

REPUBLIC OF SOUTH AFRICA
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GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES

NO. R. 1195

30 SEPTEMBER 2016

MARKETING OF AGRICULTURAL PRODUCTS ACT, 1996
(ACT No. 47 OF 1996)**ESTABLISHMENT OF STATUTORY MEASURE AND DETERMINATION OF
LEVIES ON DRIED FRUIT**

I, Senzeni Zokwana, Minister of Agriculture, acting under sections 13 and 15 of the Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996) hereby establish the statutory measure set out in the schedule.

SENZENI ZOKWANA,
Minister of Agriculture, Forestry and Fisheries.

SCHEDULE**Definitions**

1. In this Schedule any word or expression to which a meaning has been assigned in the Act shall have that meaning, and unless the context otherwise indicates

"currants" means the dried fruit obtained from seedless currant-type vine fruit;

"dried deciduous fruit" means apricots, apples, nectarines, pears, peaches, prunes and vine fruit (raisins, seedless raisins, sultanas and currants) where either in the whole, cut up or minced form, subjected to any acknowledged drying process during which the largest part of the moisture had been abstracted therefrom, irrespective whether having been treated with water or steam or any preservative;

"Dried Fruit Technical Services NPC (DFTS)" means the company registered in terms of the Companies Act, 2008 (Act No. 71 of 2008 as amended) and which operates under the name Dried Fruit Technical Services (DFTS). The DFTS is a company with the aim to keep the local dried fruit industry abreast of the need for agricultural research, strategic information on volumes and quality to meet all sanitary and phytosanitary requirement for local and export marketing to serve the best interest of the industry as the need arises and keep the NAMC and Minister of Agriculture informed on strategic issues. The DFTS is located at, 258 Main Street, Paarl, Western Cape, South Africa;

"**exporter**" means a person who exports dried fruit from South Africa, and includes a person who arranges or handles the exports in the name of or on behalf of another person;

"**handle**" means receive, store, dispatch or process;

"**importer**" means a person who imports dried fruit into South Africa, and this includes a person who arranges or handles the imports in the name of or on behalf of another person;

"**packer**" means a person who handles dried fruit and packs it for the purpose of sale;

"**process**" means to sort, clean, wash, cut, mince, mix or prepare to be packed for sale;

"**producer**" includes any person concerned in the production of dried fruit;

"**prunes**" means the dried fruit obtained from fruit of plants of *Prunus domestica L*;

"**raisins**" means the dried fruit other than currants and seedless raisins that is obtained from vine fruit;

"**seedless raisins**" means the dried fruit obtained from seedless non-currant type vine fruit, and is either lyed or lyed and bleached or unlyed and unbleached;

"**The Act**" means the Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996);

"**vine fruit**" means the fruits of the plants of *Vitis vinifera*.

Purpose and aims of statutory measures and the relation thereof to objectives of the Act

2. The purpose and aims of these statutory measures are to provide financial support for the following functions that the dried fruit industry has identified as essential and in the interest of the industry as a whole:
 - (a) Rendering of information services technology transfer, transformation and training and administration for the dried fruit industry.
 - (b) the co-ordination and funding of research and development of the dried fruit industry;
 - (c) the funding of plant improvement for the dried fruit industry;
 - (d) to maintain national and international liaison.

The maintenance of macro industry information is regarded as critical for strategic planning by the dried fruit industry as well as the directly affected groups individually. Proper and accurate market information that is available on a continuous and timeous manner, will not only increase market access for all participants, but will also promote the efficiency of the marketing of dried fruit.

The promotion of the production of dried fruit can make a significant contribution towards the level of household food security and job security in South Africa, particularly in the more arid regions of the country.

Research is essential for the furtherance of the primary dried fruit industry's competitive position, taking into account the extremely competitive marketing environment in which dried fruit compete. Research is also important for dried fruit cultivation by commercial and small-scale farmers. Studies in connection with cultivar characteristics such as yield tendencies, adaptability and yield stability, makes it possible for the dried fruit producer to make meaningful cultivar choices for specific conditions.

A portion of the funds collected by means of this levy will also be focussed on empowerment of Previously Disadvantaged Individuals and the developing dried fruit industry.

The establishment of this statutory measure will not only assist in increasing market access for all participants but will also enhance the viability of the dried fruit industry. The establishment of this statutory measure will in fact further all the objectives of the Act as stipulated in section 2 thereof.

This statutory measure shall be administered by Dried Fruit Technical Services (DFTS).

Product to which statutory measure applies

3. This statutory measure shall apply to all dried deciduous fruit as defined, produced in and imported into South Africa.

Area in which statutory measure applies

4. This statutory measure shall apply within the geographical area of the Republic of South Africa.

Imposition of levy

5. A levy is hereby imposed on dried fruit bought or received by a packer or imported by a packer or processor or produced by a producer. A packer who has paid a levy may recover the amount of the levy from the person from which he has received the dried fruit on which the levy is payable, or who has produced the dried fruit..

Amount of levy

6. The amount of the levy will be 16c per kilogram for all dried tree fruits i.e. apricots, apples, peaches, prunes, nectarines, pears and other dried fruits during the first two years of the levy cycle (2016/2017 and 2017/2018) and 18c per kilogram during the next two years of the levy cycle (2018/2019 and 2019/2020). In the case of all dried vine fruits the levy will be 10c per kilogram for the first two years of the levy cycle (2016/2017 and 2017/2018) and 12c per kilogram for the next two years of the levy cycle (2018/2019 and 2019/2020).

Persons by whom and to whom levy is payable

7. The levy imposed in terms of clause 5 shall
- (a) be payable by packers or processor or traders on behalf of producers of dried fruit; and
 - (b) be payable to Dried Fruit Technical Services (DFTS) in accordance with clause 8.

Payment of levy

8. (1) A monthly return of volumes acquired must be supplied to DFTS on which an invoice will be supplied.
- (2) Payment shall be made by means of a cheque or electronic transfer in favour of Dried Fruit Technical Services (DFTS) not later than the 31 day of July or within 30 days of receipt of the fruit.
- (3) The payment shall
- (a) When forwarded by post, be addressed to:
Dried Fruit Technical Services
P.O Box 163
Paarl
7620
 - (b) When delivered by hand, be delivered to:
Dried Fruit Technical Services
258 Main Street
Paarl
7646
 - (c) when electronically transferred, be paid to the bank account obtainable from DFTS on request.

Commencement and period of validity

9. This statutory measure shall come into operation on the date of publication hereof and shall lapse four (4) years later.

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES**NO. R. 1196****30 SEPTEMBER 2016****MARKETING OF AGRICULTURAL PRODUCTS ACT, 1996
(ACT No. 47 OF 1996)****ESTABLISHMENT OF STATUTORY MEASURE: REGISTRATION OF CERTAIN
PERSONS IN RESPECT OF DRIED FRUIT**

I, Senzeni Zokwana, Minister of Agriculture, acting under sections 13 and 19 of the Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996) hereby establish the statutory measure set out in the Schedule.

SENZENI ZOKWANA,
Minister of Agriculture, Forestry and Fisheries.

SCHEDULE

Definitions

1. In this Schedule, any word or expression to which a meaning has been assigned in the Act shall have that meaning, and unless the context otherwise indicates

"**currants**" means the dried fruit obtained from seedless currant-type vine fruit;

"**dried deciduous fruit**" means apricots, apples, nectarines, pears, peaches, prunes and vine fruit (raisins, seedless raisins, sultanas and currants) where either in the whole, cut up or minced form, subjected to any acknowledged drying process during which the largest part of the moisture had been abstracted therefrom, irrespective whether having been treated with water or steam or any preservative;

"**Dried Fruit Technical Services NPC (DFTS)**" means the company registered in terms of the Companies Act, 2008 (Act No. 71 of 2008 as amended) and which operates under the name Dried Fruit Technical Services (DFTS); Dried Fruit Technical Services (DFTS) is a company with the aim to keep the local dried fruit industry abreast of the need for agricultural research; strategic information on volumes and quality; to meet all sanitary and phytosanitary requirements for local and export markets; to serve the best interest of the industry as the need arises; and keep the NAMC and Minister of Agriculture informed on strategic issues. The DFTS is located at, 258 Main Street, Paarl, Western Cape, South Africa;

"**exporter**" means a person who exports dried fruit from South Africa, and includes a person who arranges or handles the exports in the name of ,or on behalf of another person;

"**handle**" means receive, store, dispatch or process;

"**importer**" means a person who imports dried fruit into South Africa, and this includes a person who arranges or handles the imports in the name of or on behalf of another person;

"**packer**" means a person who handles dried fruit and packs it for the purpose of sale;

"**process**" means to sort, clean, wash, cut, mince, mix or prepare to be packed for sale;

"**producer**" includes any person concerned in the production of dried fruit;

"**prunes**" means the dried fruit obtained from fruit of plants of *Prunus domestica L*;

"**raisins**" means the dried fruit other than currants, seedless raisins that is obtained from vine fruit;

"**seedless raisins**" means the dried fruit obtained from seedless non-currant type vine fruit, and is either lyed or lyed and bleached or unlyed and unbleached;

"**The Act**" means the Marketing of Agricultural Products Act 1996, (Act No. 47 of 1996);

"**vine fruit**" means the fruits of the plants of *Vitis vinifera*.

Purpose and aims of statutory measure and the relation thereof to objectives of the Act

2. The purpose and aim of these statutory measures is to compel importers, packers, exporters, processors and marketers of dried fruit to register with Dried Fruit Technical Services (DFTS). These shall include any person, e.g. a producer who acts in the capacity of the aforementioned persons. Registration of the said persons is necessary to enable DFTS to make available continuous, timely and accurate market information in respect of dried fruit for all role-players. It is essential that market information in the deregulated market be as accurate as possible in order to be able to make informed decisions. Through the combination of mandatory registration of the major role-players together with the submission of monthly returns on an individual basis, market information for the whole country can be processed and disseminated in the marketplace.

This statutory measure will not only assist in improving market access for all market participants, but it should also assist in promoting the affectivity of the marketing of dried fruit. The viability of the dried fruit industry will thus be promoted. The measure will not be detrimental to the number of employment opportunities or fair labour practice.

Products to which statutory measure applies

3. This statutory measure shall apply to all dried deciduous fruit as defined.

Area in which statutory measure applies

4. This statutory measure shall apply within the geographical area of the Republic of South Africa.

Registration of importers, packers, exporters, processors and marketers of dried fruit

5.
 - (1) All importers, packers, exporters, processors and marketers of dried fruit shall register with DFTS in the manner prescribed in clause 6. These shall also include any person, e.g. a producer who acts in the capacity of the aforementioned persons.
 - (2) Each person who becomes an importer, packer, exporter or processor shall register with DFTS within 30 days after he became an importer, packer, exporter, or processor or marketer.
 - (3) Upon registration of an applicant by DFTS, a letter of confirmation is issued to him.
 - (4) The registration issued in terms of sub-clause (3) shall expire when this statutory measure is revoked or when it is cancelled by DFTS.
 - (5) The provisions of sub-clause (6) shall apply *mutatis mutandis* to persons who were already registered with DFTS at the time of this publication.
 - (6) Every importer, packer, exporter or processor of dried fruit shall notify DFTS in writing within 30 days after he has ceased to act in that capacity, whereupon his registration will be cancelled.

Application for registration as importer, packers, exporter or processor of dried fruit

6. (1) An application for registration in terms of clause 5 shall be made on the application form available from DFTS.
- (2) The application form shall be completed in ink by a person who is duly authorised and it shall be completed in ink by an importer, packer, exporter, or processor and by any person who is duly authorised and it shall be accompanied by the corroborating documentation as specified in the application form.
- (3) The application form shall
- (a) when forwarded by post, be addressed to:
The General Manager: DFTS
PO Box 163
Paarl
7620
 - (b) when delivered by hand, be delivered to:
The General Manager: DFTS
258 Main Street
Paarl
7646
 - (c) when transmitted electronically, be sent to:
Any of the fax numbers, e-mail addresses or any other electronic addresses as they appear on the application form.

Commencement and period of validity

7. This statutory measure shall come into operation on the date of publication hereof and shall lapse four (4) years later.

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES

NO. R. 1197

30 SEPTEMBER 2016

**MARKETING OF AGRICULTURAL PRODUCTS ACT, 1996
(ACT No. 47 OF 1996)****ESTABLISHMENT OF STATUTORY MEASURE: RECORDS AND RETURNS
IN RESPECT OF DRIED FRUIT**

I, Senzeni Zokwana, Minister of Agriculture, acting under sections 13 and 18 of the Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996), hereby establish the statutory measure set out in the Schedule.

SENZENI ZOKWANA,
Minister of Agriculture, Forestry and Fisheries.

SCHEDULE**Definitions**

1. In this Schedule, any word or expression to which a meaning has been assigned in the Act shall have that meaning, and unless the context otherwise indicates

"currants" means the dried fruit obtained from seedless currant-type vine fruit;

"dried" deciduous fruit means apricots, apples, nectarines, pears, peaches, prunes and vine fruit (raisins, seedless raisins, sultanas and currants) where either in the whole, cut up or minced form, subjected to any acknowledged drying process during which the largest part of the moisture had been abstracted therefrom, irrespective whether having been treated with water or steam or any preservative;

"Dried Fruit Technical Services NPC (DFTS)" means the company registered in terms of the Companies Act, 2008 (Act No. 71 of 2008 as amended) and which operates under the name Dried Fruit Technical Services (DFTS). The DFTS is a company with the aim to keep the local dried fruit industry abreast of the need for agricultural research, strategic information on volumes and quality to meet all sanitary and phytosanitary requirement for local and export marketing to serve the best interest of the industry as the need arises and keep the NAMC and Minister of Agriculture informed on strategic issues. The DFTS is located at, 258 Main Street, Paarl, Western Cape, South Africa;

"**exporter**" means a person who exports dried fruit from South Africa, and includes a person who arranges or handles the exports in the name of or on behalf of another person;

"**handle**" means receive, store, dispatch or process;

"**importer**" means a person who imports dried fruit into South Africa, and this includes a person who arranges or handles the imports in the name of or on behalf of another person;

"**packer**" means a person who handles dried fruit and packs it for the purpose of sale;

"**process**" means to sort, clean, wash, cut, mince, mix or prepare to be packed for sale;

"**producer**" includes any person concerned in the production of dried fruit;

"**prunes**" means the dried fruit obtained from fruit of plants of *Prunus domestica L.*;

"**raisins**" means the dried fruit other than currants, seedless raisins that is obtained from vine fruit;

"**seedless raisins**" means the dried fruit obtained from seedless non-currant type vine fruit, and is either lyed or lyed and bleached or unlyed and unbleached;

"**The Act**" means the Marketing of Agricultural Products Act, 1996 (Act No. 47 of 1996);

"**vine fruit**" means the fruits of the plants of *Vitis vinifera*;

Purpose and aims of statutory measure and the relation thereof to objectives of the Act

2. The purpose and aim of this statutory measure is to compel importers, packers, exporters and processors of dried fruit to keep records and submit returns to Dried Fruit Technical Services (DFTS). These shall also include any person, e.g. a producer who acts in the capacity of the aforementioned persons. The statutory measure is deemed necessary in order to ensure that market information in respect of dried fruit is made available accurately to all role-players in the dried fruit industry. Information gathered by DFTS by means of records and returns is disseminated freely in the marketplace. Through the mandatory submission of monthly returns on an individual basis, market information for the whole country can be processed and disseminated in the marketplace.

This statutory measure will not only facilitate access for all participants, but it should also assist in promoting the effective marketing of dried fruit. Furthermore, the market information obtained in this *manner*, will promote the viability of the dried fruit industry and the agricultural sector at large.

Product to which statutory measure applies

3. This statutory measure shall apply to all dried deciduous fruit as defined.

Area in which statutory measure applies

4. This statutory measure shall apply within the geographical area of the Republic of South Africa.

Records to be kept by importers, packers, exporters and processors of dried fruit

5. (1) Each importer, packer, exporter and processor of dried fruit shall keep complete records for each calendar month in respect of dried fruit handled, imported or exported by him. These shall *also* include any person, e.g. a producer who acts in the capacity of the aforementioned persons.
- (2) Each person mentioned in sub-clause (1), irrespective of whether or not he has premises, shall keep the following records:
- (a) Opening stock - the opening stock of all dried fruit physically on his premises on the first day of a calendar month.
 - (b) Producer deliveries - all dried fruit received direct from the farm of a producer on his premises according to fruit kind of production.
 - (c) Imports - in respect of imported dried fruit, records shall be kept of:
 - (i) Name and address of importer and person on whose behalf imports are made.
 - (ii) Quantity of dried fruit imported per country of origin and per fruit kind.
 - (iii) Quantity of imported dried fruit destined for:
 - (aa) consumption in South Africa.
 - (bb) exports per country of destination.
 - (d) Other receipts - all dried fruit received at the premises other than dried fruit already declared above as producer deliveries and imports, including records of the name of the consignor and address of the premises from where the dried fruit was dispatched as well as the mass of the dried fruit received.
 - (e) Dried fruit processed - all dried fruit processed on his premises in the name of or on behalf of producers or other clients.
 - (f) Exports - in respect of dried fruit that is exported, records shall be kept in respect of:
 - (i) Name and address of the exporter and the person on behalf of whom the export takes place.
 - (ii) Quantity of dried fruit per fruit kind exported per country of intended destination.
 - (iii) Name of harbour and owner of harbour premises where the exported dried fruit was handled.

- (iv) Name and particulars of the vessel in which a quantity of dried fruit is exported.
 - (g) Other local dispatches - records shall be kept of all dried fruit dispatched from his premises to other premises than those mentioned in (f), including separate records of the name of the person and the address of the premises to which the dried fruit was dispatched, as well as the mass per fruit kind dispatched.
 - (h) Closing stock - the closing stock of all dried fruit physically on his premises on the last day of a calendar month.
 - (i) Storage of dried fruit on producer's farm - the quantity of dried fruit that is in a storage facility on the producer's farm on the last day of a calendar month and of which the full ownership has already passed on to the keeper of the records.
- 3 Records mentioned in sub-clauses (1) to (2) shall be
- (a) recorded on a computer or in ink in a book; and
 - (b) kept at the head office or usual place of business of the person who is required to keep them for a period of at least four years after the end of the period in respect of which such records were kept.
- 4 Producers may be requested to supply any records, e.g. numbers of trees or vines or fruit produced if required.

Returns to be rendered by importers, packers, exporters and processors of dried fruit

6. (1) Each importer, packer, exporter and processor of dried fruit shall within 15 days after the end of each calendar month furnish an accurate return to DFTS in respect of dried fruit handled, imported or exported by him. These shall also include any person, e.g. a producer who acts in the capacity of the aforementioned person.
- (2) The return shall be furnished on the form obtainable free of charge from DFTS, and shall be completed in ink. Totals returns for a specific year must reach DFTS by 31 July after which additions can be made montly.
- (3) The return shall
- (a) when forwarded by post, be addressed to:
The General Manager: DFTS
PO Box 163
Paarl
7620
 - (b) when delivered by hand, be delivered to:
The General Manager: DFTS
258 Main Street
Paarl
7646

- (c) when transmitted electronically, be sent to:
Any of the fax numbers, e-mail addresses or any other electronic addresses as furnished on the official return forms.
- (4) The return shall be forwarded, delivered or transmitted electronically to reach the general manager of DFTS before or on the return date mentioned in sub-clause (1).
- (5) A zero return shall be submitted if no dried fruit was handled, imported or exported during the period of the return.

Commencement and period of validity

- 7. This statutory measure shall come into operation on the date of publication hereof and shall lapse four (4) years later.

DEPARTMENT OF LABOUR

NO. R. 1198

30 SEPTEMBER 2016

NOTICE OF DIRECTION IN TERMS OF SECTION 27(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, READ WITH REGULATION 3(4)(a) OF THE GENERAL SAFETY REGULATIONS

I Tibor Szana, duly designated by the Minister of Labour in terms of section 27(1) of the Occupational Health and Safety Act, 1993 as Chief Inspector for the purposes of the aforementioned Act, and acting in terms of the powers and functions conferred upon me by Section 27(2), and those assigned to me by other provisions of the Act, hereby give notice that as from the date of this notice, all applications for approval from a person or organisation who wants to provide first aid training approved by the Chief Inspector, as referred to in Regulation 3 (4) (d) of the General Safety Regulation published under Government Notice R1031 of 30 May 1986 will only be considered if it is accompanied by a valid accreditation certificate issued by the Health and Welfare SETA (HWSETA) established in terms of section 9 (1) of the Skills Development Act, 1998, and has been authorised by the Chief Inspector to carry out such accreditation.

