; and
- Only three of the VTCs are permanently linked to employers who provide on-the-job training.

3.2 The Qualification

As stated above, the present technical and vocational education and training system started in 2004. The certificate awarding has been changed from a diploma to National Vocational Certificates NVC L1, NVC L2 and NVC L3. Although the qualifying and exit certificate from the VTCs is a NVC L3, the VTCs conceded that a percentage of learners leave the VTCs at either level 1 or level 2 for work in industry. There are therefore electrical workers in the industry who have left the training institutions at different levels of training.

Individuals who have no formal qualifications but can prove that they have worked in an electrical workshop environment doing electrical work for more than five years are allowed to sit for a trade test and those who pass are permitted to work as electricians. The National Trade Testing Centre has indicated that these candidates are only issued with a Skills Certificate, but employers and experience have shown that these individuals have been issued with trade certificates or diplomas in the past.

Interviews conducted with representatives of the REDs indicated that certain of the REDs are experiencing problems with qualified electricians employed by or transferred, from the municipalities, to them. The problems highlighted by these REDs related to electricians who are not competent or who are not appropriately qualified and/or experienced. According to the REDs in question, this has created a situation where the resources of the experienced electricians are exhausted. There is a perception amongst employers that qualified electricians are not competent.

3.3 On-the-job Training

Any artisan curriculum exists of two components. The first component is a general curriculum that is taught at a training institution and the second component, is practical on-the-job training in industry, known as attachment. This second part is a major obstacle in an electrical worker's and other artisan's training career at the present moment. Training institutions and industry are not cooperating on this issue.

Both the training institutions and employers have criticised the current job attachment system. The training institutions are complaining that their trainees are given meaningless and unrelated jobs when they go for attachment. Employers, on the other hand, are of the opinion that the trainees are not motivated or career oriented and that the VTCs are not equipping the trainees with the requisite knowledge for successful attachment and do not indicate the fields where practical experience should be focussed on. A further problem is that there are instructors who do not visit the companies where their trainees are being trained.

Some companies state that it is difficult for them to find well-experienced electricians when they advertise for vacancies. Although there is much interest, applicants do not meet the qualification requirements. One of the problems seems to be that attachment periods at different companies for practical experience are not long enough to provide the required experience. Attachment periods range from 3 to 5 months at different companies.

On close examination it is clear that there is inadequate employer involvement in on-the-job training. All companies require competent artisans but few are involved in a job attachment scheme. Where training institutions produce properly trained artisans it is largely due to the fact that they have their own on-the-job training areas⁶². Furthermore several of the training institutions are not in continuous contact with the industry to ensure that they are getting relevant on-the-job-training.

There is thus inadequate employer involvement, inadequate communication between training institutions and employers and as a result, inadequate in-service training. The training is therefore supply-driven instead of it being demand-driven and as a result artisans have irrelevant competencies or have no competency at all.

3.4 Instructors

One of the obstacles that surfaced during the course of this investigation is inadequate instructor-education and -training. Certain instructors have never worked as artisans and are therefore unable to lead the trainees in the right direction. It is imperative for instructors to have both excellent theoretical knowledge as well as practical experience.

The NTA and instructors at some VTCs have however raised concerns about the suitability of the instructors presently found in the system at different VTCs. The NTA and some of these

⁶² Namdeb, NamPower and NIMT.

instructors are of the opinion that the majority of instructors (90%) found at the VTCs to date are not capable to present courses higher than level 2. A few will just manage level 3 with some difficulty. Levels 1 & 2 are basic levels, while levels 3 & 4 are the core levels for the trade. It has also been reported that the number of student per instructor in the five government VTCs is very high. Combined with the shortage of training equipment and instructors in these institutions it is no wonder that trainees leave the institutions with little or no knowledge of some basic equipment in the electricity industry. Industry needs to be convinced to release some of their experienced artisans to be trained as instructors. It must be borne in mind that successful instructors will be those who have worked as artisan for at least 4 to 5 years on the workshop floor. Recruitment of instructors that have just graduated from a VTC without working experience should be discouraged and those already at the VTCs should be encouraged to go on a secondment to industry for few years' training.

