



health

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GENERAL NOTICES

NOTICE 943 OF 2013

DEPARTMENT OF HEALTH

**NATIONAL NORMS AND STANDARDS RELATING TO ENVIRONMENTAL HEALTH IN TERMS OF
NATIONAL HEALTH ACT, 2003 (ACT NO 61 OF 2003)**

The Director-General of the National Department of Health intends to set norms and standards for environmental health, in terms of Chapter 3, Section 2(a)(ii) of the National Health Act, 2003 (Act 61 of 2003).

Interested and affected parties are invited to submit any substantiated comments or representations on the proposed Norms and Standards to the Director-General: Health, Private Bag X 828, Pretoria, 0001 (for the attention of the Director: Environmental Health), within one (1) month from the date of publication of this notice.

The norms and standards document is accessible from the Department of Health's website www.doh.gov.za (link: resource centre-legislation-documents for comments), or by Email: mutavr@health.gov.za, Tel: 012 395 8524/21.

DR A MOTSOLEDI, MP

MINISTER OF HEALTH

DATE: 19/08/2013

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Foreword by Minister of Health

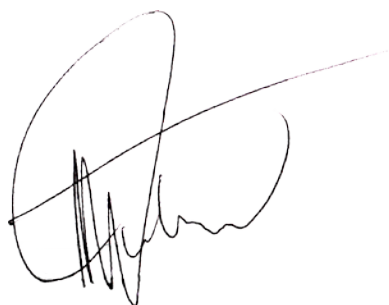
Government recognises the importance of prevention across all areas of health care, therefore whenever possible the burden of illness and disability must be averted by preventative interventions. Environmental Health is a fundamental public health approach affecting the whole population. Services provided by Environmental Health Practitioners are essential elements in building healthy populations; which includes amongst others, food safety; sanitation; water quality monitoring; health surveillance of premises; waste management, the protection of indoor and outdoor air quality, communicable diseases control and tobacco control.

The continued neglect on basic public health practices in general and of environmental health, has resulted in the emerging and re-emerging of diseases seen around the world. Environmental Health for us remains the first line of defense against diseases; therefore the provision of quality environmental health services is critical. It is for this reason that I have gazetted the Regulations that governs the Scope of Profession for Environmental Health and for these norms and standards to be developed.

Environmental Health Practitioners are health officers appointed in terms of the National Health Act, (Act 61 of 2003) and registered with as such in terms of the Health Professions Act (act 56 of 1974). EHPS are provided with powers to enter any premises, excluding a private dwelling to ensure compliance with the act. EHPS must enter any premises for the purpose of conducting inspections and or environmental health investigations, to ensure abatement of any condition that constitute a health hazard or nuisance. EHPs may further issue compliance notice to any person if a provision in Act has not been complied with.

These norms and standards have been developed with extensive input from the environmental health fraternity, which includes Environmental Health Practitioners at District and Metropolitan Municipality, Provincial Department's of Health, academic institutions and other government departments.

These norms and standards speak to everyone; they address Environmental Health Practitioners responsible for providing environmental health services, the private and public, as well as the community in general. They reflect the vision of South Africa's Environmental Health to ensure provision of quality services, as well as requirements to ensure the protection of human health. Continuous monitoring in accordance with these standards, as well as monitoring to ensure compliance with the standards will contribute towards the prevention of diseases as a result of environmental factors and the promotion of human health.

A handwritten signature in black ink, appearing to be 'A. Motsaedi', with a large, sweeping flourish extending to the right.

**DR A MOTSOLEDI, MP
MINISTER OF HEALTH**

Preamble by Director-General

The National Norms and Standards for Environmental Health is the outcome of a planning process prioritized by the National Department of Health to strengthen the provision of environmental health services in the country. The development process included extensive input from Environmental Health Practitioners at District and Metropolitan Municipality, Provincial Department's of Health, academic institutions and other government departments. These norms and standards are premised on the fact that government recognises the importance of prevention across all areas of health care. It is therefore essential to strengthen environmental health services as a critical programme of preventive and developmental primary healthcare services, required to make a significant contribution to the Millennium Development Goals (MDGs), particularly MDGs 4, 5, 6 and 7.

The National Norms and Standards for environmental health clearly outline what is expected, and required, to deliver quality environmental health services. They also outline what is required from business, communities and other government departments to ensure an environment that protects and promotes human health. A process of continuous monitoring is encouraged to ensure compliance by all.

These norms and standards are mainly based on existing South African policy and legislation, while also reflecting international best practice. The standards provides for a national approach and standardization of functions and activities in relation to environmental health by Environmental Health Practitioners.

Legislation identifies a range of government departments that have some responsibilities related to the environment and human health, therefore implementing these norms and standards effectively will also require collaboration with other government departments, such as the Departments of Environmental Affairs, Water Affairs, Basic Education, and Social Development amongst others, in order to operate within a framework of cooperative governance.



MS MP MATSOSO
DIRECTOR-GENERAL: HEALTH

ABBREVIATIONS AND ACRONYMS:

| | |
|--------------|--|
| CSIR | Council for Scientific and Industrial Research |
| DEA | Department of Environmental Affairs |
| DOH | Department of Health |
| DWA | Department of Water Affairs |
| EH | Environmental Health |
| EHP | Environmental Health Practitioner |
| HCRW | Health Care Risk Waste |
| MHS | Municipal Health Services |
| SABS | South African Bureau of Standards |
| SANS | South African National Standards |
| WHO | World Health Organisation |
| WSA | Water Services Authority |
| WSI | Water Safety institution/intermediaries |
| WSP | Water Safety Plan |
| WSPs | Water Services Providers |
| SODIS | Solar disinfection |

POLICY AND LEGISLATIVE FRAMEWORK

The Environmental Health norms and standards are developed within the below mentioned legislative framework:

The Constitution of South Africa, 1996 (Act 108 of 1996);
National Health Act 2003, (Act no 61 of 2003);
Scope of Profession for Environmental Health, R698 of 2009;
Water Services Act, 1997 (Act 108 of 1997);
Municipal Systems Act 2000, (Act no 32 of 2000);
Municipal Structures Act, 1998 (Act 117 of 1998);
Strategic Framework for Water Services, 2003;
Hazardous Substances Act, 1973 (Act 5 of 1973) and Regulations;
National Environmental Management, Waste Act 2008 (Act 59 of 2008);
National Water Act, 1998 (Act 36 of 1998);
Environmental Conservation Act, (Act 73 of 1989);
Occupational Health and Safety Act, 1993 (Act 85 of 1993);
National Road Traffic Act, 1996, Act 93 of 1996;
Nuclear Energy Act, 1999 (Act 46 of 1999);
National Building Regulations and Building Standards Act 1977 (Act 103 of 1977);
National Environmental Management Act 1998, (Act 108 of 1998) as amended and Regulations;
National Environmental Management: Air Quality Act 39 of 2004;
The Child Care Act 1983, (Act 74 of 1983);
Older Persons Act 2006, (Act 13 of 2006);
Tobacco Products Control 1993, (Act 83 of 1993), as amended;
Foodstuffs, Cosmetics and Disinfectant Act 1972, (Act 54 of 1972);
Basel Convention
The International Health Regulations 2005

DEFINING TERMS

For the purpose of this document the following definitions apply:

“Norms”

A norm is defined as “the desired status” with regard to compliance and requirements.

A norm also means a “norm” as defined by the National Health Act, act 61 of 2003, which means “a statistical normative rate of provision or measurable target outcome over a specific time period”. This norm shall particularly refer to the norms and standards for health establishments.

“Standards”

A standards is a “mandatory legal requirements” or a recommendation that one is expected to follow to obtain the desired norm outcome. It is a statement of an expected level of quality delivery. They reflect the ideal performance level.

In this document, “*must*” shall indicate a mandatory requirement; “*should*” shall indicate that which is recommended on the strength of authoritative sources, but cannot be interpreted as mandatory.

1. Introduction

1.1 Policy context

One of the key strategic issues for the health sector 10 Point Plan is “improving the quality of health services”, and the Strategic Plan for the department 2011/15 reflects the need to strengthen the provision of environmental health services in the country. The shift of focus from prevention to a curative health system has impacted negatively on the health status of the country as people depended on the health system for their wellbeing rather than themselves. Government recognises the importance of prevention across all areas of health care, which are clearly indicated in the White Paper on the Transformation of Health Services, as well as the Primary Health Care alma-ata.

The Draft National Policy on Environmental Health Services reflects the Government’s intent as far as rendering Environmental Health Services is concerned. It is subject to the broader National Health Policy, as set out in the White Paper on the Transformation of Health Services in South Africa.

1.2 Legal context

The National Health Act, 61 of 2003 stipulates the broad role of national health to issue and promote adherence to norms and standards on health matters, including environmental conditions that constitute a health hazard. The act further stipulates and provides Environmental Health Practitioners with the powers to enter any premises, except for a private dwelling, at any reasonable time and inspect such premises, in order to ensure compliance with the act. Only a health officer registered as an Environmental Health Practitioner in terms of the Health Professions Act, 1974 (Act 56 of 1974) may conduct environmental health investigations, in terms of section 83 of the National Health Amendment Bill, 2011. The section states that if a health officer has reasonable grounds to believe that any condition exist which –

- a. Constitute a violation to the right contained in section 24(s) of the Constitution;
- b. Constitute pollution detrimental to health;
- c. Is likely to cause a health nuisance; or
- d. Constitutes a health nuisance, the officer must investigate such condition.

EHPs may further issue a compliance notice to any person if a provision in the National Health Act has not been complied with.

The Regulations defining the Scope of the Profession of Environmental Health outlines functions of Environmental Health Practitioners as the Nine Municipal Health functions. In terms of the National Health Act, Municipal Health Services are defined to include the following environmental health functions, which are provided by District and Metropolitan Municipalities:

1. Water quality monitoring;
2. Food control;
3. Waste management;
4. Health surveillance of premises;
5. Surveillance and prevention of communicable diseases, excluding immunizations;
6. Vector control;
7. Environmental pollution control;
8. Disposal of the dead; and
9. Chemical safety.

Provincial Environmental Health Services which are provided directly by the Provincial Departments of Health are:

- a. Malaria Control; and
- b. Control of Hazardous Substances.

The National Health Amendment Bill amended the general functions of the national department of health to include the facilitation and promotion of Port health service, which was assigned as a provincial health function in terms of the NHA 2003. This function will become a national competency, due to the fact that it

is an international service which is governed by the International Health Regulations, of which South Africa is a signatory. Therefore the service is best managed at national government level.

2. Purpose of the Norms and Standards

The norms and standards for environmental health will assist in setting a benchmark of quality against which delivery of environmental health services can be monitored.

The main purpose of the norms and standards is to provide a national approach in ensuring standardization of functions and activities in the delivery of environmental health services and establish a level against which environmental health service delivery can be assessed and gaps identified.

This environmental health norms and standards will be aligned to the norms and standards for health establishments as published by the Office of the Health Standards Compliance.

3. Background and structure of the Norms and Standards

These National Norms and Standards reflect the South African policy context and are based to a large extent on existing legislation, policies, guidelines, protocols related to environmental health, including those for which custodianship lies with other government departments such as the Department of Environmental Affairs, Department of Water Affairs, Social Development and the South African Bureau of Standards, etc. The standards embody what Environmental Health Practitioners are expected to do in delivering functions as per the Scope of Profession, and as well as requirements for other sectors, such as business, public sector, private and public owned or occupied premises in order to comply with legislation for protection of public health.

The focus areas for these standards includes the Health Surveillance of Premises (which includes vector control, food safety, environmental pollution control, noise control, points of entries and disposal of the dead), Health related Water Quality Monitoring and Waste management. These particular standards do not cover chemical safety, hazardous substances and communicable diseases control, although these standards will be developed over time. The standards are structured in chapters/functional areas:

Chapter 1: Norms and standards for **health surveillance of premises**, which scope of applicability covers ‘premises’ as defined in the National Health Act 61 of 2003 and set out the requirements for each premises to ensure compliance with legislation and also set out standards for environmental health monitoring by EHPs.

Chapter 2: Norms and Standards for **Port health**, which covers requirements for points of entries, ships and aircrafts

Chapter 3: Norms and Standards for **health related water quality monitoring**, which covers specific services essential in monitoring the quality of water by Environmental Health Practitioners for various settings and situations, as well as specifications for the quality of water.

Chapter 4: Norms and standards for **waste management**, which covers requirements for hazardous and general waste and monitoring requirements for EHPs.

Each chapter includes an index which guides the sections within the chapter.

Chapter 5: Norms and standards for **hazardous substances and chemicals management**, whose scope of applicability covers the storage, labeling, packaging and disposal of chemicals and hazardous substances.

4. The use of the Norms and Standards

The over-riding goals of these norms and standards are to assist in improving the provision of environmental health services in the country by EHPs and promoting compliance to environmental health related legislation by all. The primary activity therefore is to ensure that these standards are disseminated to all EHPs, particularly functional EHPs based at District and Metropolitan Municipality, Points of Entries and Provincial Departments of Health, as well as to the general public, and that adherence to these standards becomes a norm.

5. Monitoring and enforcing compliance with standards

Municipalities, provinces and Points of Entries can conduct self assessments to provide a baseline on the quality of EHS provided to the general public, provinces can also assess the Municipalities delivery of services. However, to ensure compliance with the National Norms and Standards, the National Department of Health will conduct environmental health service delivery assessments to rate the quality of EH services provided and to ensure adherence to the prescribed standards. A gap analysis will be conducted to identify gaps, strengths and opportunities in the provinces. The monitoring and enforcement of the prescribed norms and standards by environmental health will also be done in collaboration with the office of the Health Standards Compliance for monitoring of prescribed environmental health standards in health establishments.

Chapter 1

HEALTH SURVEILLANCE OF PREMISES

STANDARD INDEX

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BACKGROUND

Health surveillance of premises is a Municipal Health Services Function, performed by Environmental Health Practitioners (EHPs) in a municipality; it involves the identification, monitoring and evaluation of health risks, nuisances and hazards on any premises and instituting remedial and preventative measures where necessary. The National Act 2003 (Act 61 of 2003) specifies that environmental health inspections and investigations be undertaken to ensure that corrective and preventative measures are implemented where a condition arises that poses or is likely to pose a hazard or risk to human health. This requires regular monitoring of all premises (private and public) to ensure compliance with applicable health requirements, and minimisation of any detrimental environmental health risk to give effect to the principles of Agenda 21 and the "Healthy Cities" approach.

The Scope of Profession of Environmental Health, as published under Regulation 698 of 26 June 2009 as amended, promulgated under the Health Professions Act, 1974 (Act 56 of 1974), determines the role of Environmental Health in health surveillance of premises, as follows:

- a) Conducting environmental health impact assessments of, amongst others housing projects;
- b) Assessing aspects such as ventilation and indoor air quality, lighting, moisture proofing, thermal quality, structural safety and floor space;
- c) Assessing overcrowded, dirty or other unsatisfactory health conditions on any residential, commercial, industrial or other occupied premises;
- d) Monitoring all buildings and all other permanent or temporary physical structures used for residential, public or institutional purposes (including health care and other care, detainment, work, recreational, travel, tourism, holidaying and camping) and the facilities in connection therewith and the immediate precincts;
- e) Ensuring urban and rural land use planning and practices that are conducive to sustainable development conducting sound environmental health impact and other assessments;
- f) Ensuring the prevention and abatement of any condition on any premises, which is likely to constitute and health hazard;
- g) Ensuring the health safety of public transport facilities such as buses, trains, taxis, boats and aero planes as well as all other facilities in connection therewith;
- h) Ensuring compliance with the principles of Local Agenda 21 and the Health Cities approach to integrated service rendering and the practical minimizing of any environmental health risk.

THE SCOPE OF APPLICABILITY OF THE NORMS AND STANDARDS

This set of norms and standards applies to the use of premises, including commercial, industrial and public or applicable private premises, which includes the following;

- Preschool Institutions/Child care centers/ Early childhood development centers (ECDC)
- Nursing homes
- Maternity homes
- Homes for the aged
- Schools
- Initiation schools
- Accommodation establishments
- Beauty salons
- Swimming pools and spa baths
- Dry cleaning and laundry establishments
- Clinic and other health and medical centers
- Hospitals
- Construction sites
- Funeral undertakers' premises and mortuaries
- Keeping of animals on premises
- Food handling premises
- Public gathering places
- Industries
- Prisons, police station holding cells

- Vacant land;
- Office accommodation;
- Any other premises as per the definition in terms of the National Health Act 61 of 2003.

NORMS AND STANDARDS APPLICABLE TO ALL PREMISES

The following norms and standards are applicable to all premises:

1. Building structure must be in compliance with the requirements of the *National Building Act, the National Building Regulations, 103 of 1977, and well as the SANS 10400: Application of the National Building Regulations*.
2. Health education should form an integral part of all environmental health compliance inspections.

Water Supply

- a) The quality of water supply must comply with the *SANS 241 for drinking water*, with regards to microbiological, chemical and physical quality.
- b) Potable running water must be continually available on all premises for drinking, preparing foodstuffs and to accommodate all uses in the day care center.
- c) Where the premises are not equipped with running water, a minimum of at least 10-25 liters per person per day must be kept and stored hygienically on the premises.

Sewage and drainage systems

- d) Drinking water must be adequately stored and protected against contamination.
- e) Suitable and effective means of drainage and sewage disposal must be provided on all premises, in compliance to the Part-P of the *National Building Regulations* and *SANS 10400*.
- f) Water must be stored at a temperature of at least 60^oc and distributed at 50^oc minimum, to prevent the risks of legionella.

Waste management

- a) Approved methods of waste collection, storage, transportation and disposal must be adopted.
- b) The collection, storage and disposal of general waste, must be managed in accordance with the requirements as specified in *Part U of the National Building Regulations and Section 2-5 of the Norms and Standards for Waste Management*;
- c) An approved refuse area must be provided on the premises for the storage of all refuse pending removal;
- d) Access to waste storage facility must be limited to employees who have been trained with respect to the operation of a waste facility;
- e) An adequate number of refuse bins must be provided for the storage of general waste on the premises.

Health care risk waste management

- a) The collection, storage and disposal of waste, including health care risk waste must be managed in accordance with the requirements as specified in the *SANS Code 10248 and Section 9-10 of the Norms and Standards for Waste Management* in this document.
- b) An adequate number of purpose-manufactured, leak-proof, sealable containers must be available for the storage of health care risk waste. Such containers to be designed as to not allow the exposure of needles, cuts and other substances that may cause harm to service users or staff members;
- c) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- d) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- e) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- f) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- g) Health care risk waste may only be removed/ collected, transported, treated and disposed by a registered service provider from the premises.

- h) Adequate and potable water available within 200m of the school premises.
- i) Adequate, basic and appropriate sanitation facilities available within 200m of the school premises.
- j) Approved methods of waste storage and disposal must be adopted to prevent offensive odours and attracting flies.
- k) A central refuse storage area must be provided on the premises for the storage of waste pending removal by the municipality waste removal services.
- l) Adequate number of refuse containers must be provided for the collection of waste in various areas on the premises. The containers should therefore be transferred to the central storage area.

SECTION 1: CHILD CARE CENTERS

For the purpose of this document, a child care centre shall refer to a facility that provides care for “children under the age of 6 years” who are not yet attending a formal school or equivalent. These shall include full time day care or half day care where more than 3 children are being care for between the ages of 0-6 years. Child care centers also include afterschool care services for school going children.

The following types of child care services are applicable:

Part time day care:

A part time day care center provides day care services for a maximum of only 5 hours per day and accommodates children of between the ages of 0-6 years.

Full time day care:

A full day care provides day care for more than 5 hours per day and accommodates children between the ages of 0-6 years.

Child minders/ Day mothers:

Child minders/day mothers provide child care services in their own homes for a full day. Not more than 6 children may be accommodated on the premises at a time (including the child minders own children).

Play groups:

Play groups provide child care services for half day only (not more than 5 hours per day). Only a maximum of only 20 children between the ages of 3-5 years may be accommodated.

Drop off centers service:

Drop off centers provides care for children for a period of not more than 2 hours while a parent or guardian is temporarily unavailable (mainly located at shopping centers and usually operate during weekends).

After care centers:

After care services are services provided for school going children and are mainly operational in the afternoon. Children at primary school level (grade R to grade 7) are mainly accommodated.

1. NORMS

- 1.1 The premises operated under a valid Health Certificate issued by an Environmental Health Practitioner of a relevant District or Metropolitan Municipality, to the effect that the premises and general facilities comply with environmental health requirements.
- 1.2 The premises promote a healthy and safe environment, free from environmental hazards and diseases and welfare of the children accommodated.
- 1.3 Staff members adequately qualified in child care, and knowledgeable in health and safety aspects relating to children.
- 1.4 Playground equipment in compliance to the *SANS 51176: 2010 for playground equipment and surfacing*.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 A Day care center must be inspected at least once every quarter (not less than 3 times in a year). The risk profile of the day care center should also inform the frequency of inspections of specific premises.

Environmental health inspections of day care centers should include:

- 2.2 A risk assessment of a child care should be conducted by an EHP to assess conditions on the premises that may pose a threat to the health, safety and welfare of children, by:
- Identifying hazards in a child care centre;
 - Assessing the likelihood of the hazard posing a risk to the children on the premises;
 - Estimating the severity of the consequences, if harm is caused.
- 2.3 The risk analysis should be done with specific focus to the following areas:
- Food preparation areas, (to include analysis of food risks);
 - Indoor and outdoor play areas and equipment;
 - Water and sanitation;
 - Pests;
 - Care and protection of children;
 - Disease infection risk factors and prevention strategies, including hygiene practices;
 - Environmental toxins on the premises; and
 - Risk communication should form part of every EH inspection, as well as recommendation of action plans on elimination and minimisation of hazards through control measures.
- 2.4 Assessment of disease prevention and control, including disease reporting and inspection protocols.
- 2.5 Health education should part of and provided with every compliance inspection conducted.
- 2.6 Inspection checklists should be designed and utilized for every inspection conducted. Prescribed standards for day care centers should be used as guides for developing of inspection checklists.
- 2.7 An inspection report, with the risk assessment findings and recommendations should be issued to the owner or person in charge of the day care center after every inspection.
- 2.8 An EHP should maintain a database of all child care centers (both compliant and non-compliant) for control purposes.
- 2.9 Monitoring of child care centers should be coordinated with all other relevant stakeholders, such as Social development, Basic Education and Primary Health Care, to ensure synergy and comprehensive provision of services.

3. STANDARDS FOR CHILD CARE CENTERS

Day care centers must comply with the following health requirements:

3.1 Health Certificate

- 3.1.1 A valid health certificate must be issued by an EHP certifying that the premises comply with environmental health requirements. The certificate must indicate the following:
- The health certificate holder;
 - The physical address of the premises;
 - The identity number of the certificate holder;
 - The number of children and the minimum age groups permitted on the premises; and
 - Hours of operation; full day or half day care.
 - Each certificate should be issued with a certificate number.

The health certificate must be displayed in a conspicuous manner on the premises, so as to be clearly visible to everyone entering the premises.

- 3.1.2 Health certificates issued to a child care center must be renewed by an EHP:
- Annually;
 - In case of change of ownership;
 - In the case of renovations/additions to the existing premises; and
 - If the services moves from one premises to another.

3.2 Enclosure of the premises

An enclosed yard, enclosed with a fence, brick, wall or other approved material must be provided.

- a) Entrance and exit control must be available, as well as lockable gates, to prevent unauthorized entry and children leaving the premises on their own accord.

3.3 Structural requirements

An indoor play area for playing, eating and for sleeping purposes must be provided on the premises.

- a) A structure used as an indoor play area must have –
 - Exterior walls and roof constructed in a way as to prevent the permeation of wind and rain and to ensure the health and safety of children using the area;
 - Windows and doors to allow natural light and cross ventilation; and
 - A floor with a smooth surface that is easily cleanable and prevents the permeation of dampness.
- b) A free floor space of at least 2 m² must be provided for each child on the premises, of the ages between 3 to 6 yrs.
- c) For children under the age of 3 yrs, at least 3m² of free floor space must be provided; this should include adequate space for crawling of infants or toddlers.
- d) Children play space areas should be provided according to the different age groups (0-2yrs), (2-3yrs), (3-4yrs), (4-5yrs), (5-6yrs).
- e) The play area must be free from any structural hazards, such as sharp corners, stairs, slippery surfaces that may pose a danger or constitute a hazard to children on the premises.
- f) Adequate seating (juvenile size chairs and tables), playing and sleeping (water proof mattresses) equipment must be available for the individual use of each child.
- g) Cots and water proof mattresses should be spaced 12 inches apart during sleep or nap time to allow free and safe movement by a child care supervisor.
- h) Linen used for sleeping purposes must be laundered at least weekly if possible, especially for children under the age of 3 years.
- i) For children on nappies, a nappy changing area, equipped with a nappy changing table, with a water-proof mattress must be provided on the premises.
- j) Proper diaper changing procedures should be followed to prevent the of faecal-oral infections.
- k) Indoor and outdoor playing equipment/toys must be without sharp points or edges.
- l) Mouth contact toys used for children under the age of 2 years must be cleaned and sanitized daily, by scrubbing in warm and soapy water using a brush, rinsing with clean water, submerging in a sanitizing solution for at least 2 minutes and air dried.

An outdoor play area of adequate size must be provided for use by every child on the premises.

- a) An outdoor play area of a minimum of at least 5m² per child must be provided on the premises.
- b) Separate play areas should be provided for children between ages of 0-2 yrs and those between the ages of 3-6 yrs.
- c) The premises must be surrounded by a fence constructed by an approved material and a lockable gate to prevent a child from leaving the premises unnoticed as well as to prevent unauthorized entry by the public.
- d) Suitable outdoor play equipment must be provided for use by the children. Care must be taken to ensure that the equipment does not contain any hazardous chemicals e.g. Lead or any sharp edges or loose objects that may cause injury to the children on the premises. All playground equipment must be in compliance to the *SANS 51176: 2010 for playground equipment and surfacing*.

3.4 Toilets and hand wash facilities

Adequate toilet and wash up facilities of adequate size must be provided on the premises for use by the children.

- a) 1 (one) toilet facility must be provided for at least every 15 (fifteen) children on the premises 1:15, and an adequate supply of toilet paper must be supplied in the toilet facilities at all times.
- b) 1 (one) handwash basin must be provided for at least every 20 (twenty) children on the premises 1:20. The handwash basin must be located in or immediately adjacent to the toilets. An adequate supply of soap and a clean towel must be provided at all times.

- c) For children under the age of 2 years on potty training, 1(one) chamber pot must be provided for at least every 5 children 1:5. The pots must be emptied properly after passing of every stool and urine, and properly cleaned.
- d) In cases where no sewer system is available and pit toilets are utilized, the pit toilet must be constructed in such a manner as not to cause harm or injury to the children.
- e) The pit toilets must be maintained in good order and cleaned regularly.
- f) For children under the age of 2years, still on nappies, a separate changing area must be provided on the premises, equipped with adequate storage facilities for soiled nappies and handwash facilities to clean the children.
- g) Separate toilets and handwash facilities must be provided for staff members on the premises, and an adequate amount of toilet paper, soap and towel must be available in the staff toilet and handwash facilities at all times.
- h) All toilet facilities on the premises must be properly illuminated, ventilated and kept clean and maintained in good repair.

3.5 Heating facilities

- a) During cold weather conditions, the premises must be adequately heated throughout with suitable means of heating, to prevent children being exposed to extreme cold conditions.
- b) An approved, suitable and safe artificial heating system that does not emit offensive and harmful gases, fumes and odours must be provided.

3.6 Food preparation facilities

Suitable, sufficient, nutritious and varied foods prepared hygienically and safely in an approved kitchen must be provided to the children daily.

- a) If meals are provided to the children, a kitchen area and facilities must be provided on the premises.
- b) All facilities used in connection with the handling, preparation, storage and serving of foodstuffs on the premises must be in compliance with the *Regulations Governing General Hygiene Requirements for Food Premises and the Transport of Food, R962 of 21 November 2012*.
- c) A separate milk kitchen must be provided for preparation and washing of feeding bottles and teats for children that are still on bottles.
- d) The milk kitchen must be equipped with;-
 - Washing facilities with adequate supply of potable running cold and hot water for washing of bottles and teats.
 - Separate cooling facilities for the storage of milk and milk bottles.
- e) An EHP must have a potable thermometer at their disposal at all times during an inspection, to monitor temperatures of foodstuffs in the kitchen.
- f) For children in day care for the full day, the child care center must serve breakfast, a mid-morning snack, Lunch and a mid-afternoon snack with at least 2-3 hours lapse between each meal and snack.
- g) All food served to the children must be safe for human consumption and protected from contamination.
- h) Food must be washed properly before cooking and serving, and served in clean eating utensils and crockery.
- i) Appropriate food temperatures must be maintained on all foodstuffs.
- j) All kitchen staff must be trained on food safety.
- k) Management must ensure that children are taught and wash their hands before eating all at times.
- l) Children should not share food, plates or other utensils used in connection with serving of food.
- m) Table tops should be cleaned and sanitized before meals.

3.7 Storage facilities

Adequate storage facilities must be provided for proper storage on the premises.

- a) On any premises on which a child care centers is operated, adequate storage space must be available for;-
 - Personal belongings of each child;
 - Personal belongings for staff on the premises.
 - Equipment such as children's prams, push-up chairs, cots and play and work tools.

- Storage of unsafe, toxic, dangerous or hazardous materials or substances separate from other materials and equipments.

3.8 Sick bay facilities

A sickbay area for the treatment and care of any child who falls ill, who is injured during day care or who may be suffering from an infectious disease must be provided.

- a) The sick bay area must be in a separate area from the indoor play area.
- b) An approved and adequately equipped first aid kit must be provided in the sick bay area and be placed out of reach of children.
- c) The first aid kit must include, amongst other equipment:
 - Adhesive bandages;
 - Sterile gauzes;
 - Medical tape;
 - Scissors;
 - A cardiopulmonary mouthpiece protector;
 - Liquid soap;
 - First aid instruction book;
 - A thermometer; and
 - Disposable gloves
- d) The sickbay area must be equipped with a bed, equipped with a water proof mattress, or a water proof mattress.
- e) Proper supervision must be provided at all times for children placed in the sick bay.

3.9 Operational requirements

If after care services are provided on the premises, separate facilities must be provided for that purpose.

- a) After school centre may not be permitted on the same premises as day care centre unless separate facilities are provided, or unless conducted on different times.
- b) An indoor play area of not less than 1.5m² free floor space must be provided for each child in after care and an outdoor play area of not less than 2m² must be provided for each child.
- c) One toilet and one handwash facility must be provided for every 20 children of part thereof on the premises and designated by sex.
- d) An adequate supply of toilet paper and soap must be provided in the toilet and handwash facilities at all times.
- e) Adequate tables and chairs must be provided for use by the aftercare children.

3.10 Medical care for children

Adequate, timely and appropriate medical attention must be provided in cases where children might require medical care.

- a) For any child who becomes ill or has suffered an injury requiring medical attention, a care giver must :
 - Immediately notify the parent or guardian of the child;
 - Immediately call for medical assistance, if necessary;
 - Provide the necessary care and treatment for minor ailments in the sickbay area; and
 - Immediately notify an Environmental Health Practitioner/relevant health authority in an event of the illness being suspected of being a communicable disease.
 - Only administer medicine to a child with the written consent of the parent or guardian, a medical journal must be kept in which details of any medicine administered to a child, including the quantities is recorded. The journal must be signed by any parent bringing along medication to be administered during the day to any child.
- b) Availability and/or easy access of a telephone essential for notification of a parent or guardian where applicable and to summon medical assistance in accordance when required.
- c) It is a prerequisite that every child to attend pre-school must have completed basic immunization schedules for his/her age as determined by the National Expanded programme on Immunisation of the Department of Health.