Those already registered with the Department of Labour, will after the promulgation of this notice, be granted 12 months to be accredited with HWSETA. All service providers who fail to register within the given period will be automatically be de-registered from the Department of Labour database and will no longer be recognized as legitimate service providers.


Tibor Szana

Chief Inspector: OHH

DEPARTMENT OF MINERAL RESOURCES

NO. R. 1199

30 SEPTEMBER 2016

Reference Number: DMR 16/3/2/4-B3
Last Revision Date: First edition
Date First Issued: First edition
Effective Date: 28 February 2017

DEPARTMENT OF MINERAL RESOURCES

MINE HEALTH AND SAFETY INSPECTORATE

GUIDELINE FOR THE COMPILATION OF A
MANDATORY CODE OF PRACTICE FOR

PREVENTION OF FIRES AT MINES



CHIEF INSPECTOR OF MINES



mineral resources

Department
Mineral Resources
REPUBLIC OF SOUTH AFRICA

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PART A: THE GUIDELINE

1. FOREWORD

- 1.1 Fire in a mine or excavation, such as a transportation tunnel, is a serious **fire hazard** that could result in loss of life and revenue for the enterprise concerned. Mines contain significant amounts of fuel sources such as flammable material, fuels, lubricants, timber, rubber, plastics, paint and packaging materials. Coupled with these are numerous ignition sources such as self-heating of coal, **flame** from oxy-acetylene cutting and welding equipment, sparks, electrical short-circuits, machinery hot surfaces and friction that can initiate a **fire**.
- 1.2 Basic **fire** theory suggests that **fires** occur when three constituents are present simultaneously: a fuel source, an ignition (heat) source and oxygen (air). At **mines**, oxygen will normally be present in the air as it is required to sustain human life and enable the operation of combustion engines. The identification of **fire hazards** should focus on the following key considerations:
 - 1.2.1 The presence of fuel sources such as combustible materials, flammable substances, volatile chemicals, etc;
 - 1.2.2 The presence of ignition or heat sources such as hot surfaces on equipment, electrical sparks, naked **flames**, explosives, exothermic chemical reactions, etc;
 - 1.2.3 Chemical chain reaction in metallic **fires** known as class D **fires**.
- 1.3 The **fire** risk in any mine has to be managed properly. This is achieved by an assessment of the **risks** involved, monitoring of **fire risk** controls, good **mine** and ventilation system design, equipment and material selection, the preparation, implementation and enforcement of formal appropriate **mine**-specific standards.
- 1.4 The South African mining industry has in the past experienced several underground **fire** incidents. Underground **fires** are particularly dangerous due to the confined nature of excavations, the quantity of smoke and noxious fumes produced in relation to the limited quantity of fresh air present and the restricted ability to escape quickly from the mine. Since 2004, the industry accounted for 19 fatalities; 149 **fire** related injuries and a total of 71 dangerous occurrences directly related to **fires**. Surface operations encountered conveyer belt, plant structure and trackless mobile machinery **fires** during the same period.
- 1.5 MHSa regulations pertinent to the prevention of underground **fires** include:
 - 1.5.1 Regulation 5.1(1)(a) requires an employer to ensure that a competent person reports to the employer, at appropriate intervals determined in accordance with the mine's **risk** assessment, on the adequacy of measures in place to prevent, detect and combat the start and spread of **mine fires**.

- 1.5.2 Regulation 8.9(3) requires an employer to take reasonably practicable measures to prevent persons from being exposed to **flames**, fumes or smoke arising from a conveyor belt installation catching **fire**, including instituting measures to prevent, detect and combat such **fires**.
- 1.5.3 Regulation 9.1(2) requires an employer, where the **risk** assessment indicates a significant **risk** of a **fire** and/or explosion and/or toxic release, that could lead to an irrespirable atmosphere or an atmosphere immediately dangerous to life or health, to provide an early warning system or systems at all working places.
- 1.5.4 Regulation 16.1(1) requires an employer to ensure that a competent person reports to the employer, at appropriate intervals determined in accordance with the **mine's risk** assessment, on the adequacy of escape and rescue procedures at the **mine** relating to explosions, **fires** and flooding.
- 1.6 The **MHSA** regulations do not set out any other detail about the measures required to prevent, detect and combat the start and spread of **mine fires**. The main aim of this guideline is therefore to provide employers with a framework to assist in the preparation of a **COP** on the **fire prevention measures** at a **mine** in order to reduce significant **risks** associated with **fires**.

2. LEGAL STATUS OF GUIDELINES AND COPS

- 2.1 In accordance with section 9(2) of the **MHSA**, the employer must prepare and implement a **COP** on any matter affecting the health and safety of employees and any other persons who may be directly affected by the activities at the **mines** if the Chief Inspector of Mines requires it. These **COPs** must comply with any relevant guideline issued by the Chief Inspector of Mines as per section 9.3. Failure by the employer to prepare and implement a **COP** in compliance with this guideline is a breach of the **MHSA**.

3. OBJECTIVE OF THE GUIDELINE

- 3.1 The main objective of this guideline is to enable the employer at every **mine** where a **fire** could pose a significant **risk** to the health or safety of persons, to prepare a **COP** which, if properly implemented and complied with, would improve control measures aimed at preventing **fire** incidents.
- 3.2 The guideline provides guidance of a general nature on the required format and content for the **COP** and details sufficient technical background to enable the drafting committee at the **mine** to prepare a comprehensive and practical **COP** for their **mine**.

4. DEFINITIONS AND ACRONYMS

- a) '**COP**' means Code of Practice;
- b) '**DMR**' means the Department of Mineral Resources;
- c) '**FIRE**' means a rapid oxidation process in which a chemical reaction results in the evolution of light, gases, and heat energy varying in intensity;

- d) **'FIRE DETECTION SYSTEM'** means the combination of Fire Alarm Systems and Fire detectors;
- e) **'FIRE ALARM SYSTEM'** means a system or portion of a combination system that consists of components and circuits arranged to monitor and announce the status of a fire condition or of supervisory signal-initiating devices in order to initiate the appropriate response to those signals;
- f) **'FIRE DETECTOR'** means an automatic device designed to detect the presence of a fire and initiate action;
- g) **'SMOKE DETECTOR'** means an automatic device designed to detect the presence of smoke and initiate action;
- h) **'FIRE PREVENTION MEASURES'** means actions deemed necessary and suitable to inhibit the initiation of a fire or stop the evolution of a developing fire;
- i) **'FIRE PROTECTION MEASURES'** means actions deemed necessary and suitable to safe guard the life and health of individuals and or the integrity of equipment, machinery and infrastructure that may be exposed to a fire;
- j) **'FIRE SUPPRESSION SYSTEM'** means a system designed to enable total flooding by or for the localized application of extinguishing agents.
- k) **'FLAME'** means the visible portion of the fire;
- l) **'FLAME RETARDANT'** means a self-extinguishing substance or material that will inhibit the formation or the spread of a flame on a surface to which it is applied;
- m) **"FIRE HAZARD"** means a condition that presents the potential for harm to people and damage to property, or the environment as a result of fire;
- n) **"HOT WORK"** means work involving burning, heating, welding, grinding or a similar operation that is capable of initiating fires or explosions;
- o) **'IFSTA'** means International Fire Service Training Association;
- p) **'MHSA'** means Mine Health and Safety Act, 1996 (Act No. 29 of 1996) as amended;
- q) **'MINE'** as defined in the Mine Health and Safety Act, 1996 (Act No. 29 of 1996) as amended;
- r) **'NFPA GOT'** means National Fire Protection Association Glossary of Terms, published in 2013;
- s) **'RISK'** means a measure of the probability and severity of adverse effects that result from exposure to a fire hazard;
- t) **'SABS'** means South African Bureau of Standards;
- u) **'SANS'** means South African National Standard; and
- v) **'SDS'** means (Material) Safety Data Sheet (solids, liquids and gases);

5. SCOPE

The scope of this guideline relates to measures or procedures that should be established to prevent the occurrence of fires at a mine, which is the preferred way of managing the risks associated with fires in underground and surface operations at a mines.

This guideline does not replace existing guidelines dealing with related topics, e.g. the guidelines on *Prevention of Flammable Gas and Coal Dust Explosions in Collieries* and on *Prevention of Flammable Gas Explosions in Mines Other Than Coal Mines*. The COP to be drawn up by the employer in compliance with this guideline should take account of all other COPs drawn up by the employer and all the COPs and other related mine standards should be reviewed concurrently in order to avoid any conflict of requirements as laid down by the mine. The objective would be to have an integrated system.

6. MEMBERS OF THE TASK GROUP

6.1 The members of the task group were as follows:

STATE	EMPLOYEES	EMPLOYERS
J Legadima	H van Vuuren	M Biffi
N Makhonoana		A Thomson
CT Kekana		J Maass
A Coutinho		P Sefudi
K Hewitson		I Labuschagne

PART B: AUTHOR'S GUIDE

1. The COP must, where possible, follow the sequence laid out in Part C "Format and Content of the COP." The pages as well as the chapters and sections must be numbered to facilitate cross-reference and wording must be unambiguous and concise.
2. It should be indicated in the COP and on each annexure to the COP whether:
 - 2.1 The annexure forms part of the COP and must be complied with or incorporated in the COP or whether aspects thereof must be complied with or incorporated in the COP; or
 - 2.2 The annexure is merely attached as information for consideration in the preparation of the COP (i.e. compliance is discretionary).
3. When annexures are used the numbering should be preceded by the letter allocated to that particular annexure and the numbering should start at one (1) again. (e.g. 1, 2, 3 ...A1, A2, A3...).
4. Whenever possible illustrations, tables, graphs and the like should be used to avoid long descriptions and/or explanations.
5. When reference has been made in the text to publications or reports, references to these sources must be included in the text as footnotes or side notes as well as in a separate bibliography.

PART C: FORMAT AND CONTENT OF THE MANDATORY COP

1. TITLE PAGE

The COP should have a title page reflecting at least the following:

- 1.1 The name of the mine;
- 1.2 The Heading: "Mandatory Code of Practice on the Prevention of Fires at Mines";
- 1.3 The statement to the effect that the COP was drawn up in accordance with the Guideline with the DMR reference number DMR 16/3/2/4-B3 issued by the Chief Inspector of Mines;
- 1.4 The mine's reference number for the COP;
- 1.5 The effective date of the COP; and
- 1.6 The revision dates of the COP.

2. TABLE OF CONTENTS

The COP must have a comprehensive table of contents.

3. STATUS OF COP

Under this heading the COP must contain statements to the effect that –

- 3.1 The mandatory COP was drawn up in accordance with the Guideline with the DMR reference number DMR 16/3/2/4-B3 issued by the Chief Inspector of Mines;
- 3.2 This is a mandatory COP in terms of sections 9(2) and (3) of the MHSA;
- 3.3 The COP may be used in an accident investigation/inquiry to ascertain compliance and also to establish whether the COP is effective and fit for the purpose;
- 3.4 The COP supersedes all previous relevant COPs; and
- 3.5 All managerial instructions or recommended procedures (voluntary COPs) and standards on the relevant topics must comply with the COP and must be reviewed to ensure compliance.

4. MEMBERS OF DRAFTING COMMITTEE

- 4.1 In terms of section 9(4) of the MHSA the employer must consult with the health and safety committee on the preparation, implementation or revision of any COP.
- 4.2 It is recommended that the employer should, after consultation with the employees in terms of the MHSA, appoint a committee responsible for the drafting of the COP.

- 4.3 The members of the drafting committee assisting the employer in drafting the COP should be listed giving their full names, designations, affiliations and experience. This committee should include competent persons sufficient in number to effectively draft the COP.

5. GENERAL INFORMATION

General relevant information relating to the mine must be stated in this section of the COP.

The following minimum information must be provided:

- 5.1 A brief description of the mine and its location;
- 5.2 The commodities produced;
- 5.3 The mining methods/mineral excavation processes;
- 5.4 A description of the systems in use on the mine relating to Fire prevention measures;
- 5.5 The unique features or special conditions of the mine that have a bearing on this COP; and
- 5.6 Other relevant COPs.

6. TERMS AND DEFINITIONS

Any word, phrase or term of which the meaning is not absolutely clear or which will have a specific meaning assigned to it in the COP, must be clearly defined. Existing and/or known definitions should be used as far as possible. The drafting committee should avoid jargon and abbreviations that are not in common use or that have not been defined. The definitions section should also include acronyms and technical terms used.

7. RISK MANAGEMENT

- 7.1 Section 11 of the MHS Act requires the employer to identify hazards, assess the health and safety risks to which employees may be exposed while they are at work, record the significant hazards identified and risk assessed. The employer must determine how the significant risks identified in the risk assessment process must be dealt with, having regard to the requirement of section 11(2) and (3) that, as far as reasonably practicable, attempts should first be made to eliminate the risk, thereafter to control the risk at source, thereafter to minimise the risk and thereafter, insofar as the risk remains, to provide personal protective equipment and to institute a programme to monitor the risk.
- 7.2 To assist the employer with the risk assessment all possible relevant information such as fire incidents, research reports, manufacturers' specifications, approvals, design

criteria and performance figures for all relevant equipment should be obtained and considered.

7.3 In addition to the periodic review required by section 11(4) of the MHSA, the COP should be reviewed and updated if relevant after every serious incident relating to a topic covered in the COP or if significant changes are introduced to procedures, processes, process layout, process methods, ventilation layouts, plant or equipment and material.

8. ASPECTS TO BE ADDRESSED IN THE COP

In order to manage the risks associated with fires at a mine, the COP should set out a structured Fire Risk Management Program covering at least the steps and measures envisaged in this guideline. Figure 1 below shows diagrammatically the Fire Risk Management Program covered in this guideline.

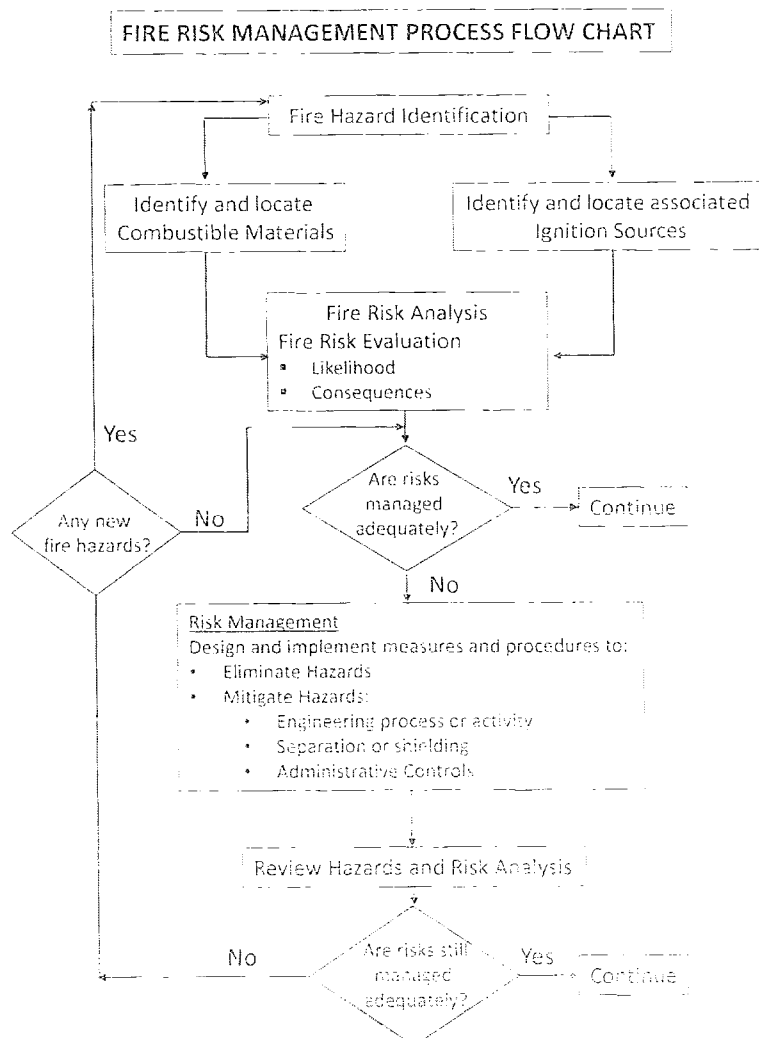


Figure 1: Diagrammatic Representation of Fire Risk Management

8.1 Fire and risk management

The COP should set out as the first element of a Fire Risk Management Program the requirement to identify **fire hazards** and then **fire risks**. The COP should require these to be continuous activities covering the following:

8.1.1 Identification of fire hazards

The COP should identify each possible **fire** hazard and classify *each* as either a fuel source or an ignition source (under certain circumstances, timber, coal and other organic materials may be both). The location of all possible ignition sources, at fixed sites at a **mine** or on mobile or semi-mobile equipment operating at a **mine** should be established.

Fires will occur if these two sources are present simultaneously in time and space. Preventative measures may be put in place to prevent such interactions and, under certain conditions, suitable physical barriers may be introduced to prevent the two sources from interacting. These are classified as protective measures against **fires**. Other actions and procedures, such as emergency evacuation procedures and the use of refuge bays, for example, are seen as measures needed to mitigate the impact following from the ignition of combustible material to protect workers. This COP shall concentrate predominantly on preventative measures and on some protective measures aimed particularly at separating effectively the two sources.

Annexure 1 Generic notes on **fires** provides more information on the stages of **fire**, covering the nature and development thereof.

8.1.1.1 Fire hazards: Fuel sources

The COP should classify the identified fuel sources in terms of the fire classes defined by the combustion process associated with them:

a. Class A: Materials (ordinary combustibles)

These are solid materials, usually of an organic nature, in which combustion normally results in the formation of glowing embers. These include combustibles such as wood, paper, fabric, plastics, and most kinds of solid waste materials.

b. Class B: Materials (flammable liquids and gases)

These are non-solid fuels consisting of flammable or combustible liquids or gases such as petrol or propane gas.

c. Class C: Energized electrical equipment

Electrical fires involve potentially energised electrical equipment. This sort of fire may be caused by short-circuiting or overloaded electrical networks.

d. Class D: Combustible metals

Combustible metals mostly encountered are magnesium, potassium, titanium, and zirconium. With the exception of the metals that burn in contact with air or water (for example potassium and sodium), combustible metals on their own do not represent unusual fire risks because they have the ability to conduct heat away from hot spots efficiently. However, when combustion is induced, the fire is self-sustaining: rapid combustion (oxidation) of magnesium induced by an external source may result in a fiercely exothermic process.

e. Class F: Cooking oils and fats (kitchen fires)

These include unsaturated cooking oils in well-insulated cooking appliances located in commercial kitchens. Though such fires are technically a subclass of the flammable liquid/gas category, the special characteristics of these types of fires, namely the lower flash point, are considered important enough to re-classify these separately. Water mist can be used to extinguish such fires.

8.1.1.2 Fire hazards: Ignition sources

The COP should identify potential sources of ignition at a mine including but not limited to the following energy sources:

a. Heat energy

The presence of heat energy is often characterised by high temperature surfaces (e.g. exhaust systems of internal combustion engines, pumps, turbochargers, electric motors, gearboxes, heat exchangers, bearings, rubbing surfaces such as brakes, cigarette butts, naked flames from use of welding equipment and matches or cigarette lighters).

b. Electrical energy

Switch gear, motors, retarders, transformers, lights and cables; short-circuit arcs, earth-faults, static electricity discharge, induction heating, thyrist or drives.

c. Mechanical energy

Friction (conveyor belts drives, winch ropes), mechanical impact (coal picks) or grinding.

d. Chemical energy

Self-heating, auto-ignition, exothermic reactions, spontaneous combustion of coal and induced pyrolysis of vehicle tyres (lightning).