It would appear therefore that the majority of the artisans qualifying do not have the requisite skills due to the fact that –

- Most of the instructors are not suitably qualified and lack industrial experience;
- There is a shortage of instructors;
- There is a shortage of demonstration equipment; and
- The instructor/trainee ratio is very high

3.5 Management of VTCs

The general running of the VTCs at the moment indicates a lack of proper guidelines and management of these institutions. Some VTCs' personnel have stated that they are not able to timeously employ instructors, obtain sufficient budget and approval of financial arrangements as it all has to be approved by the Minister of Education. It appears as if the VTCs are not satisfied with the way they are currently being managed. There is a lengthy delay in obtaining approvals, etc. The VTC personnel are not able to affect changes they see to be useful without having to contact the Ministry.

The checks and balance that have been built into the current system relating to the management of VTCs appear to have stymied the effectiveness and efficiency of these institutions.

3.6 The Competence of Trainees

It is an unfortunate fate of technical and vocational education and training in the country that its products are, more often than not, held in low esteem by both individuals and society. Students are encouraged to attain higher academic qualification at university and if they are not able to do that, they are then encouraged to go for technical and vocational education and training. It is a fact that many parents prefer their children to go for technical education only when they are not able to secure admission into universities and/or polytechnics.

This results in VTCs enrolling candidates who are weak in science and struggle to understand scientific concepts. It is extremely difficult to produce knowledgeable artisans if they lack basic scientific education.

It would also appear that trainees choose companies that are prepared to pay good salaries during their job attachment and avoid companies which could provide excellent on-the-job training but do not pay salaries or offers lower remuneration.

Although the qualifying and exit certificate from the VTCs is a NVC L3, a percentage of learners leave the VTCs at either level 1 or level 2 for work in industry. There are therefore electrical workers in the industry who have left the training institutions at different levels of training.

The ability of trainees to function in the workplace is also influenced by factors other than described in the paragraphs above and these include the following –

- Trainees who enrol at training centres are not knowledgeable in science;
- Trainees do not choose employment based on the skill that they would acquire but rather based on remuneration;
- Trainees leave the training centres at different levels of qualification;
- Trainees are not appointed on merit.

4. NEW INITIATIVE FROM GOVERNMENT

The current TVET system is fraught with administrative problems and is not functioning properly. It would appear as if the VTB is not functioning either. Although the Vocational Education and Training Bill has not been promulgated yet, the NTA is at present a project management unit within the Ministry of Education. Its purpose is to reform and administer vocational education and training in Namibia. Government realized that without the involvement of the private sector in the technical and vocational education and training system, the products of the training institutions will not reach the industry required efficiency, and as a result the skill shortage will not be addressed. The NTA is expected to bring about efficiency of and the creation of work ethics that is lacking among the trainees.

It is envisaged that the NTA will act as a coordinator assisting industry, professional bodies and all other stakeholders in establishing standards and qualifications, curricula, learning materials, assessment and certification processes that will lead to industrial recognized products.

Once industry and professional bodies, with the assistance of the NTA, have established the standards and qualifications these will be offered to the NQA for accreditation. The NQA will accredit it if it is convinced that the standards and everything to be accredited measure up to the national NQA standards.

The private sector and other stakeholders, inclusive of professional bodies, are participating through Technical Working Groups and National Assessment Panels appointed by the private

sector under the administration and guidance of the NTA and replace the Technical Advisory Committees of the National Vocational Training Act.

This process has already commenced and some trades, mostly soft trades, have already gone through the process and obtained NQA accreditation. These trades include clothing production, joiner cabinet maker, hospitality and tourism, information and communication technology, plumbing, bricklayer and plastering, automotive, boilermaker, etc. It is understood that the establishment of standards and curricula as well as accreditation for the electrical trade and other hard trades will commence in 2007.

The NTA will require representatives from the electricity industry to compile uniform standards, curriculum and other requirements for the electrical trade that will lead to the required uniform qualification and certificates throughout the sector, once accredited by the NQA. The NTA will administer and facilitate the process.

For a discussion on the legal and institutional framework of the NTA, please refer to paragraph 4.1 of the report.

5. PROPOSED CATEGORIES OF ELECTRICAL WORKERS

In this section cognizance is taken of the existence of the NTA and its mandate to set up specific qualification requirements within the electricity industry like in other industries with the assistance of that industry.

It is also well known that the NQF is requiring a flexible modular curriculum rather than a time based awards curriculum. The modular system will obviously lead to various levels of trained manpower in the industry with different capabilities and competencies.

To identify those different levels this report suggests that electrical workers' qualifications be divided up into different categories. Individuals will then be required to attain certain technical and vocational education and training level of education to be issued with a certificate at that category level. The category will give the capability and a competency of the individuals within it.