- d) Children suspected of suffering from an infectious or communicable disease must be excluded from attending preschool if in the opinion of an EHP or relevant health professional, the person is capable of communicating the infectious disease.
- e) All caregivers must be trained in basic first aid.
- f) Medical reports of each child must be kept on the premises, each record must contain;
 - Information containing the child's general state of health and physical condition, including any allergies;
 - Any illnesses, including any communicable diseases, operations etc that a child may have suffered in a specified period;
 - Immunization records; and
 - Details of allergies and any medical treatment that the child may be undergoing.
- g) A list of emergency telephone numbers which must include, fire brigade, ambulance, outbreak response, clinic, hospital, doctor and police must be available and easily accessible on the premises.
- h) Adequate provision must be made for disposable gloves and disinfectants to protect staff and children and to disinfect contaminated areas and surfaces when dealing with blood related illnesses and injuries.
- i) All areas and surfaces where treatment of a child or caregiver for an illness or injury has taken place must be disinfected immediately.
- j) Post exposure prophylaxis for HIV and Hepatitis B must be made available to any child or caregiver who may have been exposed to blood or bloody substances.

3.11 Keeping of registers and records

Registers, records and journals should be kept for administrative control.

- a) An application form containing the following information must be completed by the parent or guardian of every child on admission to child care service.
 - The child's name and date of birth;
 - Name, address and contact numbers of the parent or guardian;
 - The place of employment of the parent or guardian;
 - The name, address and contact numbers of a responsible person other than the parent or guardian who may be consulted in case of emergencies; and
 - The name, address and contact numbers of the child's or family doctor and permission to consult the doctor.
 - The admission and discharge date of the child must be written in the application form and all forms must be kept for a period of 3 years.
- b) Registers must be kept for;
 - Admissions and discharges of all children admitted to or discharged from the child care services and the registers shall be kept for a period of not less than 3 years.
 - Recording daily attendance in which the absence and attendance of children shall be noted daily.
- c) A journal in which to record any injuries or accidents involving any child on the premises or during transportation and the explanation of such accidents must be kept.
- d) A medical journal in which to record the details and quantities of the medicine given to a child must be kept. The child care provider must ensure that the register is signed daily by a parent or guardian who requires medicine to be administered to his/her child at day care.
- e) A record containing the name, address, contact details, qualification including a list of references and a next of kin of the person in charge and all other staff working on the premises must be available on the premises.
- f) All registers and records referred to in section 11(a)-(e) shall be open to be inspected by a parent or guardian of a child attending the day care center, only in respect of information and records concerning the specific child.
- g) A copy of these Norms and Standards must be kept on the premises and the said copies shall be made available on demand for inspection by a parent or guardian of a pre-school child attending or proposing to attend the service, by every person working in the service, and by any authorised person.

3.12 Staffing requirements

- a) An adequate number of competent care givers must be available to supervise and care for children.

- (i) For children between 0-24 months, one adult supervisor must be available for not more than 6 babies;
- (ii) For children between 3 years and 5 years, one adult supervisor for not more than 20 children;
- (iii) For children between 5 and 7 years, one adult supervisor for not more than 35 children, in line with the Child Care Act.

3.13 General requirements

- a) The location and layout of the pre-school must be suitable for its purpose with regards to the design and construction and finished in such condition that children can be cared for hygienically and can be adequately protected against possible public health hazards and nuisances.
- b) Storage facilities for the storage of children's toys, books, and other play material must be provided in the indoor play area.
- c) If transport to and from the child care center is provided;
 - (i) Children must be supervised by at least one adult, apart from the driver during boarding and disembarkation.
 - (ii) Doors of the vehicle must be child locked at all times during the transportation of children.
 - (iii) Children may not be transported in the front seat or in the boot of any vehicle during transportation.
 - (iv) Children may not be overloaded in any car during transportation.
 - (v) The driver responsible for transporting the children, as well as the transportation utilized must be permitted in terms of the requirements of the Road Traffic Act.
- d) An adequate number of refuse bins for the disposal of all waste material on the premises must be provided.
- e) An approved refuse area must be provided on the premises for the storage of all refuse pending removal.
- f) Each child must be provided with a face cloth which must be individually marked for that child's use and must be individually hanged on pegs or hooks. For children under the age of 3 years disposable towels must preferably be provided.
- g) If cots or mattresses are used, the floor must be free from dirt, dampness or any liquid substances.
- h) Individual sheets and covers must be provided for each child and washed at least once a week, or more often, if necessary.

3.14 Safety measures

Strict safety measures must be in place for protection of children's welfare.

- a) Reasonable measures must be taken to safeguard the health, safety and welfare of pre-school children.
- b) All heating appliances/heat emitting surfaces must be protected by a fix guard or must be thermostatically controlled to ensure safe surface temperatures.
- c) Hot water provided for use by the pre-school must be thermostatically controlled to ensure a safe temperature.
- d) Children must be adequately protected against fires, hot water installations, electrical fittings and appliances, heating appliances and any other objects that may be dangerous or constitute a hazard or injury to the children on the premises.
- e) Medicines, detergents, pesticides and other harmful substances must be stored in lockable places and kept out of reach of the children.
- f) The premises must be free from any noxious, poisonous or dangerous plants or shrubs.
- g) No animals or birds must be kept on any premises where a child care center is operated, except by written permission of the Environmental Health Practitioner after the necessary Environmental Health assessment has been completed.
- h) No paddling pool, swimming pool or other related structure may be permitted in any child care center premises, except by written permission by the Environmental Health Practitioner.
- i) No sandpit may be permitted on the premises, except by written permission of the Environmental Health practitioner.
- j) Ponds, pits and or other hazards in any garden or external play area must be fenced off to ensure safety of children.
- k) The play equipment must be maintained in good working order and in good repair.

- l) The play equipment must be free from sharp points or corners, splinters, protruding nails or bolts or rusty parts, hazardous small parts, lead-based paints, poisonous material, or flaking or chalking paint.
- m) The play equipment must be designed to guard against entrapment or situations that may cause strangulation.
- n) The outdoor play area must be free of any excavations, steps, projections, levels or any surface which is dangerous or may constitute a safety hazard.
- o) A child showing signs of illness or condition that is suspected to be communicable may not be admitted to the regular child care programme, until such time that a medical officer of health has certified that the condition may not pose any health risk to other children on the premises.
- p) "No smoking" signs must be installed strategically on the premises, to ensure that smoking is prohibited on the premises.

SECTION 2: NURSING HOMES

For the purpose of this document, a nursing home shall refer to a place of residence for people who require constant nursing care, as well as people that might have significant deficiencies with activities of daily living. These may include rest homes and care homes, excluding homes for the aged.

1. NORMS

- 1.1 Nursing homes must be operated under a permit/registration authorizing that activity by the relevant municipality/authority.
- 1.2 The premises operated under a valid Health Certificate issued by an Environmental Health Practitioner, to the effect that the premises and general facilities comply with environmental and occupational health requirements.
- 1.3 The premise promotes the health and safety of patients.
- 1.4 Building structure of premises safe and in compliance with the requirements of the *National Building Act and the National Building Regulations, 103 of 1977, as well as the SANS 10400.*

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections must be conducted at least twice a year (not less than twice in a year). The risk profile of the premises should also inform the frequency of inspections on the premises.
- 2.2 The risk analysis of the premises should be conducted on nursing homes with specific focus to the following areas:
 - Food preparation areas, (to include analysis of food risks);
 - Infection control procedures;
 - Water and sanitation;
 - Handling, segregation, storage and disposal of health care risk waste;
 - Care and protection of patients; and
 - Environmental toxins on the premises;
- 2.3 Health education should part of and provided with every compliance inspection conducted.
- 2.4 Inspection checklists should be designed and utilized for every inspection conducted. Environmental Health requirements should be used as guide for developing of inspection checklists.
- 2.5 Inspections should include an assessment of ventilation, indoor air quality, lighting, structural safety of the premises.
- 2.6 An inspection report, with the risk assessment findings and recommendations should be issued to the owner or person in charge of the premises after every inspection.
- 2.7 An EHP must maintain a database of nursing homes for control purposes.

3. STANDARDS FOR NURSING HOMES

Nursing home must comply with the following health requirements:

3.1 Health Certificate

- 3.1.1 A valid health certificate must be issued by an EHP certifying that the premises comply with environmental health requirements. The certificate must indicate the following:

- The health certificate holder, physical address of the premises, identity number of the certificate holder, and number of beds/patients permitted on the premises.
- 3.1.2 Certificate of Acceptability must also be issued for the food preparation areas to certify compliance to the R962 promulgated under the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972).
- 3.1.3 Health certificates must be renewed by an EHP:
- Annually;
 - In case of change of ownership;
 - In the case of renovations/additions to the existing premises; and
 - If the services moves from one premises to another.

3.2 Structural requirements

The building of a nursing home must be in compliance with the following minimum standards:

- a) Walls of a nursing home must be constructed of brick, stone, concrete or other impervious material;
- b) Except where glazed or glass bricks, glazed tiles or other similar material with a hard and smooth surface have been used, the internal walls of operating theaters, sterilizing rooms, wards, labour wards, wash up rooms, dressing rooms, duty-rooms, kitchens, sculleries, food store rooms, bathrooms, toilets and mortuaries must be:-
 - Plastered and brought to a smooth finish; and
 - Covered with a light coloured paint, adequate plastic finish or other approved material.
- c) Floors must be constructed of concrete, hardwood or other durable material and brought to a smooth finish.
- d) The angles formed between each floor and wall, and between two walls, in operating units, wards, labour wards, sluice rooms, milk rooms, bathrooms, toilets and kitchens must be rounded.
- e) Floors of operating theaters, sterilizing rooms, wards, labour wards, wash up rooms, dressing rooms, duty-rooms, kitchens, sculleries, food store rooms, bathrooms, toilets and mortuaries must be made of cement, concrete or other impervious material and brought to a smooth finish.
- f) Ceilings must be constructed so as not to attract dust and in the case of operating theaters, labour wards, sterilizing rooms and wash up rooms, the ceiling must have a hard, smooth and washable surface.
- g) Wards/ rooms must be individually and naturally ventilated with windows.
- h) All windows in rooms must be adequately protected or guarded to ensure the safety of service users.
- i) Rooms must be adequately lighted and emergency lighting be provided throughout the premises.
- j) In cold weather conditions, the premises are must be adequately heated throughout with suitable means of heating. An approved, suitable and safe artificial heating system must be provided.
- k) Heating facilities that are liable to emit offensive and harmful gases, fumes and odours are not allowed.

3.3 Ward requirements

Safe, well maintained and comfortable indoor facilities must be provided for patients.

If multi-storied building exist, the following must be provided on each floor of a nursing home;-

- a) Adequate sluicing (wash up) facilities in each floor, taking onto account the beds on the floor;
- b) A dressing room fitted with adequate sterilising equipment, containing impervious shelves for the storage of sterile drums and other equipments, and used exclusively for-
 - The sterilization or preparation of equipments, dressings and other equipment; and
 - The treatment of patients
- c) A ward kitchen equipped with a sink with constant supply of potable hot and cold running water, a refrigerator, a stove, storage facilities for cutlery and crockery, unless all needs of that floor are adequately catered for by the premises, main kitchen;
- d) The ceilings in each ward must have a minimum height of 3m, except in the case of existing nursing homes where the height may be a minimum of 2.6m, provided that the floor area of the ward is sufficient to provide at least 22m³ of air space for every bed;
- e) The size of the floor area must be such as to provide a minimum of not less than 8.5m² of floor space for every bed;

- f) No beds must be placed within 750mm of any wall on the side of a bed or wall fixture, other than a wash-hand basin or central radiator or within 1m of any other bed;
- g) Spaces left between the beds must not be obstructed in any manner.;
- h) The number of the ward as well as the number of patients that may be accommodated in the ward must be displayed on the outside door of each ward;
- i) An adequate number of easily accessible wash-hand basins supplied with a constant supply of hot and cold running water must be provided in each ward for scrubbing-up;
- j) The floors of wards must be constructed of concrete, hardwood or other durable material and brought to a smooth finish;
- k) Every ward must have a door opening directly onto a passage.

3.4 Ablution and wash up facilities

Adequate and accessible toilet, bathing and washing facilities must be provided to meet the needs of patients.

- a) One toilet and 1 (one) bath must be provided for at least every 12 (twelve) patients, ratio **1:12** on the premises;
- b) In calculating the number of toilets and bathrooms, no account must be taken of any toilet contained in a bathroom; and
- c) Every toilet must be equipped with an adequate flushing system maintained in proper working condition.
- d) Adequate and sufficient sluice-rooms must be provided in each ward.
- e) Each floor/ward must have a sluice room which must be a minimum of 7.5m² in area and a minimum width of 2.2m²;
- f) Every sluice room must open into a well-ventilated passage and must be accessible to every ward which it serves;
- g) Sluice-rooms must be equipped with a sluice-pan of approved design and equipped with an adequate flushing system maintained in proper working order.
- h) Approved storage shelves must be provided in the sluice-room for the storage of bed-pans or other sanitary utensils.
- i) An impervious receptacle of adequate size with a tight fitting lid must be provided for the reception of soiled dressings; and
 - (i) The storage and cleansing of bed-pans and other sanitary utensils;
 - (ii) The temporary deposit of soiled dressings; and
 - (iii) The testing of urine.

3.5 Uses of the premises

The premises of a nursing home may also be used for the purpose other services, such and a maternity home. Subject to the following requirements being met:

- a) Separate areas must be provided for the nursing home operations and for use exclusively as a maternity area for maternity cases;
- b) Rooms, passages, stairways, hall, corridor, lift, external entrances or any other portion of the premises may not be used in common for any purpose whatsoever, except those that are used for the purpose of:
 - Laundries;
 - Central sterilizing unit, including ancillary units and stores;
 - Pathological laboratories;
 - Kitchens, sculleries, wash-up facilities, larders and any associated storage space;
 - Storage space for unused or adequately sterilized stores;
 - An administrative office other than the office used to admit and discharge patients;
 - Central pharmaceutical units;
 - Mortuaries; and
 - Workshop
- c) Grounds and the yard must be kept tidy and safe at all times.

3.6 Storage facilities

Adequate storage facilities must be provided for proper storage on the premises.

- a) Separate storage facilities must be provided for the storage of clean linen and the storage of soiled linen prior to collection and cleaning.
- b) A room reserved exclusively for sorting and handling linen must be provided.
- c) A room for the storage of any spare equipment, including heavy equipment and gas cylinders must be provided.

3.7 Laundry facilities

- a) Landry area must be provided for laundering of linen on the premises and facilities used in connection with laundering of linen on the premises must be in compliance with the requirements as set out in *Section 10* of this norms and standards.
- b) If an outside contractor is utilized for laundry purposes, it must be done in an approved laundry by a registered service provider.

3.8 Health care risk waste management

Approved methods of waste collection, storage, transportation and disposal must be adopted on the premises and the management of health care risk waste must be in line with the NEM: Waste Act (Act 39 of 2004) and SANS 10248.

- a) Approved methods for handling, collection, storage and handling of waste, including health care risk waste must be adopted on the premises.
- b) An adequate number of purpose-manufactured, leak-proof, sealable containers must be available for the storage of health care risk waste. Such containers to be designed as to not allow the exposure of needles, cuts and other substances that may cause harm to service users or staff members;
- c) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- d) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- e) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- f) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- g) Health care risk waste may only be removed/ collected, transported, treated and dispose by a registered service provider from the premises.

3.9 Storage facilities

Adequate storage facilities which should be utilized for storage and distribution of items must be provided.

- a) Storage facilities must be provided for the storage for medicines and drugs and such facilities must be kept locked at all times except when medicines or drugs are being removed or returned to it;
- b) Additional storage facilities must be provided for the storage of poisons, habit-forming drugs and potentially dangerous drugs;
- c) Storage room must contain adequate moveable shelving made of impervious material.
- d) Every shelf in a store room must be a minimum height of 225 mm above the floor;
- e) All storerooms and store facilities must be kept clean at all times and cleaned routinely at least once every week;
- f) Hazardous substances must be stored and disposed in a safe manner, separate from other non-hazardous materials;
- g) Expired medicines to be kept and disposed in a safe manner;
- h) Adequate storage facilities must be provided for the storage of any spare equipment, including particularly heavy equipment and gas cylinders. The equipment must be stored in manner so as not to obstruct any passages, entrances of exits to the premises;
- i) Adequate storage facilities for articles that are reasonable necessary to store on the premises for the day to day running of the nursing home must be provided; and
- j) A separate linen room, containing adequate cupboards or shelves for the storage of linen must be provided.

3.10 Reception of dead bodies

- a) If mortuary facilities are available and utilized for the reception of dead bodies on the premises, these facilities must be in compliance with the requirements as specified in the *Regulations relating to the management of Human Remains published in terms of the National Health Act, 61 of 2003*.

3.11 General requirements

- a) Separate residential accommodation must be provided for staff required who reside on the premises;
- b) Separate bathrooms and toilets must be provided for domestic and residential staff. The bathrooms must be fitted with porcelain enamel or cast-iron enamel baths with a supply of hot and cold running water;
- c) One toilet, bath/shower must be provided for at least 12 members of staff, ratio 1:12 and designated by sex;
- d) In calculating the number of toilets for staff members, no account must be taken of any toilet contain in a bathroom;
- e) Every toilet must be equipped with an adequate flushing system maintained in proper working condition;
- f) Adequate accommodation for the administrative purposes of the nursing home must be provided;
- g) A laundry room must be provided on the premises for the hygienic washing and handling of laundry;
- h) A fire escape, the stairs of which are a minimum of 1m wide with landings at each turning point, measuring a minimum of 2.2m by 1.7m must be affixed on the premises;
- i) Fire control equipment, approved by the municipal chief fire officer must be provided and maintained on the premises; and
- j) An emergency stand-by electrical plant must be provided which is adequate to provide an immediate alternative supply to electricity to –
 - Any part of the nursing home to ensure the continued operation, throughout the period of the of the failure of all electrically operated appliances and equipment which, in the opinion of an Environmental Health Practitioner of any relevant professional, are or may be life saving.

SECTION 3: MATERNITY HOMES

1. NORMS

- 1.1 Maternity homes operated under a permit/registration authorizing that activity by the relevant municipality/authority.
- 1.2 The premises operated under a valid Health Certificate issued by an Environmental Health Practitioner of a relevant municipality, to the effect that the premises and general facilities comply with environmental health requirements.
- 1.3 The premises must promote the health and safety of patients.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Inspections must be conducted at least twice annually (not less than twice in a year). The risk profile of the premises should also inform the frequency of inspections on the premises.
- 2.2 The risk analysis of the premises should be conducted on nursing homes with specific focus to the following areas:
 - Food preparation areas, (to include analysis of food risks);
 - Infection control procedures;
 - Water, sanitation and hygiene;
 - Management of health care risk waste;
 - Care and protection of patients; and
 - Environmental toxins on the premises;
- 2.3 Inspection checklists should be designed and utilized for every inspection conducted. Environmental Health requirements for maternity homes should be used as guide for developing of inspection checklists.

- 2.4 Inspections should include an assessment of ventilation, indoor air quality, lighting, structural safety and floor space on the premises.
- 2.5 An inspection report, including the relevant health recommendations should be issued to the person in charge after every inspection.
- 2.6 An updated database of all maternity homes in a municipality concerned should be maintained for monitoring and control purposes.

3. STANDARDS FOR MATERNITY HOMES

Maternity homes must comply with the following health requirements:

3.2 Health Certificate

- 3.2.1 A valid health certificate must be issued by an EHP certifying that the premises comply with environmental health requirements. The certificate must indicate the following:
 - The health certificate holder, physical address of the premises, identity number of the certificate holder, and number of beds/patients permitted on the premises.
- 3.2.2 Certificate of Acceptability must also be issued for the food preparation areas to certify compliance to the R962 promulgated under the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972).
- 3.2.3 Health certificates must be renewed by an EHP:
 - Annually;
 - In case of change of ownership;
 - In the case of renovations/additions to the existing premises; and
 - If the services moves from one premises to another.

3.3 Ward requirements

Adequate and suitable facilities must be provided on the premises.

- a) Separate areas must be provided for;
 - A nursery;
 - A labour ward
 - A delivery ward; and
 - A milk room
- b) Every delivery wash must be equipped with a scrubbing-up basin, provided with a constant supply of cold and hot running potable water, the taps of which are designed to be operated by elbow or foot.
- c) Newborn babies must be kept in the nursery room except when brought to their mothers for feeding or other purposes, except that the infants may be kept with their mother at all times if there are no more than two maternity cases in a ward.
- d) The floor area maternity ward in which a maximum of two maternity cases are accommodated, must have a minimum of at least 10m² for each bed and crib.
- e) A minimum of not less than 2m² floor space must be provided in every nursery for the accommodation of baby's cribs. One separate crib must be provided for each baby.
- f) The cribs must be placed a minimum of 750mm from each other and a minimum of 300mm from any wall on the side of the crib or wall fixture, excluding a wash-hand basin or a central heating radiator.
- g) A baby's bathing and changing room, fitted with adequate baby bathing equipment, must adjoin every nursery room.
- h) Every milk room must be equipped with :-
 - A sink made of porcelain, enamel or stainless steel and a hand wash basin with a supply of cold and hot running potable water for washing of milk bottles;
 - A refrigerator for the storage of milk and milk bottles;
 - Tables with impervious and easily cleanable surfaces; and
 - Adequate equipment for sterilizing utensils used in the handling of milk.
 - In case of maternity home, the sluice-rooms must have adequate apparatus for sterilizing bed-pans by steam or boiling water and in the case of a nursing home carrying on a general practice, adequate apparatus for cleaning of bed-pans.

3.4 Operating theatres

Adequate operating theatre exclusively for surgical operations for patients in need of surgical treatment must be provided on the premises.

- a) Every maternity home that receives patients in need of surgical treatment must provide an operating theatre used exclusively for surgical operations.
- b) The operating theatre must be provided with;
 - A scrubbing up room or bay, which must immediately adjoin the operating room;
 - A sterilizing room;
 - A theatre sluice room; and
 - A recovery room.
- c) The sterilizing door, which adjoins an operating room, must be separated by a swing door or other approved type door.
- d) The sluice-room, sterilizing room and the recovery room must be reasonably accessible from the operating theatre.
- e) One sluice room, sterilizing room and recovery room may be used to serve more than one operating theatre.

3.5 Ablution and sanitary facilities

Adequate toilet and shower/bath facilities to meet the needs of patients and staff members must be provided.

- a) All bathrooms must be fitted with porcelain, enamel or cast iron enamel baths with a constant supply of cold and hot running potable water.
- b) One bath must be provided for at least every 12 (twelve) patients on the premises **1:12**.
- c) One toilet must be provided for at least every 12 (twelve) patients on the premises **1:12**.
- d) One toilet and bath/shower must be provided for at least every 12 (twelve) nursing staff, domestic staff and other employees on the premises 1:12.
- e) In calculating the number of toilets for patients or for the staff, no account must be taken of any toilet contained in a bathroom.
- f) Every toilet must be equipped with an adequate flushing system and all toilets, bathrooms or showers must be maintained in good working order.
- g) All toilets must be kept clean at all times, floors scrubbed and bowls cleaned and disinfected daily.

3.6 Sluice-rooms

Sluice-rooms must be provided in every ward.

- a) Each sluice-room must be a minimum of at least 7m² in area and have a minimum width of 2.2 meters and be accessible to every ward which it serves.
- b) The sluice-room must be equipped with smooth and impervious shelves or other adequate apparatus for the storage of bed-pans or other sanitary utensils.
- c) Adequate apparatus must be available for the cleaning and sterilizing of bed-pans.
- d) Receptacles equipped with a tight fitting lid must be available for the storage of soiled dressings.
- e) All sluice rooms must be kept clean at all times.

3.7 Storage facilities

Adequate storage facilities must be provided for storage and distribution of goods on the premises.

- a) Storage facilities must be provided for storage of medicines and drugs and such facilities must be kept locked at all times except when medicines or drugs are being removed or returned to it.
- b) Additional storage facilities must be provided for the storage of poisons, habit-forming drugs and potentially dangerous drugs.
- c) Any storage room and/or facility in a maternity home must be used exclusively for the storage and distribution of those articles intended to be stored in such a store room or receptacles.
- d) Any storage room must contain adequate moveable shelving made of impervious material.
- e) Every shelf in a store room must be a minimum height of 225 mm above the floor.
- f) All storerooms and store facilities must be kept clean at all times and cleaned routinely at least once every week.

- g) Adequate facilities must be provided for the sterilization of instruments.

3.8 Accommodation for nursing staff

Adequate sleeping accommodation, toilet and handwash facilities should be provided for the resident nursing staff employed on the premises.

3.9 General Requirements

- a) Separate residential accommodation must be provided for staff required to reside on the premises.
- b) Separate bathrooms and toilets must be provided for domestic and residential staff. The bathrooms must be fitted with porcelain enamel or cast-iron enamel baths with a supply of hot and cold running water.
- c) One toilet must be provided for every 12 members of staff, ratio 1:12.
- d) One bathroom or shower must be provided for every 12 members of staff, ratio 1:12.
- e) In calculating the number of toilets for staff members, no account must be taken of any toilet contained in a bathroom.
- f) Every toilet must be equipped with an adequate flushing system maintained in proper working condition.
- g) The bathrooms and toilets must be designated for each sex.
- h) Adequate accommodation for the administrative purposes of the nursing home must be provided.
- i) Adequate storage facilities for articles that are reasonably necessary to store on the premises for the day to day running of the nursing home must be provided.
- j) A separate linen room, containing adequate cupboards or shelves for the storage of linen must be provided.
- k) Laundry facilities must be provided on the premises, for cleaning of all laundry.
- l) A fire escape, the stairs of which are a minimum of 1m wide with landings at each turning point, measuring a minimum of 2.2m by 1.7m must be affixed on the premises.
- m) Fire control equipment, approved by the municipal chief fire officer must be provided and maintained on the premises.
- n) Adequate storage facilities must be provided for the storage of any spare equipment, including particularly heavy equipment and gas cylinders. The equipment must be stored in a manner so as not to obstruct any passages, entrances or exits to the premises.
- o) An emergency stand-by electrical plant must be provided which is adequate to provide an immediate alternative supply to electricity to –
 - Any part of the nursing home to ensure the continued operation, throughout the period of the failure of all electrically operated appliances and equipment which, in the opinion of an Environmental Health Practitioner or any relevant professional, are or may be life saving.

SECTION 4: HOMES FOR THE AGED

For the purpose of this document, homes for the aged refer to a care home providing accommodation and nursing, or personal care for older people or for the aged.

1. NORMS

- 1.1 Old Age Homes operated under a permit/registration authorizing that activity by the relevant municipality/authority.
- 1.2 The premises operated under a valid Health Certificate issued by an Environmental Health Practitioner of a relevant municipality, to the effect that the premises and general facilities comply with environmental health requirements.
- 1.3 Building and facilities accessible and promote health, safety and welfare of residents.
- 1.4 Physical layout of the grounds and buildings promotes mobility, social interaction and areas of service delivery.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Inspections must be conducted at least twice annually (not less than twice in a year). The risk profile of the premises should also inform the frequency of inspections on the premises.

- 2.2 The risk analysis of the premises should be conducted with specific focus to the following areas:
 - Food preparation areas, (to include analysis of food risks);
 - Water, sanitation and hygiene;
 - Waste management; and
 - Care and protection of patients;
- 2.3 Inspection checklists/tools should be designed and utilized for every inspection conducted.
- 2.4 Inspections should include an assessment of ventilation and indoor air quality, lighting, moisture-proofing, thermal quality, structural safety and floor space on the premises.
- 2.5 An inspection report, with the risk assessment findings and recommendations should be issued to the owner or person in charge of the day care center after every inspection.
- 2.6 An updated database of all old age homes must be maintained for monitoring and control purposes.

3. STANDARDS FOR OLD AGE HOMES

Old aged homes must comply with the following health requirements;

3.1 Health Certificate

- 3.1.1 A valid health certificate must be issued by an EHP certifying that the premises comply with environmental health requirements. The certificate must indicate the following:
 - The health certificate holder, physical address of the premises, identity number of the certificate holder, and number of beds/patients permitted on the premises.
- 3.1.2 Certificate of Acceptability must also be issued for the food preparation areas to certify compliance to the R962 promulgated under the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972).
- 3.1.3 Health certificates must be renewed by an EHP:
 - Annually;
 - In case of change of ownership;
 - In the case of renovations/additions to the existing premises; and
 - If the services moves from one premises to another.

3.2 Structural and physical facilities

- a) Windows in an old age home must be securely guarded to ensure the safety of residents.
- b) Emergency exits and routes must be clearly marked and identified and also be visible at night.

3.3 Accommodation requirements

Suitable accommodation must be provided for each service user on the premises which meets minimum space as follows:

- a) Single rooms must have a floor space of at least 9m² and double rooms with a floor space of 16m² for people sharing (double room).
- b) For ward type accommodation, a floor space of at least 7.5m² must be provided for every service user accommodated in the ward.
- c) For ward-type accommodation, an unobstructed space of at least 1.2m² must be maintained between beds, to enable movement of carers and equipment.
- d) Single rooms accommodating wheel chair users must have at least 12m² usable floor space.
- e) The rooms and/wards must be cleaned daily and kept hygienic and free from offensive odours.
- f) For frail care patients, a maximum of 4 beds should be placed per room.

3.4 Dining areas, lounges/sun porches and corridors/passages/ staircases

Dining, lounge areas that meet the following must be provided:

- a) The dining area must be a minimum floor space of at least 1.2m² for every service user.
- b) The Lounge area or sun porche area must be a minimum floor space of at least 1.5m² for every service user.
- c) All floor surfaces must have a non-slip surface, and all carpets, mats and other loose coverings must be suitably and securely secured to the floors and be adequately illuminated.

- d) Corridors must be at least 1.8m wide and be provided with a hand railing along the length of at least one wall.
- e) All corridors, staircases, steps and ramps must be adequately eliminated and fitted with effective ramps.

3.5 Toilet and ablution facilities

Adequate and accessible toilet, bathing and washing facilities must be provided to meet the needs of service users.

- a) At least one toilet and one bath must be provided for at least every 8 (eight) service users on the premises 1:8. Where suitably adapted en-suite toilet and bathing/shower are provided in the user's rooms, these rooms can be excluded from the calculation. The toilet facilities should be designed for use by one person at a time.
- b) Each service user must have a toilet within close proximity of his/her private accommodation.
- c) Additional toilet facilities must be provided on the premises, accessible and clearly marked next to the lounge and dining areas for use by service users.
- d) In calculating the number of toilets, no account must be taken of any toilet contained in a bathroom.
- e) Every toilet must be equipped with an adequate flushing system and all toilets, bathrooms or showers must be maintained in good working order.
- f) All toilets must be kept clean at all times, floors scrubbed and bowls cleaned and disinfected daily.
- g) Adequate and accessible toilet, wash-up and bath facilities must be provided for staff members employed on the premises.
- h) One toilet and bath or shower must be provided for at least every 12 (twelve) nursing staff, domestic staff and other employees on the premises 1:12.
- i) Floors of the bathroom and toilet facilities must be constructed of non-slippery surface.
- j) All bathrooms must be fitted with porcelain, enamel or cast iron enamel baths with a constant supply of cold and hot running potable water.
- k) Walls of the toilet facilities must be constructed of a smooth surface and be light coloured.
- l) Toilet facilities must be adequately illuminated and ventilated.
- m) Separate toilet facilities and hand wash basin must be provided on the premises, for visitors.
- n) Separate bathrooms and toilets must be provided for domestic and residential staff. The bathrooms must be fitted with porcelain enamel or cast-iron enamel baths with a supply of hot and cold running water.
- o) One toilet must be provided for at least every 12 members of staff, ratio **1:12**.
- p) One bathroom or shower must be provided for at least every 12 members of staff, ratio **1:12**. In calculating the number of toilets for staff members, no account must be taken of any toilet contain in a bathroom.
- q) Every toilet must be equipped with an adequate flushing system maintained in proper working condition.
- r) Bathrooms and toilets must be designated for each sex.

3.6 Staff facilities

- a) Work station for staff members must be equipped with hand wash basins, with a supply of cold and hot running water to prevent cross infection.
- b) Separate toilet facilities must be provided for staff members on the premises.

3.7 Examination rooms

- a) A hand wash basin with a supply of cold and hot running water must be available in all examination rooms.
- b) Floors must be constructed of a non-slippery floor to prevent accidental slipping.
- c) Walls must be painted with a light coloured washable paint.
- d) The examination room should be adequately equipped for first aid and emergency situations.