8.1.1.3 Fire hazard identification process

The **COP** should set out the **Fire** hazard identification process that requires a physical inspection of all working places, of travelling ways, hoisting and conveying infrastructures and of equipment and machinery used at a **mine** to identify and list all recognisable fuel and ignition sources. In addition, the **fire hazard** identification process shall include a review of processes employed at a **mine** to assess the probability of a **fire** being caused as the result of operational malfunctions or of process design failures.

The outcomes of the **fire** hazard identification process should be recorded in a **Fire hazard** register that identifies the hazard together with its classification (fuel source, ignition source or both) and location of the hazard at the **mine**. The latter should distinguish whether the **fire** hazard is fixed or mobile, as might be the case for vehicles. The location of fixed hazards should be deemed to be particularly hazardous where these are located in or in close proximity to intake airways, at sites containing other **fire hazards** (e.g. transformer station adjacent to fuel storage areas) or sites that might be adversely affected directly or indirectly by a **fire** (e.g. major oil-filled transformers adjacent to sub-vertical shafts or sub-declines or other fresh air intakes). The latter is of particular importance where mobile equipment is operated.

A series of different **fire hazard** identification processes may be undertaken at different stages in the life of any mining project. These should be appropriate in terms of and aligned with the maturity of the operation and of changes that take place from time to time due to process or system design modifications, introduction of new technologies and/or equipment and as a result of changes in accepted practices.

i) Baseline and issue-based fire hazard surveys

The **COP** should set out baseline and issue based procedures that are summarised in the **fire hazard** register and to include the following information:

- a. The date of the survey;
- b. The name of the person responsible for the respective assessments;
- c. A list of operational procedures and standards that were affected (added, amended or deleted) as the result of such assessments; and
- d. The details of where the official risk assessment documentation is kept at the mine.

These surveys should be completed as soon as any type of mining operation is undertaken (e.g. shaft sinking, primary development, plant construction, production ramp-up, etc.) and whenever a major change or addition to the operation or process is undertaken (e.g. sinking of another shaft or sub-vertical structure, extension of the mineral treatment plant, etc.)

Additionally, a review of the baseline **risk** survey should be conducted with the occurrence of changes in conditions and/or processes or resulting from an incident. The information from the **risk** survey can then be used as a basis for the assessment and control of **fire risk** (refer to section 8.1.2: Assessment of fire risks).

ii) Continuous fire hazard identification

The **COP** should set out measures ensuring that in the event of any changes in the equipment operated, systems or processes employed as recorded in section i) above, additional surveys should be performed to supplement the baseline **fire hazard** survey. In the absence of these changes, the baseline **fire hazard** surveys should be reviewed at intervals not exceeding 12 months. These reviews could include, but are not limited to, items identified during:

- a. Employee **fire** hazard identification and reporting procedures;
- b. Workplace inspections and observations; and
- c. Equipment and plant inspections.

The **COP** should include a record of any instances where operational standards and procedures have been amended following such reviews.

Refer to **Annexure 2: Examples of fire hazards at mines.**

8.1.2 Assessment of fire risks

8.1.2.1 Fire risk assessment method

The **COP** should ensure that all identified **fire hazards** are analysed to assess their contribution to the overall **fire risk**. In the assessment of **fire risks**, the following should be included:

- a. The identified fuel and potential ignition sources and other factors that can have an impact on the type and magnitude of the risk;
- b. The evaluation of the **fire risk** based on the assessed consequence and likelihood of a particular **fire** event; and

- c. The input from a number of specialist areas, including occupational hygiene/ mine ventilation and emergency response as part of the risk mitigation process.

Where appropriate, similar fire hazards or classes of fire hazards may be analysed in logical groupings as might be determined by the mine's infrastructure, process or design.

8.1.2.2 Fire risk assessment tools

The COP should outline measures to ensure that the selected risk assessment tools should be applicable for the intended function and should provide effective indication of:

- a. The actual risk as understood at the time;
- b. Any intervention deemed to be feasibly effective in reducing such risk (preventative measures);
- c. The effect of any corrective interventions (preventative measures) being considered;
- d. The impact of any residual risk after the application of the preventative measures;
- e. Any (further) protective measures that might be considered to manage any residual risk, (e.g. including fire detection and fire-fighting measures); and
- f. Monitoring criteria that will determine the effectiveness of anticipated or implemented risk reduction controls.

The assessment of the fire risks should take into consideration impacts and consequences of any fire incident on the health and safety of workers, on neighbouring communities, on the environment and the on future viability of operations (e.g. material and reputational damage).

Any mitigating preventative and/or protective measures proposed for identified fire risks, should be recorded formally to an adequate level of detail, should be approved by management and be assigned to competent persons for completion within a specified period of time consistent with the level of the identified risk rating assigned to the corresponding fire hazard.

8.1.2.3 Risk analysis

The COP should ensure that the risk analysis section includes information on the type and nature of fire hazards and any contributing operational and environmental factors for consideration in the structuring of adequate preventative and protective measures. Risk analyses should focus on the following but should not be limited to:

i) Potential for fires

The COP should ensure that the potential for fires at a mine is determined using the fire hazard identification process described in section 8.1.2 above. Where specialised processes are undertaken, the assistance of recognised experts in the field of fire engineering should be sought.

ii) Characterising potential fires

Once the fuel and ignition sources have been identified, the fire risk should be characterised for each using information such as:

- a. The quantity of fuel available for combustion;
- b. "Fuel loading "or the relative mass of the fuel (or potential calorific energy) per unit volume of the occupied space (high, moderate or low fuel loading);
- c. The chemical composition and intensity of smoke and fumes or gases likely to be generated by a fire (this information should be used for the selection of a suitable emergency evacuation procedure);
- d. The location of fuel and combustible material storage areas, relative to other areas;
- e. The route that will be followed by any smoke generated by a fire (to define possible escape routes); and
- f. The presence of further fuel sources that might participate in an extended fire scenario.

iii) Fire hazard location

The location of a fire hazard could have a significant impact on the level of risk:

- a. Fires located in a main intake airway (e.g. main decline) are likely to pose a higher risk than if located in a return airway;
- b. Fires located close to the main working areas are likely to provide less time for affected personnel to respond timely and adequately (i.e. there will be limited time for employees to evacuate to a place of safety such as fresh air bases and refuge bays);
- c. Fires on surface close to fresh air or compressed air intakes to underground workings or to offices on surface can pose a significant risk; and

- d. **Fires** located close to or within, hazardous material and combustible liquids storage enclosures have the potential to pose a risk to other neighbouring areas.

iv) Ventilation

Ventilation systems, natural or induced, serving underground working places or buildings, will be affected by **Fires** and may contribute to the spread of smoke, gases, and hot air. Factors that should be considered when deciding how to manage ventilation systems during a **Fire** include: the prevailing air flow, oxygen feed to the **Fire**, rate of contamination downstream and fire spread beyond the source particularly in situations where employees may still be trapped by the fire.

The impact of ventilation system operation on the behaviour of fires is likely to differ for each location and for each application. It is essential that persons competent in the design and operation of ventilation systems (e.g. mine ventilation engineer or ventilation officer) be involved in the assessment of fire risks at mines.

8.1.2.4 Risk assessment output

The **COP** should ensure that the fire risk assessments shall yield the following information that shall not be limited to:

- a. locations throughout the **mine** where fuel and ignition sources exist;
- b. types and extent of **fire** events considered;
- c. consequence and likelihood of each **fire** event;
- d. the resulting **fire risk** (e.g. based on a consequence and likelihood risk matrix);
- e. controls and associated monitoring criteria currently in use to minimise the **risk**;
- f. any additional actions to further reduce **risk** by either improving existing controls or by providing additional controls or actions (included in authorised work programs and assigned to a competent person for completion) and
- g. any additional actions aimed at mitigating or reducing the impact of the outcome;

Note: The composition and quantity of smoke and fumes generated in a fire are likely to have a significant impact on the consequence of the fire and hence the level of **risk**. The impact of heat generated by an incipient **fire** should also be considered as a small **fire** in a "critical" location may provide sufficient heat to initiate a much larger conflagration.

8.2 Fire prevention controls

In this section of the **COP**, the application of adequate controls for fire prevention at **mines** is described by considering the systems, processes and equipment employed at the **mine**. A control is an action aimed primarily at preventing the occurrence of a **fire** incident or an intervention intended to limit the impact of any incipient **fire**. These can take the form of a process or equipment re-design, implementation of different material selection criteria or of adequate operational standards.

Controls shall be assigned to each **fire** hazard and corresponding **risks** identified and defined in the **fire risk** management section. The number and degree of coverage of controls shall be commensurate with the level of anticipated **risk**.

All **fire** prevention controls should be listed in the **COP** and must be aligned with the findings of the various **fire risk** assessments. To this end, the **COP** should include a register listing all **fire** prevention controls (in place or planned) including **risk** based monitoring criteria together with the reference **risk** assessment document to which they are linked.

Critical controls are actions or interventions whose integrity will ensure that the hazard will not cause harm and should be recognised as such in the controls register. Monitoring criteria for the effectiveness of critical controls should be employed. Regular monitoring and recording of the performance of defined critical controls should take place.

The following section provides broad parameters applicable to relevant **fire** prevention controls. The **COP** should provide the objectives of each major control under the headings provided below. To provide the necessary guidance, reference should be made to the support notes provided at the end of this guideline.

8.2.1 Design, construction and operation

The **COP** should ensure that the design, construction and operation of any process or system employed at any **mine** conforms to regulated standards and design codes in compliance with the **MHSA**. In addition, the design, construction and installation of any equipment and machinery in use at **mines** must comply with national standards, applicable design codes and section 21 of the **MHSA**.

Inherent with this, is the requirement that systems, processes and equipment shall be designed, constructed and installed, so as to prevent or avoid contribution to the occurrence of **fires** under normal operations.

Annexure 4 General Design Requirements Mobile Equipment and Annexure 5 General Design Requirements for Fuel Storage Areas, Fuel Transfer Equipment and Refuelling Bays provides principles against which design, construction and operational parameters may be assessed in relation to fire hazards for inclusion in the **COP**.

8.2.2 Mine infrastructure

The COP should identify fire hazards and record in the fire hazard register all infrastructure and installations that could pose a significant fire risk such as, but not limited to:

- a. Fuel storage and associated transfer equipment;
- b. Refuelling bays;
- c. Main substations and switchgear installations;
- d. Underground hoisting stations;
- e. Workshops;
- f. Densely timbered areas in intake airways;
- g. Diesel fuel lines in main shafts and declines – where these are used for transport;
- h. Any fire hazardous areas as classifiable by SANS 10108: Fire hazardous area classification;
- i. High density surface storage area, e.g. fire hazardous material and combustible liquid storage areas, timber yards, fuel storage tanks, liquid oxygen tanks, ammonia refrigeration plants, etc; and
- j. Waste disposal containers.

To minimise fire risk at critical installations and infrastructures, the following requirements should be considered at the design stage:

- a. The installation of infrastructure that could pose a heightened high fire risk should only be undertaken following a formal assessment and consideration of the controls necessary to minimise risk; and
- b. Wherever possible, such high risk infrastructures should be located in the return airways or near these, to facilitate exhausting of smoke and gases directly to return in the event of a fire and/or be equipped with suitably designed fire doors that would shut-off in the event of a fire thereby limiting or reducing smoke contamination of fresh air streams.

8.2.3 Fixed plants

The COP should address the following list of fixed plant components that should be assessed as part of fire hazard identification audits. This list provides some guidance which is neither complete nor exhaustive:

- a. Air, gas or refrigerant compressors;
- b. Major electrical installations;
- c. Crushers (surface and underground);
- d. Mineral processing plants, inclusive of smelting and refinement processes;
- e. conveyor belt installation (underground and surface);
- f. Hoist rooms and winding plant installations(surface and underground);
- g. Pump stations;
- h. Raise borers;
- i. Shaft sinking equipment;
- j. Materials handling equipment; and
- k. Fire hazardous material and combustible liquid storage areas.

Annexure 3: Mine infrastructure and fixed plant provides examples of preventative controls that should be considered underground and on surface for fixed plant components as classified in **SANS 10108: Fire hazardous area classification**.

The location of fixed plant equipment in underground and confined spaces should consider the normal flow of fresh air so as to guide the type, size and location of any fire detection and fire-fighting equipment.

All fixed electrical and related equipment such as sub-stations, switch-rooms and main distribution boards should be in accordance with applicable **SANS** standards (such as, but not limited to, **SANS 60076 (2011): Power transformers**, **SANS 1029 (2008): Mini substations**, **SANS 62135 (2013): Resistance welding equipment** and **SANS 10280 (2013) - Overhead power lines for conditions prevailing in South Africa** and:

- a. Be designed constructed and installed in accordance with the manufacturer's standard;
- b. Be equipped with at least over-current, earth leakage and short circuit protection;
- c. Be designed and constructed so that oil leaking from transformers and switchgear installations is contained; and
- d. Consider the use of "dry", "inert gas" or emulsified (low flammability) coolant options for transformer and switchgear equipment.

Fire prevention measures and protection equipment considered for these installations shall be designed to address adequately and reasonably the level of fire risk.

Where flammable oil is used, fixed electrical equipment should:

- a. Be provided with automatic fire suppression systems;
- b. Be located so that the air current that flows over them passes direct to return; and
- c. Have aggregate bund walls capable of containing the total oil volume with a plus 10% excess to capture any oil spillage.

The COP shall include details of any fire detection systems installed following the respective fire risk assessment action plan as well as of any fire-fighting equipment provided as a further protective measure. This specialised equipment should be designed, installed and maintained in association with competent fire engineering experts.

8.2.4 Workshops

The COP should reference the design and operation of workshops both on surface and underground. The following aspects should be included in workshop standards and operating procedures:

- a. Workshops should contain a minimum storage of combustible liquids (oils, lubricants, fuel, etc.). Storage quantities shall not exceed consumption for one week's work;
- b. Any combustible liquids should be stored in segregated locations; and
- c. Appropriate signs as per SANS1186-1 (2011): Symbolic safety signs - Part 1: standard signs and general requirement, and notification should be installed at all entrances to workshops indicating:
 - Type and volume of combustible liquids stored;
 - No smoking or naked lights near flammables;
 - Hot work in designated areas only;
 - Housekeeping requirements; and
 - Emergency procedure in case of fire.
- d. The maximum mass of combustible materials stored or in use in a workshop in different subdivisions shall not exceed one week consumption (e.g. fuel, lubricants, grease, rubber or poly-urethane filled tyres, paints, welding gas

cylinders, etc.). This information should be used to determine the appropriate type and quantity of fire-fighting equipment as well as the location of any fire detection sensors.

- e. The design of the ventilation system serving workshops must follow a risk-based approach that caters for:
 - Position of machinery, equipment, temporarily stored material (consumables) vehicles being serviced at any one time (e.g. diesel emissions, hydrogen liberated during battery charging, etc.) and the workshop volume taken-up by these under normal and exceptional circumstances. These will all affect air-flow patterns in the workshop, response of any smoke sensing equipment and effectiveness of any fixed fire suppression equipment;
 - Positioning of the workshop in relation to intake and return airways. This is important to determine the strategy to be adopted in the event of a fire and the type of fire detection and fire-fighting tactic; and
 - Contingency arrangements may be required in the event of power failures.
- f. Where part of a workshop is earmarked for **hot work** (welding, grinding, cutting or heating or burning using oxy-acetylene or electric welding), separate locations (cutting bays or welding bays or grinding bays) should be provided and supplied with adequate flow of fresh air to dilute any smoke or fumes generated by such work. Standard operating procedures should reflect a blanket permission to allow **hot work** whenever this is performed in these locations.
- g. **Hot work** permit systems must be implemented for **hot work** in any other area of the mine.
- h. Chemicals in stores that can generate heat or release fumes should be appropriately separated from workshops working areas.
- i. Sealed waste oil disposal system and suitable containers for the disposal of other flammable waste should be used to minimise spillage.
- j. Space heaters should not be used in workshops unless they have a surface temperature less than 300°C and are kept clear of rags, paper and other flammable material.
- k. Welding gases such as acetylene and oxygen should be stored and used in accordance with OEM requirements.
- l. Workshops should be provided with adequate spillage containment facilities (e.g. water hose, absorbent material) to contain or clean-up any fuel spills quickly and effectively.

- m. Any waste (e.g. soiled absorbent material) should be placed immediately in clearly marked receptacles and be kept well away from any potential ignition source these receptacles should be emptied at least weekly.
- n. Fire extinguishers and fire-fighting equipment should be installed as required.
- o. Suitable barriers or designated parking areas should be installed to provide for adequate separation of mobile equipment from flammable materials.
- p. The following **SANS** standards should be considered during workshop design: **SANS 10400(2009)**: National building regulations. **SANS 10263(2009)**: The warehousing of dangerous goods and **SANS 10232(2007)**: The transport of dangerous goods.

8.2.5 Mobile equipment

The **COP** should address the risk posed by the operation of self-propelled mobile equipment at a mine or in a confined environment (e.g. a surface coal bunker) as determined by a number of factors such as:

- a. The mass of flammable material on the vehicle. This may include, but is not limited to:
 - Fuel;
 - Hydraulic oil;
 - Tyres; and
 - The nature of the payload (more fuel, oil, timber, etc.).
- b. The routing (mobility) of the vehicles particularly in main intake airways - as a vehicle fire is likely to contaminate the air downstream of the event.
- c. Propensity of a vehicle fire to involve other parts of the mine (e.g. coal seam in coal mines, plastic piping in roadways, timber support in drives, etc.).
- d. The location of refuelling bays or places where (temporary) maintenance is done.
- e. The air quantity flowing past a potential fire site and sites through which is coursed downstream.

The general design of vehicles should conform to minimum **SANS 868**: Compression (ignitions engine system and machines powered by such engine system, for use in mines with explosive gas) and plants as applicable or manufacturer's specification. The routing of electrical (power) cables, fuel and hydraulic lines, particularly in engine bays, near brakes and pinch-points should be such that incidental damage

and contact with hot surfaces is avoided. Pipes and hoses should be manufactured from high quality; durable materials and the piping layout should consider abrasive action and allow for adequate mobility.

The integrity of the original manufacturer's design as accepted by the mine and in line with this COP, amongst others, should be maintained for the life of the equipment.

Annexure 4 General Design Requirements Mobile Equipment provides series technical solutions **risks** posed by the operation of self-propelled mobile equipment.

Annexure 6 Safe Use, Transport and Handling of Explosives provides examples of preventative controls that should be considered underground and on surface for the transport of explosives (Referencing to the explosive procedure in terms of MHSAs regulation 4.2(b)).

8.2.6 Managing fire potential

The COP must indicate measures to address the storage and use of such substances or materials that have a flash point below 60°C, including compressed gases such as acetylene and propane. The use and presence of flammable substances at a mine is inevitable and therefore the risk posed by these must be managed adequately. The relevant SDSs in accordance with SANS 10234 (2008): List of global harmonised classification and labelling of chemicals must be consulted to determine the type of any precautionary measures that require implementation.

8.2.6.1 General requirements

The COP should set out measures to minimise fire risk associated with the storage or use of flammable substances at the design or selection stage. The following should be considered:

- a. Wherever possible and reasonable, flame retardant materials should be used in preference to flammable materials;
- b. All combustible materials should be stored in dedicated, clearly-marked storage areas;
- c. The use and location of flammable substance storage areas should only be undertaken following a formal assessment and consideration of the controls necessary to minimise risk;
- d. Wherever possible and reasonable, flammable substance storage areas should be ventilated into the return airways or have suitable fire doors installed to limit smoke ingress into working areas and intake airways. Flammable substance storage equipment should be constructed of non-flammable materials;

- e. 'No Smoking' and 'No Naked Flame' signs should be displayed at all flammable materials storage locations;
- f. Flammable materials should not be stored on or near heat or ignition sources;
- g. The routing of electrical cable clusters, particularly high tension lines, should not be allowed within close proximity from flammable materials. Each application shall be considered on merits dictated by **risk** considerations, good practice and the use, where necessary, of adequate protective (shielding or separating) measures;
- h. Electrical switchboards should not be placed in flammable material stores;
- i. Wherever possible and reasonable, light fittings should be mounted clear of flammable materials;
- j. All electrical equipment should meet relevant electrical standards for design and installation and should be used as intended by the manufacturer;
- k. Where necessary and as indicated by an assessment of the **risk**, smoke alarms and earth leakage protection should be installed on electrical equipment that is left to operate unattended;
- l. The quantity of flammable materials stored in any location, should be kept to a minimum as per mine **risk** assessment;
- m. Flammable material storage equipment should be located away from high traffic or collision-prone areas or be otherwise protected against vehicle collisions;
- n. Wherever possible and reasonable, **hot work** should not be done in or near flammable materials, in the presence of flammable gases or other such fluids. A permit system for **hot work** (inclusive of adequate preventative and protective measures) should be in place for any such work outside workshops; and
- o. Wherever possible and reasonable, vehicle access to combustible stores should only be for the purpose of loading and unloading. Vehicles should not be parked in tyre stores.