Categories for individuals up to technical and vocational education and training level 2 could be classified as semi-skilled electrical workers. The semi-skilled electrical workers at technical and vocational education and training level 2 will have a higher category compared to those at level 1 and/or those without any technical and vocational education and training level qualification.

Electrical workers at technical and vocational education and training levels 3 and 4 will qualify as general electricians at different categories dependent on the level. Out of these groups or categories individuals can specialize in high voltage (HT), wireman's license and some areas of power electronics like UPS and electronic converters. Off course this is an area for the electrical technician as well, but there is a thin dividing line where the electrician ends and where the technician starts.

The levels of some other skilled electrical workers like electrician working in hazardous areas, millwrights, telecom electrician, renewable energy workers etc has to be determined as well.

Also, out of the general electrician and/or the specialized categories, individuals capable of leading others will be identified to become master electricians. To qualify as a master electrician the individual will be required to pass some managerial and training qualifications that will enable them to do their work diligently. This will also be a good group from which supervisory staff and training instructors can be recruited.

The standards and curriculum contents of all these categories will have to be worked out by the Electricity Industry Skills Council guided and assistance by the NTA. Needless to say the general and the specialized groups will have in their curriculum good quality and high level theoretical and industrial training.

PART IV: SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

1. LEGISLATIVE ENVIRONMENT: NAMIBIAN CONSTITUTION

1.1 Conclusion

It is trite that a requirement in law pertaining to qualifications linked to performance of certain functions is a limitation of one of the fundamental freedoms contained in the Namibian Constitution. However, this limitation of basic rights is authorised by Article 22. It is common practice to limit this fundamental freedom when it comes to the performance of various professions in Namibia (i.e. engineers, legal practitioners, medical practitioners, architects, etc are all regulated) and is acceptable to regulate the qualifications of electrical workers in a similar manner.

1.2 Recommendation

No recommendations are required.

2. LEGISLATIVE ENVIRONMENT: COMPETITION ACT

2.1 Conclusion

It is doubtful whether the ring-fencing of certain functions coupled to a certain qualification is a restrictive business practice as contemplated in the Competition Act, as the aim of such ring-fencing is to maintain professional standards in the public interest.

2.2 Recommendation

No recommendations are required.

3. LEGISLATIVE ENVIRONMENT: EDUCATION AND TRAINING

3.1 Conclusion

The regulatory environment for the education and training of electrical workers is undergoing a dramatic overhaul. It is clear from the existing legislation that the NQA is the overriding body when it comes to the setting of training standards and accrediting training bodies and individuals. It is envisaged that the NTA will play a seminal role in the development of training standards for electrical workers, once it is legally framed.

3.2 Recommendation

The following recommendations are made:

- a) Due to jurisdictional exclusivity that is a result of the Namibia Qualifications Authority Act and the proposed Vocational Education and Training Bill and the role played by the NQA in education and training and the role envisaged for the NTA, it is recommended that the ECB does not develop occupational standards, curriculum standards and qualifications or do any accreditation education and training providers and programmes.
- b) The ECB should support the process and provide the necessary expertise where possible.
- c) The ECB should designate a champion from its ranks to promote the programmes and initiatives identified in the recommendations.
- d) Liaison between the ECB, Ministry of Education, Ministry of Labour, NQA, NTA and local authorities are imperative and an ECB champion would be ideally placed.

4. LEGISLATIVE ENVIRONMENT: HEALTH AND SAFETY

4.1 Conclusion

One of the mechanisms utilised by legislation to ensure the health and safety of electrical workers at the workplace is to create systems of registration of electrical workers. The Model Electricity Supply Regulations (and regulations issued by municipalities) enables the registration of contractors and certain work may only be performed by registered contractors. The competency levels and qualifications of these contractors are not prescribed. However, it would appear as if a Trade Diploma (Level 3) and wireman's licence is deemed to be sufficient for registration. In terms of the Regulations Relating to the Health and Safety of Employees at Work, 1997 only a "competent person" and in certain instances a "qualified or competent person" is permitted to perform certain work. A 'competent person' is defined as a person who is certified in writing by an inspector to be competent to perform a specific task. The competency levels and qualifications of these persons are not prescribed. The proposed Amendments to the Regulations Relating to the Health and Safety of Employees at Work make provision for the registration of registered electrical contractors and accredited electricians. Certain work may only be performed by registered contractors and accredited electricians. The competency levels and qualifications of these contractors and electricians are not prescribed.