3.8 Sluice rooms

- a) A minimum floor area of 7.5m² and a minimum width of 2.5m must be available in every sluice room.

- b) Sluice rooms must be well ventilated.
- c) Equipped with hand wash basin for washing of hands by staff and hot and cold running water as well as a combination of a hopper sink with a wash facility for bedpans/urinals.
- d) The wall area behind the slop hopper sinks and hand wash basins must be equipped with a back splash plate or be tiled, to facilitate easy cleaning.
- e) Floors must be constructed of an easy cleanable surface.
- f) Separate storage space must be provided for urinalysis testing.

3.9 Storage facilities

Adequate storage facilities must be provided.

- a) Storage facilities must be provided for the storage for medicines and drugs and such facilities must be kept locked at all times except when medicines or drugs are being removed or returned to it.
- b) Additional storage facilities must be provided for the storage of poisons, habit-forming drugs and potentially dangerous drugs.
- c) Storage room must contain adequate moveable shelving made of impervious material.
- d) Every shelf in a store room must be a minimum height of 225 mm above the floor.
- e) All storerooms and store facilities must be kept clean at all times and cleaned routinely at least once every week.
- f) Individual lockable cupboards must be available for storage of each resident's personal items.

3.10 Laundry facilities

- a) Landry area must be provided for laundering of linen on the premises and facilities used in connection with laundering of linen on the premises must be in compliance with the requirements as set out in *Section 10* of this document.
- b) If an outside contractor is utilized for laundry purposes, it must be done in an approved laundry by a registered service provider.

3.11 General Requirements

- a) Measures must be practiced for infection control and to prevent spread of infection and communicable diseases;
- b) Good maintenance must be done in all areas of the premises, including the kitchen equipment, laundry machinery; outdoor steps, pathways; gardening equipment to ensure a safe environment for the service users;
- c) Separate residential accommodation must be provided for staff required to reside on the premises;
- d) Adequate accommodation for the administrative purposes must be provided;
- e) Adequate storage facilities for articles that are reasonable necessary to store on the premises for the day to day running of the nursing home must be provided;
- f) A separate linen room, containing adequate cupboards or shelves for the storage of linen must be provided;
- g) A fire escape, the stairs of which are a minimum of 1m wide with landings at each turning point, measuring a minimum of 2.2m by 1.7m must be affixed on the premises;
- h) Fire-fighting and control equipment, approved by the local municipality fire department must be provided and maintained on the premises;
- i) Adequate storage facilities must be provided for the storage of any spare equipment, including particularly heavy equipment and gas cylinders. The equipment must be stored in manner so as not to obstruct any passages, entrances or exits to the premises;
- j) An emergency stand-by electrical plant must be provided which is adequate to provide an immediate alternative supply to electricity to –
 - Any part of the nursing home to ensure the continued operation, throughout the period of the of the failure of all electrically operated appliances and equipment which, in the opinion of an Environmental Health Practitioner of any relevant professional, are or may be life saving.
- k) Appropriate first aid emergency equipment must be available on the premises.

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| SECTION 5: SCHOOLS |
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A school shall refer to any private, public or farm schools, including private and public boarding schools, and premises of institutions for higher learning, excludes initiation schools.

1. NORMS

- 1.1 Schools to be operated under a registration authorizing that activity by the relevant education authority and municipality.
- 1.2 The premises operated under a valid Health Certificate issued by an Environmental Health Practitioner of a relevant Municipality, to the effect that the premises and general facilities comply with environmental health requirements.
- 1.3 Building and facilities promotes health and safety of pupils and/or students.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections of schools should be conducted at twice annually (not less twice in a year). The risk profile of the premises should also inform the frequency of inspections on the premises.
- 2.2 The risk analysis of the premises should be conducted with specific focus to the following areas:
 - Food preparation areas, (to include analysis of food risks);
 - Water, waste, sanitation and hygiene practices.
- 2.3 Inspection checklists/tools should be designed and utilized for every inspection conducted.
- 2.4 Inspections should include an assessment of ventilation, indoor air quality, lighting, structural safety and floor space on the premises.
- 2.5 An inspection report, with the risk assessment findings and recommendations should be issued to the owner or person in charge after every inspection.
- 2.6 An updated database of all schools should be maintained for monitoring and control purposes.

3. STANDARDS FOR SCHOOLS

Schools must comply with the following environmental health and safety requirements:

3.1 Enclosure of the school premises/yard

The yard/premises must be enclosed with an approved means of enclosure, such as a fence, bricks or other approved material.

- a) Entrance and exit of a school must be controlled so as to prevent unauthorized entry to the premises.

3.2 Toilet and ablution facilities

Adequate toilet and wash up facilities must be provided to meet the needs of pupils and staff members on the premises and must be in compliance to the provisions as set out in the *National Building Regulations and SANS 10400*.

- a) Separate toilet and wash- up facilities must be provided for male and female pupils.
- b) 1 (one) approved toilet (water closet/urinal) or Ventilated improved Pit (VIP) in areas without conventional sewage disposal system, must be provided for each 20 children on the premises, a ratio of **(1:20)** to be maintained. An adequate supply of toilet paper must be supplied in the toilet facilities at all times.
- c) One (1) handwash basin must be provided for every twenty (20) children on the premises, a ratio of **1:20** to be maintained. The basin must be located in or immediately adjacent to the toilets. An adequate supply of soap and a clean towel must be provided at all times.
- d) A supply of hot and cold running potable water must be available at every hand wash basin. In case of unavailability of running water a minimum of 25 liters of potable water must be kept and stored hygienically on the premises at all times for washing of hands.
- e) Separate toilets and hand wash facilities must be provided for staff members on the premises. Toilet and washing facilities for staff may also open for use by visitors.
- f) One toilet and one hand wash basin must be provided for every twelve staff members on the premises **(1:12)**
- g) Separate toilet and wash up facilities must be provided for male and female staff members.
- h) Toilet facilities must be kept in good repair and cleaned and disinfected daily.

- i) Toilet facilities must be properly eliminated and ventilated.

3.3 Accommodation for pupils and staff members at boarding schools **Adequate sleeping accommodation must be provided for all boarding pupils.**

- a) Separate sleeping accommodation must be provided on the premises for male and female pupils;
- b) For dormitories, a floor space of not less than 4.2 m² must be provided for each pupil with a distance of at least 0.9 m must be maintained between each bed;
- c) For cubicles, a cubicle for a single pupil must have its own window and a minimum floor area of 5.0 m²;
- d) A bedroom for a single pupil must have a minimum floor area of 6.0 m².

3.4 Washroom accommodation for boarders

Washroom accommodation must be provided to meet the needs of pupils in a boarding school.

- a) Water closets and/or hand wash basins, baths and/showers must be provided and easily accessible to the sleeping accommodation.
- b) All ablution and toilet facilities must be separately provided for male and female boarders.
- c) One bath/shower and one water closet and/or urinal must be provided for every twelve pupils on the premises (1:12).

3.5 Living accommodation for boarders

Living accommodation must be provided for all boarding schools for the convenience of boarders.

- a) Boarding schools must include living accommodation for the boarding pupils, such as common rooms, game rooms, TV rooms and dining areas.
- b) A floor space of not less than 2.3 m² must be provided in all living accommodation for each pupil on the premises.

3.6 Accommodation for staff in boarding schools

Adequate accommodation should be provided for residential staff.

- a) Accommodation must be provided for members of staff, separate from accommodation provided for boarding pupils.
- b) Accommodation for the staff must include space for sleeping and for eating.
- c) An adequate number of baths/showers, water closets and/or urinals and wash basins must be provided. A ratio of 1:12 must be maintained in provision of each of these facilities.

3.7 Storage facilities for boarders

Adequate storage facilities must be provided.

- a) Adequate storage facilities must be provided for the storage of children's belongings, which may include a lockable locker.
- b) Storage facilities must be provided for the storage of linen.

3.8 Sick Bay facilities

An adequate and equipped sick room must be provided for isolation of sick pupils on the premises.

- a) All schools must have one or more rooms to be utilized as sick bays for the isolation of any pupil that may fall ill. The office may be utilized for this purpose.
- b) An approved and adequately equipped first aid kit must be provided in the sick bay area for treatment of minor injuries or illnesses.
- c) The first aid kit must include, amongst other equipment:
 - Adhesive bandages;
 - Sterile gauzes;
 - Medical tape;
 - Scissors;

- A cardiopulmonary mouthpiece protector;
 - Liquid soap;
 - First aid instruction book;
 - A thermometer; and
 - Disposable gloves
- d) The sickbay area must be equipped with a bed or mattress and there must be at least a distance of 1.8m between each bed/mattress.
- e) Proper supervision must be provided at all times for any pupil placed in the sick bay.

3.9 Medical care for pupils and students

Adequate, timely and appropriate medical attention must be provided for pupils requiring medical care on the school premises.

- a) For any pupil who becomes ill or has suffered an injury requiring medical attention, the school must:
- Immediately assess the injury/illness and if minor, and Provide the necessary care and treatment for minor ailments in the sickbay area.
 - Call for medical assistance, if necessary; and notify the parent/guardian of the pupil.
 - Immediately notify an Environmental Health Practitioner/ relevant health authority in an event of the illness being suspected of being a communicable disease.
- b) A telephone must be available on the school premises for notification of a parent or guardian where applicable and to summon medical assistance in accordance with section a (i).
- c) Pupils suspected of suffering from a communicable disease must be excluded from attending preschool if in the opinion of an EHP or relevant health professional, the person is poses a health risk to other pupils and is capable of communicating the disease.
- d) A list of emergency telephone numbers which must include, fire brigade, ambulance, outbreak response, clinic, hospital, doctor and police must be available and easily accessible on the premises.
- e) Adequate provision must be made for disposable gloves and disinfectants to protect staff and children and to disinfect contaminated areas and surfaces when dealing with blood related illnesses and injuries.
- f) All areas and surfaces where treatment of a child or caregiver for an illness of injury has taken place must be disinfected immediately.
- g) Post exposure prophylaxis for HIV and Hepatitis B must be made available to any pupil/ educator who may have been exposed to blood or bloody substances.

3.10 Outdoor play area

An outdoor play area/yard to be utilized for outdoor activities should be available on the premises.

- a) A school must be provided with an outdoor play area to be utilized for outdoor school activities, such as sports.

3.11 General requirements

Strict health and safety measures must be in place for safeguarding of pupil's welfare.

- a) Reasonable measures must be taken to safeguard the health, safety and welfare of pupils on the premises.
- b) Pupils must be adequately protected against fires, hot water installations, electrical fittings and appliances, heating appliances and any other objects that may be dangerous or constitute a hazard or injury on the premises.
- c) Medicines, detergents, pesticides and other harmful substances must be stored in lockable places and access be given to employees responsible for utilizing such materials only.
- d) The school premises must be kept clean at all times.

SECTION 6: INITIATION SCHOOLS

1. NORMS

- 1.1 Initiation schools permitted by the relevant municipality and traditional authority.
- 1.2 Structures and facilities protect the health and safety of initiates.

- 1.3 The premises comply with environmental health and safety requirements.
- 1.4 Adequate and potable water available within 200m of the habitable structure.
- 1.5 Adequate sanitation facilities available within 200m of the habitable structure.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections of an initiation school should include assessment of aspects such as safety of living structures, indoor air quality and water and sanitation aspects, as well as dirty and unsatisfactory health conditions.
- 2.2 Health education should form an integral part of all inspections conducted.
- 2.3 Health recommendations should be issued with an inspection report to the person in charge after every inspection is conducted.
- 2.4 Environmental health monitoring of initiation schools should be coordinated with other relevant stakeholders, primary health care hospital to ensure the safety of initiates.
- 2.5 A risk assessment should be done for initiation school, focusing on:
 - Food preparation areas; water supply and sanitation; medical care for initiates; and the handling, storage and use of facilities and equipment used in connection with circumcisions of initiates; and handling and disposal of health care risk waste.

3. STANDARDS FOR INITIATION SCHOOLS

Initiation schools must comply with the following minimum environmental health requirements:

3.1 Structural facilities

- a) A suitable structure so constructed as to protect initiates from environmental conditions (heat, cold, rain) must be provided for living and sleeping purposes.
- b) Food must be hygienically prepared in a clean area, with clean utensils at all times, therefore a separate suitably constructed structure must be provided for preparation of meals.
- c) Initiates should be provided with food at least three times a day, including water when required.

3.2 Admission and entry for initiation

- a) No person under the age of 16 years should be admitted for circumcision.
- b) For admission of persons under the age of 21yrs, written consent should be given by a parent/guardian.
- c) Persons 21yrs and older should be admitted voluntarily.
- d) In a case where an initiate has entered the initiation school premises without the necessary consent of parents/guardian, he/she must be separated from the other initiates and may not be allowed to participate in the school's rituals/activities, until such time that the parents have been notified and permission has been granted.

3.3 Water supply and sanitation facilities

- a) A potable water supply that is fit for human consumption must be provided for all uses (drinking, cooking bathing, washing) on the premises.
- b) Water storage facilities must be adequately protected to prevent contamination.
- c) Suitable sanitary facilities must be provided for use by initiates; either portable chemical closet or a safely and well-constructed pit toilet.
- d) Containers used to store night soil should only be emptied in a toilet and cleaned after each use.
- e) Waste should be stored properly on the premises and may be disposed by trench or excavated holes. Burning of waste should be discouraged at all times.
- f) For the disposal of health care risk waste generated during circumcision (foreskins), arrangements should be made with the local health clinic to ensure proper disposal.

3.4 Medical care for initiates

- a) All circumcisions must be conducted in a medically acceptable manner.
- b) The traditional surgeon should consult the local district medical officer before performing any circumcison, to ensure that the district medical officer of health prescribes the surgical instrument and that a traditional surgeon is allowed to use, and the proper usage of the instruments and safe method of circumcison.
- c) The traditional surgeon should always have the district medical officer on standby for referrals and in case of emergencies.
- d) Circumcisions may only be conducted by a medical practitioner, or a traditional practitioner or any person authorized as a traditional surgeon.
- e) All instruments, especially sharps used in connection with the circumcison procedures must be sterilized after each use and razors may only be used once, per individual.
- f) An approved and adequately equipped first aid kit must be available for treatment of minor injuries or illnesses experienced by any initiate on the premises. The first aid kit must include, amongst other equipment:
 - Adhesive bandages;
 - Sterile gauzes;
 - Medical tape;
 - Scissors;
 - A cardiopulmonary mouthpiece protector;
 - Liquid soap;
 - First aid instruction book;
 - A thermometer; and
 - Disposable gloves
- g) The traditional surgeon and other assistants on the premises should undergo first aid training by an authorized provider.
- h) All cases where septic wounds have developed must be referred to the nearest health facility.
- i) Temperatures of initiates showing signs of fever must be monitored to ensure the prevention of infections.
- j) Any initiate showing signs of infection or wound turning septic must be taken to the local hospital or clinic as soon as possible.
- k) The person in charge on the premises must have access to a telephone at all times (1) summon medical assistance as and when necessary, (2) to notify a parent/guardian/next of kin where applicable.

3.5 General requirements

- a) A register/journal must be kept of admissions and discharges of all initiates on the premises. The journal/register must contain the following information:
 - The initiate's name and date of birth;
 - Name, address and contact numbers of the parent/guardian/ next of kin;
 - The name, address and contact numbers of a responsible person other than the parent or guardian who may be consulted in case of emergencies; and
 - The name, address and contact numbers of the initiate's family doctor, if available.
- b) Consideration must be taken for environmental hygiene, other medical and nursing aspects of the initiation school and the general health conditions of the initiates during an inspection.

SECTION 7: ACCOMMODATION ESTABLISHMENTS

For the purpose of this document, accommodation establishments refers to hotels, guest houses, lodges or boarding houses, where accommodation is provided to people on a temporary basis or on a semi-permanent basis.

1. NORMS

- 1.1 The premises operated under a valid Health Certificate issued by an Environmental Health Practitioner of the relevant health authority/municipality, to the effect that the premises and general facilities comply with environmental health requirements.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections of accommodation establishments should be conducted at least twice a year, focusing on food preparation, waste management, water and sanitation and general hygiene practices on the premises.
- 2.2 Inspection checklists should be designed and utilized during all inspections, requirements for accommodation establishment as (discussed below) should be used as a guide for designing inspection checklists.
- 2.3 Environmental health inspections must include the assessment of aspects such as ventilation, indoor air quality, lighting, moisture-proofing, thermal quality and structural safety of the premises, dirty and unsatisfactory health conditions.
- 2.4 An inspection report, including the relevant health recommendations must be issued to the person in charge of after every inspection is conducted.
- 2.5 The quality of water of swimming pools or spa baths in accommodation establishments at must be monitored to ensure safety for use by guests.
- 2.6 An updated database of accommodation establishment must be maintained for monitoring and control purposes.

3. STANDARDS FOR ACCOMMODATION ESTABLISHMENTS

An EHP should assess the conditions of all accommodation establishments to ensure compliance with the following health requirements:

3.1 Accommodation facilities

- a) Rooms of sufficient size must be provided for guests on the premises and each room must have available floor space of not less than 3.7 m² and 11.3 m² of free air space per person.
- b) Beds provided for guests shall be maintained in a clean and sanitary condition and equipped with a mattress cover.
- c) An adequate supply of mattress covers, pillows and other bedding must be provided and maintained in a clean and sanitary condition.
- d) Sheets, towels and pillow cases provided for guests must be laundered prior to each new guest or at least twice per week for long term guests.
- e) Ceilings and walls of rooms must have a smooth finish and painted with a light coloured washable paint or be constructed of some approved finish.
- f) Floors surfaces of kitchens, scullery, laundry, bathrooms, showers, ablution rooms, and toilets, must be constructed of concrete or other durable, impervious material brought to a smooth finish.
- g) All rooms, passages, staircases, bathrooms, kitchen and other areas must be adequately ventilated and illuminated as per the provisions of the National Building regulations and the Building Standards Act.
- h) Each room must have at least one exterior window, openable from the inside without any obstructions.
- i) Heating facilities must be provided on the premises. Heating apparatus shall not emit any smoke, gases or noxious fumes.
- j) Separate rooms must be provided for smoking guests and non smoking guests, unless in the case where the accommodation establishment is designated as a smoke-free zone. In that case smoke-free signs must be placed strategically around the premises and in each quest room.
- k) Rooms designated for smoking must be equipped with adequate means of extraction for the removal of smoke and vapours out of the room.

3.2 Water supply and sanitation

- a) Toilets and wash-up facilities must be provided on the premises to meet the needs of guests, with an adequate supply of hot and cold running potable water.

- b) Toilets, wash hand basins and bath/showers must be suitably placed in each room; otherwise it must be easily accessible to every occupier and designated for different sexes.
- c) A container made of a durable and impervious material, equipped with a close-fitting lid must be provided in every toilet used by females for disposal of sanitary towels.
- d) Suitable and effective means of drainage and sewage disposal must be provided on the premises.
- e) A waterborne sewage system connected to the municipal sewer, a septic tank or other approved disposal system must be utilized for sewage disposal.
- f) Drainages and sewage disposal systems or private sewage disposal systems shall be maintained in proper operating condition and free from defects.
- g) Adequate supply of toilet paper, soap and towel must be provided in the ablution facilities at all times.
- h) All sanitary, ablution and water supply fittings must be kept clean and maintained in good working order.

3.3 Swimming pools and hot tubs

If hot tubs/swimming pool facilities are provided on the premises for use by the guests;

- a) The bath tub/swimming pool must be frequently monitored for turbidity, residual disinfectant and pH values as well as microbiological parameters to ensure safety of guests.
- b) The pH of swimming pool water should be controlled to ensure efficient disinfection and coagulation, to avoid damage to the pool fabric and ensure user comfort. The pH should be maintained between 7.2 and 7.8 for chlorine disinfectants and between 7.2 and 8.0 for bromine-based and other non-chlorine processes.
- c) Management must ensure sampling of bath tub/pool regularly for heterotrophic plate count, E Coli, Pseudomonas aeruginosa and legionella spp.

3.4 General requirements

- a) A laundry facility must be provided on the premises, equipped with facilities for washing, drying and ironing.
- b) Separate storage facilities must be provided for the storage of clean and soiled articles separately.
- c) Sleeping facilities equipped with a bed must be provided for all employees that reside on the premises.
- d) If meals are not provided for employees on the premises, food preparation and dining facilities must be provided.
- e) Adequate changing facilities must be provided for non-resident employees on the premises.
- f) The premises of all accommodation establishments, including all equipment used in connection with the operation of the facility must be maintained in a clean and sanitary good condition at all times.
- g) The premises must be maintained in a condition that prevents, wherever possible, the entry, presence and harbourage of rodents, flies and other pests.
- h) At least one permanently wired smoke alarm is required in each floor level, including basements and between each sleeping room.
- i) Smoke alarm must also be located in each bedroom.
- j) At least one fire extinguisher must be installed on each floor level of the premises and an additional one is to be installed in the kitchen area.

SECTION 8: BEAUTY SALONS

For the purpose of this document, beauty salons shall refer to premises where any one or more or a combination of services is provided, hairdressing, barber, beauty and cosmetology services, tattoo parlour, tanning sun beds, and health spas.

1. NORMS

- 1.1 The premises operated under a valid Health Certificate issued by an Environmental Health Practitioner of a relevant health authority/municipality, to the effect that the premises and general facilities comply with environmental health requirements.
- 1.2 The use, operation and handling of radiation operated equipment on the premises in compliance with the *Hazardous Substances Act 15 of 1973*.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Inspections must be conducted at least once in a year.
- 2.2 Checklists should be designed and utilized for inspection purposes.
- 2.3 Inspections should include the assessment of dirty and unsatisfactory health conditions.
- 2.4 An inspection report, including the relevant health recommendations must be issued to the person in charge of the beauty salon after every inspection is conducted.
- 2.5 A database of all beauty salons must be maintained for monitoring and control purposes.

3. STANDARDS FOR BEAUTY SALONS

Beauty salons must comply with the following requirements:

3.1 Structural facilities

- a) Walls must be constructed of an easily cleanable material and painted with a light coloured oil paint.
- b) Floors must be constructed of an easily cleanable material brought to a smooth finish and the ceiling must be of a material that is dustproof.
- c) Toilet and ablution facilities must be provided for the clients and for employees on the premises. One toilet must be provided for every 12 employees 1:12 and one toilet must be provided for every twenty clients on the premises 1:20. The toilet facilities must be designated by sex.
- d) Adequate wash up facilities with a constant supply of hot and cold running potable water must be provided for washing of hair and hands.
- e) An approved system for the disposal of waste water must be provided.
- f) All working surfaces, including shelves, fixtures and table tops must be constructed of a durable, non-absorbent and easily cleanable material.
- g) Adequate storage facilities must be provided for the storage of articles in connection with the services provided.
- h) Where five or more persons of the same sex are employed on the premises, adequate separate change rooms must be provided for the storage of personal belongings.
- i) The change rooms provided must contain an individual locker for every employee and a hand wash basin provided with a supply of hot and cold running potable water and an adequate supply of soap and disposable towel.
- j) All refuse must be disposed off in an environmentally acceptable manner. Approved methods of waste storage and disposal must be adopted to prevent offensive odours and wind-blown litter.
- k) A central refuse storage area must be provided on the premises for the storage of waste pending removal for disposal.
- l) Adequate number of refuse bags and or bins must be provided for the collection of waste on the premises. The refuse bags must therefore be transferred to the central storage area.
- m) The salon premises may not be used for the purpose of food preparation or for sleeping.
- n) The premises and equipment must be maintained in good conditions and clean and sanitary at all times.
- o) Employees on the premises must be equipped with adequate protective clothing.
- p) Animals may not be permitted on the premises, unless in the case of a guide dog.
- q) Instruments used in the salon must be disinfected after each use.
- r) All instruments that come into contact with blood must be sterilized after each use.
- s) Plastic, cloth towels, aprons and caps must be washed daily after each use.
- t) Disposable gloves and wipes must be disposed off after each use.
- u) All sharp instruments, bloodied instruments and waste water in an approved manner.
- v) Razors, blades, needles and other sharp instruments must be stored separately in a sharp instrument box.
- w) An approved first aid kit must be available on the premises at all times for the treatment of minor injuries. The first aid must be equipped with the following;
 - Adhesive bandages;
 - Sterile gauzes;
 - Medical tape;
 - Scissors;

- Liquid soap;
 - First aid instruction book; and
 - Disposable gloves
- x) Adequate number of towels must be available for various uses by customers.
- y) Laundry facilities for the washing of all linen and towels must be provided on the premises.
- z) If beverages are provided on the premises, a separate area must be provided equipped with a facility for cleaning crockery and utensils for that purpose.

3.2 The use of ultra-violet radiation for tanning

- a) Persons under the age of 18 may not be allowed to make use of or operate, or to be in contact with any operations of the sunbed business on the premises.
- b) Users of sunbeds must be provided with all relevant health information in relation to the use of sunbeds, which should be placed in a conspicuous place on the premises, for easy access by the users.
- c) Adequate protective eye wear must be available for use by the users at all times during tanning, and if not disposable, the eye wear must be cleaned and disinfected after each use.
- d) A sunbed business should keep records of:
 - All clients that uses their services; including their contact details and residential addresses;
 - Incidences, including the effects thereof, experienced by clients, during sunbed usage;
 - Maintenance, service and inspection monitoring; which should all be kept for a period of at least 3 yrs before discarding.

SECTION 9: SWIMMING POOLS AND SPA BATHS

For the purpose of this document swimming pools shall refer to public swimming pools, as well as pools and spa baths located in accommodation establishments, beauty salons or spas.

1. NORMS

- 1.1 Swimming pools and spa baths operated under a valid Health Certificate issued by an Environmental Health Practitioner of a relevant health authority/municipality, to the effect that the premises and general facilities comply with environmental health requirements.
- 1.2 The quality of the swimming pool water in compliance with section.....of the *norms and standards for water quality monitoring* and the standards as specified in the *WHO Guidelines for Recreational Water environments*.
- 1.3 The premises promote the health and safety to users of the facility.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections of swimming pools and spa baths should be conducted at least twice a year (or not less than once in a year). The inspection to include the monitoring of the quality of the water of swimming pools and spa baths.
- 2.2 A record of water quality of each swimming pool should be kept by an EHP and/or pool supervisor/manager.
- 2.3 An inspection report, with relevant health recommendations should be issued to the person in charge after every inspection is conducted.
- 2.4 Health education should be an integral part of all environmental health inspections conducted.

3. STANDARDS FOR SWIMMING POOLS AND SPA BATHS

An EHP should assess the conditions of swimming pools and spa baths to ensure compliance with the following requirements:

3.1 Structural and physical facilities

- a) Every swimming pool must be surrounded by a wall or fence as prescribed by the National Building Regulations and the Building Standards Act.

- b) Potable water supply serving the swimming pool, showers, drinking points and other water using devices shall be in compliance with the SANS 241 for drinking water of 2011.
- c) The surface of the floor area surrounding the spa bath or swimming pool must be constructed of an approved impervious, non slip material.
- d) Toilet facilities (flush water closets and urinals) and showers must be provided on the premises. Separate toilet and showers must be provided for males and for females. The toilet facilities shall also be accessible to disabled persons.
- e) The ratio of toilets, urinals and showers shall be one (1) water closet for every twenty (40) and one (1) urinal for every fifty (50) males swimmers expected at the time full capacity.
- f) The ratio of one (1) shower must be provided for every twenty (20) swimmers on the premises.
- g) Floors, walls and ceiling in the toilet and shower facilities must be constructed of an approved material, not adversely affected by steam, water.
- h) Toilet and shower facilities must be properly ventilated in accordance with the Building Regulations, to prevent the existence of odour nuisances.
- i) Toilet and shower facilities must be kept clean and sanitary at all times.
- j) Floors of toilets and shower rooms shall be constructed of a non-slippery finish, impervious to moisture that is easily cleanable.
- k) Readily accessible change rooms must be provided for the convenience of users and must be separated for each sex.
- l) Water used to fill swimming pools or to keep the level of the pool or spa baths must be obtained from an approved water source.

3.2 Monitoring of water quality

- a) The spa bath/swimming pool must be frequently monitored for turbidity, residual disinfectant and pH values. The pH of swimming pool water should be controlled to ensure efficient disinfection and coagulation, to avoid damage to the pool fabric and ensure user comfort. The pH should be maintained between 7.2 and 7.8 for chlorine disinfectants and between 7.2 and 8.0 for bromine-based and other non-chlorine processes. Where chlorine based disinfectant are used, a minimum free available chlorine residual of 0.5 mg/l, with a maximum free available chlorine residual of 3 mg/l must be maintained.
- b) The total viable bacteriological count of any sample submitted for analysis must not exceed 100 organisms per ml of water.
- c) Escherichia coli type 1 bacteria must not be present in any 100 ml of spa bath or swimming pool water.
- d) An EHP must take bacteriological and chemical samples of the spa bath or swimming pool water at least monthly. Heterotrophic plate count, E Coli, Pseudomonas aeruginosa and legionella spp must be sampled as well.

Frequency of sampling for swimming pools

| Pool type | Heterotrophic plate count | Thermotolerant coliform/E. coli | Pseudomonas aeruginosa | Legionella spp. |
|--|----------------------------------|--|------------------------------------|------------------------|
| Disinfected pools, public and heavily used | Weekly (<200/ml) | Weekly (<1/100 ml) | When situation demands (<1/100 ml) | Quarterly (<1/100 ml) |
| Disinfected pools, semi-public | Monthly (<200/ml) | Monthly (<1/100 ml) | When situation demands (<1/100 ml) | Quarterly (<1/100 ml) |

WHO guidelines for recreational water environments

- e) Only SANAS accredited laboratory or a DWA approved laboratory should be used for analysis of water samples.
- f) In addition to routine sampling, samples should also be taken from public and semi-public facilities:
 - Before a pool is used for the first time;
 - Before it is put back into use, after it has been shut down for repairs or cleaning;
 - If there are difficulties with the treatment system; and
 - As part of any investigation into possible adverse effects on bathers' health.
- g) Equipments for the random testing of water must be available on the premises for routine testing of the quality of spa bath/swimming pool water.

- h) A daily record must be kept on the premises of the quality of spa bath water. An EHP must have full access of those records.
- i) The premises of a spa bath or swimming pool must be kept in a safe, clean and sanitary condition and in good repair at all times.
- j) No direct physical connection between the sewer system and any drain from the swimming pool or recirculation system must exist. Any swimming pool, gutter drain, overflow from the recirculation system when discharged to the sewer system shall connect through a suitable air gap so as to preclude the possibility of backflow sewage or waste into the swimming pool piping system.

3.3 General hygiene requirements

- a) The spa bath/ swimming pool and its surroundings must be kept in a clean and sanitary condition at all times.
- b) Pre-swimming hygiene education must be given users in both public and semi public pools.
- c) The sewer system shall be adequate to serve the facility, including bathhouse, locker room and related accommodations. The sewer line serving the backwash for the filter shall be 1-1/2 times the size of the backwash line or provide a containment vessel capable of holding a minimum of 5 minutes volume of backwash water at the backwash design rate.
- d) In the case of an accidental faecal release or vomit:
 - The facility must be closed for use and all bather removed;
 - The contaminants shall be removed and inactivated;
 - The water chemistry shall be checked;
 - If disinfection levels are within required parameters, the pool shall remain closed for at least 60 minutes and then re-opened.
 - If disinfection levels are not within the required parameters, the pool shall be closed and disinfection levels restored. The facility may re-open 60 minutes after acceptable disinfectant levels have been attained.
 - If faeces are in the form of diarrhoea, the pool shall be closed for 24 hrs, remedial action taken to remove the contaminants, disinfect the facility and attain acceptable quality standards before re-opening the facility.
- e) Persons suspected of suffering from a communicable disease shall not be permitted to use a spa bath/swimming pool.
- f) Animals shall not be allowed in the spa bath/ swimming pool or surrounding area, unless in the case of a guide dog.

3.4 Other requirements

- a) A properly maintained, approved and fully resourced first aid box must be kept on the premises for the treatment of minor injuries.
- b) A qualified and proficient life saver/s must be available on swimming pool premises and must be competent in life saving, first aid, and the operation of the swimming pool.
- c) The sanitary sewer serving the swimming pool and auxiliary facilities shall discharge to the public sewer system wherever possible. Where no such sewer is available, a method of disposal must be in place.