8.2.6.2 Combustible substances

The COP should address measures for the storage and use of combustible substances or materials at mines that generally have a flash point below 60°C. This includes Class 3 flammable liquids.

Foams and resins may be particularly volatile in their component form (i.e. prior to mixing). Where foams are used they must comply with SANS 1867 (2003): Sprayed plastic foams for use in mines.

a. Flammable solids

The COP should address the following requirements related to the use and storage of flammable solid materials:

- i. Where the large-scale use of timber support is necessary, the COP should make reference to a programme to identify densely timbered areas, particularly in intake airways and storage areas. The choice of any specific mitigating measure such as, for example, impregnating timber with fire retardant chemicals or coating of exposed timber with inert (intumescent) material, should be risk-based and specified accordingly in operating procedures.
- ii. The COP should outline any special measures for the prevention of fires in waste storage facilities. These could include, but not limited to:
 - Adequate ventilation measures for some waste storage facilities;
 - Displaying 'No Smoking' signs in the waste storage facilities and near refuse containers;
 - The regular removal of waste materials from refuse containers and waste storage facilities at adequate intervals to prevent the accumulation or overflow of waste materials.

The use, transport and handling of explosives in mines may be considered to be an additional fire hazard. This COP should make reference to the relevant standards procedures and precautionary measures intended for the safe use, transport and handling of explosives used at a mine.

b. Flammable liquids

The COP should reflect the following requirements related to the use and storage of flammable liquids:

- i. All vessels containing flammable liquids should be provided with clear and easily understood labels and respective SDSs;
- ii. Only purpose-built containers, designed to prevent spillage, should be used to transport flammable liquids. Diesel fuel should only be transported in purpose-designed bowers or jerry-cans, adequately secured to the vehicle's loading tub;
- iii. Where large quantities of flammable fuels are stored, e.g. diesel fuel storage tanks, oil cooled transformers, etc., and where justified by risk-based considerations, storage vessels should be enclosed in a containment area (bund wall) where any spillage following the rupture of the containment vessel. The containment area should be large enough to

accommodate 110% of the maximum flammable liquid volume in storage at any time. In addition, if this area should be filled with inert material such as gravel consideration must be taken into the volume of flammable liquid in the storage vessel. If any drainage system is used it must be fitted with a device that is normally closed; and

- iv. The vehicles used for the transport of flammable liquids should be appropriately designed for the task.

Annexure 5: General design requirements fuel storage areas, fuel transfer equipment and refuelling bays below includes reference to a number of items relating to fuel storage areas, fuel transfer equipment and refuelling bays for possible consideration in structuring standards supporting the management of fire risks associated with these.

Annexure 6: Safe use, transport and handling of explosives below provides suggestions that might be included in procedures for the safe transport handling and use of explosives. These are provided for possible reference and inclusion in operating procedures.

- c. Flammable gases

The management of risks associated with the natural occurrence of flammable gases in underground operations, i.e. resulting from mining operations, is not included in this COP. Reference should be made, however, to the respective COPs for the prevention of flammable gas explosions. This COP is to address the use of industrially manufactured flammable gases that may be used in various processes at a mine, mainly welding.

The COP should reflect the following requirements related to the use and storage of flammable gases used in "hot work":

- i. Flammable gas cylinders should be stored in a well-ventilated area;
- ii. Flammable gas cylinders should be transported and stored in accordance with the relevant manufacturer's specification;
- iii. Gas cylinders should be secured so that they cannot fall over. In particular, cylinders containing acetylene should always be stored in an upright position;
- iv. When transporting cylinders, they should not protrude over the vehicle's loading bed extremities;
- v. Flash-back arresters should be installed on all oxy-acetylene equipment;
- vi. The contents of flammable gas cylinders should not be decanted; and

- vii. Oxy-acetylene equipment should only be used in accordance with accepted operational standards and only in designated "hot work areas" or when approved through the use of a "hot work permit".

8.2.6.3 Operating and maintenance procedures

The COP should reflect the following:

- a. Operating procedures should be developed from the action plans drawn from the various **fire risk** assessments.
- b. Maintenance systems should be in place to ensure that all equipment, both mobile and fixed plant, is maintained properly and according to the manufacturers' recommendations and that any defects are recorded and promptly repaired.
- c. Oversight procedures are in place to ensure that:
 - ✓ Regular maintenance of equipment for the prevention of **fires**, used for **fire** detection and **fire-fighting** is essential in the implementation of the various protection measures;
 - ✓ All repair and maintenance activities for machinery, systems and equipment associated with **fire risks** and employed for **fire** prevention and protective measures should be carried out at specified intervals, by suitably qualified individuals and in accordance with original equipment manufacturer specification;.
 - ✓ Repair and maintenance activities must restore equipment to the intended design and operational functionality; and
 - ✓ Employees training programmes for **fire** prevention procedures and awareness should be aligned with requirements and findings of the various **fire risk** assessments to ensure adequate levels of proficiency and effectiveness and acceptable workmanship.

Annexure 7: Generic operational and maintenance procedures below provides suggestions that might be included in procedures for generic operational and maintenance procedures. These are provided for possible reference and inclusion in operating procedures.

8.3 Purchasing procedures

The COP should include the requirement that the mine's purchasing procedures be developed and implemented to ensure that any machinery, equipment or materials purchased for use at the mine comply with site standards. This procedure should:

- a. Require manufacturers or suppliers to provide evidence that **fire risks** associated with such machinery, equipment or materials have been considered and

addressed (refer Section 21 of the **MHSA**) and in compliance with applicable at least national standards:

- b. Require manufacturers or suppliers to make mine management aware of any residual **fire risk**, either patent or potential that might be associated with the use of such machinery, equipment or materials;
- c. Require manufacturers or suppliers of machinery to advise mine management of any **fire-fighting** equipment or additional **fire** protection requirements associated with the use of such machinery at a mine;
- d. Ensure that **SDS**'s are provided for any combustible or flammable materials supplied to the mine;
- e. Require that manufacturers or suppliers of machinery or equipment provide adequate information on the operational procedures and maintenance requirements, particularly relating to any specific **fire-detection** or **fire-fighting** equipment custom built into the machinery. Alternatively, requirements and specifications for such **fire-detection** or **fire-fighting** equipment that might have to be provided separately by a third party need to be communicated adequately;
- f. Require that manufacturers or suppliers of machinery or equipment provide adequate training and/or training material to ensure the proficiency of machinery or equipment operators; and
- g. Ensure that machinery and equipment specifications and maintenance and operational manuals are included in tender documents for any new contracts.

8.4 Inspections

The **COP** should reflect the requirements stated in Regulation 5.1 of the **MHSA**, in particular that:

“The employer must ensure that a competent person reports to the employer, at appropriate intervals determined in accordance with the mine’s **risk** assessment, on –

- (a) The effectiveness of the precautionary measures taken to prevent or suppress explosions of coal dust or flammable gas; and
- (b) The adequacy of measures in place to prevent, detect and combat the start and spread of mine **fires**.”

The **COP** should include the requirement that a series of inspections relating directly to **fire hazards** be performed as follows:

- a. **Fire hazard** audits: Intervals are to be stipulated in accordance with section 8.1.1 of this guideline;

- b. Regular inspections of working areas to monitor compliance with fire controls, including preventative procedures and fire protection equipment; and
- c. Inspections aimed at identifying either substandard acts or work practices (behaviour) and substandard conditions (fire hazards). There are usually two types of inspections:
 - Formal inspections of all workplaces that are undertaken on a regular (i.e. weekly or monthly) basis, depending on the level of risk (e.g. weekly explosives magazine inspections). Formal inspections generally involve the use of area-specific or task specific check-lists to record any defects; and
 - Informal inspections that are undertaken by employees, supervisors and managers on a daily basis.

Formal inspections must be recorded in adequately structured, fit-for-purpose reports. Any observed defects or deviations or irregularities are to be reported immediately verbally and then in writing to the legally appointed person – irrespective of the type or level of inspection being carried-out.

Annexure 8: Inspections provides guidance for consideration during inspections.

8.5 Awareness training for fire prevention

In all documents relating to training in elementary fire-fighting procedures, caution should be exercised so as to prevent employees from being exposed to danger during fire-fighting operations. It is recognised that the dousing of an incipient fire is an effective measure to limit the impact of any such incident. However, employees must be warned of the dangers of going beyond their level of knowledge and proficiency in using fire-fighting equipment.

The COP should set out measures to address awareness training under the following sub-headings:

8.5.1 General fire prevention awareness

Basic fire prevention awareness training should be provided as part of the mine induction.

Refresher training should then be conducted every 12 months as part of regular safety/tool-box meetings.

All personnel who work at the mine should have a basic understanding of fire prevention measures and be trained and assessed for competency in:

- a. Basic fire theory;
- b. Basic fire prevention methods;

- c. Understanding of fire potential risks;
- d. Use of the first response of basic fire-fighting equipment, including portable extinguishers, installed on-board vehicle fire suppression systems, etc;
- e. Behaviour of fire in enclosed environments, including the role played by ventilation systems;
- f. Emergency procedures, including use of self-rescuers, refuge chambers and emergency assembly points;
- g. Reporting procedures during fire emergencies; and
- h. Distinguishing and identifying audio and visual fire alarms where provided.

8.5.2 Mobile equipment operators training

In addition to the general fire awareness training, all operators of mobile equipment at the mine should be trained and assessed for competency, with the assistance of equipment manufacturers or suppliers where necessary, in the following preventative and precautionary measures:

- a. The basics of conducting proper inspections;
- b. Identification of overheating surfaces;
- c. Requirements for minimising engine and equipment temperatures through correct operating technique;
- d. Procedures to isolate on-board electrical power sources safely;
- e. Electrical fire hazards;
- f. Use of refuelling equipment and refuelling procedures;
- g. Fire prevention measures of tyre fires; and
- h. Response to any fire that may occur on a vehicle based on the equipment available.

8.5.3 Fixed plant operators training

All personnel who operate fixed plant at the mine should be trained and assessed for competency, with the assistance of equipment manufacturers or suppliers where necessary, in the following preventative and precautionary measures:

- a. Identification of overheating surfaces:

- b. Requirements of machinery or equipment electrical isolation also in accordance with regulatory provisions;
- c. Equipment operational condition monitoring (e.g. normal operating temperatures, pressures and response to changing conditions);
- d. Recognising mechanical and electrical **fire hazards**; and
- e. Where appropriate, safe emergency stopping of machinery using brakes in terms of regulatory provisions.

8.5.4 Mobile equipment maintenance awareness

All personnel involved in the maintenance of mobile equipment at the mine should be trained and assessed for competency, with the assistance of equipment manufacturers or suppliers where necessary, in the following preventative and precautionary measures:

- a. Use of the maintenance system check sheets;
- b. Equipment pre- and post- maintenance inspections;
- c. Equipment operational condition monitoring (e.g. normal operating temperatures, pressures and response to changing conditions);
- d. Inspecting and checking of "V" belts, rigid and flexible guards and hoses;
- e. Installation and replacement of hydraulic and pneumatic hoses for specific equipment; this should also include the correct use of hose crimping, where required;
- f. Use of **hot work permits** and welding equipment, where required;
- g. Maintenance of **fire suppression systems**, where provided and necessary; and
- h. Importance of completing pre-use checklist items pertaining to **fire prevention measures**.

8.5.5 Electrical maintenance personnel

Personnel involved in the maintenance of electrical equipment or installations at the mine should be trained and assessed for competency with the assistance of equipment manufacturers or suppliers where necessary, in the following preventative and precautionary measures:

- a. Conducting thermal imaging and electrical tests;
- b. Hot work permits system requirements; and

- c. Live testing of equipment in line with procedures and legislated regulations.

All personnel who undertake such work should also be appointed electricians qualified to work on the type of equipment (e.g. low voltage, high voltage, instrumentation, etc.).

8.5.6 Fuel storage operational personnel

Personnel involved in the transport, storage or handling of fuel, combustible materials and explosives at the mine should be trained and assessed for competency in at least but not limited to the following:

- a. Transport and storage procedures relating to fuel, combustible materials or explosives;
- b. Use of specialised distribution or unloading equipment;
- c. Procedures for the refuelling of vehicles conveying these materials;
- d. Access procedures to combustible material stores or explosives magazines;
- e. Isolation of equipment prior to maintenance;
- f. Emergency procedures specific to fuel facilities, combustible materials or explosives storage area; and
- g. Personnel responsible for the receipt of bulk diesel, shall be specifically trained in the receipt of dangerous goods, and be "nominated" as the "qualified person", referred to in **SANS 10231(2010): Transport and dangerous goods**.

8.6 Fire protection and emergency response

The **COP** should reference broadly the mine's fire-protection and emergency response tactics for major fire hazards. In particular, this **COP** should describe the principles used in the selection of each tactic, the alignment of this with the respective fire risk assessment and any specialist input made in devising the protective measures and responses (e.g. fire engineering criteria to determine fire-fighting equipment specifications where deemed necessary, etc.).

Under this section, the **COP** should list and describe briefly the measures implemented for early detection of fires at different locations on the mine based list of fire hazard locations referenced in section 8.1.

Fire prevention measures as intended in this **COP** is a proactive endeavour aimed at eliminating the hazard of fire and should therefore be considered as the primary form of control. Fire protection is a secondary control aimed at reducing the consequences of a fire by limiting the severity and impact of a fire. Therefore, this guideline should be used in conjunction with the Guideline for emergency preparedness and response to

provide a comprehensive and coordinated approach in addressing the fire prevention measures and control of fires.

Note: Under no circumstances should fire braziers (mbaula), i.e. any fixed or portable solid fuel or gas fired equipment or appliance designed for heating and used outdoors, be used at the mines.

8.7 Effective means of monitoring and communicating the possible presence of a fire

The COP should set out measures to monitor and communicate the possible presence of fire. This system should include the following:

- 8.7.1 A brief description of the method(s) employed to detect the occurrence of a fire, presence of noxious gasses or flammable gasses underground;
- 8.7.2 A brief description of the approach used to position the sensors to monitor the air flow in the underground workings effectively for detecting the presence of a fire and facilitate its location in the mine;
- 8.7.3 A description of the channels of communication that are to be used after a fire has been detected, including communication with neighbouring mines where secondary outlets/escape routes are shared;
- 8.7.4 The process for monitoring of underground environmental conditions during a fire; and
- 8.7.5 A list of evacuation plans available in the control room that would include the following amongst others:
 - Location of various sensors;
 - Location of refuge bays (inclusive of telephone numbers); and
 - Identification of escape routes.

PART D: IMPLEMENTATION

1. IMPLEMENTATION PLAN

- 1.1. The employer must prepare an implementation plan for the **COP** that makes provision for issues such as organisational structures, responsibilities of functionaries, programmes and schedules for this **COP** that will enable proper implementation of the **COP**. (A summary of/and a reference to, a comprehensive implementation plan may be included).
- 1.2. The **COP** must specify the source of information pertaining to the **risk** assessment and action plans and where these are to be found at a mine. In addition, the person or persons responsible for drafting, authorising, following-up and safe keeping of these documents and information shall be identified in the **COP**.
- 1.3. Information may be graphically represented to facilitate easy interpretation of the data and to highlight trends for the purpose of **risk** assessment.

2. COMPLIANCE WITH THE COP

The employer must institute measures for monitoring and ensuring compliance with the **COP**.

3. ACCESS TO THE COP AND RELATED DOCUMENTS

- 3.1. The employer must ensure that a complete **COP** and related documents are kept readily available at the mine for examination by any affected person.
- 3.2. A registered trade union with members at the mine or where there is no such union, a health and safety representative on the mine, or if there is no health and safety representative, an employee representing the employees on the mine, must be provided with a copy of the **COP** on written request to the manager. A register must be kept of such persons or institutions with copies to facilitate updating of such copies.
- 3.3. The employer must ensure that all employees are fully conversant with those sections of the **COP** relevant to their respective areas of responsibility.

ANNEXURE 1:

Generic notes on fires

(For information purposes)

'FIRE TRIANGLE' (Oxygen, Heat, Fuel plus Chain Reaction) fires start when a flammable material or liquid, in combination with a sufficient quantity of an oxidizer such as oxygen gas or oxygen-rich air is exposed to a source of heat or ambient temperature above the flash point for the fuel/oxidizer mix, and is able to sustain a rate of rapid oxidation that produces a chain reaction.

"Four (4) stages of a fire" By most standards including IFSTA, there are 4 stages of a fire. These stages are incipient, growth, fully developed, and decay. The following is a brief overview of each stage.

Incipient – This first stage begins when heat, oxygen and a fuel source combine and have a chemical reaction resulting in fire. This is also known as "ignition" and is usually represented by a very small fire which often goes out on its own, before the following stages are reached. Recognising a fire at this stage provides the best chance at suppression or escape.

Growth – The growth stage is where the structures, fire load and oxygen are used as fuel for the fire. There are numerous factors affecting the growth stage including where the fire started, what combustibles are near it, ceiling height and the potential for "thermal layering". It is during this shortest of the 4 stages when a deadly "flashover" can occur; potentially trapping, injuring or killing fire-fighters.

Fully Developed – When the growth stage has reached its maximum and all combustible materials have been ignited, a fire is considered fully developed. This is the hottest phase of a fire and the most dangerous for anyone trapped within.

Decay – Usually the longest stage of a fire, the decay stage is characterised a significant decrease in oxygen or fuel, putting an end to the fire. Two common dangers during this stage are firstly – the existence of non-flaming combustibles, which can potentially start a new fire if not fully extinguished. Secondly, there is the danger of a back draft when oxygen is reintroduced to a volatile, confined space.

Flammable liquids are classified in terms of the latest version of SANS 10089-1:

- 1.1.1. Class 0: liquefied petroleum gases (LPG);
- 1.1.2. Class 1A/B: liquids with a closed-cup flash point below 23 °C;
- 1.1.3. Class 1C: liquids with a closed-cup flash point between 23 and 38 °C;
- 1.1.4. Class 2: liquids with a closed-cup flash point between 38 and 60.5 °C;
- 1.1.5. Class 3A: liquids with a closed-cup flash point between 60.5 and 93 °C; and
- 1.1.6. Class 3B: liquids with a closed-cup flash point of 93 °C or above.

Physical and chemical properties of fuel sources can impact the level of a fire risk. These properties include flammability, ignitability, combustibility (fire spread capacity or fire retardant effect), self-extinguishing properties, toxicity of paralysis products and other unique characteristics. Safety Data Sheets (SDSs) from suppliers in compliance with SANS 10234 (2008): Global harmonized system of classification and labelling of chemicals and system or process design specifications from designers should be consulted to identify and categorise fuel sources.

ANNEXURE 2:

Examples of fire hazards at mines

(For information purposes)

The following is a list of typical **fire hazards** that could be considered for addition in the COP's list of **fire hazards**. The list is intended as an aide-memoire and it is not exhaustive.

Underground

- a. Fixed mechanical equipment or plant using mechanical friction such as mono-winchies and associated winch rope systems, conveyor belt drives and pulleys.
- b. Fixed electrical equipment: electrical short circuits or over heating of oil-filled transformers or switch-gear; (particularly where these are located in main intake airway systems).
- c. Mobile equipment: fuel or oil leaks on hot exhaust manifolds or the surface of a turbocharger.
- d. Re-fuelling bays and battery charging bays.
- e. Underground workshop areas (storage of fuels, grease, oils, paint, tyres, hoses) in the presence of mobile equipment and also where extensive **hot work** is performed.
- f. Combustible and flammable liquid stores.
- g. Explosives storage areas.
- h. Locations where combustible or flammable dust or gases can accumulate.
- i. Flame cutting and welding operations, particularly near combustible material.
- j. Abandoned panels or work-places: spontaneous ignition of support timber or coal.