The problems identified by stakeholders did not revolve around the concept or contents of the legislation but rather on the fact that certain of the legislative requirements were not met, such as the issuing of wireman's licence. The validity or correctness of last mentioned information could not be verified.

With regard to the issuing of certificates of compliance for electrical installations, the local authorities are requiring certificates of compliance and rely on the inclusion by reference to SANS 10124 in the Model Electricity Supply Regulations and municipal regulations as its mandate to require certificates of compliance. It could not be ascertained whether all local authorities apply this particular requirement.

Negligent, unsafe or inefficient work usually comes to the attention of the municipality as a result of complaints submitted by the public. The majority of problems are work that is performed by persons who are not registered with the municipality or who are employed by the Municipality but performing private work.

4.2 Recommendation

The following recommendations are made:

- a) Rather than the two registers that are currently required by legislation (Model Electricity Supply Regulations and the Regulations Relating to the Health and Safety of Employees at Work, 1997), a national register of contract workers linked to a code of conduct of registered persons would be preferred. Currently there is no suitable legislative vehicle or body or organization to link such a register to⁶³. Furthermore, the number of electrical contractors in Namibia does not warrant the creation of a public entity through legislation. It is therefore recommended that the ECB encourage and promote the establishment of a voluntary association for electrical workers.
- b) The proposed amendments to the Regulations Relating to the Health and Safety of Employees at Work, (the Regulations) Government Notice 156 of 1997 that have not commenced yet. It is recommended that the ECB revive the original Steering Committee that was responsible for the recommended amendments and that it promote the publication of the proposed Amendments to the Regulations Relating to the Health and Safety of Employees at Work, (the Regulations) Government Notice 156 of 1997.
- c) The above Steering Committee, when revived, must encourage the Minister of Labour to incorporate by reference, the Safety Code to be issued in terms of section 44 of the Electricity Act, 2007, into Chapter 9 of the Labour Act.
- d) Complaints received by municipalities fall within the ambit of Criminal Law and Labour Law and are best dealt with at municipal level.

5. LEGISLATIVE ENVIRONMENT: ELECTRICITY SECTOR

5.1 Conclusion

The involvement of the ECB in the education and training and health and safety of electrical workers in the workplace is limited by its enabling legislation. The purpose of ECB is not the control of qualifications and quality of the profession of electricity workers nor is it required to regulated health and safety matters. The underlying policy and trend in the enabling legislation is that these matters are addressed by the licensees themselves.

It appears as if the Technical Regulations will find application concurrently to the Model Electricity Supply Regulations due to the fact that the Model Electricity Supply Regulations are not repealed by the Technical Regulations. Although municipalities apply both the Model Electricity Supply Regulations and municipal regulations this is not necessarily a fragmented approach due to the fact that the legislation appears to be similar.

5.2 Recommendation

No recommendations are required.

6. THE CURRICULUM

6.1 Conclusion

It would appear that the quality of artisans who qualify from the various VTCs vary significantly due to the fact that:

- There is no national uniform curriculum and uniform standards followed by the VTCs;
- Although all of the VTCs use the N-course theory only three of them have external examinations; and
- Only three of the VTCs are permanently linked to employers who provide on-the-job training.
- There is a perception among employers that the training obtained by trainees at the various VTCs is not up to standard.

6.2 Recommendation

To address the above concerns, the following recommendations are made:

- a) National uniform standards or curriculum should be established for the electricity trade.
- b) The theoretical part of the curriculum needs to be developed with the assistance of private electricity industry.
- c) Once established, the NTA will be responsible for the TVET system and will act as the coordinator assisting industry, professional bodies and all other stakeholders in establishing standards and qualifications, curricula, learning materials, assessment and certification processes that will lead to industry recognized technical and vocational education and training qualifications. The ECB should identify professionals who will assist the NTA in this regard.

7. THE QUALIFICATION

7.1 Conclusion

The deficiencies identified with regard to the qualifications are the following:

- Changes in the legislative framework through the years have resulted in several different types of qualifications which could lead to confusion;
- There are electrical workers in the industry who have left the training institutions at different levels of training;
- A number of individuals who have no formal qualifications have been issued with trade certificates or diplomas instead of skills certificates;
- There is a perception amongst employers that qualified electricians are not competent.