SECTION 10: DRY CLEANING AND LAUNDRY ESTABLISHMENTS

1. NORMS

- 1.1 The premises operated under a permit authorizing that activity, issued by the relevant municipality.
- 1.2 The premises and general facilities in compliance to environmental health and occupational hygiene requirements.
- 1.3 Emission levels in compliance with the prescribed Ambient Air Quality Standards in terms of the *National Environmental Management: Air Quality Act 39 of 2004*.
- 1.4 Fire fighting and control equipment available and in compliance to the local municipality fire department requirements.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections of laundry and dry cleaning establishments should be conducted at least once in a year. The risk profile of the premises must be taken into consideration as well to determine frequency of inspections.
- 2.2 Inspections should include the assessment of aspects such as ventilation, indoor air quality, emissions.
- 2.3 An inspection report, including the relevant recommendations must be issued to the person in charge after every inspection is conducted.
- 2.4 EH must maintain a database of all dry cleaning and laundry services in their local authority jurisdiction for monitoring and control purposes.

3. STANDARDS FOR DRY CLEANING AND LAUDRY ESTABLISHMENTS

An EHP should assess the conditions of laundry and dry cleaning facilities to ensure compliance with the following requirements:

3.1 Structural facilities

- a) The layout of the laundry and plant in health facilities must meet process requirements for ensuring health and safety of employees; for controlling of infection; and avoiding contamination;
- b) Ventilation must comply with specific air flow requirements e.g. from clean to soiled linen areas and from roof to floor in contaminated linen areas;
- c) Drainage for laundry from health facilities must be designed without open drains; with lockable inspection or rodding eyes; with a flow from clean to dirty areas; and not connected to storm water drainage;
- d) The premises shall have adequate lighting according to luminance values for laundering & ventilation, as prescribed by the *National Building Regulations and Building Standards Act 103 of 1977*;
- e) Internal walls shall be constructed of an impervious, brought to a smooth finish and painted with a light coloured paint that is easily cleanable;
- f) Ceilings must be dust proof, smoothly finished and painted with a light coloured washable paint;
- g) Floor surfaces shall be constructed of cement or some other adequate impervious material, brought to a smooth finish and properly drained;
- h) The minimum height from floor to ceiling of any room or area must be not less than 2.4 meters;
- i) Toilet facilities and hand wash basins must be provided on the premises and must be separated for males and females. At least one (1) toilet and one (1) hand wash basin must be provided for every twenty (20) employees on the premises;
- j) Every toilet must be clearly gender designated;
- k) A constant supply of toilet paper, soap and disposable paper towel must be provided in the toilet facilities at all times;
- l) A workroom or area used for housing dry- cleaning machines, washing-machines, and all other fixed or movable equipments used for the operation of a dry cleaning or laundry facility must be provided on the premises;
- m) In the case of receiving depots, a separate area with a minimum width of not less than 2m must be provided, fifty percent of that area must be unobstructed;
- n) A floor area of not less than 2.5 m² per person must be provided in the work area for persons employed on the premises;
- o) A separate area with separate designated counters, with an impervious surface must be provided for receiving and dispatching of articles;
- p) A separate area must be provided for receiving and marking of soiled and dirty articles and the area must be equipped with;
 - Working tables constructed of a durable material with an impervious surface;
 - Adequate containers constructed of a washable material for storage of dirty articles; and
 - Hanging rails and shelves constructed of an impervious material in the area for marking clean articles.
- q) A store room of facilities for the storage of packaging material and other articles must be provided and equipped with adequate packing shelves;
- r) Suitable and separate hazard-free storage for chemicals must be provided;
- s) All packaging shelves must be at a height of at least 250mm above floor level;

- t) A separate room or area with separate designated counters, with an impervious surface must be provided for the receipt and dispatch of articles;
- u) When five or more persons of the same sex are employed on the premises, adequate separate change rooms must be provided for male and female employees and designated for each sex;
- v) Change rooms must be provide with;
 - An adequate locker for every employees;
 - A hand wash basin provided with a supply of running hot and cold potable water; and
 - And adequate supply of soap and disposable towels at every hand wash basin.
- w) All machinery and equipment must be equipped with adequate suction fans to remove any noxious gas, steam and hot air from any room and to release it in the open air in an adequate manner;
- x) If nappies are laundered on the premises, a separate pre-rinsing area must be provided for rinsing of nappies prior to washing;
- y) An approved, suitable and effective means of drainage and sewage disposal must be available on the premises;
- z) The premises of a dry-cleaning and laundry establishments, all fittings, equipments and appliances and machinery must be kept clean, hygienic and in good repair at all times;
- aa) Equipment for fire fighting and control of accidental fires should be available on the premises;
- bb) A tea kitchen provided with a single-basin stainless steel sink, with a constant supply of hot and cold running potable water must be provided separately, to meet the needs of employees on the premises; and
- cc) Acceptable waste management strategies must be utilised to handled all waste generated on the premises (provision of refuse bins for collection of waste, adequate waste storage prior to disposal and disposal by municipality or other approved authority).

SECTION 11: CLINICS, INCLUDING SURGERIES AND OTHER MEDICAL COMPLEXES

For the purpose of this document, surgeries, day clinics and other medical complexes refers to private doctor's surgeries, private and public clinics, medical complexes, dentists surgeries, pharmacists, excluding public and private hospitals and facilities providing in-patient services.

1. NORMS

- 1.1 The premises facilities and infrastructure in compliance with environmental health and occupational hygiene requirements as well as the *Core Standards for Health Establishments in South Africa*.
- 1.2 Building structure and facilities in compliance with the requirements of the *National Building Regulations and the Building Standards Act 103 of 1977 and SANS 10400*.
- 1.3 The use of equipment, material or substances by workers in accordance with the provisions as set out in the *Occupational Health and Safety Act 85 of 1993*.
- 1.4 Fire fighting and control equipment available and in compliance to the local municipality fire department requirements.
- 1.5 Potable water available, in compliance to *SANS 241* available and within 200m of the premises, 24 hours a day, at a flow rate of not less than 10liters per minute, 7 days a week.
- 1.6 Adequate basic sanitation available within 200m of the premises. If non-water borne sanitary facilities is used, must be Ventilated Improved Pit (VIP) toilets, well constructed to agreed standards as specified in the RDP Guidelines.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections of clinics should be conducted at least once a year.
- 2.2 Inspection checklists should be designed for utilization during all environmental health inspections.
- 2.3 An inspection report, including the relevant recommendations must be issued to the person in charge after every inspection is conducted.
- 2.4 EH must maintain a database of clinics in their local municipality for control and monitoring purposes.
- 2.5 Inspections should include the assessment of aspects such as ventilation, indoor air quality, lighting, structural safety of the premises, as well as other dirty and unsatisfactory health conditions.

3. STANDARDS FOR SURGERIES, DAY CLINICS AND OTHER MEDICAL COMPLEXES

Surgeries, day clinics and other medical complexes must comply with the following requirements:

3.1 Physical and structural facilities

- a) Surfaces of walls, floors, ceilings, doors and equipment must be of a smooth finish that facilitates cleaning and disinfecting as is required in a facility providing medical care.
- b) Adequate floor space must be provided to allow unobstructed movement of patients, mobile equipment, and staff and to ensure that the hospital adheres to an acceptable level of occupation density in consulting rooms and related facilities.
- c) The locality of all facilities, including lifts, fire escapes and general exits must be clearly indicated for convenience of patients, staff and visitors.
- d) Facilities for patients and other visitors must be adapted to accommodate physically disabled persons.
- e) Consultation rooms should be provided separate from waiting rooms to facilitate privacy for consultation purposes.

3.2 Water supply and ablution facilities

- a) Potable running water in compliance with the SANS 241, with regards to its bacteriological, chemical and physical quality must be available on the premises.
- b) Taps and pipes must be maintained in good working order and in good repair, rust free.
- c) Water must be continuously available for 24 hours a day on the premises and to accommodate other uses e.g. fire fighting.
- d) An adequate supply of running hot and cold water must be provided on all hand wash basins and sinks on the premises.
- e) Adequate ablution and toilet facilities must be provided for use by patients and staff. 1 (one) toilet facility and 1 (one) handwash basin must be available for every 12 (twelve) staff members, and 1 (one) toilet facility and 1 (one) handwash basin must be available for every 20 (twenty) patients/visitors, and located in close proximity to the waiting rooms.
- f) Doors of ablution and toilet facilities for patients must be un-lockable from the outside.
- g) The toilets must be kept clean and sanitary, with an adequate amount of toilet paper, soap and drying towels available at all times.
- h) Floors of toilet facilities must be constructed of a smooth and easily cleanable material.
- i) Walls must be of a smooth finish and painted with a light coloured, washable paint or tiled.

3.3 Health care risk waste management

Approved methods of waste collection, storage, transportation and disposal must be adopted and must be in line with SANS 10248.

- a) The collection, storage and disposal of waste, including health care risk waste must be managed in accordance with the requirements as specified in the *SANS Code 10248 and Section 9-10 of the Norms and Standards for Waste Management*;
- b) A waste management plan concurrent to the standards as set out in the *Core Standards for health Establishments in South Africa* must be in place and updated every two years.
- c) A designated staff member responsible to ensure that the collection, handling, storage and disposal of waste on the premises is in compliance to relevant legislation and standards must be available.
- d) The facility must have a documented waste management policy and procedures that is followed for the collection, handling, segregation, storage and disposal of waste (incl health care risk waste, such as infectious anatomical and pathological, sharps, pharmaceutical, chemical and radiation hazard waste).
- e) If the facility makes use of the services of a private contractor for managing of waste, the contractor must be an approved and legally compliant waste removal service provider and a service level agreement in place.
- f) An adequate number of containers for the disposal of health care risk waste and general waste must be available and accessible to handle the volume of waste generated on the premises.
- g) Appropriate bags and containers must be available and used for the type of waste collected.

- h) An adequate number of purpose-manufactured, leak-proof, sealable containers must be available for the storage of health care risk waste. Such containers to be designed as to not allow the exposure of needles, cuts and other substances that may cause harm to service users or staff members;
- i) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- j) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- k) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- l) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- m) Health care risk waste may only be removed/ collected, transported, treated and dispose by a registered service provider from the premises.

3.4 Infection prevention and control

- a) Infection control and prevention standards concurrent with the standards as set out in the Core Standards for Health Establishments in South Africa, published by the National Department of Health, Office of the Health Standards Compliance.

3.5 Storage facilities

- a) If five or more persons are employed, separate change-rooms must be provided for male and female staff members, equipped with storage facilities or lockers for personal belongings of each worker.
- b) Food and non-food items must be stored separately; refrigerators used for storage of medicines must not at any time be used for storage of any foodstuffs.
- c) Separate storage facilities for dirty and clean linen and equipment, including sluice facilities for cleaning of soiled linen and equipment must be provided.
- d) Separate storage facilities must be provided for storage of cleaning equipment and medicines.

3.6 Rodent proofing and pest control

- a) The construction of rodent proofing must be done on the internal and external areas of the facility to minimize the risk of rodents and pests.
- a) Rodent proofing in must be maintained in good order or repair so as to be impervious to rodents.
- b) To prevent the wide-spreading of rodents or pests, rodents must be eliminated before demolition of any building or structure likely to be infested with rodents.
- c) A rodent management program must be in place in line with the requirements as set out in Section.....of this norms and standards.

3.7 General requirements

- a) The storage and dispensing of medicines must comply with the *Pharmacy Act, Medicines and Related Substances Act* and the relevant regulations.
- b) The building structure must be maintained in good repair to provide the safety of clients/patients.
- c) The premises must comply to the Local Fire Authority's, fire safety regulations and requirements.
- d) All areas of the facility must be kept clean, free from offensive odours, debris, litter and other miscellaneous waste at all times.
- e) Appropriate cleaning material and equipment must be available and properly used and stored.
- f) Infection control procedures relating to cleaning must be followed in all areas of the facility.

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| SECTION 12: HEALTH ESTABLISHMENTS |
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Health establishments shall refer to public and private hospitals and includes, district, regional and tertiary hospitals.

1. NORMS

- 1.1 Physical facilities and the maintenance of a hospital facility in compliance with environmental health and occupational hygiene requirements.
- 1.2 Building structure in compliance with the requirements of the *National Building Act and the National Building Regulations, 103 of 1977 and SANS 10400*.
- 1.3 The use of equipment, material or substances by workers in accordance with the provisions as set out in the *Occupational Health and Safety Act 85 of 1993*.
- 1.4 Fire fighting and control equipment available and in compliance to the local municipality fire department requirements.
- 1.5 Hospitals conform to the standards as set out in the *Health Standards Compliance norms and standards*.
- 1.6 Potable water available, in compliance to *SANS 241* available and within 200m of the premises, 24 hours a day, at a flow rate of not less than 10liters per minute, 7 days a week.
- 1.7 Adequate basic sanitation available within 200m of the premises. If non-water borne sanitary facilities are used, must be Ventilated Improved Pit (VIP) toilets, well constructed to agreed standards as specified in the RDP Guidelines.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 An EHP should conduct environmental health inspections of hospitals at least twice (2) in a year.
- 2.2 Environmental Health must implement an integrated health and safety management system utilizing a hazard identification and risk-based approach for all hospitals. The integrated shall include but is not limited to the following components:
 - A risk categorization process which uses a site-specific risk assessment to determine the risk level, inspection frequency and any other strategies for the safe operation of the hospital;
 - An inspection process to assess risk of hospitals determine compliance with the *National Health Act 61 of 2003*;
 - A monitoring and evaluation process to annually assess and measure the effectiveness of food safety and waste management strategies in the hospital.
- 2.3 A risk assessment should be conducted an EHP to assess conditions on the premises that may pose a threat to the health by:
 - Identifying potential health hazards from practices with regards to the handling, preparation, storage, preservation and serving of food;
 - Identifying potential risks from the collection, handling, storage and disposal of waste practices;
 - Assessing the likelihood of the hazard posing a risk;
 - Estimating the severity of the consequences, if harm is caused; and
 - Recommending action plans to child care centre management to eliminate the hazard or minimise its effect through control measures.
- 2.4 Inspection checklists should be designed and utilized during all environmental health inspections. The checklists should included lists for quality audits of a hospital to identify problem areas from records, reports and complaints; and assess risks of environmental pollution or infection and disease transmission from a hospital laundry.
- 2.5 An inspection report, including the relevant recommendations must be issued to the person in charge after every inspection is conducted.
- 2.6 EH must maintain a database of all hospitals (district, regional and tertiary), in their local municipality area of jurisdiction for control and monitoring purposes.

3. STANDARDS FOR HOSPITALS

Hospitals must comply with the following environmental health requirements:

3.1 Drinking water quality

- a) The quality of water supply to health facilities must comply with the requirements as set out **SANS 241**, with regards to its bacteriological, chemical and physical quality.
- b) In case a health facility /hospital has additional building-specific sources of water used to augment the external supply, or have specific purposes that increase potential risk, hospitals should have risk assessment plans in place. EHPs must therefore ensure that the testing of water quality is conducted.

- c) Health care facilities should have access to a constant, safe and adequate water supply. If on-site storage facilities are available, storage capacity should be enough for 24hrs.
- d) Water supply to health care facilities should be adequate to accommodate other uses, e.g. domestic uses, personal hygiene and fire fighting in case of emergencies.
- e) Water storage facilities e.g. reservoirs and tanks must be adequately protected from contamination.
- f) EHPs should monitor continuously the water in reservoirs and tanks for compliance and possible pollution activities. The water in the storage facilities must be tested for compliance and fitness from consumption.
- g) Water source e.g. borehole, must be effectively protected against contamination.
- h) If non-compliance is identified when testing of the water, the EHP should then trace the problem back to the possible source of contamination. The possible source of contamination must then be monitored as part of a risk management approach to ensure effectiveness of interventions.
- i) To prevent organisms that grow in temperatures between 25⁰C and 50⁰C e.g. *Listeria* spp hot water temperatures especially in health facilities, must be kept above 50⁰C and cold water below 20⁰C.
- j) The water supply system that includes the sources (if applicable), pumps, purification plant, taps, pipes, storage facilities and the distribution network linked to health facilities should be maintained in good working order.
- k) Taps and pipes containing water not fit for human consumption must be marked as such.
- l) The necessary chemicals should continuously be available for water purification, where purification is undertaken by the hospital.
- m) Designated hospital staff should perform regular monitoring of the water system in the hospital. EHPs must perform similar monitoring investigations and carry out regular quality and compliance monitoring.
- n) Records of hospital water quality monitoring should be kept.

3.2 Toilet and ablution facilities

- a) Adequate toilet and wash up facilities must be provided in for patients and staff on the premises. At least 1(one) toilet must be provided for every 15(twelve) patients, and 1 (one) hand wash basin, and 1 (one) bath or shower must be provided for every 15 (twelve patients).
- b) Adequate toilet and wash up facilities must be provided for staff on the premises.
- c) The premises of a health facility must be kept clean and all facilities maintained in good order at all times.
- d) Floors of toilet facilities must be constructed of a smooth and easily cleanable material.
- e) Walls must be of a smooth finish and painted with a light coloured, washable paint or tiled.

3.3 Waste management

Approved methods of waste collection, storage, transportation and disposal must be adopted.

A facility waste management plan and a waste management policy must be developed and implemented.

Approved methods of waste collection, storage, transportation and disposal must be adopted and must be in line with SANS 10248.

A waste management officer must be designated for each facility, responsible for only the management of waste (general and health care risk waste)

- a) The collection, storage and disposal of general waste, must be managed in accordance with the requirements as specified in *Part U of the National Building Regulations and Section 2-5 of the Norms and Standards for Waste Management*;
- b) An approved refuse area must be provided on the premises for the storage of all refuse pending removal;
- c) Access to waste storage facility must be limited to employees who have been trained with respect to the operation of a waste facility;
- d) An adequate number of refuse bins must be provided for the storage of general waste on the premises; and
- e) Measures must be taken to prevent access of the public or unauthorized personnel to health care risk containers.

- f) The collection, storage and disposal of waste, including health care risk waste must be managed in accordance with the requirements as specified in the *SANS Code 10248 and Section 9-10 of the Norms and Standards for Waste Management*;
- g) A waste management plan concurrent to the standards as set out in the *Core Standards for health Establishments in South Africa* must be in place and updated every two years.
- h) A designated staff member responsible to ensure that the collection, handling, storage and disposal of waste on the premises is in compliance to relevant legislation and standards must be available.
- i) The facility must have a documented waste management policy and procedures that is followed for the collection, handling, segregation, storage and disposal of waste (incl health care risk waste, such as infectious anatomical and pathological, sharps, pharmaceutical, chemical and radiation hazard waste).
- j) If the facility makes use of the services of a private contractor for managing of waste, the contractor must be an approved and legally compliant waste removal service provider and a service level agreement in place.
- k) An adequate number of containers for the disposal of health care risk waste and general waste must be available and accessible to handle the volume of waste generated on the premises.
- l) Appropriate bags and containers must be available and used for the type of waste collected.
- m) An adequate number of purpose-manufactured, leak-proof, sealable containers must be available for the storage of health care risk waste. Such containers to be designed as to not allow the exposure of needles, cuts and other substances that may cause harm to service users or staff members;
- n) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- o) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- p) Containers used for the storage of health care risk waste must be clearly labeled in large, legible lettering;
- q) Employees must be adequately trained in the identification, separation, handling and storing of health care risk waste;
- r) Health care risk waste may only be removed/ collected, transported, treated and dispose by a registered service provider from the premises.

3.4 Storage facilities

Adequate storage facilities which should be utilized for storage and distribution of items must be provided.

- k) Storage facilities must be provided for the storage for medicines and drugs and such facilities must be kept locked at all times except when medicines or drugs are being removed or returned to it;
- l) Additional storage facilities must be provided for the storage of poisons, habit-forming drugs and potentially dangerous drugs;
- m) Storage room must contain adequate moveable shelving made of impervious material.
- n) Every shelf in a store room must be a minimum height of 225 mm above the floor;
- o) All storerooms and store facilities must be kept clean at all times and cleaned routinely at least once every week;
- p) Hazardous substances must be stored and disposed in a safe manner, separate from other non-hazardous materials;
- q) Expired medicines to be kept and disposed in a safe manner;
- r) Adequate storage facilities must be provided for the storage of any spare equipment, including particularly heavy equipment and gas cylinders. The equipment must be stored in manner so as not to obstruct any passages, entrances or exits to the premises;
- s) Adequate storage facilities for articles that are reasonable necessary to store on the premises for the day to day running of the nursing home must be provided; and
- t) A separate linen room, containing adequate cupboards or shelves for the storage of linen must be provided.

3.5 Reception of dead bodies on the premises

- a) All facilities used in connection with the handling, preparation, storage and transportation of dead bodies on the premises must be in compliance with the *Regulations relating to the management of human remains published in terms of the National Health Act, 61 of 2003*.
- b) A policy must be in place for the handling of corpses in the hospital.
- c) Suitable trained staff should be responsible for duties in the mortuary and ensure that the Hygiene Standards are adhered to; and
- d) A cleaning program for the mortuary should be in place.
- e) A register should be kept to record information regarding the handling of corpses; including the record of refrigeration facilities temperatures taken daily.
- f) The infection control staff member should regularly monitor whether the policy regarding the handling of corpses is followed and whether the mortuary is operated in an acceptable manner and in consideration of the norms and standards document; and

3.6 Food preparation facilities

A kitchen area, having regard to the size of the hospital, must be provided for preparation of foodstuffs for service users.

- a) All facilities used in connection with the handling, preparation, storage and serving of foodstuffs on the premises must be in compliance with the requirements of the *Regulations Governing General Hygiene Requirements for Food Premises and the Transport of Food R692 of 21 November 2012, published in terms of the Foodstuffs, Cosmetics and Disinfectants Act 54 of 1972*.

3.7 Laundry facilities

- a) The hospital should have access to well manage laundry facilities for the effective laundering of linen, for controlling of infection; and avoiding contamination;
- b) Surface finishes of walls, floors, ceilings, fittings, tables and trolleys must be smooth and easily cleanable
- c) The laundry facility must be properly ventilated by cross ventilation and adequately illuminated.
- d) Drainage must be designed without open drains; with lockable inspection or rodding eyes; with a flow from clean to dirty areas; and not connected to stormwater drainage;
- e) Areas receiving soiled linen must be separate from areas of clean linen.
- f) Adequate ablution and toilet facilities must be provided, including an emergency shower or eye-wash facility in the wash-room where chemicals are handled.
- g) Suitable and hazard-free storage for chemicals must be provided.
- h) The capacity and the condition of the equipment used for washing should meet the hospitals laundering requirements.
- i) Vehicles, containers, trolleys or other manually operated equipment for the transporting of linen must conform to requirements to ensure contamination free conditions.

Competency of staff

- a) The laundry management/controller and other designated staff must know how to:
 - carry out their functions effectively;
 - handle hazardous goods in the laundry service;
 - follow procedures (including first aid) with regard to prevention and control of infection;
 - use protective clothing and follow procedures for decontamination; and
 - operate laundry machines in order to ensure optimum results including general safety procedures.;
- b) Laundry staff must be required to pass the appropriate medical examination at appointment followed by routine health monitoring as prescribed by occupational health and safety legislation; and
- c) The relevant Environmental Health Practitioner (in the case of a general Health Facility Laundry) and that of a competent authority in the case of a Laundry Facility in the Health Facility within the Points of Entry should be competent to:
 - monitor the effective functioning of the laundry service; and
 - advise Health Facility management on environmental health and occupational hygiene requirements contained in relevant legislation or national standards.

Operational requirements for laundering in health facilities

- a) A policy for the management of linen in a facility should be in place;
- b) Adequate resources should be provided to ensure effective laundering of linen, including for proper maintenance of buildings and equipment;
- c) A quality management system should be established incorporating:
 - work instructions and procedures;
 - process control procedures;
 - quality control procedures; and
 - control of linen (clean/soiled) procedures.;
- d) A procedure specifically for infection/contamination control must be made available to staff handling linen. The procedure should include control measures through differentiation between categories of soiled linen, i.e. of high-risk to normal soiled linen:
 - Category A (red bag) = high risk infection for immediate incineration;
 - Category B (yellow bag) = sealed alginate bags of high-risk (blood/body fluids contaminated or sluiced) for direct loading into washing machines;
 - Category C (yellow bag/hazard label) = sealed hazardous material (chemical, anti-neoplastic drugs or radio-isotopes) for direct loading into washing machines.
 - Category D (white bag) = normal linen of no risk during handling;
- e) A clear policy on health and environmental protection must be documented and communicated to all laundry staff;
- f) A person designated as the laundry controller should ensure that requirements regarding pollution, occupational and environmental hygiene are complied with, including appropriate action in respect of any risks associated with infection or other hazards; and
- g) Procedures for the use of protective clothing and personal hygiene where staff are in contact with high-risk areas or linen must be documented to include precautionary measures.
- h) The laundry management/controller and other designated staff must be trained and be competent on:
 - carrying out their functions effectively;
 - handling hazardous goods in the laundry service;
 - following procedures (including first aid) with regard to prevention and control of infection;
 - using protective clothing and follow procedures for decontamination; and
 - operating laundry machines in order to ensure optimum results including general safety procedures;
- i) Laundry staff must be required to pass the appropriate medical examination at appointment followed by routine health monitoring as prescribed by occupational health and safety legislation; and

Keeping of records for health facility laundering

- a) The laundry management and quality system must ensure that appropriate records are kept of all activities that affect linen and quality;
- b) The laundry data control system must include a master list of documents to facilitate the location and revision of records or documents;
- c) The results of inspections/checks and quality control tests should be documented and indicate the need for remedial action where necessary;
- d) Accurate records of stocks of chemicals, cleaning agents and detergents should be maintained;
- e) A full set of up-to-date materials safety data sheets for all washing or cleaning chemicals used in the laundry must be available in one location to staff likely to become involved in the control of an emergency situation;
- f) Operation and maintenance records of plant and equipment, including records of special precautions to ensure minimum risk of cross-infection of laundered items should be kept; &
- g) Records of medical examinations, health monitoring and training of staff should be kept.

4. Infection prevention and control

- b) Infection control and prevention standards concurrent with the standards as set out in the Core Standards for Health Establishments in South Africa, published by the National Department of Health, Office of the Health Standards Compliance.

5. General hygiene requirements

- a) The premises must be maintained clean, free from offensive odours, debris, litter and miscellaneous waste at all times.
- b) Separate storage facilities must be provided for storage of medicines, cleaning equipment, hazardous substances, clean linen, soiled linen, as well as personal belongings of staff members on the premises.
- c) Refrigeration facilities used for storage of hazardous waste or material must be marked as such, and may not be used to store any foodstuffs.
- d) Separate refrigeration facilities must be available for storage of foodstuffs on the premises.
- e) Separate eating and smoking areas must be provided and designated for use by employees.

SECTION 13: CONSTRUCTION SITES

1. NORMS

- 1.1 The premises in compliance with environmental health and occupational hygiene requirements.
- 1.2 The use of equipment, material or substances by workers in accordance with the provisions as set out in the *Occupational Health and Safety Act 85 of 1993*.
- 1.3 Basic safe water and sanitation facilities available within 200m of the premises.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections of should be conducted on construction sites to ensure the health and safety of inhabitants of the premises in the vicinity and on the premises.
- 2.2 Inspection checklists should be designed and utilized during all environmental health inspections.
- 2.3 An inspection report, including the relevant recommendations must be issued to the person in charge after every inspection is conducted.
- 2.4 Environmental health monitoring of construction site should be coordinated with stakeholders from the Department of Labour, to ensure all health and safety aspects are considered.

3. STANDARDS FOR CONSTRUCTION SITES

Construction sites must comply with the following requirements:

3.1 Water supply and sanitation facilities

- a) An adequate supply of potable water that complies with the provisions of the SANS 241 with regards to chemical, bacteriological and physical quality must be provided in all areas of the construction site.
- b) Water must be dispersed from a tap or temporary water tanks must be provided for storage of drinking water.
- c) Containers used for distribution of drinking water must be marked and may not be used for any other purpose.
- d) Outlets for non-potable water must be marked with signs, clearly indicating that the water is unsafe and is not to be used for drinking, washing and cooking.
- e) No cross-connection between a system providing potable water and a system providing non potable water must be allowed.
- f) Toilet facility must be provided at the construction sites for use by construction workers. At least 1 (one) toilet must be provided for every 20 employees on the premises **1:20**. In addition one urinal must be provided for every 40 males on the site **1:40**. If more than 200 employees are employed on the site, at least 1 (one) toilet and 1 (one) urinal must be provided for at least every 50 workers **1:50**.
- g) Separate toilet facilities must be provided for male and female workers and must be equipped with a sign indicating the sex.
- h) Construction sites not provided with a sanitary sewer, Ventilated Improved Pits (VIP) or chemical closets must be provided. The ration for toilet per employees applies for VIP and chemical closets.
- i) Toilet facilities must be adequately ventilated and illuminated.

- j) Toilet facilities intended for female workers must be provided with a disposal receptacle for sanitary napkins. The receptacle must be so designed as to prevent the exposure of the contents.
- k) Supply of toilet paper must be provided at all times in the toilet facilities.
- l) All toilet facilities must be designed to provide the user with privacy and sanitation dignity.
- m) Washing facilities equipped with a supply of hot and cold running water must be provided for employees, especially employees engaged in the application of paints, coating, pesticides etc.
- n) Toilet and washing facilities must be maintained in a sanitary condition at all times.
- o) Hand soap and disposable paper towels/hand blowers/individual sections of continuous cloth toweling, must be provided in close proximity to toilet and washing facilities.
- p) Where disposable cups are supplied, both a sanitary container for unused cups and a receptacle for disposal of used cups must be provided.

3.2 Physical facilities

- a) A construction site must be properly fenced off to prevent unauthorised entry that might lead to injury or danger to health.
- b) Construction areas, ramps, runways, corridors, offices, shops, and storage areas must be adequately lighted while any work is in progress:
- c) Construction areas must be adequately ventilated and equipped with adequate extraction systems for the removal of fumes, gases, vapours, dust and mist from the work areas into the atmosphere.
- d) Whenever food is served for employees on site, the facilities used in connection with the preparation, handling, storage and serving of foodstuffs must comply to prescribe Hygiene Requirements for Food Premises.
- e) Where necessary in the interests of the health and safety of any person on a construction site, a sufficient number of suitable emergency routes and exits shall be provided to enable any person to reach a place of safety quickly in the event of danger.
- f) Whenever employees are required to wear protective clothing when engaged in work, esp. because of the possibility of contamination with toxic materials, change rooms and showers must be provided on site.
- g) Change rooms must be equipped with storage facilities for personal belongings and protective clothing of each worker.
- h) At least 1 (one) shower must be provided for every 12 (twelve) employees of each sex on the premises 1:12, who are required to shower during the same shift.
- i) Showers must be provided with hot and cold running water and a supply of soap and clean towels.

3.3 General requirements

- a) Waste material and debris must be removed to a disposal area and reusable material must be sorted and moved to a storage area at least once daily to prevent a hazardous condition arising.
- b) Rubbish, debris and other waste material from the demolition or construction of projects must be temporarily disposed off in a designated area on site where people do not have access.
- c) If the dissemination of dust is a hazard to the neighbouring community, the dust must be adequately controlled to prevent a nuisance or hazard from continuing.
- d) Noise levels from construction activities on the premises must conform to the *Environmental Conservation Act, Noise Control Regulations of 20 November 1998*.
- e) Dust control measures must be put in place to control dust from the construction activities and all emissions must be in compliance with the National Environmental Management; Air Quality Act of 2004.
- f) Fire control equipment must be available on the premises, in compliance to the municipality's fire control requirements.

SECTION 14: FUNERAL UNDERTAKER'S, MORTUARIES, CREMATORIUM PREMISES

Funeral undertakers, mortuaries and crematorium premises shall include all private and public (police stations, hospitals, police stations) premises.