Surface

- a. Major transformer stations and electrical switchgear installations in or next to hoist rooms.
- b. Storage installations for fuel or other flammable chemicals.
- c. Overland conveyor belts.
- d. Coal stockpiles or spoil piles (induced fires or self-ignition).
- e. Explosives magazines.
- f. Smelter granulation or casting process areas.

- g. Ammonia refrigeration plants.
- h. Waste storage or disposal areas.
- i. Natural or agricultural areas near, plant/surface infrastructure, intake shafts or declines (plant material fires).

ANNEXURE 3:

Mine infrastructure and fixed plant

(For mandatory purposes)

The following notes are provided for general guidance and possible consideration for addition in the structuring of action plans or of associated preventative measures.

Fixed plant

- a. Electrical cables and electrical equipment should be located so that they cannot be damaged by impact from vehicle collision or blasting in accordance with **MHSA** regulation 3.22 and 3.23.
- b. Fixed electrical installations should be designed to minimize the need for maintenance personnel to work on live apparatus in accordance with **MHSA** regulation 3.13.
- c. Oil-cooled transformers' sites be built on a bonded floor, impervious to fuel and provided with drainage facilities for handling spillage of cooling oil.
- d. These sites should be adequately protected from incidental damage caused by vehicle movement in the vicinity. This implies that sites should be adequately selected in relation to vehicle traffic flow and that the erection of bollards or barriers should be considered.
- e. Reflectors should be attached to fixed electrical installations and cables to make them clearly visible to operators.
- f. Thermostats should be provided on electrical motors to stop the motor being governed automatically if pre-set temperature requirements are exceeded.
- g. A minimum of two fire extinguishers rated for the classification of fire for which it is to be used must be provided for substations and transformers. For sub stations one should be located on the inside of the sub and the other on the outside of the substation in an upwind position. Transformers should have a fire extinguisher on either side located as close as practical to the entry. Newly designed mines should make provision for underground substations with oil filled equipment should be ventilated to the return airway when a fire occurs and have automatic fire extinguishing equipment.
- h. Electrical protection against earth leakage and overload should be provided for all fixed mechanical equipment and electrical Trackless Mobile Machines. These installations should be designed in such a manner so as to prevent a temperature rise in the cables that could lead to a fire.
- i. Critical items of plant that are associated with potential fuel sources should have thermal monitoring installed.
- j. All materials used in the construction of fixed mechanical equipment should be flame retardant.

- k. As a reference, a number of **SABS** publications may be considered:
- i. **SANS 484-1** (2009): Conveyor belting – step splicing for multi-ply textile-reinforced rubber covered conveyor belting:
 - Part 1: Hot-splicing method
 - Part 2: Cold-splicing method"
 - ii. **SANS 486-2** (2009): Conveyor belting – finger splicing of solid woven construction conveyor belting;
 - iii. **SANS 340** (2006): Conveyor belts – laboratory scale flammability characteristics – requirement and test method;
 - iv. **SANS 968** (2013): Conveyor belting – textile reinforced solid woven carcass Ed 1 construction;
 - v. **SANS 971** (2013): Conveyor belting – methods of testing fire retardant properties of all conveyor belt construction; and
 - vi. **SANS 54** (2009): Rubber, vulcanized or thermoplastic – accelerated aging and heat resistance tests.
- l. **MHSA** regulation 8.9(3): The employer must take reasonably practicable measures to prevent persons from being exposed to flames, fumes or smoke arising from a conveyor belt installation catching **fire**, including instituting measures to prevent, detect and combat such **fires**.
- m. Conveyor belts should be provided with a slip monitoring system that should stop the belt if a slip of 5% or greater is detected.
- n. Consider the installation of automatic **fire suppression systems** on the drives, tail and transfer points of conveyor systems. This does not apply where **flame retardant** belt and drum frictional surface is used and regularly (based on **risk** assessment) maintained.
- o. Equipment should be designed to minimize the need for welding and **flame** cutting underground or in confined spaces.
- p. Hydraulic and lubrication systems should use steel piping wherever possible. Where hoses are used they should be.
- q. Belt drift switches should be provided to stop the belt if excessive drift is detected.
- r. Fluid couplings if used should not be source of ignition.
- s. Idler bearings should be sealed.
- t. Temperature monitoring devices and alarms should be installed, in readily identifiable locations, on main bearings of conveyor drives.

- u. Where possible, compressors should be located on the surface rather than underground.
- v. Compressors should be designed so that in the event of a compressor fire, the amount of smoke entering the main intake is minimized.
- w. Where compressors are operated underground, consider the following:
 - i. Thermal monitoring devices should be installed on the output of the compressor screws that alarm and stop the compressor in the event of a temperature or oil pressure overload or high discharge air temperature being detected; and
 - ii. Compressors should be installed so that the ventilating air flows over them directly to return.
- x. Flow switches should be provided to stop pumps in the event of low flow conditions.

ANNEXURE 4:

General design requirements: Mobile equipment

(For mandatory purposes)

The following is a series of technical solutions that might be considered for addition in the mine's action plans and/or as part of the COP. This includes but not limited to the following:

Vehicles

- a. An adequate number of **fire** extinguishers adequate for the classification of fire for which it is to be used must be provided for each vehicle.
- b. In addition to the above, large mining vehicles used for ore loading and transport should be provided with custom-designed on-board **fire** suppression equipment.
- c. Where a vehicle has to pass under a power line, the line should be raised to provide clearance in accordance with **MHSA** Regulation 3.29.
- d. In relation to the layout of equipment in engine bays, the following should be considered in relation to hydraulic hoses:
 - i. Hydraulic hoses should be **flame retardant** and meet the requirements of **SANS** Hydraulic hoses parts 10a and 10b and **SANS** 347 (2009): Categorization and conformity of all pressure equipment;
 - ii. Securely clamped away from hot surfaces;
 - iii. Located so that impact damage is minimized; and
 - iv. Provided with bulkhead fittings where they pass through bulkheads.
- e. Flammable fluid containers should be located such that any overflow should not contact a potentially hot surface.
- f. Secure filler caps should be provided that include tie straps.

Engine systems

- a. Consider the use of powering-down systems to stop engines safely in the event of an emergency.
- b. Engine control systems should be designed so that the fuel system would be shut-off automatically if a fault occurs that requires the engine to stop.
- c. Adequate protection must be provided where this equipment is operated in explosive gas dust atmospheres (**SANS** 868-1-1: Compression-ignition engine systems and machines powered by such engine systems, for use in mines and plants with explosive gas).

- d. The introduction of operational or automatic means for shutting-down engines when working pressures exceed recommended maximum values should be considered.
- e. Bulk heads should be fire-proof.
- f. Ideally all equipment surfaces onto which flammable liquids could spray should operate at temperatures less than the lowest flash-point of oil being used.
- g. Consider installing fire monitoring sensor at points where the temperature of the hottest part of a diesel engine exhaust system and retarders can be measured as per SANS 868-1-1 (2005): Compression-ignition engine systems and machines powered by such engine systems, for use at mines and plants with explosive gas atmospheres or explosive dust atmospheres or both Part 1-1: Fire hazardous locations in underground mines – basic explosion protected engines.”
 - i. Part 1-2: Fire hazardous locations in underground mines – explosion protected engine systems.
 - ii. Part 1-3: Fire hazardous locations in underground mines – machines.
 - iii. Part 3-1: Fire hazardous locations on surface – basic explosion – protected engines.
 - iv. Part 3-2: Fire hazardous locations on surface – explosion – protected engine systems.
 - v. Part 3-3: Fire hazardous locations on surface – machines.
 - vi. Part 4: Non-fire hazardous locations in underground coal mines.

Vehicle electrical systems

- a. Protection should be provided against short circuiting and over current.
- b. Electrical cables should be installed at safe distances from fuel lines.
- c. Electrical systems should be designed to prevent the occurrence of electrical sparks following a system malfunction or accident.
- d. Consider the use of electrical systems that derive power from diesel engine alternators or batteries designed to AS 4242: Earth-moving machinery and ancillary equipment for use in mines - electrical wiring systems at extra-low voltage standard. All other electrical systems should be designed to AS3000 Electrical Installations standard.
- e. Where jump-starting systems are used, they should be purpose-designed for all electrical start equipment and meet the requirements as specified by the mine's engineer.

- f. Where electrical cables and hoses are to pass through bulkheads, they should have rubber flame retardant connections (i.e. proper bulkhead connections) to which the cables and hoses are attached.
- g. Protection against over current in low voltage (a nominal voltage level that are used for the distribution of electricity, the upper limit of which is an AC voltage of 1000V or a DC voltage of 1 500 V) circuits should be considered, where practical, by using circuit breakers or encapsulated fuses.
- h. Consider protecting all circuits, except starter motors, against short circuit and over current.

Vehicle fuel and hydraulic systems

- a. Consider using steel lines for fuels, hydraulic and exposed lubrication systems.
- b. Where flexible hoses are used they should limit the spread of fires (SANS 10177-9: Fire testing of materials, components and elements used in buildings - Part 9: small-scale burning characteristics of flexible hoses).
- c. Vent outlets or overflow points should be directed away from hot surfaces.
- d. Hoses, oil, fuel and hydraulics lines, and fittings should be installed as per OEM specifications, i.e. positioning of clamps, routing and length of hoses, replacement fittings and components.
- e. Fuel or oil lines or hoses should be kept separate from electrical cables.
- f. Fuel or oil lines or hoses should be routed away from moving parts.
- g. Fuel, oil and hydraulic systems and associated distribution lines should be free of leakages and protected from hot surfaces.
- h. The flash points of liquids used by mobile equipment should be below the maximum ambient temperature likely to be experienced.
- i. Hoses should be routed so that in the event of a burst or leaking hose, flammable liquid cannot come into contact with hot surfaces. Where routing away from hot surfaces is not possible, all hoses should be securely clamped and shielded so that in the event of a burst or leaking hose, flammable liquid cannot come into contact with a hot surface.
- j. Hoses to be:
 - Securely clamped away from hot surfaces;
 - Located so that impact damage is minimized; and
 - Provided with bulkhead fittings where they pass through bulkheads.
- k. Consider providing dry break filling connections where fuel tanks on vehicles are replenished in production areas or for vehicles that transport explosives.

- i. Containers for combustible fluids should be located so that any overflow cannot come into contact with hot surfaces. Where they are not provided with a dry break filler they should be provided with secured filler caps that are permanently connected to the container.

Tyres and power transmission

- a. Tyres should be selected to suit their intended application in accordance with the OEM design and specifications.
- b. Consider fitting **flame retardant** "V" belts on mobile equipment.

Other mobile equipment requirements

- a. Vehicle brake systems for mining equipment other than light vehicles (utility vehicles, small SUV small personnel carriers, etc.) should be equipped with enclosed brake systems; or, where open discs are installed, residual pressure monitoring, brake drag or temperature monitoring and **flame retardant** brake hoses should be considered.
- b. Ideally, all equipment functions, including the retarder function should be monitored.
- c. A system that monitors engine oil pressure and stops the engine if pre-determined values are not maintained could be considered.
- d. Turbocharger lubrication lines should be made of steel. Flexible connections may be used provided they are **fire retardant** and located away from hot surfaces (**SANS 868 -1-2**).
- e. The operators cab should be provided with a **fire-wall** to inhibit the passage of fire into the cab.
- f. Covers on engine compartments should be **flame retardant**.
- g. Vehicles transporting dangerous goods (define) should comply with **SANS** tanker standard.
- h. Vehicles transporting combustible liquids should comply with **SANS** tanker standard.
- i. Explosives should only be transported in separate enclosed compartments that meet the requirements of SAP Standard (Part 1: Explosives - storage and transport).
- j. Further information regarding **fire prevention** measures for mobile equipment can be found in the TMM and Rail Bound guidelines.

The COP should set measures for the operation of all classes of mobile equipment. These procedures should include provisions for the following:

- a. Testing of brake functionality by the operator.
- b. Correct brake use by the operator.

- c. Safe parking of the vehicle when a brake fault is detected.
- d. A vehicle with a flat tyre to be parked in the nearest safe and accessible place.
- e. Safe parking of equipment when "V" belt fault detected.
- f. Safe parking of equipment when tyre overheating or tyre fire is suspected.
- g. The correct operation of retarder and equipment braking systems.
- h. The provision of self-contained self-rescuers.
- i. Housekeeping standards for operator cabs.
- j. Checking equipment before use for the presence of oil or fuel leaks, combustible materials (e.g. rags, paper) and tyre condition.

ANNEXURE 5:

General design requirements: Fuel storage areas, fuel transfer equipment and refuelling bays

(For information purposes)

The following is a series of technical solutions that might be considered for addition in the mine's action plans and/or as part of the **COP**. The inclusion of these suggestions in the **COP** is not mandatory. These suggestions are not intended to be complete or exhaustive:

- a. Electrical control systems associated with fuel transfer and storage should comply with the above mentioned standard.
- b. High voltage reticulation should not pass through a fuel storage area: **SANS** standard such as but not limited to **SANS 10228**: Identification and classification of fire hazardous substances, **SANS 10229**: Transportation of dangerous goods, and **SANS 60079**: Electrical apparatus for explosive gas atmospheres for a safe distance.
- c. Diesel storage tanks (fixed or mobile) should comply with the above mentioned **SANS** standard as appropriate and should be regularly inspected and maintained to ensure continuing compliance.
- d. Where a mine uses a surface to underground fuel delivery pipe, it should be:
 - Custom-designed;
 - Where possible, installed in an accurately drilled and surveyed borehole;
 - Where installed in a working shaft or material decline, it should be protected from incidental damage through contact with vehicles or moving conveyances;
 - Contained in a free draining borehole; and - Subjected to inspection and non-destructive testing at regular intervals; and
 - Provided with a system preventing "runaway" flow of fuel into the mine.
- e. Containers such as "Jerry cans" used for transporting fuel should be secured to the load-carrying area away from any potential impact damage.
- f. The storage of flammable gas cylinders should be separated from oxygen cylinders by a distance of at least 3m or have steel plate barrier at least the height of the flammable gas cylinders next to the oxygen cylinders.
- g. Appropriate signage should be installed at all entrances to fuel storage areas indicating:
 - Type and volume of fuel stored;
 - Prohibition of unauthorized persons;

- Prohibition of smoking or naked lights;
 - Prohibition of any **hot work**;
 - Requiring the shutting down engines before refuelling; and
 - Emergency procedures in case of **fire**.
- h. All refuelling points should be separated from any connected supply points by the use of a physical barrier or adequate distances.
- i. Any fuel supply or permanent refuelling location should be capable of being effectively and safely isolated from the mine's ventilation system in the event of a **fire** or situated in a manner that smoke can be effectively directed into the return airway.
- j. Permanent storage, supply and refuelling stations should have an automatic fire detection and suppression system that complies with relevant parts of **MHSA** regulation 8.10.11.
- k. Automatic **fire suppression systems** should include a **fire** alarm or other system to alert mine personnel in case of **fire** and be capable of being manually activated at a safe distance from the refuelling bay. Relevant part of **MHSA** regulation 8.10.11.
- l. A minimum of two portable **fire** extinguishers with a suitable rating for the class of **fire** should be provided on the upstream side of all temporary fuelling areas.
- m. Permanent fuel storage locations should be built on a bonded floor, impervious to fuel and provided with drainage facilities for handling fuel spillage. **SANS**10089-3 (2010): The petroleum industry - Part 3: The installation, modification and decommissioning of underground storage tanks, pumps/dispensers and pipe work at service stations and consumer installations, could be used as reference.
- n. These sites should be adequately protected from incidental damage caused by vehicle movement in the vicinity. This implies that sites should be adequately selected in relation to vehicle traffic flow and that the erection of bollards or barriers should be considered.
- o. Where a fuel storage location is temporary, a **risk** assessment that deals with fuel spillage should be conducted and control measures as identified by the risk assessment is implemented.
- p. All equipment used to store, transfer or distribute fuel should meet all the relevant sections of **SABS** Standards, **SANS** 10089-3:2010 "The petroleum industry Part 3: The installation, modification and decommissioning of underground storage tanks, pumps/dispensers and pipe work at service stations and consumer installations.
- q. Storage tanks, pipe work and fuel transport vehicles entering refuelling bays should be earthed in accordance with **SANS** 10089-3 (2010): The petroleum industry - Part 3: The installation, modification and decommissioning of underground storage tanks.

pumps/dispensers and pipe work at service stations and consumer installations to dissipate static electrical charge.

- r. All fuel transfer systems should be constructed with non-flammable materials and brass or non-metallic components and automatically shut off to stop flow.
- s. Where practical, in underground applications, steel fire doors should be constructed to seal off the refuelling bay area to prevent smoke entering intake airways in the event of a fire.
- t. No vehicle should park in a refuelling bay except for the purposes of refuelling or unloading of fuel.
- u. Refuelling bays should be provided with adequate facilities (e.g. water hose, absorbent material) to quickly contain or clean-up any fuel spillage.
- v. Any waste (e.g. soiled absorbent material) should be placed immediately in clearly marked receptacles and well away from any potential ignition source. These receptacles should be emptied at least weekly.
- w. Electrical equipment, including lights, should meet the wiring requirements of SABS 10142: Wiring of premises – Part 1: Low voltage systems.

ANNEXURE 6:**Safe use, transport and handling of explosives***(For mandatory purposes)*

The following is a series of technical solutions that might be considered for addition in the mine's action plans and/or as part of the COP. This includes but not limited to the following:

Explosives storage containers

- a. Explosive storage containers should be located away from main travelling ways to minimize the potential impact of explosion due to fire (Regulation 4.2).
- b. A water hose and proper drainage should be installed to allow for hosing down of spilt product or combustible liquids (e.g. oil leaking from explosives vehicles).
- c. Appropriate signs should be installed on all explosive storage containers indicating:
 - No smoking, naked lights or equipment within 8 meters of explosives; and
 - The emergency procedure in case of fire.
- d. Formal housekeeping requirements should be implemented to ensure that no waste material is allowed to accumulate in the area where explosive storage containers are located.
- e. Operating procedures should be developed for the safe storage and transport of explosives to reduce the **risk** of fire involving explosives. These procedures should include provisions for the following:
 - Safe refuelling of vehicles carrying explosives (consideration should be given to removing explosives from the vehicle before refuelling);
 - Only purpose-designed and constructed explosives-carrying equipment entering magazines;
 - Access to explosive storage facilities including loading and unloading of vehicles carrying explosives, at the explosive storage facilities or elsewhere;
 - Vehicles carrying explosives being parked in designated areas that prevent uncontrolled access while left unattended;
 - Non-bulk explosives (e.g. detonators, primer plugs, boosters etc.) to be transported in;
 - Separate enclosed compartments that meet the requirements of the Explosive Act (Act 15 of 1973) (Part 1 Explosives -Storage and Transport); and

- All procedures relating to the storage and transport of explosives should meet the SAPS' Standard.

Prohibition requirements

Procedures should prohibit:

- a. Access to explosive storage facilities except by purposely designed vehicles and only for the purpose of loading and unloading:
 - The presence of ignition sources including mobile and satellite phones, smoking, cigarette lighters and matches on or around explosives carrying machines, or in or around explosive storage facilities, explosives carrying machines and service equipment;
 - Diesel engines running whilst loading or unloading in an explosive facilities;
 - The presence of flammable goods in operators' cabins of vehicles conveying explosives;
 - Explosives carrying vehicles into maintenance areas prior to their having been washed down;
 - **Hot work** on or around vehicles carrying explosives and detonator until these have been removed, washed down;
 - The transport or storage of diesel around or into an explosive storage facility;
 - The transport or storage of flammable gases around or in explosive storage facilities;
 - Vehicles parked at a safe distance from explosive or other combustible materials (e.g. empty cartons) when inside explosive storage facilities; and
 - Persons attempting to fight an explosives fire with portable extinguishers except to extinguish a small equipment or waste fire not involving explosives.