7.2 Recommendation

To address the above concerns, the following recommendations are made:

- a) The problem relating to different types of qualifications should be addressed once the NVA is established and operational;
- b) Electrical workers' certification be divided up in categories including semi-skilled workers, general electricians (skilled workers) and specialist electricians.
- c) Electrical workers with a lower level of technical training should be categorised as semi-skilled electrical workers, with lower responsibilities.
- d) A programme for continuing professional development should be established and qualified electricians encouraged to participate.

8. ON-THE-JOB TRAINING

8.1 Conclusion

The training is supply-driven instead of demand-driven and as a result artisans have irrelevant competencies or have no competency at all. This as a result of:

- Inadequate employer involvement; and
- Limited or no communication between training institutions and employers.

8.2 Recommendation

To address the above concerns, the following recommendations are made:

- a) The NTA should be used as a vehicle to actively involve both the training institutions and the industry in job attachment.
- b) The duration of on-the-job training should be extended to a period that is sufficient to provide the necessary practical grounding.
- c) The Vocational Education and Training Levy which the NTA may impose in terms of the Vocational Education and Training Bill should be linked with an incentive scheme for employers who are liable for payment of the levy in question in order to encourage industry involvement in job attachment.
- d) Employers should be encouraged to participate in apprenticeship programmes where trainees are contracted to employers who provide on-the-job training.
- e) Participation by experienced individuals in the industry to do training should be encouraged.

9. INSTRUCTORS

9.1 Conclusion

It would appear that the majority of the artisans qualifying do not have the requisite skills due to the fact that –

- Most of the instructors are not suitably qualified and lack industrial experience;
- There is a shortage of instructors;
- There is a shortage of demonstration equipment; and
- The instructor/trainee ratio is very high

9.2 Recommendation

To address the above concerns, the following recommendations are made:

- a) To enhance the quality of current training, instructors should be encouraged to undergo further training. This should be done with the assistance of the Directorate of Vocational Training in the Ministry of Education. The National Training Fund can be accessed to fund programmes in this regard.
- b) Current instructors should be required and assisted to obtain industrial experience.
- c) Training centres should be requested not to appoint instructors who do not possess at least five years industrial experience.
- d) Additional qualified instructors should be recruited to reduce the presently high instructor/trainee ratio.
- e) Specialist electrical workers, such as master electricians, should be recruited as instructors and assessors at VTCs and the workplace and provided with the necessary skill development to do training or supervision.
- f) Proper demonstration equipment must be sourced from donors, either in the industry or elsewhere, as well as from government sources.

10. MANAGEMENT OF VTCs

10.1 Conclusion

The checks and balances that have been built into the current system relating to the management of government owned VTCs by the Ministry of Education are too cumbersome and hinders the effectiveness and efficiency of the government owned VTCs.

10.2 Recommendation

To address the above concerns, the following recommendations are made:

- Involvement of the private sector in VTCs is seen as a possible solution to the current management deadlock. One of the reforms being considered by the NTA is the privatisation of the government owned VTCs. This reform should be supported by the ECB as private sector management and decision-making may break the current gridlock.

11. THE COMPETENCE OF TRAINEES

11.1 Conclusion

The ability of trainees to function in the workplace is also influenced by the following factors –

- Trainees who enrol at training centres are not knowledgeable in science due to the fact that learners who excel at science enrol at Universities and Polytechnics;
- Trainees do not choose employment based on the skill that they would acquire but rather based on remuneration;
- Trainees leave the training centres at different levels of qualification;
- Employers do not appoint trainees on merit;

- Graduates from the public VTCs have demonstrated a lack of basic understanding of elementary electricity principles. These tend to indicate a weak training on electric theory and on-the-job training.

11.2 Recommendation

To address the above concerns, the following recommendations are made:

- An awareness campaign should be developed and implemented to change societal perceptions regarding the relevancy and importance of technical and vocational education and training. A campaign such as this would not only boost the number of new trainees but would encourage learners to improve mathematical and science results.
- The awareness campaign could also highlight the need for developing other areas where specialised electrical workers are required, such as high tension electricians, wireman's license electrician, and electrician to work in hazardous areas as well as those required to work infrastructure of Telecom, renewable energy etc.
- A youth foundation for learners should be established with its core focus on the electricity industry. The primary objective of such a foundation would be to enhance mathematical and science skills to enable access to training institutions.
- To prevent trainees from choosing job attachment based on remuneration, the National Training Fund should be accessed to establish a bursary scheme for trainees.
- Employers in the electricity industry should be encouraged to establish bursary schemes for technical and vocational education and training trainees.