1. NORMS

- 1.1 The premises operated under a valid Certificate of Competence issued by an Environmental Health Practitioner of the relevant Municipality, to the effect that the premises comply with environmental health and occupational hygiene requirements.
- 1.2 The collection, handling, storage and disposal of waste generated on the premises, including health care risk waste concurrent with the provisions of the *SANS Code 10248* and the *Norms and Standards for Waste Management*.
- 1.3 Crematoriums established in compliance with the provisions of the *National Environmental Management Act, EIA Regulations*, with regards to environmental authorization.
- 1.4 Emission levels of crematoriums conforms to the national ambient air quality and emission standards as set out in terms of the *National Environmental Management; Air Quality Act 2004 (Act no 39 of 2004)*.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections must be conducted at least twice (2) in a year.
- 2.2 Environmental Health must implement an integrated management system utilizing hazard identification and risk-based approach for all mortuaries and funeral undertaker's premises and the system must include the following components:
 - A risk categorization process which uses a site-specific risk assessment to determine the risk level, inspection frequency and any other safety strategies for the safe operation of the mortuary and funeral undertaker's premises;
 - An inspection process to assess risk of mortuary and funeral undertaker's operational practices and determine compliance with relevant legislation.
- 2.3 A risk assessment conducted by an EHP to assess conditions on the premises that may pose a threat to human health by:
 - Identifying potential health hazards from the preparation, storage and preservation of human remains practices;
 - Assessing the likelihood of the hazard posing a risk;
 - Estimating the severity of the consequences, if harm is caused; and
 - Recommending action plans to management to eliminate the hazard or minimise its effect through control measures.
- 2.4 The risk analysis should be done with specific focus to the following areas:
 - The handling, preparation, storage and preservation of human remains methods;
 - Hygiene practices;
 - Competency of staff;
 - Water and sanitation practices;
 - Pest control methods; and
- 2.5 Environmental health should conduct an annual site-specific risk assessment of mortuary or funeral undertaker's premises, based on the results of the assessment, assign a risk category for each food premises as high, moderate or low or own record purposes.
- 2.6 The risk profile of the specific premises should also inform the frequency of inspections conducted on all mortuary and funeral undertaker's premises.
- 2.7 EH should liaise with owners or persons in charge of the premises to assist in becoming compliant with relevant regulations upon being notified or becoming aware of:
 - Newly constructed or renovated food premises prior to commencement of operation; and
 - Proposed food premises.
- 2.8 EH must incorporate the following components into the inspection process:
 - Hazard Analysis and Critical Control Point (HACCP)-based principles in assessing safe food-handling practices;
 - Inspection for compliance with regulations;
 - Management consultation; and
 - On-site food safety education and/or promotion of training.
- 2.9 Inspection checklists should be designed and utilized during all environmental health inspections. The design of the checklists should be guided by the requirements for mortuaries and funeral undertaker's premises as specified in the relevant regulations.
- 2.10 An inspection report indicating the conditions of the premises as well as relevant health recommendations should be issued to the owner or person in charge after every inspection.

- 2.11 EH must conduct an audit of waste generation, collection and storage on the premises to estimate the potential risks of hazardous waste in the context of environmental health and safety
- 2.12 A database/inventory of all premises used in connection with the handling, preparation and/or storage of dead bodies should be maintained for monitoring and control purpose by environmental health.

3. STANDARDS FOR FUNERAL UNDERTAKER'S PREMISES, MOTUARIES AND CREMATORIUM PREMISES

Mortuaries, funeral undertaker's premises and crematorium premises must comply with the following requirements:

- 3.1 All facilities and equipments used in connection with the handling, preparation, storage, preservation and transportation of dead bodies must be in compliance to the *Regulations relating to the Management of Human Remains, published in terms of the National Health Act, 61 of 2003.*

SECTION 15: FOOD HANDLING PREMISES

Food handling premises shall refer to any premises where food is being processed, either raw or unprocessed state, handled, prepared, packed, displayed, or served. If meals are provided on the premises, a kitchen area and facilities must be provided.

1. NORMS

- 1.1 The premises operate under a valid Certificate of Acceptability issued by an Environmental Health Practitioner of the relevant Municipality, to the effect that the premises comply with the *Regulations Governing General Hygiene Requirements for Food Premises and the Transport of Food, R962 of 21 November 2012, published under the Foodstuffs, Cosmetics and Disinfectants Act.*

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental Health must implement an integrated food safety management system utilizing a hazard identification and risk-based approach for all food premises. The integrated food safety management system shall include but is not limited to the following components:
 - A risk categorization process which uses a site-specific risk assessment to determine the risk level, inspection frequency and any other food safety strategies for the safe operation of the food premises.
 - An inspection process to assess risk of food safety practices and determine compliance with regulation, as well as;
 - To provide management consultation and education.
 - A monitoring and evaluation process to annually assess and measure the effectiveness of food safety strategies.
3. A risk assessment should be conducted to assess conditions on the premises that may pose a threat to the health by:
 - Identifying potential health hazards from the handling, preparation and storage practices;
 - Assessing the likelihood of the hazard posing a risk;
 - Food risks;
 - Estimating the severity of the consequences, if harm is caused; and
 - Recommending action plans for elimination and minimisations of hazards through control measures.
4. The risk analysis should be done with specific focus to the following areas:
 - Food handling and preparation methods;
 - Hygiene practices;
 - Competency of staff;
 - Water and sanitation practices;
 - Pest control methods; and
 - Environmental toxins on the premises.

5. Environmental health should conduct an annual site-specific risk assessment of each food premises and, based on the results of the assessment, assign a risk category for each food premises as high, moderate or low for own record purposes.
6. Informed by the risk profile of specific food premises, environmental health inspections of should be conducted on all food premises as follows:
 - Not less than once every three months for high-risk food premises;
 - Not less than once every six months for moderate-risk food premises; and
 - Not less than once every 12 months for low-risk food premises.
7. EH must conduct additional inspections of food handling premises as necessary to address:
 - Unsafe food-handling practices;
 - Issues of non-compliance with regulations;
 - Investigation of food-borne illnesses and food-borne outbreaks;
 - Investigation of consumer complaints; and
 - Action on food recalls, fires, floods, and emergencies.
8. EH should liaise with owners or person in charge of food premises to assist them in becoming compliant with regulations upon being notified or becoming aware of:
 - Newly constructed or renovated food premises prior to commencement of operation; and
 - Proposed food premises.
9. For food handlers in moderate risk and high risk premises the adoption of food safety management strategies, including but not limited to:
 - Operational strategies to promote safe food-handling practices;
 - Hazard analysis of key food items and processes;
 - Identification of critical control points (CCPs) for these items and processes;
 - Monitoring strategies to control CCPs to ensure the provision of safe foods;
10. Food control measures on all food premises must adhere to the norms and standards for food control published by the Department of health.
11. Food handling premises inspections must be unannounced by an EHP.
12. Inspection checklists should be designed and utilized for every inspection conducted. The requirements by which the premises must comply to should guide the development of the inspection checklist.
13. An inspection report, including the relevant health recommendations must be issued to the person in charge after every inspection is conducted.
14. Health education should form an integral part of all compliance monitoring inspections conducted.
15. EH must provide food safety information and/or educational material through various mediums to assist in the safe preparation and handling of food to restaurants, cafe, food markets, food vendors at community special events; day nurseries, school nutrition programs, and community food programs; teachers responsible for teaching food-related subjects to students and/or other teachers as deemed appropriate; and the general community.
16. An inventory of food premises should be maintained by Environmental health within their municipality for monitoring and control purposes.

4. STANDARDS FOR FOOD HANDLING PREMISES

1. All premises, facilities and equipments used in connection with the handling, preparation, storage and serving of foodstuffs on the premises must be in compliance with the requirements of the *Regulations Governing General Hygiene Requirements for Food Premises and the Transport of Food, R692 of November 2012 as published in terms of the Foodstuffs, Cosmetics and Disinfectants Act 54 of 1972*.
2. If smoking is permitted on the premises, designated smoking areas must be provided on the premises for smoking, in accordance with the *Regulations Governing Smoking of Tobacco Products in Public Places*, published in terms of the *Tobacco Products Control Act 83 of 1993*.
3. If children under the age of 2 (two) years are accommodated on any premises, a separate milk room for the storage and preparation of milk must be provided.
4. The milk room must be provided with;-
 - Washing facilities with adequate supply of potable running water for washing of bottles and teats.
 - Separate cooling facilities for the storage of milk and milk bottles.
 - Adequate sterilizing facilities must be provided for sterilizing of feeding bottles and teas.

SECTION 16: PUBLIC GATHERING PLACES

For the purpose of this document, public gathering places refers to public places, such as shopping malls, airports, cinemas, stadia, public events, including government or owned or occupied premises.

1. NORMS

- 1.1 The premises in compliance with environmental health and occupational hygiene requirements.
- 1.2 Potable water available within 200m of the premises.
- 1.3 Sanitation facilities available within 200m of the premises.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 The premises facilities must comply with environmental health and occupational hygiene requirements.
- 2.2 Environmental health inspections should be conducted on all public gathering places to assess dirty and unsatisfactory health conditions before and during events.
- 2.3 Inspection checklists should be designed and utilized for every inspection conducted.
- 2.4 An inspection report, including the relevant health recommendations must be issued to persons in charge of the premises after every inspection is conducted.

3. STANDARDS FOR PUBLIC GATHERING PLACES

Public gathering places must comply with the following requirements:

3.1 Waste management

The collection, handling, storage and disposal of waste on the premises should conform to the National Building Regulations and the requirements as set in the section.....of the *Norms and Standards for Waste Management*.

3.2 Drinking water quality

- a) Adequate supply of running free potable water that is in compliance with the SANS 241 with regards to its chemical, microbiological and physical quality must be available on the premises.
- b) During short term gatherings (festivals, events etc), if water tankers are used, care must be taken to ascertain that they are suitable for delivering potable safe water and it must first be disinfected before used for potable water distribution.
- c) Potable water tanks must be constructed of a rust-free and durable material that is suitable and safe for potable water storage to prevent the contamination of water.
- d) Tanks must be designed so as to prevent contamination of the water by insects, flies, animals and human contact.
- e) Cold potable water must always be stored at temperatures below 25°C to prevent the growth of *Ligionella* spp. Therefore the location of water storage tanks must be such that the water is not exposed to the sun to prevent the water from reaching high levels in temperature.
- f) The design of the tanks must be such that it allows sampling to be conducted and tests to be taken to verify water quality. They must also be made of material that allows disinfection and contact with flames for sterilizing, in the case where a tap must be flamed before a sample is taken.

3.3 Sanitation facilities

- a) Adequate toilet and hand washing facilities must be available on the premises for employees and for the general public. At least 1 (one) toilet facility and 1 (one) handwash basin must be provided for every 100 members of the public, equipped with potable running water.
- b) At least 1(one) toilet and 1 (one) handwash basin must be provided for every 20 (twenty) employees on the premises.
- c) Suitable, effective and approved drainage and sewage disposal system must be in place on the premises.

- d) The use of non-waterborne sanitary services, the premises shall comply with the specification of the *SANS 10400*.
- e) If chemical closet toilets are used during public events, an on-site maintenance team must be available on the premises for the duration of the event to prevent blockages and leakages from creating a nuisance and health hazard from occurring.

3.4 Structural facilities

The building structures, floors, walls, ceilings and other aspects of the building must be in compliance with the requirements of the *National Building Regulations and the Building Standards Act 103 of 1977, as well as the SANS 10400*.

SECTION 17: KEEPING OF ANIMALS ON PREMISES

For the purpose of this document, keeping of animals on premises shall refer to agricultural holdings and any premises whereby animals are being kept for breeding, agriculture, selling, excludes premises keeping animals for research purposes.

1. NORMS

- 1.1 The premises operated under a permit issued by the local municipality, authorizing that activity.
- 1.2 The premise in compliance with environmental health requirements.
- 1.3 Animals kept on premises zoned for agricultural purposes by the relevant local municipality.
- 1.4 Sanitation facilities available within 200m of the premises.
- 1.5 Potable water available within 200m of the premises.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections on premises used in connection with keeping of animals should be conducted to assess dirty and other unsatisfactory conditions.
- 2.2 A risk assessment of the premises should be conducted by an EHP to assess conditions and operations that are likely to pose a threat to human health by:
 - Identifying potential health hazards from breeding and/or the keeping of animals practices and assessing the likelihood of the hazards posing a risk;
 - Estimating the severity of the consequences, if harm is caused; and
 - Recommending action plans to management to eliminate the hazard or minimise its effect through control measures.
- 2.3 The risk analysis should be done with specific focus to the following areas:
 - The handling, storage and keeping and or breeding practices;
 - Hygiene practices;
 - Water and sanitation practices;
 - Pest control methods;
- 2.4 The risk profile of the specific premises should also inform the frequency of inspections of such premises.
- 2.5 EH should liaise with owners or persons in charge of the premises to assist in becoming compliant with relevant regulations and health requirements upon being notified or becoming aware of:
 - Newly constructed premises prior to commencement of operation; and
 - Proposed new premises for keeping of animals.
- 2.6 Inspection checklists should be designed and utilized during all environmental health inspections. The design of the checklists should be guided by the requirements for the premises.
- 2.7 An inspection report indicating the conditions of the premises as well as relevant health recommendations should be issued to the owner or person in charge after every inspection.
- 2.8 EH must conduct an audit of waste generation, collection and storage on the premises to estimate the potential risks of hazardous waste in the context of environmental health and safety; including an audit of waste processing and treatment processes.
- 2.9 Health education should form an integral part of all environmental health compliance monitoring inspections.

3. STANDARDS FOR KEEPING OF ANIMALS

Premises used in connection with the keeping of animals must comply with the following requirements:

Animals, other than household pets should only be kept in agricultural holdings and not on proclaimed townships.

3.1 Requirements for keeping of cattle, horses, mules and donkeys

- a) Cattle, horses, mules and donkeys must only be kept in stables designed for keeping of such animals.
- b) Every wall and partition of the stable for keeping of cattle, horses, mules or donkeys, must be constructed of brick, stone, concrete or other durable material;
- c) The internal wall surfaces of the stable must be constructed of smooth brick or other durable surface brought to a smooth finish;
- d) The height of the walls to the wall plates of the stable must –
 - if the roof is a pitched roof be at least 2,4 metres;
 - if the roof is a flat roof be at least 2,7 metres;
 - if the roof is a lean to roof be a mean height of at least 3 metres with a minimum of at least 2,4 metres on the lowest side;
 - in the case of a stable which has an opening along the entire length of one of its long sides be not less than 2 metres;
- e) The stable must have a floor area of at least 9m² for each head of cattle, horse, mule or donkey accommodated in it.
- f) Lighting and ventilation must be provided by openings or glazed opening windows or louvers totalling at least 0,3 m² for each animal to be accommodated in it except in the case of a stable open along the entire length of one of its long sides.
- g) The lowest point of every opening, window or louvers must be at least 1, 8 metres, above floor level.
- h) The floor of the stable must be constructed of concrete or other durable and impervious material brought to a smooth finish graded to a channel and drained.
- i) An enclosure must have an area of at least 10m² for each head of cattle, horse, mule or donkey accommodated in it and the fencing must be strong enough to prevent the animals from breaking out.
- j) No enclosure or stable may be situated within –
 - At least 15 metres of the boundary of any land, property, dwelling or other structure used for human habitation; or
 - At least 50 metres of any water resource or water supply intended or used for human consumption; and
 - There must be a water supply adequate for drinking and cleaning purposes next to every stable or enclosure.

3.2 Hygiene standards for keeping of cattle, horses, mules and or donkeys

- a) The premises, and any equipment, apparatus, container or receptacle used in connection with keeping the animal must be kept in a clean and sanitary condition and in good repair.
- b) Portable manure storage receptacles of an impervious material with close fitting lids must be provided.
- c) Every manure storage receptacle must be kept on a platform constructed of concrete or other durable and impervious material near the stable or enclosure.
- d) If there is so much manure and bedding those storage receptacles is impractical, a manure container or area must be provided on the premises.
- e) The manure container or area must be roofed and enclosed by three walls constructed of brick, concrete or other durable material plastered to a smooth finish.
- f) The floor of the manure area must be of smoothly finished concrete that is inclined so that it drains to a water channel along the full length of the open side, which is at least 150 mm in a diameter and is kept filled with water.
- g) Manure must be removed from the stable and enclosure at least once every 24 hours and placed in the manure storage receptacles or manure container or area until it is removed from the premises (if

so many kgs of manure is produced per day or in 24hrs and provided so many animals are kept in a stable)

- h) The contents of the manure storage receptacles or manure container or area must be removed from the premises at least once every second day and disposed off in a way which will not create a public health nuisance.
- i) All bedding must be removed from the stable at least once a week and store it in the manure receptacles or manure container or area until it is removed from the premises.
- j) All saddles, bridles, harnesses and other equipment or articles use in connection with the keeping of the animals must be stored in a storeroom or other adequate storage facility.
- k) All feed must be stored in a rodent-proof storeroom and all loose feed in rodent-proof receptacles with close fitting lids.
- l) Adequate measures must be taken to keep the premises free of pests and to prevent offensive odours arising from the keeping of cattle, horses, mules and donkeys.

3.3 Requirements for keeping of goats and sheep

- a) Goats and sheep must be kept in an enclosure with the minimum overall floor area of 30m² and at least 1,5 m² of floor space must be provided for every goat or sheep accommodated in it.
- b) A stable used for keeping of goats and sheep must comply with the following requirements:
 - every wall must be constructed of brick, stone, concrete or other durable material,
 - every wall must be at least 2 metres in height and have a smooth internal finish,
 - the floor must be constructed of concrete or other durable and impervious material brought to a smooth finish and graded to a channel;
 - at least 1,5 m² of floor space must be provided for every goat or sheep accommodated in it with an overall minimum floor area of 6 m²;
 - lighting and ventilation opening totalling at least 0.15 m² per goat or sheep must be provided;
- c) An enclosure or stable used for keeping of goats and sheep must be situated within 15 metres of any boundary of any land, dwelling, building or other structure used for human habitation; or 50 metres of any water resources or water supply intended or used for human consumption;
- d) Adequate water supply adequate for drinking and cleaning purposes must be provided and situated next to or in every enclosure or stable used to accommodate goats or sheep.

3.4 Hygiene requirements for keeping of goats and sheep

- a) The premises and any equipment, apparatus, container or receptacle used in connection with keeping the animal must be maintained in a clean and sanitary condition and in good repair.
- b) Portable manure storage receptacles of an impervious material and with close fitting lids must be provided.
- c) Manure storage receptacle must be kept on a platform that enables the surface underneath the receptacle to be cleaned.
- d) Manure must be removed from the enclosure or stable at least once every seven days and place it in the manure storage receptacles.
- e) The contents of the manure storage receptacles must be removed from the premises at least once every seven days and dispose of the manure in a way that will not create a public health nuisance.
- f) All feed must be stored in a rodent-proof storeroom and all loose feed in rodent-proof receptacles with close fitting lids in the storeroom.
- g) Adequate measures must be taken to keep the premises free of pests and to prevent offensive odours arising from the keeping of goats and sheep.

3.5 Requirements for keeping of poultry

- a) On any residential premises, not more than 10 (ten) or less poultry must be kept on the premises in a proclaimed township.
- b) On premises zoned for agricultural purposes, not more than 100 (hundred) poultry may be kept on the premises. For keeping of over 100 poultry, such premises must be in possession of a permit issued by the relevant local authority, authorizing that activity.
- c) Poultry must only be kept in a poultry house which complies with the following requirements;

- every wall must be constructed of brick, stone, concrete or other impervious material and must have a smooth internal surface;
 - the floor must be constructed of concrete or other impervious material brought to a smooth finish;
 - the upper floor of a two or more story structure must be constructed of an impervious and easily cleanable material;
 - the minimum floor area must be at least 0,20 m² for each grown fowl, duck, uscovite duck or guinea fowl; at least 0,5 m² for each grown goose, turkey or peacock; and at least 0,14 m² for each grown pigeon; and the minimum aggregate floor area must be at least 4m²;
- d) A poultry run, if provided, must be enclosed with wire mesh or other durable material.
 - e) Every wall of a building or structure housing a battery system must be at least 2,4m high and must be constructed of concrete, stone, brick or other impervious material and must have a smooth internal surface.
 - f) If walls are provided, the building must be ventilated and lighted by means of mechanical ventilation and artificial lighting or by obtaining natural ventilation and light through openings or opening windows of an area not less than 15% of the floor area of the building or structure.
 - g) The floor of the building or structure housing a battery system must be constructed of concrete or other impervious material brought to a smooth finish and if required by an Environmental Health Practitioner, the floor surface must be graded and drained by means of a channel drained.
 - h) If no walls are provided, or the walls are made of metal, the floor must be provided with a curb at least 150 mm high around its edges.
 - i) The cages of the battery system must be made of an impervious material, and if required by an environmental health practitioner, a tray of an impervious material must be fitted under every cage for the collection of manure;
 - j) A water supply adequate for drinking and cleaning must be provided in or next to every poultry house and poultry run and in or next to a building or structure housing a battery system.
 - k) A poultry run or building or structure housing a battery system must be constructed within 3 metres of any dwelling or other building or structure used for human habitation, any place where foodstuffs are stored or prepared for human consumption, or the nearest boundary of any land.
 - l) Feed must be stored in an adequate rodent-proof storeroom.
 - m) Adequate washing facilities must be provided for the cleaning of the cages;
 - n) If required by an EHP, due to the amount of manure stored on the premises awaiting removal, a manure storage area complying with the following requirements must be provided:
 - a roofed platform constructed of concrete or other impervious material;
 - the platform's outside edges must have a minimum curb of 100 mm high;
 - the platform must be graded and drained in terms of section 121
 - the roof of the platform must extend a minimum of 1 metre beyond the edges of the base of the platform.

3.6 Hygiene standards for keeping of poultry on premises

- a) All poultry must be kept within a poultry run or building or structure housing a battery system.
- b) The premises and any equipment, apparatus, container or receptacle used in connection with keeping of poultry must be maintained in a clean, sanitary condition and in good repair.
- c) The premises and every poultry house, poultry run or building or structure housing a battery system must be maintained in a clean condition and all cages must be free from pests.
- d) Measures must be taken to ensure that the poultry do not disturb or hinder the comfort, convenience, peace or quiet of the public.
- e) Portable manure storage receptacles of an impervious material and with close fitting lids must be provided and the manure storage receptacles must be kept on a platform.
- f) All manure and other waste from a poultry house and poultry run must be removed at least once every 48 hours and once every four days from a building or structure housing a battery system.
- g) Manure and other waste matter must be kept in manure storage receptacles.
- h) The contents of the manure storage receptacles must be removed from the premises at least once every seven days and disposed of in a way which will not create a public health nuisance.
- i) Adequate measure must be taken to keep the premises free of flies, cockroaches and rodents and to prevent offensive odours arising from the keeping of poultry on the premises.

3.7 Requirements for keeping of rabbits

- a) On any residential premises, only 5 (five) or less adult rabbits may be kept on the premises in a proclaimed township.
- b) On premises zoned for agricultural purposes, not more than 20 (twenty) adult rabbit may be kept on the premises. If more than 20 (twenty) adult rabbits are kept on the premises such premises must be in possession of a permit authorizing that activity by the relevant local authority.
- c) Rabbits must be kept in a rabbit hutch.
- d) The walls of the rabbit hutch must be constructed of brick, stone, concrete or other impervious material and must have a smooth internal surface.
- e) The floor surface must be constructed of concrete or other impervious material brought to a smooth finish, situated at least 150 mm above ground level, and graded to a channel drained in terms of section 143, if required by an Environmental Health Practitioner.
- f) The hutch must be adequately ventilated.
- g) The rabbit hutch must be adequate in size to allow free unobstructed movement of animals kept therein.
- h) Any rabbit run must be enclosed with wire mesh or other durable material and constructed in a way that prevents the escape of rabbits from the run.
- i) The walls of a building or structure housing a battery system must be at least 2,4 meters high and be constructed of concrete, stone, brick or other durable material and must have a smooth internal surface.
- j) If walls are provided, the building or structure must be ventilated and lighted by means of natural openings or windows of an area not less than 15% of the floor area of the building or structure.
- k) The floor must be constructed of concrete or other impervious material brought to a smooth finish, and if required by an Environmental Health Practitioner, the floor surface must be graded to a channel drained.
- l) If no walls are provided, or walls are made of metal, the floor must be provided with curb at least 150 mm high around its outside edges, every cage must be constructed of an impervious material and fitted with trays of an impervious material for the reception of manure.
- m) A water supply adequate for drinking and cleaning purposes must be provided in or next to every rabbit hutch or building or structure housing battery system.
- n) Rabbit hutch, rabbit run or building or structure housing a battery system must be located within at least 5m any house, building or other structure used for human habitation, any place where foodstuffs are stored or prepared for human consumption, or the nearest boundary of any land.
- o) An adequate rodent proof store room must be provided for the storage of feed.
- p) Adequate washing facilities must be provided for the cleaning of cages.

3.8 Hygiene standards for keeping of rabbits

- a) All rabbits must be kept within the rabbit hutch, rabbit run or building or structure housing a battery system.
- b) The premises and any equipment, apparatus, containers or receptacles used in connection with keeping rabbits must be kept in a clean, sanitary condition and in good repair.
- c) The premises must be maintained free from offensive odours and every rabbit hutch, rabbit run or building or structure housing a battery system and all cages clean and free from pests.
- d) Portable manure storage receptacles of an impervious material with closefitting lids must be provided which receptacles must be kept on a platform.
- e) All manure and any other waste matter must be removed from the rabbit hutch, rabbit run or building or structure housing a battery system, at least once every 48 hours.
- f) Manure and waste must be kept in manure storage receptacles until it is removed from the premise.
- g) The contents of the manure storage receptacles must be removed from the premises at least once every seven days and dispose of the contents in a way which will not create public health nuisance.
- h) Adequate measures must be taken to keep the premises free of pests.

3.9 Requirements for keeping of birds other than poultry

- a) Birds, other than poultry must be kept in a aviary which must be constructed of durable rodent-proof material
- b) Adequate access must be provided for cleaning purpose.

- c) If the aviary is constructed above ground level, its base must be constructed of an impervious and durable material and must be situated a minimum of 300 mm above ground level
- d) The aviary may not be situated within 3m of any building or structure boundary fence or boundary wall.
- e) A water supply adequate for drinking and cleaning purposes must be situated in or next to every aviary.

3.10 Hygiene standards for keeping of birds other than poultry

- a) The aviary and the premises must be kept in a clean condition and free from pests.
- b) Rodent-proof facilities must be provided and used for the storage of bird food.
- c) Measures must be taken to ensure that the birds do not disturb the comfort, convenience, peace or quiet of the public.

3.10 Requirements for Kennels and catteries

- a) For the use of residential premises as kennels or cattery, the premises must be issued with a permit authorizing that activity, by the local authority.
- b) Every dog or cat must be kept in an enclosure which complies with the following requirements:
 - the enclosure must be constructed of impervious materials and must provide adequate access for cleaning purposes.
 - the floor must be constructed of concrete or other impervious material brought to a smooth finish and graded to a channel at least 100 mm wide, extending the full width of the floor, which channel must be graded and drained into a gully connected to the Council's sewer by means of a pipe at least 100 mm in diameter; and
 - a curb at least 150 mm high must be provided along the edge of the channel, referred to in subparagraph (ii), to prevent any storm water runoff entering the channel
 - the enclosure must be adequate in size to allow free unobstructed movement of animals kept therein.
- c) Subject to the provisions of paragraph (c) every enclosure referred to in paragraph (a), must be provided with an adequate roofed shelter that complies with the following requirements:
 - every wall must be made of brick, stone, concrete or other impervious material;
 - every wall must have a smooth internal surface;
 - the floor must be made of concrete or other impervious material brought to a smooth finish
 - every shelter must have adequate access for cleaning and eliminating pests.
- d) A dog kennel which complies with the following requirements may be provided instead of the shelter contemplated in paragraph (b)
 - the kennel must be constructed of an approved weatherproof and insulating material or other similar material and must be movable.
 - the kennel must be placed on a base constructed of concrete or other impervious material with an easily cleanable finish
 - a sleeping board, which will enable the dog to keep dry, must be provided in any kennel that does not have a waterproof base.
- e) A concrete apron extending at least one metre wide around the edges of the enclosure must be provided.
- f) The apron must be graded and drained in a way that drains storm water away for the enclosure.
- g) A water supply, adequate for drinking and cleaning purposes, must be provided in or adjacent to the enclosure.
- h) Any cage in which cats are kept must be constructed of durable impervious material and in a manner that it may be easily cleaned.
- i) A shelter, enclosure or kennel may be situated within 5m of any dwelling or other building or structure used for human habitation, place where food is stored and prepared for human consumption or the boundary of the premises.
- j) If deemed necessary by the EHP, a separate room or roofed area must be provided for the preparation of food for the animals.
- k) The floor of the food preparation area must be constructed of concrete or other impervious material brought to a smooth finish;
- l) The internal walls surfaces of the room or roofed area must be smooth and easily cleanable.
- m) Adequate washing facilities for food bowls and utensils must be provided.

- n) A rodent-proof storeroom must be provided for the storage of food.

3.11 Hygiene standards for kennels and catteries

- a) The premises, equipment and every vessel, receptacle or container and sleeping board used in connection with the kennels or cattery must be maintained in a clean, sanitary condition and in good repair.
- b) Portable storage receptacles, of an impervious material with close fitting lids must be provided for the storage of dog and cat faeces;
- c) All faeces and other waste matter must be removed from the enclosure and shelter at least once every 24 hours and place it in the receptacles referred to in paragraph (b).
- d) The contents of the storage receptacles must be removed from the premises at least twice every seven days and dispose of it in a manner that will not create a public health nuisance.
- e) All loose food must be stored in receptacles, with close fitting lids, in the food store.
- f) Adequate refrigeration facilities must be provided to store perishable foods on the premises.
- g) Adequate separate refuse receptacles, with close fitting lids must be provided on the premises for refuse other than faeces.
- h) A sick dog or cat must be kept isolated from any other animals.
- i) The premises must be maintained free from offensive odours and every enclosure, shelter, kennel, cage or food store clean and free from pests.
- j) Measures must be taken to ensure that no dog or cat disturbs the comfort, convenience, peace and quiet of the public.

3.12 Requirements for keeping of wild animals

- a) No wild animals may be kept on any residential or agricultural premises, without prior approval of the relevant nature conservation authorities as well as a permit by the relevant local authority authorizing the keeping of such animals on the premises.
- b) Wild animals must be kept in an enclosure and/or housing constructed and equipped as follows:
 - the enclosure and/or housing must satisfy the needs of the specific animal as specified by the relevant nature conservation authorities.
 - the enclosure and/or housing may not be situated within 50 metres of any boundary of the premises; any dwelling, building or structure used for human habitation; any dwelling, building or structure where food is stored, handled or prepared for human consumption; or any water resource intended for domestic consumption;
- c) An adequate supply of potable water for drinking and cleaning purposes must be provided on the premises for both the animals and for persons on the premises.
- d) The enclosure and/or housing must be graded and drained in a way that does not pollute any water resource or create a public health nuisance,
- e) A separate room, equipped with a preparation table and wash up sink, supplied with running potable water and drained must be provided for the preparation of food for the animals;
- f) Adequate facilities must be provided for washing any cages, trays, crate, refuse receptacles and food containers in the form of either –
 - a curbed platform constructed of concrete or other impervious material brought to a smooth finish; or
 - a stainless steel sink or trough adequate in size to accommodate the equipment to be washed;
- g) Both facilities referred to in paragraph (c) must be provided with a supply of running water adequate for drinking and cleaning and be drained.
- h) Any area and room in which fodder and food are stored must be rodent-proof; and the enclosure and/or housing must be adequate in size to allow free unobstructed movement of animals kept therein.

3.13 Hygiene standards for keepers of wild animals

- a) The premises must be maintained in a clean and sanitary condition at all times
- b) All manure and food scraps from any enclosure and/or housing must be cleaned at adequate intervals.
- c) Measures must be taken to prevent the soil beneath or around any enclosure and/or housing from becoming saturated with urine or polluted by any other matter or liquid

- d) All bedding must be removed from any housing at least once every seven days and store it in a manure receptacle or manure container or area, until is removed from the premises.