Other requirements

- a. In addition to training requirements provided for Mobile Equipment Operators, personnel who transport explosives or handle explosives inside explosive storage facilities should also be trained and assessed for competency in at least the following:
 - Procedures for transport and handling of explosives;
 - Explosive fire prevention measures and response;
 - Refuelling of explosives carrying vehicles;

- Access requirements for explosive storage facilities: and
 - Compliance with fuel unloading and refuelling procedures.
- b. The following supervisory activities are recommended:
- Checks for the presence of correct signage (e.g. “Flammable materials”, “No Smoking”, “Explosives” etc.);
 - Compliance with maintenance procedures;
 - Pre-handover inspection on machine cleanliness;
 - Checks for adequate fire protection (e.g. sufficient number and correct type of fire extinguishers);
 - Checks of emergency equipment such as refuge chambers and the status of escape ways;
 - Layout of the explosive storage facilities (segregation of the explosives, detonators and bulk explosives);
 - Safe parking of explosive-carrying equipment;
 - Cleaning of explosives carrying equipment prior to hand-over to maintenance; and
 - Specific emergency response procedures for explosive storage facilities or explosive-carrying equipment.

ANNEXURE 7:**Generic operational and maintenance procedures**

(For information purposes)

The following is a series of technical solutions that might be considered for addition in the mine's action plans and/or as part of the **COP**. This includes but not limited to the following:

Procedures that could be considered for inclusion in action plans or operating standards associated with this **COP** include:

- a. Good housekeeping practices in refuelling bays.
- b. The safe operation of fuel transfer systems.
- c. The refuelling of vehicles, equipment and fixed plant.
- d. Fuel transfer between storage systems.
- e. Replacement or changing of fuel cells or storage tanks.
- f. The installation, location and maintenance of signage.
- g. Management of data pertaining to vehicle and equipment maintenance.
- h. Performing planned maintenance inspections and servicing of fuel transport and filling equipment.
- i. Report on equipment condition and maintenance effectiveness and standards.

As part of the maintenance system, procedures should be implemented that incorporate the following to reduce **fire risk**:

- a. Daily equipment servicing should include the removal of excess flammable materials (e.g. oil, grease) from the equipment before it is operated.
- b. Maintenance work on equipment should include the removal of excess flammable materials (e.g. oil, grease) from the equipment before it is operated.
- c. Immediate stopping of any equipment that develops a condition where heat sources or fuel sources may lead to a fire. These should be rectified and repaired before further operation. This procedure should be included as part of the induction training program for engineering employees.
- d. Daily services should ensure that lubricant and coolant levels in mobile equipment and fixed plant are adequate.
- e. Any maintenance work undertaken involving the use of oxy-acetylene equipment should be undertaken in a designated "Hot work Areas" or subject to a "Hot work Permit";

- f. Injector lines should be changed out at intervals as per the mine standard or as per OEM specification. Injector pipes should not be re-used unless they have been subjected to and passed an NDT (full name) inspection. Where this cannot be guaranteed, new pipes should be used.
- g. A daily inspection of mobile equipment should include the following:
- A check for oil and fuel leaks;
 - A tyre inspection and pressure test;
 - Checking the integrity of the turbocharger and manifold guards. (Retrofit kits for older machines to minimize lines and hoses in hot zone where available); and
 - An inspection of wiring systems.
- h. Tests of temperature alarms should be conducted as per mine standard.
- i. Thermostats on electrical motors should be tested at least monthly.
- j. A 250-hour inspection of mobile equipment should include the following inspections:
- All sources of heat and all flammable materials;
 - "V" Belts (and adjustment, where required);
 - Park brake operation;
 - Battery compartments;
 - Lube lines and fittings; and
 - Fire suppression systems.
- k. Brakes should be dynamically tested at least as per OEM and mine standards, with visual inspection for excess wear on a regular basis.

Mobile equipment maintenance procedures (both rail bound and trackless transport machinery) should include:

- a. Monthly inspections of extra low voltage wiring to OEM requirements.
- b. Standard procedure for the lubrication of equipment.
- c. A procedure that requires maintenance personnel to remove excess lubricants and flammable materials following maintenance activities. This should be recorded as part of the maintenance report.

- d. Running-up all equipment to normal operating temperature (20min) inside the maintenance area before being returned back into service.
- e. Maintenance inspections should identify leaks on equipment, which shall not be operated until these are repaired satisfactorily.
- f. Inspection of hydraulic and fuel hoses for damage and wear at least every 250hrs. These should be replaced where required. Specific hose check sheets should be developed for each class of machine as part of this process. Unplanned changes in hose specification and routes should be avoided.
- g. Ensuring no overloading of tyres and correct tyre inflation pressure.
- h. Where Auto-fire **suppression systems** are specified, fire extinguishing media should comply to one of the following specifications:
 - **SANS 7202 (2012): Fire protection – Fire extinguishing media – Powder.**
 - **SANS 7203-1 (2013): Fire extinguishing media – Foam concentrate Part 1: Specification for low expansion foam concentrate for application to water immiscible liquids.**
 - **SANS 7203-2 (2013): Fire extinguishing media – Foam concentrate Part 2: Specification for medium and high expansion foam concentrate for top application to water immiscible liquids.**
 - **SANS 7203-3 (2013): Fire extinguishing media – Foam concentrate Part 3: Specification for low expansion foam concentrates for top application to water immiscible liquids.**
- i. Explosives-carrying equipment should not be allowed into maintenance areas until all explosives and detonators have been removed and washed down.

The **COP** should address the following relating to electrical equipment maintenance:

- a. Electrical equipment maintenance should be included in a formal maintenance plan or schedule.
- b. Only non-flammable sprays should be used during electrical maintenance.
- c. Only competent persons should do electrical maintenance work.
- d. Modifications to an electrical equipment or reticulation systems should only take place with the approval of an electrical engineer or a statutory appointed person (e.g. Electrical Supervisor).
- e. New installations should be tested to the requirements of OEM and checked for compliance with fire prevention controls (refer Section 2.3) prior to being commissioned

- f. Thermal imaging surveys of Higher Voltage cable joints and appliance should be conducted every 12 months.
- g. Electrical appliances in 'significant fire risk' locations (e.g. workshops, refuelling bays, etc.) should be inspected on monthly basis.
- h. The maintenance system should ensure continuing compliance with IP 55 Monthly inspection and testing of all electrical equipment associated with explosive storage facilities.

The following should be considered to be formal maintenance procedures, including regular inspections:

- a. Fuel storage systems.
- b. Fuel distribution systems.
- c. Fuel nozzles and connections.
- d. Spillage fuel containment systems (e.g. bunds, drains, sumps, etc.).

The following pre-use checks by equipment operators could include the following

- a. Integrity of wiring systems.
- b. Tyre condition and damage (including rocks jammed in treads).
- c. Presence of fuel or oil leaks.
- d. Excessive lubricant level.
- e. The presence of rags and flammable materials (e.g. paper).
- f. Condition of fire extinguisher and fire suppression system (e.g. charged or uncharged).
- g. For heat sources and flammable materials (e.g. no combustible material in contact with lights).
- h. That the outlets from the operator's cab are clear and useable.

The results of pre-use checks should be recorded (e.g. using a check-list) and any defects recorded by the operator. Any dangerous condition should be reported immediately to the supervisor and equipment use should be suspended until condition is rectified.

Completed pre-use check sheets should be provided to maintenance personnel and any defects recorded in the maintenance system.

All operators should be trained or instructed in pre-use checks at induction.

The following are suggested practices for “hot work” activities:

- a. “Hot work” is defined as the use of thermal cutting equipment, grinding equipment, arc welding equipment, heating devices, naked flames or mechanical friction devices. This must be performed in accordance with the Chief Inspector of Mines Directive.
- b. A mine should designate areas where hot work may be performed, such as a welding bay in a workshop. In these areas a general risk assessment should be conducted and all the identified controls applied.
- c. Hot work can be conducted in these areas without a permit only if the appropriate controls are implemented. Any hot work in other areas should be controlled through the hot work procedure and associated permit.
- d. A hot work permit system should be applied for any such activity in any part of a mine outside a designated hot work area. The system should be based upon a procedure that at least include but not limited to the following requirements.
- e. The work or procedure should be authorized by an appointed person:
 - The provision of adequate flash-back arrestors for Oxy/acetylene equipment.
 - Inspection of the equipment for potential fuel sources prior to work commencing (“pre-work” inspection) must be performed.
 - The removal of any flammable materials in the immediate vicinity of the hot work site before the commencement of any work.
 - The provision and availability of fire extinguishers or other fire-fighting equipment in the immediate vicinity of the hot work-site.
 - An adequate fresh air flow is present at the hot work site. Hot work shall stop in the event of any detectable weakening or stoppage of fresh air flow
 - Thermal blankets shall be provided to shield any exposed equipment where hot work is conducted particularly where this contains flammable constituents (focus on making available adequate means of extinguishing fire like water and water hoses).
 - The use of an observer or fire-watch, where required.
 - A thorough inspection of the equipment and work area after work has been completed (“Post-work” inspection).
 - All precautionary measures relating to the transport and storage of gas cylinders should be followed prior to and following the completion of hot work.
 - Use of the appropriate permit form or sheet and follow the standard procedure to record that the above checks have been undertaken.

The COP can include reference to the maintenance of cutting and welding equipment. The following can be considered:

- a. The period for the inspection of oxy-acetylene handsets, regulators and hoses should be specified.
- b. Inspections and tests periods of electrical welding transformers and leads should be specified.
- c. In addressing the maintenance procedures for **fire suppression systems**, the COP should cover the following:
 - The distribution piping of all automatic **fire suppression systems** should be flushed on a routine basis in line with sound maintenance practices;
 - Visual inspections to check fire suppression system lines, nozzle alignment and that debris caps are in place should be conducted on a routine basis in line with sound maintenance practices;
 - Full discharge tests (pressure test) should be conducted of mobile equipment or fixed plant automatic **fire suppression systems** regularly; and
 - Full discharge tests should be conducted of automatic **fire suppression systems** on remotely operated equipment from the remote operating unit regularly as per mine standard or OEM specification) every three months.
- f. **Fire** protection systems, including smoke or heat detectors, in 'high-risk' areas (e.g. magazines, refuelling bays, workshops, combustible stores etc.) should be inspected and tested every six months (alternatively as per mine standard or OEM specification.).
- g. Full discharge tests should be conducted of automatic **fire suppression systems** of fuel cells or fuel storage areas every six months and include a check that the operation of the equipment is inhibited following the test.
- h. The maintenance of **fire** protection equipment should be undertaken in accordance with relevant SANS.

ANNEXURE 8:**Inspections**

(For information purposes)

All inspections should include but should not be limited to the following to help reduce fire risk:

- a. Compliance with explosives transport and storage procedures.
- b. The presence of No smoking or No naked flame signs in designated areas.
- c. Checks for flammable materials on equipment or in engine bays.
- d. Use of the hot work procedure and compliance with hot work permit requirements.
- e. Compliance with site housekeeping standards.
- f. Correct vehicle or parking requirements (e.g. only in designated areas).
- g. Compliance with combustible storage standards (e.g. in workshops and fuel storage areas).
- h. Competencies should be provided through competency-based training delivered through the site's training system. This system should include the proper recording of all training and competency assessments.
- i. The level of (adequate) fire-fighting competencies required to help reduce fire risk should include:
 - All employees who work at the mine;
 - Operators of mobile equipment and fixed plant;
 - Employees involved in the transport or handling of explosives in magazines;
 - Employees maintaining mobile equipment and fixed plant; and
 - Electrical maintenance personnel.

ANNEXURE 9:

Additional references

SANS 543:

This standard specifies requirements for the construction and performance of fire hose reel systems with semi-rigid hoses for installation in buildings and other construction works, permanently connected to a water supply.

SANS 1128-1:

This part of **SANS 1128** covers the construction and performance requirements of underground and above-ground hydrant assemblies.

SANS 1128-2:

This standard covers fire hose delivery couplings to fit hose of nominal diameter 45 mm, 65 mm, 70 mm and 100 mm; suction couplings to fit hose of nominal diameter 80 mm, 90 mm, 100 mm, 115 mm, 125 mm, 140 mm, and 150 mm; connectors; and branch pipe and nozzle connections for delivery hose.

SANS 1151:

This standard specifies the characteristics of stored pressure, portable rechargeable fire extinguishers of the halogenated hydrocarbon type, of capacity not exceeding 12 kg and suitable for use on fires of classes A, B and C.

SANS 1322:

- a. This standard covers class I and class II portable, non-refillable fire extinguishers of the stored pressure type and having a capacity of not more than 1,5 kg for use with all classes of fire other than class D.
- b. This standard does not cover extinguishers having a high pressure liquefiable gas as the extinguishing medium.

SANS 1475-1:

- a. This part of **SANS 1475** covers the administrative and technical details and controls applicable to the acceptable reconditioning of any portable and wheeled (mobile) rechargeable fire extinguisher. Amdt 1
- b. It covers only those fire extinguishers that have been removed from service and have been presented for reconditioning.
- c. It does not cover new fire extinguishers or a reconditioned fire extinguisher presented for sale.

SANS 1475-2:

This part of **SANS 1475** specifies the procedures that apply to the effective reconditioning of fire hose reels and above-ground fire hydrants. It does not cover the replacement or installation of hose reels and above-ground hydrants.

SANS 1522:

- a. This standard covers the requirements for fire extinguishing powders for fires of class A, class B and class C.

- b. This standard does not cover the assessment of the performance of an extinguishing powder in a particular piece of equipment, other than the standard test extinguishers used in certain of the tests.

SANS 1567:

This standard specifies the characteristics of portable rechargeable fire extinguishers of the CO₂ type, of charge mass not exceeding 9 kg and suitable for use on class BC fires (see 3.5.3).

SANS 1825:

- a. This standard specifies minimum requirements for test stations for transportable gas cylinders of water capacity 0,5 L to 3 000 L, including CO₂ gas cylinders used in fire fighting applications.
- b. This standard excludes the testing of hand-held fire extinguishers with an operating pressure less than 2 000 kPa.
- c. This standard does not apply to gas cylinder test stations that carry out the replacement of cylinder valves, or screw-on type valve guards, and the straightening of bent foot rings or valve guards without the application of heat.

SANS 1910:

- a. This standard covers the principal requirements for the safety, reliability and performance of portable, stored pressure, refillable type fire extinguishers suitable for use on fires of classes A, B and C.
- b. This standard covers the requirements for water type, foam type and dry chemical powder type fire extinguishers.
- c. It does not cover the requirements for CO₂ fire extinguishers. For the requirements of this fire extinguisher, refer to **SANS 1567**.
- d. It does not cover Halon type extinguishers. (South Africa has agreed to abide by the Montreal Agreement on the use of CFC products. However, maintenance on this type of extinguisher is still carried out in terms of **SANS 1475-1**.)
- e. It does not cover the cartridge operated extinguisher.

SANS 10019:

- a. This standard covers the minimum requirements for the design, manufacture, use and maintenance of refillable and non-refillable pressure receptacles of water capacity 0,5 L to 3 000 L and cartridges of 0,5 L, and may include requirements over and above those contained within the cylinder design and manufacturing standards.
- b. In addition to industrial, medical and domestic type pressure receptacles, this standard also covers cylinders for self-contained underwater breathing apparatus (SCUBA) for recreational diving, self-contained surface breathing apparatus (SCBA), fire-fighting extinguishers and fixed fire-fighting extinguishing systems.
- c. The standard covers the design requirements for CO₂ and High Pressure Inert gas mixtures used in portable and fixed fire-fighting systems, but excludes the operational performance requirements of portable and fixed fire-fighting extinguishing systems (see **SANS 1572** and **SANS 1567**).
- d. It does not cover special pressure receptacles used in aircraft or air-brake reservoirs and SCUBA cylinders for professional use.

SANS 1015-1:

This part of **SANS 10105** gives the requirements for the selection, installation, inspection and use of portable and mobile fire extinguishers.

SANS 10105-2:

This part of **SANS 10105** covers the requirements for the installation and inspection of fire hose reels and above-ground hydrants.

SANS 10287:

- a) This standard establishes general principles for the design, installation and maintenance of automatic sprinkler installations for fire-fighting purposes in buildings and industrial plants;
- b) It covers the classification of fire hazards, the provision of water supplies, components to be used, the installation of automatic sprinkler systems, the testing of installations, maintenance, and the extension of existing systems; and
- c) With regard to buildings, it identifies construction details that are necessary for the satisfactory performance of sprinkler installations in terms of this standard.

SANS 10400-T:

This part of **SANS 10400** provides deemed-to-satisfy requirements for compliance with part T (fire protection) of the National Building Regulations.

SANS 10400-W:

This part of **SANS 10400** provides deemed-to-satisfy requirements for compliance with part W (fire installation) of the National Building Regulations.

SANS 7240 consists of the following parts, under the general title **Fire** detection and alarm systems:

- Part 1: General and definitions;
- Part 2: Control and indicating equipment;
- Part 4: Power supply equipment;
- Part 5: Point-type heat detectors;
- Part 6: Carbon monoxide fire detectors using electro-chemical cells;
- Part 7: Point-type smoke detectors using scattered light, transmitted light or ionization;
- Part 8: Carbon monoxide fire detectors using an electro-chemical cell in combination with
 - a heat sensor;
- Part 9: Test fires for fire detectors (Technical Specification);
- Part 10: Point-type flame detectors;
- Part 11: Manual call points;
- Part 12: Line type smoke detectors using a transmitted optical beam;
- Part 13: Compatibility assessment of system components; and
- Part 14: Guidelines for drafting codes of practice for design, installation and use of fire detection and fire alarm systems in and around buildings (Technical Report).

SANS 14113:

Gas welding equipment - rubber and plastic hoses assembled for compressed or liquefied gases up to a maximum design pressure of 450 bar.

SANS 9244:

Earth-moving machinery — Machine safety labels — General principles.

SANS 12100:

Safety of machinery — General principles for design — Risk assessment and risk reduction.

SANS 10087-1:

The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations – Part 1: Liquefied petroleum gas installations involving gas storage containers of individual water capacity not exceeding 500 L and a combined water capacity not exceeding 3 000 L per installation.

SANS 10119:

Reduction of explosion fire hazards presented by electrical equipment — Segregation, ventilation and pressurization.

SANS 10087-2 (SABS 087-2):

The handling, storage and distribution of liquefied petroleum gas in domestic, commercial, and industrial installations – Part 2: Installations in mobile units and small non-permanent buildings.

SANS 10087-3:

The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations – Part 3: Liquefied petroleum gas installations involving storage vessels of individual water capacity exceeding 500 L.

SANS 10087-4 (SABS 087-4):

The handling, storage and distribution of liquefied petroleum gas in domestic, commercial, and industrial installations – Part 4: Transportation of LPG in bulk by road.

SANS 10087-6:

The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations – Part 6: The application of liquefied petroleum and compressed natural gases as engine fuels for internal combustion engines.

SANS 10087-7:

The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial and industrial installations – Part 7: Storage and filling premises for refillable liquefied petroleum gas (LPG) containers of gas capacity not exceeding 9 kg and the storage of individual gas containers not exceeding 48 kg.

SANS 10087-10:

The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial and industrial installations – Part 10: Mobile filling stations for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9 kg.

SANS 10089-1:

The petroleum industry – Part 1: Storage and distribution of petroleum products in above-ground bulk installations.

SANS 10089-2:

The petroleum industry – Part 2: Electrical and other installations in the distribution and marketing sector.

SANS 10089-3 (SABS 089-3):

The petroleum industry – Part 3: The installation of underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations. Amdt 2 **SANS 10108**, the classification of fire hazardous locations and the selection of apparatus for use in such locations.

SANS 60079-0/IEC 60079-0:

Explosive atmospheres – Part 0: Requirements – General requirements.

SANS 60079-2/IEC 60079-2:

Explosive atmospheres – Part 2: Equipment protection by pressurized enclosures “p”.

SANS 60079-13/IEC 60079-13:

Electrical apparatus for explosive gas atmospheres – Part 13:
Construction and use of rooms or buildings protected by pressurization.

SANS 60079-16/IEC 60079-16:

Electrical apparatus for explosive gas atmospheres – Part 16: Artificial ventilation for the protection of analyser(s) houses.