3.14 Requirements for keeping of pigs

- a) Wall of the premises used for keeping of pigs must be constructed of brick, stone, concrete or other durable material; have a minimum height of at least 1,5 metres, and have a smooth , impervious internal surface.
- b) The floor area must provide at least 3m² for each pig accommodated in the pigsty, with an overall minimum floor area of at least 6m².
- c) The roof over any portion of a pigsty must have a minimum height of at least 1,5 metres.
- d) Except in the case of a roofed structure having one of its long sides completely open, the lighting and ventilation openings must be situated opposite one another in the external walls, and provide a minimum of at least 0,15 m² for each pig;
- e) The floor must be at least 150 mm above the surrounding ground level, constructed of concrete or other durable and impervious material brought to a smooth finish, and graded for the runoff liquids into an open channel outside the pigsty.
- f) The open channel referred to in paragraph (e) must be constructed of concrete or other durable and impervious material be a minimum of at least 100 mm in diameter, and be drained.
- g) The pigsty must be strong enough to prevent the pigs breaking out,
- h) The pigsty may not be situated within at least 100m of the boundary of the premises of any dwelling, building or structure used for human habitation, any place where foodstuffs are stored or prepared for human consumption; Or any water resource intended for domestic consumption;
- i) A roofed over concrete platform must be provided for the storage of all swill in containers and the preparation of pig feed;
- j) The platform referred to in paragraph (i) must comply with the provisions of paragraph (e) and in addition, must have a curbing of a minimum height of 100 mm on each edge.
- k) A water supply, adequate for drinking and cleaning purpose, must be provided in or adjacent to the pigsty.

3.15 Hygiene standards for keepers of pigs

- a) All pigs must be kept within a pigsty.
- b) The premises and any equipment, apparatus, containers and receptacles concerned must be maintained in a clean and sanitary condition and in good repair.
- c) Portable storage receptacles, of impervious material and with close fitting lids must be provided for the storage manure.
- d) All manure storage receptacles must be kept on a platform that compiles with the provisions of section 15(j).
- e) All manure must be removed from the pigsty at least once every 24 hours and place it in the manure storage receptacles
- f) The contents of the manure storage receptacles must be removed from the premises at least once every second day and dispose of the manure in a manner that will not create a public health nuisance.
- g) A rodent-proof storeroom of adequate size must be provided in which all feed, other than swill, must be stored.
- h) Rodent-proof receptacles with close fitting lids must be provided to store all loose feed.

3.16 Requirements for keeping of pets on residential premises

A pet refers to a domestic animal, reptile, insect, bird or poultry kept in a household for companionship or amusement:

- a) The premises in which pets are kept must be maintained in a clean and sanitary condition at all times.
- b) All manure and food scraps must be cleaned daily and removed from the premises at daily.
- c) Measures must be taken to prevent the soil beneath or around any premises form becoming saturated with urine or polluted by any other matter or liquid from the pets.
- k) Measures must be taken to ensure that no pet disturbs the comfort, convenience, peace and quiet of the public.

- d) Pets must be vaccinated against zoonotic diseases, such as rabies at necessary intervals.
- e) Measures must be taken to prevent the breeding of pests and flies as a result on keeping of the pet.
- f) Pets must always be kept on the premises and measures must be taken to ensure that the pet does not leave the owner's premises, unless accompanied by the owner.
- g) The pet cage must be situated at least 3m from the boundary of the neighbour's wall.

3.17 Requirements for keeping of bees on premises

- a) No person may keep bees on any premises unless he/she is the holder of a permit issued by the relevant authority, authorizing that activity.
- b) Every bee hive must be situated a minimum of five metres from any boundary of any premises, and a minimum of at least 20 metres from any public place or building used for human habitation or from any place used for the keeping of animals, poultry and birds.
- c) The bees must be kept in an approved bee hive at all times.
- d) The bee hive must be kept in an area inaccessible to children and animals.
- e) The bee hive must be kept in a shaded area at all times, and supplied with a source of drinking water within five metres of the hive.
- f) Refuse or waste material must not be dumped or deposited within at least 5m of the bee hive.

3.17 Requirements for keeping of and slaughtering animals for religious and ceremonial purposes

- a) Animals may not be slaughtered in any place other than in recognizes abattoir.
- b) In the case of religious or traditional slaughtering, the local authority must be notified in writing, fourteen (14) days prior to the event.
- c) The slaughtering of the animal must be conducted in a position as to not to allow observation by any person on neighbouring premises or any member of the public.
- d) The meat from the slaughtered animal must only be used purpose of the religious or ceremonial feast and shall not be for sale to any person.
- e) The meat must be handled in a hygienic manner at all times.
- f) Blood and other waste products from the carcass must be disposed off in a manner which will not become a public health hazard or public health nuisance.
- g) The animal to be slaughtered shall not be kept on the premises for a period in excess of 12 hours, prior to slaughtering.
- h) Measures must be taken to ensure that no health nuisance exist from the premises as a result of the slaughtering.
- i) The services of an EHP may be requested for conducting a post-mortem examination of the slaughtered animal at a cost determined by Council.

3.18 Requirements for pet shops and pet parlours

- a) The walls of the premises of a pet shop or pet parlour must be constructed of brick, concrete or other impervious material, have a smooth and easily cleanable internal surface, and be painted with a washable paint or other adequate finish.
- b) All floors surface must be constructed of concrete or other impervious material brought to a smooth finish.
- c) All ceilings must be dust proof and easily cleanable.
- d) At least one wash hand basin, with a supply of running hot and cold potable water must be provided for employees and the ratio of wash hand basins to persons employed on the premises must not be less than 1:15
- e) The wash hand basins, referred to in subparagraph (d), must be drained.
- f) Adequate storage facilities must be provided.
- g) Facilities for the washing of cages, trays and other equipment must be provided in the form of ether a curbed and roofed over platform with a minimum surface area 1, 5m², raised at least 100 mm above the floor and constructed of concrete or other impervious material brought to a smooth finish, which platform must be provided with a supply of running potable water; or a stainless steel sink or trough of adequate size with a drainage board and provided with a supply of running potable water.
- h) The platform, sink or trough referred to in paragraph (g) must be drained.
- i) Any wall surface within 0,5 metres of the platform, sink or trough referred to in paragraph (g), must be permanently covered with waterproof material to minimum height of 1,4 metres above the floor;

- j) If more than 6 persons are employed on the premises, a clearly designated change room must be provided and the change room must have a floor area providing at least 0,5m² for each employee, have a minimum overall floor area of 6m² and width of two metres, be equipped with an adequate metal locker for each employee.
- k) If no change room is required in terms of paragraph (j) each employee must be provided with an adequate metal locker;
- l) For the purposes of washing, clipping or grooming of pets, a bathroom fitted with a bath, or similar fitting, and a wash hand basin supplied with running potable water must be provided.
- m) A clipping and grooming room fitted with impervious topped tables and an adequate number of portable storage receptacles of an impervious durable material with close fitting lids, for the storage of cut hair pending removal, must be provided.
- n) All buildings, including storage areas, must be rodent-proof.
- o) The premises may not have direct internal access with any room or place used for human habitation, where clothing is stored or sold, or where food is prepared, stored or sold for human consumption
- p) The exterior cavity of any tubular or hollow material used to construct a cage must be sealed.
- q) The cages must be able to be moved easily.
- r) The distance from any cage to the nearest wall must be a minimum of 150 mm;
- s) The cages must be kept a minimum of 450 mm above floor level, and the space below every cage must be unobstructed
- t) Provide rodent-proof receptacles, of an impervious material and with close fitting lids, for the storage of all loose pet food in the storage facilities required in terms of section 137 (f)
- u) Provide adequate refrigeration facilities to store all perishable pet food on the premises.
- v) Ensure that in any room in which the pets are kept 50% of the floor space is unobstructed, and the cages are placed a minimum of 800 mm from one another.

3.19 Hygiene standards for pet shops or pet parlours

- a) The cages must be cleaned on a regular basis to prevent accumulation of manure.
- b) The premises and every cage, tray, container, receptacle, basket and all apparatus, equipment or appliances used in connection with the pet shop or pet parlour must be maintained in a clean and sanitary condition, free from pests and in good repair.
- c) Overalls or other protective clothing for employees and ensure that the employees wear them when on duty.
- d) Isolation facilities must be provided in which every pet which is, or appears to be, sick must be kept while on the premises.
- e) An adequate supply of potable water must be provided for drinking and cleaning purposes.
- f) Adequate ventilation must be ensured in the cages to ensure the comfort and survival of the pets.
- g) Measures must be taken to ensure that the number of pets contained in each cage does not impede their free movement.

3.20 Removal of dead animals on all premises where animals are being kept

- a) All dead animals must be removed from the premises within 24 hours of its death, to prevent a health nuisance or hazard from occurring.
- b) Disposal of dead animals must be done in an acceptable manner, the local authority should be contacted for collection and disposal of any dead animal on the premises, the owner's cost.

SECTION 18: INDUSTRIES PREMISES

For the purpose of these document industries refers to agricultural areas, hazardous substance dealer's premises, including food manufacturing and processing industries.

1. NORMS

- 1.1 Industries in compliance with the provisions of the *Occupational Health and Safety Act 2003, (Act no 85 of 2003)*.
- 1.2 Conforms to the requirements of the *Environmental Conservation Act 73 of 1989, Noise Control Regulations*, with regards to acceptable noise levels.

- 1.3 The premises in compliance with environmental health and occupational hygiene requirements.
- 1.4 Emission level in compliance with Ambient air quality standards specified in terms of the *National Environmental Management; Air Quality Act 30 of 2004*.
- 1.5 Potable water and sanitation services available within 200m of the premises.

2. ENVIRONMENTAL HEALTH MONITORING STANDARDS

- 2.1 Environmental health inspections on industry premises should be conducted to assess dangerous, dirty and other unsatisfactory conditions. The risk profile of the premises should inform the frequency of inspections of specific premises.
- 2.2 Inspections should include the assessment of aspects such as ventilation, indoor air quality, lighting, moisture-proofing, thermal quality and structural safety.
- 2.3 Inspection checklists should be designed and utilized during all inspections to guide and ensure complete assessment. An inspection report, indicating the conditions of the premises as well as the recommendations applicable, should be provided to the owner or person in charge after every inspection.
- 2.4 Health education should form an integral part of all environmental health compliance monitoring inspections.

3. STANDARDS FOR INDUSTRIES

All industry premises must comply with the following requirements:

3.1 Waste management

- a) The collection, handling, storage and disposal of waste on the premises must be in compliance with the *National Environmental Management, Waste Act 59 of 2008, the National Building Regulations* and conform to the requirements as set out in the Section 2-5 of the *Norms and Standards for Waste Management*.

3.2 Water quality

- a) Adequate supply of running free potable water that is in compliance with the *SANS 241* with regards to its chemical, microbiological and physical quality must be available on the premises.
- b) If water tankers are used, care must be taken to ascertain that they are suitable for delivering potable safe water and it must first be disinfected before used for potable water distribution.
- c) For industry that have either direct or indirect discharge of process wastewater, wastewater from utility operations or storm water to the environment, and industrial discharges to sanitary sewers, and the treatment thereof must conform to the requirements as specified by the *Water Services Act 108 of 1997, and its Regulations* to ensure prevention of pollution.
- d) Discharges of process wastewater, sanitary wastewater, wastewater from utility operations or storm water to surface water should not result in contaminant concentrations in excess of local water quality criteria.
- e) Discharges of industrial wastewater, sanitary wastewater, wastewater from utility operations or storm water into public or private wastewater treatment systems should: meet the pre-treatment and monitoring requirements of the sewer treatment system into which it discharges and not interfere, directly or indirectly, with the operation and maintenance of the collection and treatment systems, or pose a risk to worker health and safety.

3.3 Air emissions and ambient air quality

- a) For industry that generates emissions to air at any stage of the project life-cycle, emissions must be in compliance with the standards as specified by the *National Environmental Management, Air Quality Act 39 of 2004*, to protect environmental health.

3.4 Hazardous substances management

- a) The use, handling, storage and application and disposal of any hazardous substances (chemicals, pesticides, rodenticides) on the premises that may cause injury, ill-health or death of any human being by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or radioactive nature, shall be managed in compliance with the *Hazardous Substances Act, 15 of 1973 and its Regulation* and conform to the requirements as set out in the section.....of the *Norms and Standards for Hazardous Substances Management*.

3.5 Noise control

- a) The level of noise produced on an industry that emits noise should conform to the requirements as specified in the *Environmental Conservation Act 73 of 1989 Noise Control Regulations*.
- b) Noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception.
- c) Utilising measures for controlling noise from stationary sources by implementing noise control measures at source.

3.6 Toilet and ablution facilities

- a) Adequate sanitation and hand washing facilities must be available on the premises for employees and for the general public. At least 1 (one) toilet facility and 1 (one) hand wash basin must be provided for every 50 members of the public, and 1 (one) toilet facility and 1 (one) handwash basin must be provided for every 20 (twenty) employees on the premises.
- b) In terms of Part O of the *SANS 0400*, adequate showers must be provided on the premises for use by employees and be adequately ventilated.
- c) The showers and handwash basins must be equipped with a supply of potable running hot and cold water.
- d) Walls and floors of showers must be constructed of a smooth and easily cleanable material and the walls must be painted with a light coloured paint.
- e) Suitable, effective and approved drainage and sewage disposal system must be in place on the premises.
- f) An adequate supply of toilet paper, soap and drying material must be provided in the showers and handwash basin.
- g) Toilet facilities and showers must be marked clearly and in a conspicuous manner.

3.7 Changing rooms

- a) In respect of employees who have to change in the workplace, separate change rooms must be provided for both males and females on the premises.
- b) The change rooms must not be located near any room where there is possible exposure to a hazardous chemical substance or a hazardous biological agent; in which untanned hides or skins or unwashed wool or mohair are treated, processed or stored;
- c) Change rooms must be equipped with separate lockers for storage of each employee's personal belongings.
- d) Change rooms must be adequately ventilated by natural or artificial ventilation, in terms of Part O of the *SANS 0400*.

SECTION 19: PRISONS, INCL POLICE STATION HOLDING CELLS

1. NORMS

- 1.1 The premises operated under a valid Health Certificate issued by an EHP of a relevant municipality, to the effect that the premises and general facilities comply with environmental health requirements.
- 1.2 The premises, building structure and facilities in compliance with the requirements of the *National Building Act and the National Building Regulations, act 103 of 1977* and conforms to the specifications of the *SANS 10400*.

2. MONITORING STANDARDS FOR ENVIRONMENTAL HEALTH

- 2.1 Environmental health inspections of prisons and holding cells should be conducted at least twice (2) every year. The risk profile of specific premises should also inform the frequency of inspections.
- 2.2 Inspection checklists should be designed and utilized during all inspections. The design of the checklist should be informed by the health requirements that prison premises must comply with.
- 2.3 Inspections of prisons and holding cells should include the assessment of aspects such as ventilation, indoor air quality, lighting, moisture-proofing, thermal quality and structural safety of the premises, as well as overcrowding, dirty and unsatisfactory health conditions.
- 2.4 An inspection report, including the relevant health recommendations must be issued to the person in charge of the school after every inspection is conducted.
- 2.5 A database/inventory of all premises used as prisons, including police stations with holding cells should be maintained by EH in their municipality for monitoring and control purposes.

3. STANDARDS FOR PRISON AND HOLDING CELLS

Prisons, including police station holding cells must comply with the following health and safety requirements:

3.1 Structural facilities

- a) Adequate floor space must be available for each prisoner/inmate on the premises, with regards to cell accommodation to enable prisoners to move freely, and for sleeping purposes.
- b) At leastm² of floor space must be available in a cell for each inmate consisting of single or communal cells or both, in accordance with partof the National Building Regulations.
- c) Prison cells must be adequately ventilated by natural ventilation, illuminated by both natural and artificial lighting, to allow activities such as reading, and heated in terms of the *National Building Regulations, SANS 10400*.
- d) Holding cells must be kept clean at all times, free from debris, litter and other miscellaneous rubbish and be maintained in good repair.
- e) Adequate storage facilities must be provided for the storage of personal belongings of each inmate.

3.2 Toilet and ablution facilities

- a) Adequate toilet, hand washing and shower facilities must be available on the premises for use by inmates.
- b) At least 1 (one) toilet facility and 1 (one) hand wash basin must be provided for every 20 (twenty) inmates on the premises; or
- c) 1(one) urinal must be provided for every 50 inmates on the premises.
- d) In the case where the toilet is located in cell, it must be enclosed to ensure privacy.
- e) 1 (one) shower must be provided for every 20 (twenty) inmates on the premises.
- f) Potable running hot and cold water must be available of every handwash basin and shower.
- g) Floors of the toilet must be constructed of an easily cleanable surface and walls are constructed of a smooth finish and painted with a light coloured washable paint.
- h) Toilet facilities must be kept clean at all times, and provided with an adequate supply of toilet paper, soap and drying towels.
- i) Toilet facilities must be maintained in good working order and in good repair at all times.

3.3 Waste management

- a) The collection, handling, storage and disposal of waste on the premises must be in compliance with the *National Environmental Management: Waste Act 59 of 2008, the National Building Regulations and also conform to be in line with the requirements as set out in Section2-5 of the Norms and Standards for Waste Management*.

3.4 Laundering facilities

- a) Prisons must have access to well managed laundry facilities for the effective laundering of bedding and clothing for prisoners;

- b) Surface finishes of walls, floors, ceilings, fittings, tables and trolleys in the laundry must be smooth and easily cleanable;
- c) The laundry facility must be properly ventilated by cross ventilation and adequately illuminated;
- d) Drainage must be designed without open drains; with lockable inspection or rodding eyes; with a flow from clean to dirty areas; and not connected to stormwater drainage;
- e) Areas receiving soiled linen must be separate from areas of clean linen;
- f) Adequate ablution and toilet facilities must be provided, including an emergency shower or eye-wash facility in the wash-room where chemicals are handled;
- g) Suitable and hazard-free storage for chemicals must be provided;
- h) The capacity and the condition of the equipment used for washing should meet the prisons laundering requirements.

SECTION 20: VACANT LAND

For the purpose of this document, vacant land shall refer to unoccupied or empty stands or any land without a structure build onto it, a pavement, or open field. This will include an un-occupied building.

1. NORMS

- 1.1 Vacant land to be in compliance with environmental health and hygiene requirements and promote a clean and healthy environment.

2. MONITORING STANDARDS FOR ENVIRONMENTAL HEALTH

- 2.1 Environmental health inspections of vacant land should be conducted on a regular basis.
- 2.2 An inspection report, including the relevant health recommendations must be issued to the owner or person in charge of the vacant land after every inspection is conducted.
- 2.3 EH should maintain a database of private and public vacant land in their municipality for monitoring and control purposes.

3. STANDARDS FOR VACANT LAND

Vacant land must comply with the following requirements:

3.1 Physical environment

Vacant land and unoccupied buildings must be maintained clean at all times, free from the following conditions:

- Accumulation of refuse, debris, including glass, paper, rags, tins, trash, ash and coal, including dead animals;
- Overgrown weeds, trees, long grass, and existence of undergrowth, shrubs or any poisonous plants;
- Accumulation of wrecked motor vehicles, chassis, engine or other part of a motor vehicle which is unsightly and may pose a health nuisance;
- Offensive smells; stagnant waters; and
- Any conditions resulting in the breeding of flies or mosquitoes, habourage of rodents and other vermin.

SECTION 21: OFFICE BUILDINGS ACCOMMODATION

1. NORMS

- 1.1 The premises in compliance with environmental health and occupational hygiene requirements.
- 1.2 The premises promote the health and safety of employees.

2. MONITORING STANDARDS FOR ENVIRONMENTAL HEALTH

- 2.1 Environmental health inspections of office building and accommodation should be conducted at least once in a year.
- 2.2 An inspection report, including the relevant health recommendations must be issued to the person in charge of the building after every inspection is conducted.
- 2.3 Checklists for routine inspections should be designed and maintained for use during every inspection.
- 2.4 Inspections should be coordinated with all relevant stakeholders, such as the Department of Labour responsible for health and safety issues in a work place.

3. STANDARDS FOR OFFICE BUILDINGS ACCOMMODATION

Office building and accommodation must comply with the following requirements:

3.1 Toilet and ablution facilities

- a) Adequate sanitation and hand washing facilities must be available on the premises for use by employees, in accordance with Part F, P and Q of the *SANS 10400*.
- b) At least 1 (one) toilet facility and 1 (one) hand wash basin must be provided for every 50 employees on the premises. 1(one) urinal must be provided for every 50 employees on the premises.
- c) Hot and cold running water must be provided at every handwash basin.
- d) Toilets must be designated by sex.
- e) Floors of the toilet must be constructed of an easily cleanable surface.
- f) Walls must be constructed of a smooth finish and painted with a light coloured washable paint.
- g) Toilet facilities must be kept clean at all times, and provided with an adequate supply of toilet paper, soap and drying towels.
- h) Toilet facilities must be maintained in good working order and in good repair at all times.
- i) Toilet facilities must be adequately ventilated and illuminated in accordance with the provision of Part O of the *National Building Regulations*.

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| SECTION 22: OPERATION OF BOILER, INCINERATORS AND PRIVATE SEWAGE WORKS ON PREMISES |
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The operation of boilers, incinerators and private sewage works must comply with the following requirements:

- a) Coal and fuel burning equipment such as boilers and incinerators must be operated effectively to minimize smoke, gas, odours, fly-ash or any other form of air pollution.
- b) Only incinerators and boilers which conform to prescribed requirements as set in the must be used. Pam I think we should mention requirements in terms of what legislation.
- c) Incinerators and boilers must be maintained in good working order to ensure pollution free performance.
- d) The competent Authorities (Port Health), designated supervisors and/or the local Environmental Health practitioners should monitor the incinerators and boilers so as to ensure that they are operating effectively in terms of permit conditions and the applicable local authority's by-laws.
- e) All necessary technical investigations should be conducted by the operators of incinerators and boilers to ensure that the coal and fuel burning equipment and other relevant disposal facilities are operated in accordance with the relevant permit requirements.
- f) Private sewage disposal works or refuse (landfill) disposal sites managed must be operated effectively in accordance with prescribed legislation and permit conditions for operation of landfills and sewage works.
- g) Evaluations/monitoring should be included in the waste/pollution management plans and be implemented per plans.
- h) Any final effluent or sludge emanating from the sewage disposal works must be utilized in accordance with prescribed national guidelines to prevent soil and water pollution.
- i) The sewage drainage system must be maintained effectively to prevent blockages and spills that could give rise to environmental pollution.
- j) EHPs should periodically monitor the quality of the final effluent in the private sewage works so as to ascertain compliance with the effluent standards prescribed by Regulation 991 promulgated in terms

of the Water Act, 1998 (Act 36 of 1998) and any subsequent amendments; and monitor the disposal of effluent to ensure compliance with the permit specifications of the Department of Water Affairs.

Record keeping

- a) All necessary information concerning boiler and incinerator operations, as required by permit conditions and legislation must be recorded.
- b) Results of final sewage effluent of a sewage disposal site and water quality analysis (where applicable) must be kept on record.
- c) Results obtained from the local authority regarding smoke emission measurements should be recorded.

Competency of staff

- a) Staff responsible for the operation of boilers and waste disposal works or facilities must be well trained to operate the facilities effectively and pollution free.
- b) The Environmental Health Practitioners that renders a service to the facilities should be competent to carry out the necessary physical investigations to ensure that all waste management and disposal activities do not cause environmental pollution; monitor final effluent from sewage disposal works (where applicable) and interpret analysis results; and

SECTION 23: NOISE, DUST, PEST, VECTOR AND TOBACCO CONTROL TO ALL PREMISES

All Premises must also comply with the following requirements with regards to noise, dust, and the control of pests and vermin on the premises:

1. Noise Control

- a) Excessive, disruptive and displeasing noise emanating from any activity on any premises must be controlled to ensure acceptable levels.
- b) The level of noise produced on an industry that emits noise should conform to the requirements as specified in the *Environmental Conservation Act 73 of 1989 Noise Control Regulations*.
- c) Noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception.
- d) Utilising measures for controlling noise from stationary sources by implementing noise control measures at source.

2. Dust control

- a) Discharge to the atmosphere of dust particles or substances emanating from a building or structure as a result of activities in connection with the erection or demolition of any structure on any premises.

3. Pest and vector control

The degree of pest infestation on any premises may be indicative of the standard of hygiene and the lack of success of control measures to prevent or eradicate infestation. Apart from a nuisance in general, these infestations could pose a serious health risks. Transmission of disease from infestations occurs in both the internal and external environment of the premises through contamination of equipments, surfaces, food or water. Implementing control measures on a regular basis is necessary to prevent or eradicate infestation and should be effected by means of a continuous pest control program.

The owners and person in charge of the premises must ensure:

- a) Construction and availability of rodent-proofing on premises to prevent penetration of the premises by rodents and other vermin. Particularly in food handling premises, funeral undertaker's premises, etc.
- b) Rodent proofing is maintained in good order or repair so as to be impervious to rodents.
- c) To prevent the wide-spreading of rodents or pests, rodents must be eliminated before demolition of any building or structure likely to be infested with rodents.

1) Responsibility of management

- 1.1. Management should ensure the effective formulation, implementation and maintenance of a documented vector control program, to combat and prevent infestations from insects, rodents and all other pests, e.g. birds, cats, bats, bees, fungus, etc.
- 1.2. Management should ensure the availability of competent and suitably trained personnel to be responsible for the implementation and maintenance of the documented pest control program. In the case of a contractor rendering the pest control service, such a contractor must be registered in terms of the Agricultural Feeds and Fertilizer Act, 1971 (Act 51 of 1971) and be licensed by the relevant Local Authority.
- 1.3. A record of pest control applications should be recorded and the record should specify:
 - Date of chemical applications;
 - Areas treated;
 - Chemicals used;
 - Method/s of application;
 - Quantity of chemicals used; and the
 - Name and signature of the operator.
- 1.4. Management should regularly monitor the effective execution of the pest control program.
- 1.5. Management should make adequate provision for resources to ensure the execution of the pest control program on a continuous basis.
- 1.6. Pest control program for the premises should highlight the following areas:
 - **Breeding** - Places promoting breeding of flying, crawling and parasitic pests should be identified and effectively eradicated. Special attention must be paid to disease vectors in malaria, plague, yellow fever, and typhus endemic areas.
 - **Access** – Areas promoting the access of vectors and pests to premises and suitable measures to be taken to prevent intrusion of flying and crawling insects and rodents.
 - **Waste collection and disposal facilities** - Waste collection and disposal facilities must be operated in a manner that does not favour the attraction and breeding of vermin.
 - **Housekeeping practices**- housekeeping measures to be practised to maintain an acceptable standard of hygiene and to prevent pest infestation.

2) Monitoring

- 3.3 The management of the premises must ensure that investigations are performed constantly to timeously detect possible vermin infestations.
- 3.4 Any abnormal incidence of pests (e.g. mosquitoes and rodents) should be reported immediately to the Environmental Health Practitioner in the relevant municipality.
- 3.5 Insecticides and rodenticides should be used in a manner as not to cause harm to human health.
- 3.6 Operators of insecticides and rodenticides must use suitable protective clothing and gear when applying chemicals.
- 3.7 The management, use and handling and transportation and disposal of chemicals and pesticides used in the pest control program must be in compliance to the *Norms and Standards for Chemical Safety and Hazardous Substances*.
- 3.8 Appropriate training should be provided for staff engaged in pest control. The Guidelines for Pest Control Management in Government Institutions published by the Department of Health.

4. **Tobacco control**

- a) If smoking is permitted on any premises, a designated smoking area must be provided on for smoking, in accordance with the *Regulations Governing Smoking of Tobacco Products in Public Places, R975 of 29 September 2000 and other related regulations, published in terms of the Tobacco Products Control Act 83 of 1993, as amended*.
- b) If tobacco products are being sold on the premises, it must be in compliance to the Regulations Regulating the sale and display of tobacco products.

SECTION 24: ENVIRONMENTAL POLLUTION CONTROL

EH should also monitor the following on all premises:

1. Dirty or unsightly conditions

- a) Accumulation of refuse, debris, including glass, paper, rags, tins, trash, ash and coal.
- b) Overgrown weeds and long grass, existence of thicket, shrub or any poisonous plants.
- c) Accumulation of wreck, chassis, engine or other part of a motor vehicle which is unsightly and may pose a health nuisance.
- d) Offensive smells from any activity on premises.
- e) Stagnant water and dumping or littering of waste on premises.
- f) Breeding of flies or mosquitoes.
- g) Harborage of rodents or other vermin on the premises.

2. Littering, dumping and burning of waste

- a) Dumping, throwing or littering of waste, including rubbish, glass, tins, paper, car wrecks or parts of motor vehicles, dead animals, waste water or flushing water or other litter or waste, whether liquid or solid, on or in a street, road, bridge, thoroughfare, open space, vacant stand, public place or any watercourse.
- b) Burning or permitting of burning of any waste material, including tyres, rubbish, garden refuse, paper or other material on any premises in such a way as to create a health nuisance or health hazard.

3. Emission of ash, grit and soot from chimneys on premises

- a) Emission of offensive, smoke, ash, grit or soot from any burning activities of the premises, either from chimneys or other material or objects in such a way as to be offensive, injurious or hazardous to health.

4. Drain, pipes and sewerage blockages and leakages

- a) Any drain, sewage pipe blockages on a residential premises or public open spaces, overflowing to the streets and polluting the environment, surface water or the watercourse.

5. Pollution by oil spillages

- a) Any activity on any premises, resulting in oil spillages on the ground which is likely to result in pollution of the soil and surface and ground water.

6. Erection of pit latrines

- a) Construction of any pit toilets in a manner as to ensure proper erection to prevent pollution of ground water sources, health nuisance or health hazard. The construction of latrines to drain less than 50 metre from a ground water source and the facility must be located 5m from a house or from the boundary of the premises.

7. Environmental health impact assessment of new developments

- a) Inspection of Environmental Impact Assessment (EIA) applications, assessing possible impacts (positive or negative) of proposed activities (township establishments, construction of burial sites, electricity power stations, mining etc) on human health.
- b) Recommendations to the competent authorities of the Department of Environmental Affairs, for environmental health impact assessments (EHIA) of a proposed activity to be conducted where necessary in accordance with the *Guideline for Environmental Health Impact Assessment*, to ensure

that all possible health impacts of an activity are considered in decision making for environmental authorisation.

8. Building plans inspections

- a) Inspection of building plans for housing projects or building extensions and provide health comment with regards to lighting and ventilation, sanitation, water supply and waste.

SECTION 25: COMPLIANCE ENFORCEMENT

1. EHPs must investigate any non conformances in relation to requirements relating to premises and take appropriate action.
2. In case of other non conformances an EHP should issue compliance notice to the person in charge or the offender in terms of the National Health Act 61 of 2003, or the relevant Municipal By-laws, prescribing the nature of the offence and the corrective action that should be taken within a prescribed time period.
3. If non conformances still exist upon follow up inspection, an EHP may issue a warning notice, with compliance period, if deemed necessary or serve spot fine or a notice to appear in court. Spot fines and notices issued to appear in court shall be followed up by the EHP until the matter is resolved. If non conformances still prevails, despite compliance notices and legal action taken, the municipality may exercise any remedial measures to remove the nuisance and recover the costs thereof from the owner.
4. The severity of the health and safety risks should always be considered when environmental health compliance enforcement is exercised. "Zero tolerance" approach in extreme health and safety risks and any other risks so deserving in the opinion of the EHP, shall be exercised e.g. illegal dumping of health care risk, where if the offender is caught red handed, can be fined and instructed to remove the dump immediately without being given any compliance.
5. EHPs should cooperate and collaborate with other pollution control agencies, such as the "Green Scorpions" in enforcement of environmental law.

Chapter 2
PORT HEALTH

STANDARD INDEX

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BACKGROUND

The Scope of Profession of Environmental Health outlines the role of Port health to include the following:

- a) Monitoring, inspecting, sampling and labelling all imported foodstuffs, cosmetics and disinfectants at all ports of entry (harbours and border posts);
- b) Monitoring all imported foodstuffs, cosmetics and disinfectants for which a certificate of approval is required;
- c) Sampling foodstuffs consumed on board all aeroplanes and ships;
- d) Monitoring, inspecting and sampling (for chemical and bacteria testing purposes) all maize and wheat imports;
- e) Monitoring continuous rodent and vector control at airports and harbours;
- f) Monitoring imports of used pneumatic tyres for the prevalence of mosquitoes such as the *Aedes* species (vectors for yellow fever, dengue fever and encephalitis);
- g) Providing a continuous vaccination programme for seafarers at all ports;
- h) Monitoring and inspecting all hazardous cargo entering the country;
- i) Monitoring and preventing communicable diseases on a 24 hour-basis;
- j) Monitoring water on board ships to ensure that it is safe for human consumption;
- k) Monitoring food wastes and medical waste for disposal.

SCOPE OF APPLICABILITY

The scope of applicability of this set of norms and standards covers;

- a) Points of entries;
- b) Ships; and
- c) Aircrafts

NORMS

1. Building structure of a point of entry to be in compliance with the requirements of the *National Building Act and the National Building Regulations, 103 of 1977 and SANS 10400*.
2. The premises in compliance with environmental health and occupational hygiene requirements.
3. Potable water available within 200m of the premises.
4. Sanitation facilities available within 200m of the premises.
5. The premises promote the health and safety of travellers.
6. Airports designed in a manner as to prevent the spread of international disease
7. Conveyances and facilities at airports, ports and ground crossing kept free from sources of infection and prevent spread of international diseases

MONITORING STANDARDS

1. Environmental health inspections of points of entry should be conducted at least once per quarter.
2. An inspection report, including the relevant health recommendations must be issued to the person in charge of the building after every inspection is conducted.
3. Port Health Officials should advise port authorities with regard to the status of physical facilities at the points of entry.
4. Regular surveys of buildings and equipment to identify defects or unsatisfactory performance should be carried out;
5. Inspection of points of entry should include the assessment of core capacities of airports, sea ports and ground crossings in terms of the *IHR 2005*.
6. Checklists for routine inspections should be designed and maintained for use during every inspection.
7. Inspections should be coordinated with all relevant stakeholders, such as the Department of Labour, relevant local authority, conveyance operators and any border management agency.
8. Facilitate and collaborate with other role players e.g. management (port authority), infection control, health and safety committees, service providers, local authority and other departments with regard to environmental pollution matters.
9. All conveyances must be inspected on arrival at the point of entry.

10. All inspection records must be safely kept.
11. The EHPs should be familiar with, and have access to all relevant legislation, standard specifications and code of practices.

STANDARDS FOR POINTS OF ENTRY AND CONVEYANCES

SECTION 1: POINTS OF ENTRIES

A point of entry is defined as a passage for international entry or exit of travelers, baggage, cargo, containers, conveyances, goods and postal parcels as well as agencies and areas providing services to them on entry or exit. (IHR 2005) This includes international airports, ports and ground crossings.

The building of a point of entry must comply with the following requirements:

1. Structural facilities

- a) The building structures must comply with the requirements of the *National Building Regulations and the Building Standards Act 103 of 1977 for office accommodation, as well as the SANS 10400*, with regards to floors, walls, roofs, stairways, lighting and ventilation, drainage, sanitary disposal, storm water disposal, facilities for persons with disabilities, fire protection and waste management.
- b) Adequate floor space must be provided to allow unobstructed movement of travelers including sick passengers, mobile equipment, staff and to ensure that the facilities adheres to an acceptable level of occupation density in all facilities;
- c) The locality of all facilities, including lifts, fire escapes and general exits must be clearly indicated for convenience of travellers, staff and any visitors;
- d) Facilities must be adapted to accommodate physically disabled persons;
- e) Places where work is performed in the Points of Entry must comply with requirements laid down by the Environmental Regulations for Workplaces R2281, with specific attention to thermal conditions in the work environment; lighting according to luminance values; visibility in areas immediately outside the workplace; unobstructed space for work performance; maintenance of buildings of workplaces; assuring noise levels below 85 dB; measures regarding flooding during construction and fire precautions including emergency exits.

2. Air quality and waste management

- a) Waste and air quality management plans must be in place and implemented at points of entry.
- b) A records of all monitoring/sampling results of emission levels and waste management audits conducted must be kept;
- c) The collection, handling, storage and disposal of waste on the premises must be in compliance with the *National Environmental Management, Waste Act 59 of 2008* and conform to the requirements as set out in the section ...of the *Norms and Standards for Waste Management*.
- d) Policy and procedures should be available to ensure that all the facilities which may give rise to pollution operate effectively. The policy should clearly define the duties and responsibilities of relevant stakeholders and of designated staff members and establish levels of accountability.
- e) Refuse bins must be provided at strategic places on the point of entry premises to eliminate and minimize littering and illegal dumping of waste.

3. Noise control

- a) Disturbing noises emanating from vessels, flights, vehicles, refrigeration machines, fan systems, compressors, air conditioners, etc. must be controlled not to exceed the "disturbing noise" level specified in the *Noise Regulations* promulgated in terms of the *Environmental Conservation Act, 1989 (Act 73 of 1989)*.
- b) Vehicles must not emit noise that exceeds the limits prescribed in Regulation R896 of 27 April 1990 (Noise Regulations) where the measuring point is described in SABS 0181 of 1981.
- c) Information with regard to the measurement of noise levels must be recorded.

4. Disease surveillance

- a) An Integrated Disease Surveillance Program together with an emergency preparedness plan should be developed per Points of Entry and implemented for any event of International concern;
- b) Procedure for reporting and responding to accidents should be provided by the competent authority as part of the contingency plan of the Point of Entry.

5. Toilet and ablution facilities

- a) Adequate sanitation and hand washing facilities must be available on the premises for use by employees, in accordance with Part F, P and Q of the *SANS 10400*;
- b) Hot and cold running water must be provided at every handwash basin;
- c) Toilets must be designated by sex;
- d) Floors of the toilet must be constructed of an easily cleanable surface;
- e) Walls must be constructed of a smooth finish and painted with a light coloured washable paint;
- f) Toilet facilities must be kept clean at all times, and provided with an adequate supply of toilet paper, soap and drying towels;
- g) Toilet facilities must be maintained in good working order and in good repair at all times;
- h) Toilet facilities must be adequately ventilated and illuminated in accordance with the provision of Part O of the *National Building Regulations*;
- i) Toilets servicing travelers must be consistent with volume and frequency of travelers.

6. Food preparation facilities

- a) If foodstuffs is prepared, processed, handled, stored, produced or served at the point of entry, the facilities of the premises used in connection with the handling, preparation, storage, processing, production and serving of foodstuffs must be in compliance with the requirements as set out in the *Regulations Governing General Hygiene Requirements for Food Premises and the Transport of Food, R962 of November 2012*.

7. Drinking water quality

- a) Water supply at a point of entry must comply with the specifications of the *SANS 241* with regards to its chemical, microbiological and physical quality and the monitoring thereof must be in accordance with the requirements as specified in the *Norms and Standards for Health Related Water Quality Monitoring*.

8. Medical units

- a) If medical care is provided at the point of entry for travelers and employees, the facilities used in connection with the provision of medical care must be in accordance with the requirements as specified in *Section 11* of the norms of standards for *health surveillance of premises* and the waste management of waste in the medical unit must be in line with *section 9* of the norms and standards for *waste management*.

9. Record keeping at the point of entry

1. Information with regard to the following should be documented in a point of entry:
 - Waste, Air and Water quality management monitoring reports;
 - Database of other Points of entry and their contact officials and details within South Africa and any other countries connected to through sea, land and air;
 - Any reported or identified, even potential diseases or events of International concern,
 - Data on cleaning operations including liquid and solid waste management in the various facilities must be kept for planning of future programs.

10. Vector Control

- a) Vector control management plan for the prevention and control of vector infestation must be available, in line with section 22(3) of the norms and standards for health surveillance of premises;

- b) All facilities within a point of entry must be kept free of all vectors.

SECTION 2: AIRCRAFTS

STANDARDS FOR AIRCRAFTS

All aircrafts must generally comply with the International Health Regulations, 2005 and relevant guidelines. Airline operators must ensure that they inform passengers on health measures recommended by the WHO and adopted by South Africa. In addition, aircraft operators must keep their conveyances free from sources of infection and or contamination including vectors. The aircraft must in particular comply with the following requirements:

1. Structural facilities

- a) Aircrafts must be designed in a manner that meets international standards and recommendations
- b) Aircrafts must be designed and constructed in a manner that facilitates proper cleaning and disinfection
- c) Aircraft interiors must be designed and constructed of suitable material to facilitate cleaning and to reduce the risk of harboring insects, rodents and other vectors.

2. Air quality and waste management

The management of waste on board aircraft must adhere to the requirements as specified in the WHO Guide to Hygiene and Sanitation in Aviation.

- a) Records of all monitoring/sampling results of emission levels and waste management audits conducted must be kept;
- b) Sufficient waste containers must be provided on board aircraft for storage of all types of waste.
- c) Waste containers must be promptly emptied from the aircraft on arrival and waste management procedures must be implemented as per *National Environmental Management, Waste Act 59 of 2008*

3. Noise Control

- a) Information with regard to the measurement of noise levels must be recorded.

4. Disease surveillance

- a) Procedures for responding to a suspected communicable disease on board must be available;
- b) Crew members must be trained on communicable disease management on board aircrafts An Integrated Disease Surveillance Program should be developed per Points of Entries and implemented for any event of International concern;

5. Toilet and ablution facilities

- a) Adequate sanitation and hand washing facilities must be provided onboard the aircraft;
- b) Hot and cold running water must be provided at every hand wash basin;
- c) Toilet facilities must be kept clean at all times, and provided with an adequate supply of toilet paper, soap and drying towels;
- d) Toilet facilities must be maintained in good working order and in good repair at all times;
- e) Floors of the toilet must be constructed of an easily cleanable surface;
- f) Sanitary waste on board aircraft must on arrival be discharged into a Municipal approved sewerage system.

4. Food safety and hygiene

Food safety and hygiene onboard an aircraft must conform to the specifications as per WHO Guide to Hygiene and Sanitation in Aviation.

- a) All food onboard must be stored and maintained at the correct temperatures;
- b) Onboard storage compartments must be cleaned and disinfected regularly;
- c) Onboard storage compartments must be made of material that is easily cleanable;
- d) All equipment must be maintained in a serviceable condition and must be kept clean at all times;
- e) Containers used for serving of food must only be used for the intended purpose;
- f) Walls, ceilings, floor and door of vehicles transporting food onto aircraft must be lined with smooth, impervious material for easy cleaning;
- g) Vehicles transporting food onto aircraft must be in a serviceable condition and kept in clean condition;
- h) All equipment used for the preparation and serving of food must be kept in clean condition;
- i) Food waste must be removed from the aircraft as soon as possible after arrival; and disposed off through in an approved manner.

5. Vector Control

- a) Aircrafts must be kept free of any vectors and flies;
- b) Aircrafts from Yellow Fever and Malaria affected areas must be disinfected according to the International Health Regulations (2005).

6. Cargo Holds and Containers

- a) Aircraft cargo holds must be kept in clean condition;
- b) They must be kept free of infectious materials, vectors and rodents;
- c) They must be constructed of a material that facilitates easy cleaning.

SECTION 3: MONITORING OF WATER QUALITY ON BOARD AIRCRAFT/ IN AVIATION

Travel can facilitate the transfer of communicable diseases and one of the risks that are associated with air travel is posed by the potential for microbial contamination of aircraft water by animal or human excreta. This contamination may originate from source waters or may occur during transfer operations or while water is stored on board the aircraft. If proper procedures and safer sanitation practices are not continuously followed to ensure the safety of water for human consumption, the risk of water and food-borne diseases in aviation increases. The provision of a potable water source at the airport might not necessarily be an indication that the water on board the aircraft is safe as it may have been contaminated during transfer and storage or distribution in the aircraft. Generally, the aircraft drinking-water supply and transfer chain consists of four major components: the **source** of water coming into the airport; the **airport water system**, which includes the on-site distribution system and may also include treatment facilities if the airport produces its own potable water; the **transfer point** sometimes referred to as the watering point; and the **aircraft water system**, which includes the water service panel, the filler neck of the aircraft finished water storage tank and all finished water storage tanks, including refillable containers/urns, piping, treatment equipment and plumbing fixtures within the aircraft that supply water to passengers or crew.

1. Water supplied in aircrafts must be obtained from a source that has well operated and maintained systems and that conforms to **SANS 241** and the WHO. Guideline for sanitation and hygiene in aviation.
2. Potable water at airports must comply to the **SANS: 241** with regards to its bacteriological, chemical and aesthetic quality.
3. A Water Safety Plan covering water management within airports from receipt of the water through to its transfer to the aircraft should be in place for airports to ensure water safety in aviation.
4. The quantity of potable water on board must be sufficient to meet the needs of all people on board the aircraft, for drinking, food preparation, personal hygiene and other uses/purposes.
5. Potable water provided to airports and aircrafts must be from an uncontaminated source that is approved by the approved by the competent authority (DWA).
6. PHO must test drinking water supply to the ships and the ports regularly for fitness of human consumption both on an operational level and on compliance level.

7. PHOs should also develop and implement Water Quality Monitoring Programmes for aircraft and port water.
8. WQMP should be implemented for compliance monitoring and audit sampling purposes. The said programmes should highlight the “objectives” for the sampling, location “where” to sample and assess the determinands “what” to be assessed, and the frequency “how often” to sample, for the purpose of monitoring of all water from catchment to consumer which has the potential to impact human health following use.
9. PHOs should only conduct compliance monitoring from pre-determined representative sampling points and at the user points as outlined in the WQMPs.
10. PHOs should monitor water supply, in accordance to deliberate water quality monitoring programmes for the purpose of quality assurance and to satisfy a quest to ensure optimum public health.
11. PHOs should ensure that the WQMP is strictly followed and implemented; hence proper water quality monitoring records should be kept at all times.
12. PHOs should only use the **SANAS 17025:2005** accredited laboratories or Department of Water Affairs (DWA)-approved laboratories per method of analysis for analysis of samples, to ensure credible results.
13. Documentation for water quality monitoring must be kept for assurance and analysis in the event of an incident.
14. Sampling must be done by Port Health Officials or other professionally trained personnel only.
15. The water transfer points from the water source to onboard storage and distribution system should comply with the WHO. Guide to sanitation and hygiene in aviation. 2011.
16. Aircraft water systems should comply with the requirements as specified in the WHO. Guide to sanitation and hygiene in aviation. 2011.
17. Port Health Officials should conduct compliance monitoring and safety audits in the aircraft to ensure that the persons on board the aircraft are provided safe water. A period necessary to determine appropriate corrective action and ensure that measured parameters have returned to safe levels.
18. Surveillance of water supply in aviation must be accomplished by authorized and trained officers from public health authorities or qualified independent auditors and inspectors.
19. The amount of water required for hand washing and other sanitation needs must be taken into account in passenger aircraft designs;
20. All water monitoring/sampling should be well documented and records to be kept.

SECTION 4: SHIPS

STANDARDS FOR SHIPS

All ships must generally comply with the International Health Regulations, 2005 and relevant guidelines. Airline operators must ensure that they inform passengers on health measures recommended by the WHO and adopted by South Africa. In addition, ship owners must keep their conveyances free from sources of infection and or contamination including vectors. Ships should be subjected to ship sanitation inspection at the port. The ship must particularly comply with the following requirements:

1. Structural facilities

- a) Design of ships must conform to international standards and recommendations

2. Accommodation Establishments

- a) Accommodation establishments on board must conform to the specifications as per Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) Adequate ventilation and heating systems must be provided;
- c) Sanitation facilities with hand washing and drying facilities must be provided in accommodation establishments;
- d) All sanitation facilities must have adequate soap and toilet paper;
- e) Bathrooms and showers must be provided;
- f) Accommodation establishments must be kept clean;
- g) Natural or artificial lighting must be provided.

3. Waste management

- a) The management of waste on board must adhere to the requirements as specified in the WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) Ships must be equipped with facilities for managing wastes generated from all areas within the ship;
- c) Waste containers must be appropriately designed to facilitate proper cleaning;
- d) Waste holding rooms must be well ventilated and humidity and temperatures controlled;
- e) Waste holding areas must have accessible handwashing facilities with hot and cold water;
- f) Health care waste must be stored and treated in a safe manner;
- g) Facilities for treating and/or storing health care waste must be available on board;
- h) Ships must be equipped with facilities for managing waste from toilets and urinals, medical facilities and food sources;
- i) Ships discharging waste at the port must do so in compliance with *National Environmental Management, Waste Act 59 of 2008*.

4 Disease surveillance

- a) Procedures for responding to a suspected communicable disease on board must be available;
- b) Crew members must be trained on communicable disease management on board aircrafts An Integrated Disease Surveillance Program should be developed per Points of Entries and implemented for any event of International concern.

5 Toilet and ablution facilities

- a) Adequate sanitation and hand washing facilities must be provided onboard the aircraft;
- b) Hot and cold running water must be provided at every hand wash basin;
- c) Toilet facilities must be kept clean at all times, and provided with an adequate supply of toilet paper, soap and drying towels;
- d) Toilet facilities must be maintained in good working order and in good repair at all times.

6 Food Safety and Hygiene

- a) Food safety and hygiene on board must conform to the specifications as per WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) Facilities on board must be suitable for safe food preparation and serving of food;
- c) Facilities for storage of food must be provided and maintained at the correct temperatures;
- d) Food storage facilities must be constructed in a manner as to avoid pest access and harborage, allow for adequate maintenance and cleaning and provide an environment that minimizes the deterioration of food;
- e) All equipment must be maintained in a serviceable condition and must be kept clean at all times;
- f) Containers used for serving of food must only be used for the intended purpose;
- g) There must be suitable and adequate space for the safe storage, preparation and service of food;
- h) Adequate toilet and personal hygiene facilities must be provided for food handling personnel;
- i) Hand wash and hand drying facilities must be suitably located for easy access by food handling personnel;
- j) Food storage temperature logs must be in place;
- k) Sufficient lighting and ventilation must be provided in food preparation area;
- l) Food preparation area must be kept clean.

7. Child care facilities on board the ship

- a) Child-care facilities on board ship must conform to the specifications as per WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) Adequate lighting and ventilation must be provided for the facility;
- c) Cleaning and maintenance plans must be in place to keep the facility clean at all times;
- d) Sanitation facilities with hand-washing facilities must be provided for use by the children;
- e) Soap, toilet paper and hand drying facilities must be provided in the sanitation facilities at all times;
- f) Potable water must be available for use by the children (for drinking and other uses in the facility);

- g) The surface area must be constructed of a smooth and durable material to promote the safety of the children in the facility.

8. Medical facilities

- a) Medical facilities onboard ship must conform to the specifications as per WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) Provision of medical care must be in compliance with international standards and requirements (ILO, Maritime Labour Convention 2003, IMO, WHO, International medical guide for ships, International Convention on Standards, Certification);
- c) Medical facilities must be easily accessible, separated from other activities and only used for the intended use;
- d) Facility must be kept clean with sufficient lighting and ventilation;
- e) Adequate space for isolation of ill travelers must be provided;
- f) Drinking water must be available;
- g) Sanitation facilities with cold and hot water taps for handwashing must be provided;
- h) Soap, toilet paper and hand drying facilities must be provided in the sanitation facilities.

9. Recreational water environments

- a) The recreational water environment onboard ship must conform to the specifications as per WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) In the case of indoor recreational water environment adequate ventilation must be provided;
- c) All recreational water environments must be kept clean on a regular basis and the water treated to ensure it is microbiologically safe.

10. Engine rooms

- a) Engine room's onboard ship must conform to the specifications as per WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) Rooms must be constructed of material that facilitates cleaning;
- c) Hand wash facilities with hot and cold water must be provided and be within easy reach;
- d) Bathing and changing facilities for engine department personnel must be provided;
- e) Adequate ventilation and lighting must be provided.

11. Sewage

- a) Sewage onboard ship must conform to the specifications as per WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates.

12. Cargo holds

- a) Cargo holds must conform to the requirements as specified in the WHO Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
- b) Cargo holds must be constructed of material that facilitates cleaning and be kept in clean condition;
- c) They must be kept free of any infectious materials, vectors and rodents.

13. Vector control

- a) Vector control onboard ship must conform to the requirements as specified in the WHO Guide to Hygiene and Sanitation in Aviation;
- b) An integrated vector control programme must be in place;
- c) Rodent proofing measures must be installed and maintained.

14. General requirements

- a) Adequate natural or artificial lighting and ventilation must be available in all areas of the ship;
- b) A cleaning and maintenance programme must be in place for all areas within a ship;

- c) Documents outlining prevention, surveillance and control of public health risks onboard should be available.

SECTION 5: MONITORING OF WATER QUALITY ON BOARD SHIP

Improperly managed water is an established route for infectious disease transmission on ships. The importance of water was illustrated in the review of more than 100 outbreaks associated with ships undertaken by Rooney et al. (2004), in which one fifth were attributed to a waterborne route. Most waterborne outbreaks of disease on ships involve ingestion of water contaminated with pathogens derived from human or other animal excreta. Illnesses due to chemical poisoning of water have also occurred on ships, although chemical incidents are much less commonly reported than microbial ones. Even if the water at the port is safe, this does not ensure that it will remain safe during the transfer and storage activities that follow.

1. Ships must be loaded with potable water obtained only from water sources and suppliers that provide potable water and that conforms to **SANS 241** in terms of chemical, microbial, physical and radiological quality, and must conform to the specifications as per WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
2. Water transported to the ship must comply with the specifications of the *SANS 241* with regards to its chemical, microbiological and physical quality.
3. Water provided on board an aircraft must take into consideration the number of travelers and the intended use (i.e. preparation of beverages, hand washing, onboard showering facilities, cleaning of utensils and work areas etc.);
4. Tanks used for storing water must be kept clean and protected against contamination;
5. Water monitoring /sampling must be well documented and records to be kept.
6. A water supply delivered to ports must be suitable for distribution and consumption without further treatment as necessary to maintain water quality in the distribution system.
7. Potable water in the ship, port and distribution system must comply with the requirements as outlined in the WHO. Guide to ship sanitation, 3rd edition and as set out in the **SANS 241**.
8. Ships should have risk management plans in place. Each entity for the ship water supply; shore water distribution system; transfer and delivery system and ship water system should prepare and implement a risk management plan for that part of the process.
9. PHO must test drinking water supply to the ships and the ports regularly for fitness of human consumption both on an operational level and on compliance level.
10. PHOs should also develop and implement Water Quality Monitoring Programmes for ship and port water.
11. WQMP should be implemented for compliance monitoring and audit sampling purposes. The said programmes should highlight the “**objectives**” for the sampling, location “**where**” to sample and assess the determinands “**what**” to be assessed, and the frequency “**how often**” to sample, for the purpose of monitoring of all water from catchment to consumer which has the potential to impact human health following use.
12. PHOs should only conduct compliance monitoring from pre-determined representative sampling points and at the user points as outlined in the WQMPs.
13. PHOs should monitor water supply, in accordance to deliberate water quality monitoring programmes for the purpose of quality assurance and to satisfy a quest to ensure optimum public health.
14. PHOs should ensure that the WQMP is strictly followed and implemented; hence proper water quality monitoring records should be kept at all times.
15. PHOs should only use the **SANAS 17025:2005** accredited laboratories or Department of Water Affairs (DWA)-approved laboratories per method of analysis for analysis of samples, to ensure credible results.
16. PHOs acquaint themselves with and have an understanding of the ship drinking-water supply and transfer chain to be able to illustrate the points at which the water can become contaminated en route to the taps on board.
17. Regular monitoring must be done for each parameter to ensure maintenance of safe water quality
18. The operational limits, monitoring of water quality and instituting of corrective action where required for the water in the distribution system must be in accordance with the requirements as specified in WHO. Guide to ship sanitation.

19. Drinking water on the ship and at the port must regularly be tested to ensure that it is fit for human consumption both on an operational level and on compliance level.
20. Documentation for water quality monitoring must be kept for assurance and analysis in the event of an incident.
21. Documents of inspection, maintenance, cleaning, disinfection (to include concentration and contact time of disinfectant) and flushing should be kept and available for 12 months.
22. Sampling must be done by Port Health Officials or other professionally trained personnel only.
23. Sampling for ship water supply system, potable water for human consumption on the ship, for water with a temperature of between 25 °C and 50 °C must be done as prescribed in the GDWQ as well as in ISO 19458.
24. Port Health Officials and the ship operators must have basic water treatment calibrated equipment at hand for basic testing of turbidity, PH and disinfectant residual.

Bunkering of ship water

1. Bunkering of water must be done in accordance with the standards as set out in Guideline 2.3 of the WHO. Guide to Ship Sanitation. 3rd edition.
2. The ships operator must ensure that the quality and source water for ships conforms to the **SANS 241** before bunkering.
3. Port Health Officials must conduct compliance monitoring to ensure no contamination of water takes place during bunkering.

Water production on board

1. When sea water is to be treated on board sea for use as potable water, the processes conducted should be in accordance to the requirements as specified in Guideline 2.3 of the WHO. Guide to Ship Sanitation. 3rd edition.

Potable water storage

1. The storage of potable water on board should be done in accordance to the requirements as specified Guideline 2.3 of the WHO. Guide to Ship Sanitation to prevent contamination of water.
2. Port Health Officials must inspect empty tanks on a regular basis and take microbiological and chemical samples of the water.

Ballast water

Ballast water can carry hazards such as toxicogenic vibrio cholera that can be associated with cholera outbreaks in port areas.

1. Ballast water must be treated on board and sampled for the presence of hazardous pathogens and harmful organisms before it can be discharged into the marine environment.
2. Ships should not be allowed to discharge ballast water or any liquid containing toxic waste or any form of contamination, in areas where water for water supply is drawn or any other restricted area for the disposal of waste by the local authority.
3. Ballast water must comply with specified concentrations in terms of human health standards as outlined in the WHO 4th Edition Guidelines for drinking water.
4. Hoses used to allow rapid discharge ballast water must be suitably labeled "FOR WASTE DISCHARGE ONLY".
5. Ballast water onboard ship must conform to the requirements as specified in the WHO Guide to Ship Sanitation and the Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates;
6. An approved Ballast water management plan must be in place;
7. A ballast water record book must be kept;
8. Ballast water must be safely treated and disposed off.

Chapter 3
HEALTH RELATED WATER QUALITY MONITORING

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BACKGROUND

This set of norms and standards follows what is stated in the constitution of South Africa that “everyone has a right to have access to water” (section 27(1) (b)). Hence, the aim of government is to comprehensively address all water sector issues under the Water Services Authority and Providers as stipulated under the Water Services Act, 1997 (Act 108 of 1997) and the subsequent Strategic Framework for Water Services, approved by cabinet on 17 September 2003. The Strategic Framework for Water Services sets out a comprehensive approach with respect to the provision of water services in South Africa, ranging from small community to large regional water supply. To fulfill this mandate of water supply service addressed in the strategic framework, water should be accessible, adequate, affordable, reliable and potable to all. Water is essential to sustain life and therefore these concepts should be achieved for public health gains and social welfare. Water that is unsafe for consumption poses serious health risks, and those at greatest risk of waterborne disease are infants and young children, the elderly, immune compromised individuals and people living under unsanitary conditions.

Every effort should be made to achieve drinking-water that is safe and affordable. Safe drinking-water refers to water that has been tested and does not present any significant risk to health over a lifetime of consumption, in terms of its microbiological, physical and chemical quality. Accessibility can be described as water facilities that are easy to reach and located in an environment that is safe as well as the provision of technology that is easy to use and operate, while availability refers to the total volume of water that the consumer accesses from the water source at specific time on frequent basis within a period of 24hours.

The Strategic Framework for Water Services in South Africa (section 3.6.4) further allocates specific roles and responsibilities to other national government departments to support the Department of Water Affairs in fulfilling its policy, regulatory, support and information management roles. The responsibilities of the Department of Health in relation to the Strategic framework includes; developing health policies and practices, ensuring that all hospitals and clinics are provided with adequate water and sanitation facilities, and provide health and hygiene education in relation to the delivery of water and sanitation infrastructure and related services.

The responsibilities of the Department of Health are further outlined in the National Health Act, 2003 (Act 61 of 2003) which defines Municipal Health Services (MHS) that cover amongst other functions, “water quality monitoring”. This function is allocated to District and Metropolitan Municipalities as per Constitution of 1996 , schedule 4 and section 32 of the National Health Act and as stipulated in section 84(1)(b);(d) and (i) of the Municipal Structures Act, 1998 (Act 117 of 1998). In addition to this function, the Scope of Profession of Environmental Health, as published under Regulation 698 of 2009 (26 June 2009), promulgated under the Health Professions Act, 1974 (Act 56 of 1974), determines the role of Environmental Health in water quality monitoring, that include:

- a) Monitoring water quality and availability, including mapping of water sources and enforcing laws and Regulations relating to water quality management.
- b) Ensuring water safety and accessibility in respect of quality (microbiological, physical and chemical), and access to an adequate quantity for domestic use as well as in respect of the quality of water for recreational, industrial, food production and any other human and animal use.
- c) Promoting access to water for all communities, by providing inputs towards the planning, design and management of water supply system and ensuring healthy community water supplies through surveillance.
- d) Ensuring monitoring of and effective waste water treatment and water pollution control, including the collection treatment and safe disposal of sewage and other water borne waste and surveillance of the quality of surface water (including the sea) and ground water.
- e) Advocacy on proper and safe water usage and waste water disposal.
- f) Water sampling and testing in the field and examination and analysis in a laboratory.

SCOPE OF APPLICABILITY

The scope of applicability of this set of norms and standards covers;

- d) The catchment (rivers, treatment plants etc), system (reticulation pipes, reservoir etc) and communal water points (stand pipes, boreholes, household water storage containers and other vessels etc) areas.
- e) Domestic water supply, including water quality failures, during interruptions of water supplies.
- f) Recreational water & public facilities such as swimming pools
- g) Points of entries, which include ships, aviation and land ports. Even if the water at the port or established water points (e.g. boreholes and taps) is safe, this does not guarantee its safety at the point of use, due to the risk that could occur from storage and transfer activities that follow.
- h) Rainwater harvesting.
- i) The use of treated effluent and grey water disposal.
- j) Lakes, streams and other watercourses.
- k) Rivers and streams not regulated by DWA.
- l) Surveillance of community water supplies
- m) Temporary water supplies
- n) Water quality during emergencies
- o) Monitoring of waterborne and other related diseases.