SANS 1234:

This standard specifies requirements for six classes of fire-door and fire-shutter assemblies that are intended to close permanent openings in walls or partitions, to provide a fire resistance of at least 30 min in order to stop the spread of fire and to limit the spread of smoke.

SANS193:

This standard specifies requirements for fire dampers and test methods for the determination of the resistance of fire dampers to fires and to the passage of gases at high temperatures.

DEPARTMENT OF TRADE AND INDUSTRY

NO. R. 1200

30 SEPTEMBER 2016

NATIONAL REGULATOR FOR COMPULSORY SPECIFICATIONS ACT (ACT 5 OF 2008)

REGULATIONS RELATING TO THE PAYMENT OF LEVY AND FEES WITH REGARD TO COMPULSORY SPECIFICATIONS: AMENDMENTS

It is hereby made known under section 14(3) (b) of the National Regulator for Compulsory Specifications Act, (Act 5 of 2008), that the Minister of Trade and Industry, hereby with effect from date of publication, amends Schedule 2 of the Regulations published by Government Notice No. XXX of 24 July 2015 by the deletion of the existing tariffs for Automotive; Chemical, Mechanical and Materials; Electrotechnical; and Food & Associated Industries, and the substitution thereof with the tariffs as set out in this Schedule.



Dr. Rob Davies, (MP)
Minister of Trade and Industry

SCHEDULE**1(a) AUTOMOTIVE: LEVY TARIFFS**

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT
85222	M1 – Passenger Cars (VC8022)	1 Item	R 18.33
85233	M2 – Buses (VC8023)	1 Item	R 298.53
852333	M3 – Buses (VC8023)	1 Item	R 298.53
85200	N1 – Light Commercial Vehicles (VC8024)	1 Item	R 18.53
85211	N2/N3 – Heavy Commercial Vehicles (VC8025)	1 Item	R 269.48
85244	O1 – Trailer < 750 kg (VC8026)	1 Item	R 32.21
85255	O2 – Trailer 750 kg to 3 500 kg (VC8026)	1 Item	R 32.21
85266	O3 – Trailer 3 500 kg to 10 000 kg (VC8027)	1 Item	R 117.13
85267	O4 – Trailer > 10 000 kg (VC8027)	1 Item	R 117.13
85366	Agricultural Tractors (Slow Moving Vehicles) (VC8057)	1 Item	R 203.20
85277	M2 – Buses (Custom Built Bodies and Modifications / Conversions) (VC8023)	1 Item	R 298.53
852777	M3 – Buses (Custom Built Bodies and Modifications / Conversions) (VC8023)	1 Item	R 298.53
85377	M1 and N1 – Light Passenger and Commercial Vehicles (Custom Built Bodies and Modifications / Conversions) (VC8022 & VC8024)	1 Item	R 13.89
85388	N2 – Heavy Commercial Vehicles (Custom Built Bodies and Modifications / Conversions) (VC8025)	1 Item	R 27.77
85399	N3 – Heavy Commercial Vehicles (Custom Built Bodies and Modifications / Conversions) (VC8025)	1 Item	R 38.55
85400	L1 to L7 – Motorcycles (VC9098)	1 Item	R 54.87

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT	PRODUCT CERTIFICATION TYPE 5 TARIFF PER UNIT
8528	Replacement disc brake pad for categories M1 and N1 road vehicles (including minibuses) (VC8053)	Axle set	R 0.69	R 0.62
8534	Replacement disc brake pad for categories M2 (excluding minibuses), M3, N2, N3, O2, O3 and O4 road vehicles (VC8053)	Axle set	R 7.71	R 6.94
8530	Replacement roll-stock friction material for categories M, N and O road vehicles (including minibuses) (VC8053)	Per meter	R 0.57	R 0.51
8529	Replacement brake shoe friction material segment for categories M, N and O road vehicles, and minibuses (VC8053)	Per segment	R 0.21	R 0.19
8535	Replacement brake shoe friction material segment for categories M2 (excl. minibuses), M3, N2, N3, O2, O3 and O4 road vehicles (VC8053)	Per segment	R 0.63	R 0.57
8610	Replacement secondary lights for motor vehicles (VC8050)	1 Item	R 2.13	R 1.92
8611	Replacement headlights for motor vehicles (VC8049)	1 Item	R 3.25	R 2.92
8612	Replacement incandescent lamps for motor vehicles (VC8048)	1 Item	R 0.13	R 0.12
8615	Replacement halogen lamps for motor vehicles (VC8048)	1 Item	R 0.27	R 0.24
8613	Replacement safety glass (laminated) for use in road vehicles (VC8051)	1 Item	R 3.25	R 2.92
8614	Replacement safety glass (toughened) for use in motor vehicles (VC8051)	1 Item	R 2.13	R 1.92
3610	Hydraulic brake and clutch fluid (VC8013)	Per 100 l	R 7.81	R 7.03
3611	Ball type couplings and towing brackets for towing caravans and light trailers (VC8065)	1 Item	R 3.33	R 3.00
8210	Child restraining devices for use in motor vehicles (VC8033)	1 Item	R 11.36	R 10.22
8410	Elastomeric cups and seals for hydraulic brake systems - Loose (VC8080)	Per 100	R 8.47	R 7.62
8411	Elastomeric cups and seals for hydraulic brake systems - Kit form (VC8080)	Per kit	R 0.38	R 0.34
8510	Safety helmets for motor cyclists (VC8016)	1 Item	R 3.81	R 3.43
8230	New tyres - for passenger vehicles and their trailers (VC8056)	1 Item	R 0.27	R 0.24
8231	New tyres - for commercial vehicles and their trailers (VC8059)	1 Item	R 0.38	R 0.34

1(b) AUTOMOTIVE: FEES

COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT
Homologation: M1 - Passenger Cars	Model	R 41,460.00
Homologation: M2 - Buses	Model	R 41,460.00
Homologation: M3 - Buses	Model	R 41,460.00
Homologation: M1, N1 and L (Conversions/ Modifications)	Model	R 3,047.00
Homologation: M2, M3, N2 and N3 (Conversions/Modifications)	Model	R 5,701.00
Homologation: N1 - Light Commercial Vehicles	Model	R 41,460.00
Homologation: N2/N3 - Heavy Commercial Vehicles	Model	R 41,460.00
Homologation: O1 - Trailer < 750 kg	Model	R 3,047.00
Homologation: O2 - Trailer 750 kg to 3 500 kg	Model	R 5,703.00
Homologation: O3 -Trailer 3 500 kg to 10 000 kg	Model	R 5,703.00
Homologation: O4 -Trailer > 10 000 kg	Model	R 5,703.00
Homologation: Agricultural Tractors (Slow Moving Vehicles)	Model	R 8,292.00
Homologation: M2 - Buses (Custom Built Bodies)	Model	R 41,460.00
Homologation: M3 - Buses (Custom Built Bodies)	Model	R 41,460.00
Homologation: N1 - Light Commercial Vehicles (Custom Built Bodies)	Model	R 3,047.00
Homologation: N2 – Heavy Commercial Vehicles (Custom Built Bodies)	Model	R 5,703.00
Homologation: N3 – Heavy Commercial Vehicles (Custom Built Bodies)	Model	R 5,703.00
Homologation: L1 to L7 - Motorcycles	Model	R 3,986.00
Homologation: Motorcycle Helmets	Model	R 282.00
Homologation: Child Restraining Devices for use in Motor Vehicles	Model	R 992.00
Notification of New Vehicle Model Form Processing (Special Vehicles and where no Homologation fee is relevant) (NVM)	Model	R 785.00
Application for NVM amendments and reprints	Per reprint	R 77.00
Vehicle Identification Number Assignment Process (VIN)	Application	R 785.00
Component Letter of Authority Processing (LOA) - Non refundable	Application	R 883.00
Application for a Sales Permit - Non refundable	Application	R 2,800.00

2(a) CHEMICAL, MECHANICAL AND MATERIALS: LEVY TARIFFS

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT	PRODUCT CERTIFICATION TYPE 5 TARIFF PER UNIT
8290	Powered filtering devices incorporating a helmet or a hood (SANS 12941) (VC8072)	1 Item	R 124.21	R 111.79
82900	Power assisted filtering devices incorporating full-face masks, half masks or quarter masks (SANS12942) (VC8072)	1 Item	R 124.21	R 111.79
8281	Full-face masks (SANS 50136) (VC8072)	1 Item	R 11.88	R 10.69
8294	Self-contained open-circuit compressed air breathing apparatus (SANS 50137) (VC8072)	1 Item	R 171.46	R 154.31
8292	Fresh air hose breathing apparatus for use with full-face mask, half mask or mouthpiece assembly (SANS 50138) (VC8072)	1 Item	R 78.46	R 70.61
8291	Compressed air line breathing apparatus with demand valve for use with a full-face mask (SANS 54593-1) (VC8072)	1 Item	R 78.46	R 70.61
82912	Compressed air line breathing apparatus with demand valve for use with a half mask at positive pressure (SANS 54593-2) (VC8072)	1 Item	R 78.46	R 70.61
82920	Powered fresh air hose breathing apparatus incorporating a hood (SANS 50269) (VC8072)	1 Item	R 78.46	R 70.61
82910	Continuous flow compressed air line breathing apparatus (SANS 54594) (VC8072)	1 Item	R 78.46	R 70.61
8282	Half masks and quarter masks (SANS 50140) (VC8072)	1 Item	R 1.41	R 1.27
8284	Half masks without inhalation valves and with separable filters to protect against gases or gases and particles or particles only (SANS 51827) (VC8072)	1 Item	R 1.41	R 1.27
8280	Gas filters and combined filters (SANS 54387) (VC8072)	1 Item	R 0.38	R 0.34
82802	Filters for connection by means of breathing hoses to facepieces (SANS 275) (VC8072)	1 Item	R 0.38	R 0.34
8285	Particle filters (SANS 50143) (VC8072)	1 Item	R 0.29	R 0.26
8293	Self-contained closed-circuit breathing apparatus of the compressed oxygen or compressed oxygen-nitrogen type (SANS 50145) (VC8072)	1 Item	R 1,170.00	R 1,053.00
8283	Filtering half masks to protect against particles (SANS 50149) (VC8072)	1 Item	R 0.13	R 0.12
8295	Self-contained closed-circuit breathing apparatus for escape (SANS 53794) (VC8072)	1 Item	R 152.97	R 137.67
82951	Self-contained open-circuit compressed air breathing apparatus with full-face mask or mouthpiece assembly for escape (SANS 50402) (VC8032)	1 Item	R 235.32	R 211.79
82952	Filtering devices with hood for self-rescue from fire (SANS 50403) (VC8032)	1 Item	R 31.95	R 28.75
82953	Filter self-rescuers for protection against carbon monoxide (SANS 50404) (VC8032)	1 Item	R 15.97	R 14.37

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT	PRODUCT CERTIFICATION TYPE 5 TARIFF PER UNIT
82830	Valved filtering half masks to protect against gases or gases and particles (SANS 50405) (VC8032)	1 Item	R 7.65	R 6.88
82955	Compressed air escape apparatus with a hood (SANS 51146) (VC8032)	1 Item	R 200.21	R 180.19
4310	Swimming aids that are carried or worn on the body (SANS 53138-1) (VC8032)	1 Item	R 0.27	R 0.24
4312	Swim seats (SANS 53138-3) (VC8032)	1 Item	R 0.64	R 0.58
4314	Buoyancy aids (level 50) (SANS 12402-5) (VC8032)	1 Item	R 7.70	R 6.93
4315	Special purpose buoyancy aids (SANS 12402-6) (VC8032)	1 Item	R 7.70	R 6.93
4313	Lifejackets for inland/close to shore conditions (level 100) (SANS 12402-4) (VC8032)	1 Item	R 15.40	R 13.86
43131	Lifejackets for offshore conditions (level 150) (SANS 12402-3) (VC8032)	1 Item	R 15.40	R 13.86
43132	Lifejackets for extreme offshore conditions (level 275) (SANS 12402-2) (VC8032)	1 Item	R 15.40	R 13.86
43133	Lifejackets for seagoing ships (SANS 12402-1) (VC8032)	1 Item	R 15.40	R 13.86
43134	Special purpose lifejackets (SANS 12402-6) (VC8032)	1 Item	R 15.40	R 13.86
8310	.22-Rim firearms (VC8028)	1 Item	R 12.67	R 11.40
8311	Revolvers (VC8028)	1 Item	R 19.19	R 17.27
8312	Centre fire rifles and pistols (VC8028)	1 Item	R 19.19	R 17.27
8313	Double-barrel shotguns (VC8028)	1 Item	R 19.19	R 17.27
8314	Single-barrel shotguns (VC8028)	1 Item	R 16.33	R 14.70
8315	All types of replacement barrels (VC8028)	1 Item	R 12.67	R 11.40
8316	Modified rim- and centre fire rifles, revolvers and pistols (VC8028)	1 Item	R 24.93	R 22.44
8317	Modified double-barrel shotguns (VC8028)	1 Item	R 24.93	R 22.44
8318	Modified single-barrel shotguns (VC8028)	1 Item	R 23.03	R 20.73

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT	PRODUCT CERTIFICATION TYPE 5 TARIFF PER UNIT
4510	Disposable lighters (for cigarettes, cigars and pipes) (VC8076)	100 Lighters	R 3.37	R 3.03
4511	Refillable lighters (for cigarettes, cigars and pipes) (VC8076)	100 Lighters	R 3.37	R 3.03
8110	Coal-burning stoves and heaters (VC8034)	1 Item	R 159.90	R 143.91
8120	Non-pressure paraffin stoves and heaters (VC9089)	1 Item	R 2.92	R 2.63
8130	Pressurised paraffin fuelled appliances (VC9093)	1 Item	R 2.92	R 2.63
8700	Disinfectants & detergent-disinfectants (VC8054)	100 l / 100 kg	R 6.91	R 6.22
5310	Microbiological safety cabinets, classes I, II and III (VC8041)	1 Item	R 4,990.00	R 4,491.00
8400	Cement (VC9085)	1 t	R 0.21	R 0.19
4710	Preservative Treated Timber (VC9092)	1 m ³	R 1.25	R 1.12
4800	Small arms shooting ranges (VC9088)	1 Shooting Range	R 1,137.00	
4600	Safety Footwear (VC9002)	1 Pair	R 0.34	R 0.31
4400	Safety glass and other safety glazing material (VC9003)	m ²	R 0.22	R 0.20

2(b) CHEMICAL, MECHANICAL AND MATERIALS: FEES

COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT
Application fee for the approval of Respiratory Protective Devices (RPD's) - Non refundable	Per RPD type	R 1,275.00
Application fee for the approval of Personal Flotation Aids (PFD's) - Non refundable	Per PFD type	R 1,275.00
Application fee for the approval of Swimming Aids - Non refundable	Per swimming aid type	R 1,275.00
Application fee for the homologation of Lighters - Non refundable	Per lighter type	R 1,275.00
Application fee for a Letter of Authority (LOA) for Lighters - Non refundable	Per appliance type	R 1,163.00
Application fee for the homologation of non-pressure Paraffin Stoves and Heaters - Non refundable	Per appliance type	R 1,275.00
Application fee for the registration of Disinfectants and Detergent-disinfectants - Non refundable	Per formulation	R 1,275.00
Application fee for the homologation of Microbiological Safety Cabinets (MSC's) - Non refundable	Per MSC type	R 1,275.00
Application fee for a Letter of Authority (LOA) for Plastic Carrier Bags and Flat Bags - Non refundable	Per bag type	R 1,163.00
Application fee for the approval of Cement - Non refundable	Per cement type	R 1,275.00
Application fee for the approval of a manufacturing facility for the preservative treatment of Timber - Non refundable	Per facility	R 1,275.00
Application fee for an extension of registration, homologation or approval - Non refundable	Per type/ facility/ formulation	R 537.00
Application fee for a certificate of compliance for Small Arms Shooting Ranges - Non refundable	Per facility	R 5,490.00
Application fee for re-issue of a certificate of compliance for Small Arms Shooting Ranges - Non refundable	Per facility	R 257.00
Application fee for a Sales Permit - Non refundable	Per application	R 2,800.00
Application fee for the approval of Safety Footwear - Non refundable	Per type	R 1,275.00
Application fee for the approval of Safety Glass and other Safety Material - Non refundable	Per type	R 1,275.00
Application fee for the reissue/reprint of a Certificate	Application	R 77.00

3(a) ELECTROTECHNICAL: LEVY TARIFFS

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT	PRODUCT CERTIFICATION TYPE & TARIFF PER UNIT
7120	Portable television antennae (VC8055)	100 Items	R 8.64	R 7.78
7121	Audio equipment; e.g. hi-fi systems, radios, etc. (VC8055)	10 Items	R 6.22	R 5.60
7123	Audio equipment; e.g. hi-fi systems, radios, etc. - Energy Efficiency and Labelling (VC9008)	10 Items	R 11.87	R 10.68
7122	Visual equipment; e.g. TV's, VCR's, DVD players, etc. (VC8055)	1 Item	R 1.79	R 1.61
7124	Visual equipment; e.g. TV's, VCR's, DVD players, etc. - Energy Efficiency and Labelling (VC9008)	1 Item	R 1.27	R 1.14
7209	Lamp control gear (VC9087)	1 Item	R 0.56	R 0.50
7210	Luminaires and lighting appliances; e.g. fluorescent, fixed, portable, hand-held lamps, lighting chains, flood lights, Christmas tree lighting sets, etc. (VC9012)	10 Items	R 1.73	R 1.56
7211	Lamp holders (VC8011)	100 Items	R 3.43	R 3.09
7212	Starters for tubular fluorescent lamps (VC8039)	100 Items	R 1.73	R 1.56
7213	Incandescent lamps (globes) (VC8043)	100 Items	R 1.73	R 1.56
7214	Single capped fluorescent lamps (CFL) (VC9091)	10 Items	R 1.58	R 1.42
7510	Plugs (VC8008)	100 Items	R 1.73	R 1.56
7511	Socket outlets (VC8008)	10 Items	R 1.73	R 1.56
7512	Socket outlet adapters, including "Janus" couplers (VC8008)	100 Items	R 12.08	R 10.87
7513	Switches for fixed installations (VC8003)	100 Items	R 10.37	R 9.33
7514	Switches for appliances (VC8052)	100 Items	R 3.43	R 3.09
7517	Cord sets with plug and appliances coupler (VC8029)	100 Items	R 13.83	R 12.45
7518	Cord extension sets without switches (VC8029)	10 Items	R 2.60	R 2.34
7519	Cord extension sets with switches (VC8029)	10 Items	R 4.67	R 4.20
7520	Cord extension sets with switches and MCCB (VC8029)	10 Items	R 15.19	R 13.67
7521	Cord extension sets with switches and ELPU (VC8029)	10 Items	R 17.97	R 16.17
7610	Flexible cords (VC8006)	100 kg	R 5.18	R 4.66
7611	Cables MV - Medium Voltage (VC8077); and Cables LV - Low Voltage (VC8075)	100 kg	R 5.18	R 4.66
7710	Moulded case circuit breakers - single pole (VC8036)	10 Items	R 1.91	R 1.72
7711	Moulded case circuit breakers - double pole (VC8036)	10 Items	R 6.39	R 5.75
7712	Moulded case circuit breakers - triple pole (VC8036)	10 Items	R 8.99	R 8.09
7713	Moulded case circuit breakers - four pole (VC8036)	10 Items	R 10.71	R 9.64

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT	PRODUCT CERTIFICATION TYPE 5 TARIFF PER UNIT
7719	Transportable motor operated tools; e.g. table saw thickness planers, etc. (VC8055)	10 Items	R 12.60	R 11.34
7720	Hand-held electric power tools; e.g. lathes, saws, grinders, drills, electric gardening and agricultural equipment, etc. (VC8055)	10 Items	R 10.19	R 9.17
7721	Earth leakage protection unit - single phase (VC8035)	10 Items	R 14.87	R 13.38
7722	Earth leakage protection unit - multi phase (VC8035)	10 items	R 28.14	R 25.33
7810	Appliance couplers (VC8012)	100 Items	R 5.18	R 4.66
7811	Appliances - SMALL ; e.g. vacuum cleaners, heaters, electric irons, heated blankets, fans, hairdryers, kettles, motor-operated appliances, instantaneous water heaters, soldering irons, etc. (VC8055)	10 Items	R 1.73	R 1.56
7812	Information Technology (IT) equipment and business systems; e.g. computers, monitors, printers, copiers, fax machines, scanners, modems, routers, etc. (VC8055)	1 Item	R 5.13	R 4.62
7813	Appliances - LARGE ; e.g. freezers, refrigerators, dishwashers, washing machines, tumble dryers, airconditioning units, catering equipment, microwave ovens, stoves, etc. (VC8055)	1 Item	R 2.18	R 1.96
7817	Appliances - LARGE ; Only freezers, refrigerators, dishwashers, washing machines, tumble dryers, washer-dryer combinations, electric ovens and air conditioners - Energy Efficiency and Labelling (VC9008)	1 Item	R 2.60	R 2.34
7815	Hot water storage tanks for domestic use (VC9006)	1 Item	R 2.18	R 1.96
7816	Integral and close-coupled domestic solar water heaters (VC9004)	1 Item	R 6.01	R 5.41
7814	Information Technology (IT) components; e.g. power supplies, cell phone battery chargers, motherboards, etc. (VC8055)	100 Items	R 53.55	R 48.19

3(b) ELECTROTECHNICAL: FEES

COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT
Application for Letter of Authority (LOA) - Safety only - Non refundable	Application	R 1,840.00
Application for Letter of Authority (LOA) - Energy Efficiency only - Non refundable	Application	R 1,840.00
Application for Letter of Authority (LOA) - Both Safety and Energy Efficiency - Non refundable	Application	R 3,680.00
Application for Regulators Compliance Certificate (RCC) - Non refundable	Application	R 2,060.00
Registration Fee for RCC - Non refundable	Application	R 820.00
Application for a Sales Permit - Non refundable	Application	R 2,800.00

4(a) FOOD AND ASSOCIATED INDUSTRIES: LEVY TARIFFS

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT
5751+5752	Canned abalone (VC8014)	1 000 kg	R 897.00
5710	Canned crustaceans (VC8014)	1 000 kg	R 724.00
5711+5712	Canned fish and canned fish products (other than fish paste) (VC8014)	1 000 kg	R750.00 for 1st ten (10) units R313.00 for 11th to 60th unit R85.00 for 61st to 560th unit R56.20 for each subsequent unit
5714+5715	Canned marine molluscs (VC8014) (other than abalone)	1 000 kg	R 657.00
5716+5717	Canned meat and canned meat products (VC8019)	1 000 kg	R766.00 for 1st ten (10) units R222.00 for 11th to 60th unit R196.00 for 61st to 1 000th unit R94.00 for each subsequent unit
5719+5720	Fish paste (VC8014)	1 000 kg	R 155.00
5743+5744	Frozen cephalopods (VC8017)	1 000 kg	R700.00 for 1st ten (10) units R135.00 for each subsequent unit
5741+5742	Frozen crabs (VC8031)	1 000 kg	R 148.00
5721+5722	Frozen fish and frozen fish products (VC8017)	1 000 kg	R694.00 for 1st ten (10) units R158.00 for 11th to 60th unit R39.30 for 61st to 560th unit R24.40 for 561st to 2 560th unit R17.00 for each subsequent unit
5725	Frozen unpackaged (loose) fish and ungutted, boxed fish (VC8017)	1 000 kg	R414.00 for 1st ten (10) units R94.00 for 11th to 60th unit R22.30 for 61st to 560th unit R14.85 for 561st to 2 560th unit R10.15 for each subsequent unit

CODE	COMMODITY DESCRIPTION	UNIT	NEW TARIFF PER UNIT
5727+5728	Frozen marine molluscs and frozen marine mollusc products (VC8017) (other than mussels)	1 000 kg	R 671.00
5745+5746	Frozen mussels (VC8017)	1 000 kg	R631.00 for 1st twenty (20) units R246.00 for each subsequent unit
5739+5740	Frozen prawns, shrimps, langoustines and crabs (VC8031)	1 000 kg	R1 055.00 for 1st two (2) units R942.00 for 3rd to 12th unit R264.00 for each subsequent unit
5734+5749	Frozen whole rock lobster, cooked and uncooked (VC8020)	30 kg	R308.00 for 1st ten (10) units R13.50 for each subsequent unit
5730+5748	Frozen rock lobster tails, leg and breast meat (VC8020)	10 kg	R308.00 for 1st ten (10) units R13.50 for each subsequent unit
5736	Smoked snoek (VC 8021)	1 000 kg	R 222.00
5753	Live aquacultured abalone (VC9001)	1 000 kg	R 433.00

4(b) FOOD AND ASSOCIATED INDUSTRIES: FEES

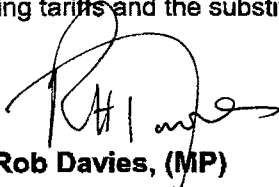
<u>PRODUCT</u>	<u>SPONSORS</u>	<u>NEW TARIFF</u>
Frozen Fish, Molluscs, Lobster, Prawns, Salted Fish, Frozen Abalone (VC8017, VC8020, VC8031) (Squid in Eastern Cape excluded)	<u>Levy payers</u>	Inspection – R295.00 Export documentation* – R210.00 Export documentation* when prepared by industry – R130.00
	<u>Agents</u>	Inspection – R1 155.00 Export documentation* – R210.00
Squid - Eastern Cape (VC8017)	<u>Agents</u>	Export documentation* – R968.00 (includes inspection cost)
Live Lobster & Live Molluscan Shellfish Live Abalone(VC9001), Oysters, Mussels	<u>Levy payers</u>	Export documentation* – R220.00
	<u>Agents</u>	Export documentation* – R658.00
Chilled Fish	<u>Agents</u>	Inspection – R655.00 per hour for normal hours R735.00 per hour for after hours Export documentation* – R210.00 R4.50 per km travelled
Canned Fish (VC8014) & Meat (VC8019)	<u>Levy payers</u>	Inspection – R295.00 Export documentation* – R210.00
Pre-importation Samples Label evaluation for imported products	<u>Importers</u>	Inspection – R520.00 Plus R40.00 per code / Label Report – R520.00
Additional administration fee for non compulsory related work	<u>Land based facilities</u>	Registration fee – R9 625.00 (Excluding accommodation and travelling costs) An annual fee for land based factories and factory freezer vessels (excluding factories packing squid and lobster only)
		Registration fee – R5 775.00 An annual fee for land based squid factories, rock lobster factories and molluscan shellfish factories
	<u>Freezer vessels</u>	Registration fee – R1 925.00
	<u>Squid vessels</u>	Registration fee – R1 065.00
Annual registration fee in terms of the VC per establishment	<u>Establishments</u>	Registration fee – R1 500.00
Application for a Sales Permit	<u>Levy payers</u>	1st Application – R665.00

**Issue of necessary export documents including health guarantees or other documents required by the importing country.*

<u>VESSEL INSPECTIONS (FOR EU VESSELS ONLY)</u>	
<u>DESCRIPTION OF VESSEL</u>	<u>NEW TARIFF</u>
Ski-boat (One-day vessel)	R 954.00
Ice Vessel (RSW & CSW)	R 1,215.00
Re-inspection (if necessary)	R 655.00

DEPARTMENT OF TRADE AND INDUSTRY**LEGAL METROLOGY ACT, 2014 (ACT 9 OF 2014)****REGULATIONS RELATING TO THE TARIFF OF FEES CHARGED FOR SERVICES RENDERED IN TERMS OF THE LEGAL METROLOGY ACT BY THE NATIONAL REGULATOR FOR COMPULSORY SPECIFICATIONS (NRCS): AMENDMENTS**

It is hereby made known under Section 13(1)(c) of the Legal Metrology Act, 2014 (Act 9 of 2014), that the Minister of Trade and Industry, hereby with effect from date of publication, amends Schedules A, B, C and D of the Regulations published by Government Notice No. XXX of 24 July 2015 by the deletion of the existing tariffs and the substitution thereof with the tariffs as set out in this Schedule.


Dr. Rob Davies, (MP)**Minister of Trade and Industry****SCHEDULE****PART A: CHARGES FOR VERIFICATION OF INSTRUMENTS**

CHARGE	DESCRIPTION	UNIT	NEW TARIFF PER UNIT
Hourly charge for verification of measuring instruments provided that charges for part of an hour shall be calculated on a pro rata basis subject to the prescribed minimum charges. These charges are subject to the additional charges in Part C, as applicable.	Inspector	Per hour or part thereof	R 402.00
	Assistant	Per hour or part thereof	R 121.00
	Prescribed minimum charges:		
	Mass measuring instruments	Minimum	R 202.00
	Length and area measuring instruments: All types	Minimum	R 107.00
	Simple volume measuring devices for the delivery of single quantities	Minimum	R 107.00
	Volume meters, lubricating oil dispensers, watermeters, gasmeters, volume measuring devices of all types not specified, and all liquid fuel dispensers	Minimum	R 202.00
	Masspieces and length and volumetric measures: All types	Minimum	R 107.00

PART B: CHARGES FOR TYPE APPROVAL OF MEASURING INSTRUMENTS

CHARGE	DESCRIPTION	UNIT	NEW TARIFF PER UNIT
Charges for type approval of measuring instruments, masspieces, length and volumetric measures. These charges are subject to the additional charges in Part C, as applicable.	Labour	Per hour or part thereof	R 402.00
In the case of an evaluation test conducted by a testing laboratory outside of the NRCS or where any charges are levied by such testing laboratory for services rendered during an evaluation test, the charge shall be in accordance with the charge levied by such testing laboratory.	Private testing or hire of laboratories or services		Actual cost to NRCS

PART C: GENERAL ADDITIONAL COSTS

In addition to the tariff of charges specified in A and B the NRCS shall be entitled to levy the following charges.

CHARGE	DESCRIPTION	UNIT	NEW TARIFF PER UNIT
Travelling time where measuring instruments are tested on site.	Inspector	Per hour or part thereof	R 269.00
	Assistant	Per hour or part thereof	R 121.00
	Driver/Operator	Per hour or part thereof	R 269.00
Subsistence costs for an inspector, assistant and driver/operator, where applicable.	Inspector, assistant and driver/operator		Actual cost to NRCS
Transport costs for an inspector, driver/operator and any assistant, where applicable.	Inspector, assistant and driver/operator		Actual cost to NRCS
Hire of casual labour to assist with the verification or type approval tests, if necessary.	Casual labour hire		Actual cost to NRCS
Where it is necessary for a rail vehicle scale test unit to be hauled by Transnet for the purpose of conducting a verification or a type approval test, charges shall be in accordance with the charges levied upon the NRCS by Transnet for the full period that the equipment is in the possession of the user or submitter of the instrument.	Haulage charges		Actual cost to NRCS

CHARGE	DESCRIPTION	UNIT	NEW TARIFF PER UNIT
Hire charge for the rail vehicle test unit (2 trucks) for the purpose of conducting a verification or a type approval test, subject to the prescribed maximum charges.	Hire charges	Per hour or part thereof per set	R 1,607.00
	Prescribed maximum hire charges	Per 24 hour period	R 12,833.00
Charges for delay of the rail vehicle scale test unit before or during a verification or type approval test at the request of the user or submitter for adjustments to the measuring instrument being tested, subject to the prescribed maximum charge. Saturdays and Sundays will not be included for the purpose of these charges.	Delay charges	Per hour or part thereof per set	R 1,607.00
	Prescribed maximum delay charges	Per 24 hour period	R 12,833.00
Transport charges where it is necessary for a NRCS road vehicle scale test unit to undertake a journey for the purpose of conducting a verification or a type approval test.	Transport charges	Per kilometer	R 22.50
Charges for the use of a NRCS road vehicle scale test unit for the purpose of conducting a verification or a type approval test, subject to the prescribed maximum charge.	Hire charges	Per hour or part thereof	R 810.00
	Prescribed maximum hire charges	Per 24 hour period	R 6,417.00
Delay charges where the road vehicle scale test unit is delayed before or during a verification or type approval test at the request of the owner or submitter for adjustments to the measuring instrument being tested, or is delayed owing to any other cause in connection with such test or intended test. Saturdays and Sundays will not be included for the purpose of these charges.	Delay charges	Per hour or part thereof	R 776.00
	Prescribed maximum delay charges	Per 24 hour period	R 6,417.00
Charges where it is necessary for the NRCS to hire equipment or contract specialised services in order to conduct verification or approval tests on a measuring instrument.	Charges for equipment hired or specialised services contracted by the NRCS.		Actual cost to NRCS

PART D: LEGAL METROLOGY: OTHER FEES

CHARGE	DESCRIPTION	UNIT	NEW TARIFF PER UNIT
	Application for Letter of Compliance (LOC) Non refundable	Application	R 1,643.00
	Application for LOC update Non refundable	Application	R 385.00
Verification officer Examination	Inspector	Per paper	R 540.00
Verification Officer Re-examination	Inspector	Per paper	R 281.00
Verification Officer practical evaluation	Inspector	Per hour or part thereof	R 402.00
Certificate of Authority	Verification Laboratories	Per annum	R 800.00

DEPARTMENT OF TRADE AND INDUSTRY

NO. R. 1201

30 SEPTEMBER 2016

**NATIONAL REGULATOR FOR COMPULSORY SPECIFICATIONS ACT
(Act No.5 of 2008), AS AMEND THROUGH THE LEGAL METROLOGY ACT
(Act No.9 of 2014)**

**COMPULSORY SPECIFICATION FOR ELECTRIC MOTOR- OPERATED
HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN
MACHINERY (VC 9105)**

I, Dr Rob Davies Minister of Trade and Industry, hereby under Section 13(1) of the National Regulator for Compulsory Specifications Act (Act 5 of 2008), declare the compulsory specification for electric motor-operated hand-held tools, transportable tools and lawn and garden machinery (VC 9105) as set out in the attached schedule, effective six (6) months after the publication of this notice.

A handwritten signature in black ink, appearing to read 'Rob Davies', with a large, stylized flourish above the name.

**Dr Rob Davies, MP
Minister of Trade and Industry**

SCHEDULE**COMPULSORY SPECIFICATION FOR ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY (VC 9105)****1. SCOPE**

This compulsory specification covers safety of electric motor-operated hand-held tools, transportable tools and lawn and garden machinery, with the following attributes:

- Maximum rated voltage not exceeding 250 V single phase a.c or d.c;
- Maximum rated voltage not exceeding 480 V three phase a.c; and
- Maximum rated input not exceeding 4000 W.

2. DEFINITIONS

2.1 For the purposes of this document, the definitions in SANS 62841, SANS 60745 and SANS 61029 series of standards apply.

2.2 In addition, the following definitions shall apply:

2.2.1 Applicant: The manufacturer or importer seeking approval *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery*. The applicant shall be an existing legal entity within the Republic of South Africa.

2.2.2 Proof of approval: A Letter of Authority (LoA) issued by the NRCS, which confirms that a particular *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery* type satisfies the requirements of this compulsory specification.

2.2.3 Declaration report: a report that is issued by an accredited conformity assessment body, indicating the equivalence of standards.

2.2.4 NRCS: The National Regulator for Compulsory Specifications as established by the National Regulator for Compulsory Specifications Act, 2008 (Act No. 5 of 2008).

2.2.5 Valid test report: copy of an original test report issued less than **60** months before the date of submission to the NRCS for approval.

3. GENERAL REQUIREMENTS

- 3.1** The applicant shall ensure that each type of *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery* has been approved by the NRCS before offering it for sale, in accordance with the requirements of Annex A.
- 3.2** The applicant shall inform the NRCS of any change in design or materials affecting any mandatory requirement in terms of this compulsory specification. In the event of such change(s) the NRCS may, at its discretion, demand that the applicant submit a new application for approval.
- 3.3** The applicant shall, on request, provide the NRCS, within five (5) working days, with satisfactory proof of approval in respect of any type of *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery* included in the scope of this compulsory specification.
- 3.4** The applicant shall on request provide the NRCS, within five (5) working days, with satisfactory proof of conformity of production.
- 3.5** Failure to provide such proof shall constitute reasonable grounds for suspicion of non-compliance with the requirements of this compulsory specification.

4. SPECIFIC REQUIREMENTS

- 4.1** **Electric motor-operated hand-held tools** shall comply with the relevant requirements of SANS 60745-1/IEC 60745-1, *Hand-held motor-operated electric tools - safety, part 1: General requirements*, together with the appropriate part(s) of the SANS 607451/IEC 60745 series;

- 4.2** **Transportable motor-operated electric tools** shall comply with the relevant requirements of SANS 61029-1/IEC 61029-1, *safety of transportable motor-operated electric tools part 1: General requirements*, together with the appropriate part(s) of the SANS 61029/IEC 61029 series; and
- 4.3** **Lawn and Garden machinery** shall comply with the relevant requirement of SANS 60335-1/IEC 60335-1, *Household and similar appliances safety, part 1: General requirements*, together with the appropriate part(s) of the SANS 60335 series; **OR**
- 4.4** **Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery** shall comply with the relevant requirements of SANS 62841-1, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery-safety*, and together with appropriate part(s) of SANS 62841 standard series.

5. EQUIVALENCE OF STANDARDS

Standards issued by different standardization bodies such as ISO, EN, UL, AUS/NZ etc., will only be accepted if it is proven, in the form of a declaration report from an accredited conformity assessment body, that they are technically equivalent to the relevant South African National Standard. The applicant shall be responsible for obtaining such a declaration report. Proof of conformity with such a standard shall be accepted as conformity with the corresponding South African National Standard.

6. CONFORMITY TO REFERENCED STANDARDS

- 6.1** For the purposes of this compulsory specification, a new edition of a referenced standard shall become effective twelve (12) months from the date of publication as a South African National Standard.
- 6.2** New products, or products resubmitted for approval because of a change in design or materials, shall in all cases be evaluated against the requirements of the latest edition of any referenced standard.
- 6.3** When a new edition of a referenced standard is published, products originally approved in accordance with the previous edition of that standard may have their approval extended for up to five (5) years from the effective date of the new

standard, subject to the requirements of Annex A, unless declared otherwise by the Minister.

7. EVIDENCE OF CONFORMITY

The following forms of evidence shall be submitted to the NRCS as proof of conformity with the requirements of this compulsory specification:

- 7.1** A valid test report in format acceptable to the NRCS and issued by an accredited and internationally recognized body being a member of an IAF/ILAC/IECEE mutual recognition scheme in accordance with the NRCS's conformity assessment policy.
- 7.2** The test reports shall prove conformity with all the applicable mandatory requirements.
- 7.3** Evidence of conformity shall be traceable to the specific product.

ANNEX A

APPROVAL OF ELECTRIC MOTOR-OPERATED HAND-HELD TOOL, TRANSPORTABLE TOOL AND LAWN AND GARDEN MACHINERY

A.1 APPLICATION FOR APPROVAL

An application for approval of each type of *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery* intended for sale shall include:

- A.1.1 Details of the type of *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery* for which approval is sought and the standard(s) to which it is claimed to conform;
- A.1.2 Details of the manufacturing plant/s in which the *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery* type is produced;
- A.1.3 For new applications, valid test report, with all the requirements of this compulsory specification, issued less than **60 months** before the date of submission to the NRCS;
- A.1.4 On expiry of the approval, an application for an extension may be granted, provided that all the conditions of the previous approval were met. In this case, a valid test report, with all the requirements of this compulsory specification, shall be required;
- A.1.5 Identification markings and other information appearing on the product; and
- A.1.6 Any reasonable additional information in order to clarify the above that may be requested by the NRCS.

A.2 APPROVAL

- A.2.1 The NRCS shall assess the evidence of conformity supplied by the applicant and shall decide to grant approval or not, at its sole discretion.
- A.2.2 The NRCS shall assign a unique number to each approval.
- A.2.3 The NRCS shall issue a letter of authority certificate (LOA) for each successful application, to the applicant, when all the requirements have been met.
- A.2.4 The approval granted with respect to each type of *electric motor-operated hand-held tool, transportable tool and lawn and garden machinery* that is pursuant to this compulsory specification may be withdrawn at any time, after the manufacturer has been notified in writing, if the requirements have not been met or maintained.