GLOSSARY OF APPLICABLE TERMS:

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| Aesthetic | Determinant that taints water with respect to taste, odour and colour and that does not pose an unacceptable health risk if present at concentration values exceeding the numerical limits specified in the SANS 241: drinking water |
| Chemical quality | Refers to the nature and concentration of inorganic chemicals, organic chemicals and radioactive substances in the water |
| Determinands | Microorganism, physical or aesthetic property or chemical substance of which the risk posed is classified as chronic health -1, chronic health -2, aesthetic, chronic health or operational category. |
| Operational | Determinant that is essential for assessing the efficient operation of treatment systems and risks to infrastructure |
| Environmental Health Practitioner | Means, subject to the provisions of the Health Professions Act, 1974 (Act No. 56 of 1974) as amended, any person registered as such with the Health Professions Council of South Africa; and includes a) Environmental Health Practitioner b) Environmental Health Practitioner doing compulsory community service c) Health officers described under the National Health Act, 2003 |
| Grey water | Waste water that does not contain significant amounts of faecal pollution (i.e. not sewage discharges). Typically, it consists of water discharged from baths, showers and/or sinks. |
| Improved water sources | Includes water sources that, by nature of their construction or through active intervention, are protected from outside contamination, particularly faecal matter. It comprises piped water, public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs and rainwater collection. |
| Microbiological quality | Refers to presence of micro-organisms such as protozoa, bacteria and viruses in water |
| monitoring | Refers to the long-term, standardized measurement and observation of the aquatic environment in order to define status and trends |
| Physical quality | Refers to turbidity, colour, taste, odour and other physical aspects of the water |
| Point of delivery | Physical fixed interface between a water services provider or a water services authority and a customer |
| Point of use | Refers to taps, buckets, tanks or drums from where people utilize the water. |
| Potable water | Refers to water from treated sources, taps, jojo storage tanks, standpipes, and reseviours. |
| Recreational water | Refers to public and private swimming pools, spa baths etc. |
| Risk management | The process of identifying and documenting all hazards and risks within the water supply system. |

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| Routine monitoring programme | An ongoing monitoring programme intended to validate the effectiveness of control measures at critical control points and to assess the quality of water based on location of routine sampling points, sampling frequency and determinants. |
| SANAS | The South African National Accreditation system |
| Surface water | Refers to untreated water sources, such as streams, rivers, springs, boreholes. |
| Surveillance | Refers to the continuous, specific measurement and observation for the purpose of water quality management and operational activities |
| Unimproved water sources | Include unprotected dug well, unprotected spring, cart with small tank/drum, tanker truck, and surface water (river, dam, lake, pond, stream, canal, irrigation channels). |
| Water Services Authority (WSA) | Any municipality that has the executive authority to provide water services within its area of jurisdiction in terms of the relevant national legislation or the ministerial authorizations made in terms of the relevant national legislation. |
| Water Services Provider | (a) Any person who has a contract with the water services authority or another water services provider to sell water to that authority or provider; or (b) Any person who has a contract with a water services authority to assume operational responsibility for providing water services to one or more consumers within a specific geographic area; or (c) A water service authority that provides either or both of the services in (a) and (b) itself |
| Water Safety Plan | A systematic process that aims to consistently ensure acceptable drinking water that does not exceed the numerical limits within SANS 241 by implementing an integrated water quality management plan, which utilizes a risk assessment and risk management approach from catchment to point of delivery. |

4. ROLES AND RESPONSIBILITIES OF VARIOUS SECTORS IN WATER QUALITY MANAGEMENT

4.1 Department of Water Affairs

The Department of Water Affairs is the custodian of the water resource and the overall leader of the Water sector. DWA is therefore responsible to:

- a) Provide leadership within the water sector.
- b) Policy development and regulation of water services.
- c) Provide support to municipalities in line with the regulatory function to ensure compliance with national norms and standards.
- d) Managing water information

4.2 Water Service Authorities

Municipalities that are designated as Water Services Authorities are responsible for:

- a) Water services planning;
- b) Ensuring access of community, to water ;and
- c) Regulating the provision of water services within their area of jurisdiction.

5. Department of Health/ Environmental Health Services

In addition to the roles and responsibilities as allocated in the Strategic framework for Water Services 2003, the Department of Health is also responsible for:

- a) Monitoring compliance with and enforcement of health related water legislation, regulations and norms and standards;
- b) Monitoring of water (both surface and ground water) in respect of accessibility, quality (microbiological, physical and chemical) and quantity for human consumption as well as in respect of the quality for recreational and industrial use;
- c) Audit sampling and compliance enforcement sampling;
- d) Risk identification for the purpose of managing the risks;
- e) Surveillance of waterborne related diseases to ensure healthy community water supplies.

- f) Ensuring monitoring of effective waste water treatment, including the collection, treatment and safe disposal of sewage and other waste;
- g) Advocating for proper and safe water usage and waste water disposal;
- h) Coordinating programmes aimed at creating the demand for safe water and sanitation through health and hygiene awareness and education; and
- i) Risk management through water pollution control.

6. NORMS AND STANDARDS FOR HEALTH RELATED WATER QUALITY MONITORING

NORMS

1. Water supply to communities must be safe, adequate and accessible.
 - “Safe”: water that has been tested and does not present any significant risk to health over a lifetime of consumption (microbiological, physical and chemical quality).
 - “Accessibility”: water facilities easy to reach and located in a safe environment and technology that is easy to use and operate.
 - “Availability”: total volume of water accessible to a consumer on frequent basis within a period of 24 hrs.

STANDARDS

SECTION 1: ADEQUACY AND ACCESSIBILITY OF WATER SUPPLY

1. In terms of the Regulations under section 9 of the Water Services Act (Act 108 of 1997): the minimum standard for basic water supply service is_
 - a) A minimum quantity of potable water of 25 liters per person per day or 6 kilolitres per household per month-
 - (i) At a minimum flow rate of not less than 10 liters per minute;
 - (ii) Within 200 meters of a household; and
 - (iii) With effectiveness such that no consumer is without a supply for more than 7 full days in any year.
2. Water must be available, easy to reach and the technology used should be simple and easy to operate.

SECTION 2: QUALITY OF POTABLE WATER

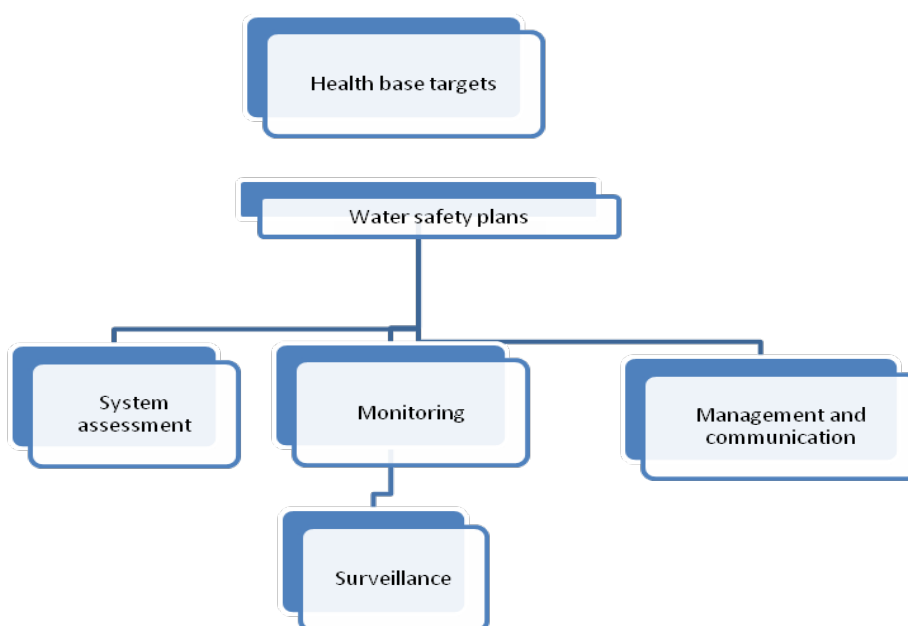
For lifetime consumption, the microbiological, physical, aesthetic and chemical quality of water provided by Water Services Institutions and Water Services Intermediaries must conform to the requirements as set out in the **SANS 241** for drinking water. For the purpose of this document, the standard limit “not detected” as outlined in **SANS 241 shall mean nil or zero.**

1. Water must be suitable for all domestic uses (drinking, food preparation and personal hygiene).
2. Water provided must not only be safe but also acceptable in appearance, taste and odour (aesthetically acceptable water).
3. Water must not be harmful to water supply systems and household appliances e.g. geysers, kettles etc.

SECTION 3: WATER SAFETY PLANS

The World Health Organisation (WHO) has identified that the most effective means of consistently ensuring the safety of a drinking-water supply is through the use of a comprehensive risk assessment and risk management approach, which encompasses all steps in the water supply system, from catchment to consumer. Water Safety Plans are a powerful tool for the drinking-water supplier to manage the supply safely. They are also valuable to also assist surveillance of water supply safety by public health authorities (EHS). The Water Services Act and subsequent Strategic Framework on Water Services 2008 require that WSAs have Water Safety Plans in place; which must ideally be developed by multi-disciplinary team of experts, e.g. Engineers, Planning Officers, Architects, Infection Control Coordinators, Occupational Health and Safety, standard setting bodies, as well as public health or hygiene professionals.

The guiding framework for the development of this document is based on critical evaluation of health concerns in accordance to the Framework for Safe Drinking Water and the WHO Guidelines for drinking-water quality (WHO, 2011). The framework is depicted in figure 1 below:

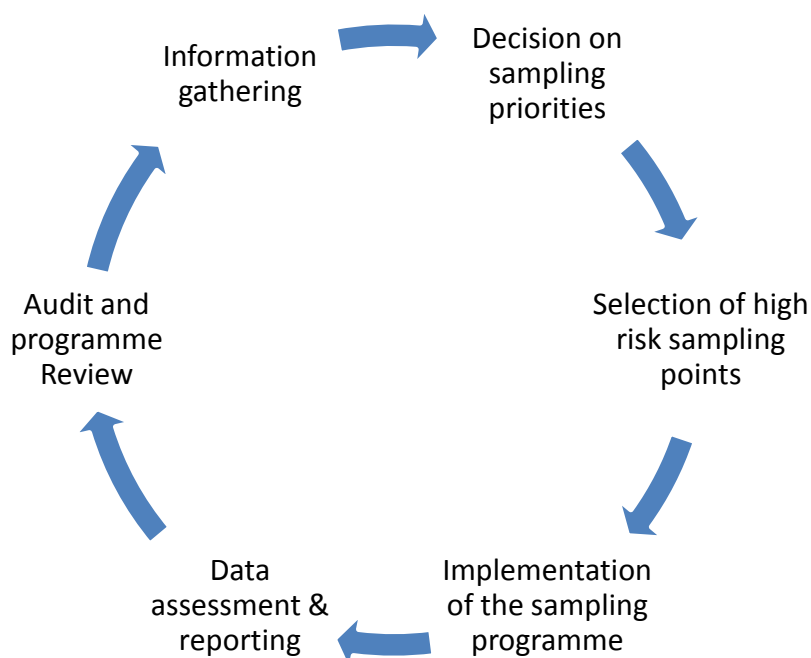


Adopted from the WHO Guidelines for Drinking Water Quality. Fourth edition

1. EHPs must form an intrinsic part of developing and reviewing Water Safety Plans for WSAs to ensure that health related aspects are considered, improve health surveillance and to open communication channels between the various role players in water quality management.
2. Water Safety Plans should highlight the risk of water quality issues and water sources outside catchment areas, such as rivers and streams.
3. EHS must provide public health oversight of drinking water supplies, which includes ensuring that communities and households without access to treated water are provided with information health related information on water treatment and the danger of untreated water.

SECTION 4: WATER QUALITY MONITORING STRATEGIES

For effective Environmental Health Services water quality monitoring function, EH water quality monitoring strategies should be developed and implemented, for the management of water quality within their areas of jurisdiction. The strategy should assist in identifying and mitigating risk to human health that may be caused by poor water quality by evaluating the EH water quality monitoring systems in place and those by other role players in water quality management e.g. WSAs and WSPs. The design of the strategy should be based on the following model below:



Adopted from the Ethekwini metropolitan municipality WQM strategy

1. The WQM strategy should include the description of existing sample areas through the use of GIS maps and to identify potential high risk areas not monitored.
2. EH sampling should rather focus on water sources such as surface, recreational, potable water and waterborne diseases sampling monitoring. Water sources that are adequately monitored by WSAs should not be re-sampled, as the results thereof are readily available from those WSAs or WSPs.
3. Sampling points should be selected based on risk assessment of the high risk points. The selected high risk points should therefore be Geo coded to enable continuous monitoring to observe trends.
4. Sampling points should be selected in a manner that will ensure that the quality of water can be verified throughout the entire water supply chain. **Refer to SANS 241**

SECTION 5: WATER QUALITY MONITORING PROGRAMMES

Drinking water supply must regularly be sampled to assess its fitness for human consumption, both on an operational level and on compliance level. EHS should develop and implement Water Quality Monitoring Programmes to monitor of all water from catchment to consumer which has the potential to impact human health following use (**Appendix A**).

WQMP should clearly define the “**objectives**” for sampling before any sampling is conducted e.g. to determine the quality of water at the point of use (prisons, schools for drinking and other purposes). The objectives of the sampling programme will in turn determine issues such as the location “**where**” to sample, the determinands “**what**” of interest, the frequency “**how often**” to sample.

1. EH WQMPs should include monitoring of all water sources, including quality issues outside the catchment areas e.g. rivers, streams, springs and waterborne diseases monitoring.
2. Water source mapping must be done and should include infrastructure coverage, water availability, functionality, number of people crowding per facility and record keeping for any health risks that may occur per water source; followed by water quality monitoring.
3. Sampling should be focused on water supplies that are likely to pose risk to human health; where credible water quality data is available from other sources (e.g. WSAs/BDS/GDS) re-sampling should be avoided to avoid duplication of efforts.
4. The programme must include the monitoring of all health risk determining parameters in terms of microbiological, chemical and physical qualities, as well as waterborne disease surveillance, to ensure overall quality of water fit for human consumption.
5. Sampling should only be conducted from pre-determined representative sampling points or prioritized focus areas, as outlined in the WQM strategies, unless in cases of emergencies.
6. Water supply should be monitored in accordance to WQMPs for the purpose of quality assurance and to satisfy a quest to ensure optimum public health.
7. WQMPs should be strictly followed and implemented; hence proper water quality monitoring records should be kept at all times.
8. Drinking water quality results must comply with the prescribed limits as specified in the **SANS 241** for drinking water.
9. Only **SANAS 17025:2005** accredited laboratories or Department of Water Affairs (DWA)-approved laboratories per method of analysis must be used for analysis of water samples to ensure credible results.
10. Mapping of water sources and mapping of critical water points that need to be monitored and reviewed must be conducted on yearly basis/annually to track changes in water supply and of monitoring of those water sources.
11. WSAs, EHPs and other institutions responsible for water quality monitoring should only use the **SANAS 17025:2005** accredited laboratories or Department of Water Affairs (DWA)-approved laboratories per method of analysis for analysis of samples, to ensure credible results.
12. EHPs should familiarize themselves with the DWA Incentive-Based Regulation - Blue Drop and Green Drop criteria, as well as the Blue-Drop and Green Drop reports as a fundamental guide for strengthening environmental health interventions and to avoid duplication of efforts in sampling. Data accessible from the BDS/GDS can be utilized.
13. EHPs must raise awareness and educate communities on proper and safe water usage, the dangers of untreated water sources and health and hygiene education related to water supply and sanitation.

SAMPLING OF WATER SOURCES

Table 1: Recommended sampling frequencies.

| SAMPLING POINT | MINIMUM PER POINT | | RECOMMENDED PER POINT | |
|---|----------------------------|--------------------|------------------------------|----------------------|
| | Number of samples per year | Sampling frequency | Number of samples per year | Sampling frequency |
| River/stream/spring/dug-well | 4 | 3-monthly | 26 | 2-weekly |
| Dam | 2 | 6-monthly | 12 | 2-monthly |
| Borehole | 1 | - | 2 | 6-monthly |
| Treatment works | 4 | 3-monthly | 12/52/365 | Monthly/weekly/daily |
| Point of use (schools, prisons, health facilities etc) | 4 | 3-monthly | 12/52/365 | Monthly/weekly/daily |
| Waterborne diseases (cholera, bilharzias) | 4 | 3-monthly | 12 | 3-monthly |
| Commercial and recreational water (swimming pools, spa, | 2 | 3-monthly | 12 | Monthly |

| | | | | |
|------------------|--|--|--|--|
| water world etc) | | | | |
|------------------|--|--|--|--|

1. In the event of non-compliance with water quality standards, sampling frequency must be increased (for example to **4 samples per month**). The microbiological quality of water is usually sampled at a higher frequency than the chemical quality of the water.
2. The recommended frequency of sampling must be adhered to, to ensure optimal number of samples that will provide reliable results. A low frequency of samples will not reflect the correct variations in water quality changes at a specific site and too high frequencies will result in wastage on unnecessary sampling and analyses.
3. Water should be monitored in the distribution system and in the reticulation network on a monthly basis as part of compliance monitoring and a risk management system to identify high risk areas.
4. Where communities are still dependent on unimproved water sources EH must ensure that surface water monitoring (e.g. rivers, streams, and springs) is included in the water quality monitoring programmes and timeous health related interventions are provided.
5. Monitoring of unimproved water sources should be accompanied by the necessary community education and the encouragement of WSAs to extend coverage to high risk areas where communities are mainly dependent on these water sources.
6. Community- Based organizations (CBOs) and other NON-Governmental Organizations (NGOs) should be trained on household water management (household water treatment, Oral Rehydration, good household and environmental practices etc.) as trainers of their own communities to ensure sustainability in community education.
7. EHPs must assess the information provided by such organizations to ensure that it is similar, reliable and valid.
8. Regular area surveys must be conducted to monitor progress in coverage of communities with safe water supply systems.
9. Records of daily samples at water treatment works (turbidity, PH) should be made available to EHPs for assessment, on request.
10. To monitor the quality of water that the community accesses, water must be sampled from the taps/collection points. Where any non-compliance is identified, EHPs must conduct follow up sampling as part of the risk management approach in order to ensure compliance within a reasonable time, and in case of compliance, relevant feedback is necessary.
11. In the case of non-compliance and where the quality of water cannot be controlled in a sustainable way through the water reticulation system within a reasonable time, emergency measures must be instituted as prescribed in the WSAs Water Safety Plan.

WATER SAMPLING REQUIREMENTS

a) Planning for sampling

1. EHPs must plan for water sampling before conducting the sampling.
2. Planning for sampling should:
 - Identifying the laboratory intended to be used for the analysis of the samples;
 - Communication with the laboratory and making inquiries on specific requirements (e.g. business times, sampling scope of analysis for the laboratory (e.g. bacteriological/ chemical/ physical analysis), and equipment requirements e.g. sampling bottle types;
 - Include ensuring availability of transport to deliver the samples to the laboratory;
 - Specifics on the period (date, month an year) in which samples will be taken; and
3. Water samples should be planned in such a way that it include various seasons to evaluate variation in terms of water sources contamination or the status of water quality.
4. It is vital that EHPs should plan for sampling together with the laboratory intended to be used to ensure the capacity of the laboratory to analyse the samples and provide the results within a reasonable time.

b) Sampling equipment

1. Proper methods of sampling must be applied and proper equipment utilized when taking water samples, to prevent contamination of the samples and ensure credible water quality results after analysis.
2. For microbiological water sampling at point of use, including (lakes, streams, rivers and dams) the following equipment is applicable;
 - Sterile sample bottles;
 - Sealed container or cooler box and ice to keep the samples cooled;
 - A map showing sampling locations must be included when gathering sampling equipment;
 - A gas burner;
 - Field notebook / data sheet(s); and
 - Latex gloves to prevent contamination of samples by hands.
3. For microbiological sampling at the treatment works, the following equipment is applicable;
 - Clean laboratory glass beaker or any well cleaned container large enough in volume for the probes of the instruments to be lowered in (at least 250ml in volume);
 - Electrical conductivity meter;
 - PH field instrument;
 - Nephelometric turbidity meter (if required) or Secchi disk;
 - Temperature meter - electronic or field thermometer (if required);
 - Distilled water for cleaning the probes;
 - Field notebook / data sheet(s); and
 - Instrument for free available chlorine measurements.
 - A map showing sampling locations must be included when gathering sampling equipment.
4. For chemical water samples, the following equipment is applicable
 - Correct clean sample bottles;
 - Cool box

WATER SAMPLING METHODS

a) Procedural considerations in sampling

1. When taking water samples, microbiological samples should be collected first to minimize contamination;
2. If the water sample contains residual chlorine, 1ml of a 10% sodium thiosulphate solution must be added for every liter of sample taken pre-sterilised 500ml plastic containers prepared with a freeze-dried concentration of sodium thiosulphate must be used;
3. Sampling bottles must be kept closed and clean until sampling / water collection;
4. Sample bottles must not be rinsed with water before sampling.
5. Field sampling equipment must be cleaned and calibrated before taking readings;
6. Equipment must be calibrated taking cognisance of optimum conditions to calibrate equipment (i.e. calibration of pH meters to be done at 25°C);
7. Sampling bottles must not be left uncovered in the sun.
8. Two separate samples will be required for chemical and microbiological samples and these must be kept separate at all times.
9. Caution must be taken to consult with laboratories with regards to equipment and procedures, times for delivering of samples, preservation methods for samples, prior to submission of samples for analysis.
10. All samples for microbiological analysis should be transported to the laboratory within the period of 6 hours after sampling.

b) Techniques in sampling

Sampling at point of use

NB: flaming of the tap should not be done if the objective of the sampling is to determine the quality of water that the community accesses at the point of use.

Step 1: The cap must be removed from the sample bottle; care should be taken not to contaminate the inner surface of the cap and neck of the sample bottle with hands;

Step 2: if water is obtained from the tap, let the water run to waste for at least 2 (two) minutes.

Step 3: The sample bottle must then be filled with water from the tap, container where community acquires the water or container with which community members collect water, the sample water must not be rinsed.

Step 4: Bottle cap must then be replaced immediately after sample bottle is filled. Ample air space must be left in the bottle (at least 2.5cm) to facilitate mixing by shaking before examination, if this is required by the lab;

Step 5: Label and sample sheet must be completed for each sample. The label should contain the sample or station number, date and location. The data sheet contains the more detailed information which needs to be recorded on-site on the day of sampling.

Step 6: the sample bottle must be placed in a cooled container (e.g. cool box) directly after collection.

Step 7: the sample must be transported to the laboratory within 6 hours.

Sampling at the point of delivery

NB: Flaming of the taps should be done if the objective of the sampling is to determine the quality of water that is being distributed to consumers.

Step 1: The tap or valve must first be opened;

Step 2: let the water run to waste for at least 2 (two) minutes;

Step 3: Cap of the sample bottle be removed without contaminating inner surface of the cap and neck of the sample bottle with hands;

Step 4: Sample bottle cap to be filled with water without rinsing and the cap replaced immediately. Ample air space must be left in the bottle (at least 2.5cm) to facilitate mixing by shaking before examination;

Step 5: Label and sample sheet must be completed for each sample. The label should contain the sample or station number, date and location. The data sheet contains the more detailed information which needs to be recorded on-site on the day of sampling.

Step 6: Place the sample bottle in a cooled container (e.g. cool box) directly after collection for transportation to the laboratory.

Dams, rivers, streams or reservoir sampling

Step 1: The cap of the sample bottle must be removed without contaminate the inner surface of the cap and neck of the sample bottle with hands.

Step 2: The sample must be taken by holding bottle with hand near base and plunge the sample bottle, neck downward, below the water surface and towards the flow (always wear gloves).

Step 3: The sample bottle must be filled without rinsing and the cap replaced immediately. Ample air space inside must be left in the bottle (at least 2.5cm) to facilitate mixing by shaking before examination, if this is required by the analytical laboratory.

Step 4: Label and sample sheet must be completed for each sample. The label should contain the sample or station number, date and location. The data sheet contains the more detailed information which needs to be recorded on-site on the day of sampling.

If you are sampling from a bridge, ropes and poles can be used to lower the sample containers into the water (refer to *SANS 5667-6/ISO 5667-6*). When sampling a river, dam or stream from a bridge, bank-side or in-stream, be sure to avoid contamination by disturbance of the bed or bank of the water course. When sampling from a boat ensure that you avoid contamination by discharges or sediment disturbance by the engine.

Step 5: place the sample bottle in a cooled container (e.g. cool box) directly after collection for transportation to the laboratory within 6 hours.

Sampling of boreholes

For compliance monitoring purposes, groundwater is usually sampled at the pump.

Sampling a borehole – without a pump

Step 1: The sample container must be kept closed and in a clean condition up to the point where it has to be filled with the water to be tested;

Step 2: At sampling point, the cap must then be removed without contaminating the inner surface of the cap and neck of the sample bottle with hands. Do *not rinse the bottle*;

Step 3: Secure a weight under the sample bottle and lower a plastic sample bottle in borehole until the bottle is submerged in the water;

Step 4: The must then be filled with groundwater;

Step 5: The bottle must then be raised to the surface ensuring that the sample bottle does not get contaminated as a result of touching the inner walls of the borehole;

Step 6: Replace the cap immediately. Leave ample air space in the bottle (at least 2.5cm) to facilitate mixing by shaking before examination; and

Step 7: Label and sample sheet must be completed for each sample. The label should contain the sample or station number, date and location. The data sheet contains the more detailed information which needs to be recorded on-site on the day of sampling.

Step 8: Place sample bottle in a cooled container (e.g. cool box) directly after collection. Try and keep the cooled container dust-free and out of any direct sunlight.

Step 9: place the sample bottle in a cooled container (e.g. cool box) directly after collection for transportation to the laboratory within 6 hours.

Sampling a borehole with a pump

Step 1: Find the nearest tap on the line where you must collect the water quality sample;

Step 2: Open the tap and let water run to waste for at least two minutes;

Step 3: At the sampling point remove cap without contaminating the inner surface of cap and neck of the sample bottle with your hands;

Step 4: Fill sample bottle without rinsing and replace the cap immediately. When the sample is collected leave ample air space in the bottle (at least 2.5cm) to facilitate mixing by shaking before examination;

Step 5: Label and sample sheet must be completed for each sample. The label should contain the sample or station number, date and location. The data sheet contains the more detailed information which needs to be recorded on-site on the day of sampling.

Step 6: Place the sample bottle in a cooled container (e.g. cool box) directly after collection. Try and keep cooled container dust-free and out of any direct sunlight.

Step 7: place the sample bottle in a cooled container (e.g. cool box) directly after collection for transportation to the laboratory within 6 hours.

Treatment facility or distribution system sampling

Step 1: The tap or valve must be opened and the water let to run to waste for at least two minutes;

Step 2: The cap of the sample bottle must be removed without contaminating the inner surface of the cap and the neck of the sample bottle with hands;

Step 3: The sample bottle must then be filled with water without rinsing and the cap replaced immediately. Ample air space should be left in the bottle (at least 2.5cm) to facilitate mixing by shaking before examination, if required by the laboratory;

Step 4: Label and sample sheet must be completed for each sample. The label should contain the sample or station number, date and location. The data sheet contains the more detailed information which needs to be recorded on-site on the day of sampling.

Step 5: Place the sample bottle in a cooled container (e.g. cool box) directly after collection for transportation to a laboratory within 6 hours.

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| SECTION 6: MONITORING IN DRINKING WATER QUALITY FAILURES |
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In terms of the Water Services Act, section 5(4), should the results of the water samples taken by WSAs or Water Services Providers indicate that the water supplied poses a health risk, the WSA or Water Service Provider must inform the Director-General of the Department of Water Affairs and the head of the relevant Department of Health and it must take steps to inform its consumers-

- That the quality of water that it supplies poses a health risk;
- Of the reasons of the health risk;
- Of any precautions to be taken by consumers;

- Of the time frame, if any, within which it may be expected that the water of a safe quality will be provided.
1. During WQ failures, EH must educate the community on health and hygiene aspects related to unsafe water supply and use.
 2. EH should on a monthly basis, monitor the diarrhoea cases statistics in health facilities, interpret the results and take reasonable steps to ensure proper intervention, where necessary.
 3. All reasonable steps must be taken to ensure that awareness is raised and the public informed and educated to take all precautionary measures required during water quality failures i.e. emergency treatment of water at household level. Consideration should be made to consult with relevant community structures.
 4. Communities should be educated on the use or application of the household emergency treatment methods below:
 - Boiling water and cooling before consumption.
 - Adding sodium or calcium hypochlorite solution, such as household bleach (one teaspoon) to a 20-25L bucket of water, mixing thoroughly and allow standing for about 30 min prior to consumption, turbid water should be clarified by settling and/or filtration before disinfection.
 - Using sunlight or Solar Disinfection (SODIS) method for drinking water treatment by vigorously shaking small volumes of water in a clean, transparent container, such as a soft drink bottle, for 20sec and exposing the container to sunlight for at least 6 hrs.
 - Applying other approved products such as tablets, or other dosing techniques to disinfect the water, with or without clarification by flocculation or filtration.
 - In cases of relocation of settlements adequate supply of water must be ensured prior to relocation or settling.
 5. Health and hygiene interventions should be coordinated with health promotion activities with role payers cares with the responsibility of provision of these services e.g. health promotion, communicable disease coordinators.
 6. In cases where temporary water supplies are provided to communities in tankers, a WSA should inform the Department of Health/MHS of their plans of action, to enable the necessary water quality tests to be conducted by EH before water is supplied to communities.

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| <p>SECTION 7: REQUIREMENTS DURING INTERRUPTION IN PROVISION OF WATER SERVICES</p> |
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In accordance with the Regulations under the Water Services Act (Act 108 of 1997) a WSA or Water Services Provider must take steps to ensure that should the provision of water services usually provided be interrupted for a period of more than 24hrs, consumers will have access to alternative water services comprising of at least:

- (i) 10 Liters of potable water per person per day; and
 - (ii) Sanitation services sufficient to protect health (In an event that chemical closets are provided then regular emptying must be ensured).
 - (iii) All reasons for failures should be dealt with in accordance with the incidence management protocol and recorded in the incidence management register. Risk levels have to be determined.
1. EH must monitor the alternative water supply services to ensure protection of public health.
 2. Water supply during water services interruptions (water in water tankers and water tanks) must conform to the specifications as set out in the **SANS 241** for drinking water.
 3. Water tankers delivering temporary water supplies must only be loaded with water from a treated supply.
 4. EHPs should always have a PH meter, chlorine and turbidity meters at hand at all times to monitor residual chlorine and other determinands in water provided by water tankers.
 5. EHPs must monitor potable water tanks and take samples for bacteriological and chemical parameters to ensure fitness for consumption and to ensure that residual chlorine is maintained in water kept in storage tanks.
 6. In cases of interruptions of water supplies and where temporary water supplies are supplied to communities in tankers, a WSA should inform the Department of Health/MHS of their plans of action, to enable the necessary water quality tests to be conducted by EH before water is supplied to communities.

SECTION 8: MONITORING OF TEMPORARY WATER SUPPLIES

For the purpose of this document, temporary water supplies refers to water in tankers during time limited events, mass gatherings (festivals, sporting events, community mobilization events etc) and also include water stored in temporary water storage tanks for communities without treated water supplies.

1. During events (such as festivals, soccer games etc) coordination should exist among the event organizer, a local water supply entity and the relevant health authority (EHPs) to ensure drinking water safety. The roles and responsibilities of each party should be specified with regards to water quality management, which should include water quality monitoring.
2. EH must monitor all water supply and sewerage disposal during events, as well as water supplied in tankers and stored in storage tanks for compliance purposes.
3. Temporary water supplies must conform to the specifications as set out in the **SANS 241** with regards to its microbiological, chemical and physical quality.
4. Temporary water supply systems should be properly designed and managed to avoid contamination and transmission of disease.
5. If water tankers are used, care must be taken to ascertain that they are suitable for delivering potable safe water and it must first be disinfected before used for potable water distribution.
6. Water tankers delivering temporary water supplies must only be loaded with water from a treated supply.
7. EHPs must monitor residual chlorine in water provided by water tankers and conduct microbiological analysis of the water on the spot.
8. EHPs should always have a PH meter, chlorine and turbidity meters at hand at all times to monitor water as necessary.

Temporary water storage tanks

9. Potable water tanks must be constructed of a rust-free and durable material that is suitable and safe for potable water storage to prevent the contamination of water.
10. Tanks must be designed so as to prevent contamination of the water by insects, flies, animals and human contact.
11. Cold potable water must always be stored at temperatures below 25°C to prevent the growth of *Ligionella* spp. Therefore the location of water storage tanks must be such that the water is not exposed to the sun to prevent the water from reaching high levels in temperature.
12. EHPs should take samples of water in temporary storage tanks for bacteriological and chemical parameters to ensure fitness for consumption.
13. EHPs should ensure that residual chlorine is maintained in water kept in storage tanks, by testing the water on the spot.
14. The design of the tanks must be such that it allows sampling to be conducted and tests to be taken to verify water quality. They must also be made of material that allows disinfection and contact with flames for sterilizing, in the case where a tap must be flamed before a sample is taken.
15. Potable water storage tanks and any part of the potable water distribution system should be cleaned, flushed with potable water and disinfected to prevent contamination of the water.

SECTION 9: MONITORING OF THE DISPOSAL OF GREY WATER AND THE USE OF TREATED EFFLUENT

In terms of the Regulations under section 9 of the Water Services Act (Act no 108 of 1997) a Water Service institution may impose limitations on the reuse of grey water within its area of jurisdiction, if the use thereof may negatively affect health, the environment and available water resources.

1. To protect the health of the public, grey water should only be used for flushing toilets or for irrigation purposes under certain conditions and not for consumption purposes.
2. Grey water must be disposed off in a manner that will safeguard human health, the environment and water resources.

3. Household grey-water (generated from domestic activities such as laundry, dishwashing, and bathing) should be recycled on-site for uses such as landscape irrigation and [constructed wetlands](#).
4. EHPs must educate users of grey water systems as well as communities on health and hygiene aspects relating to the use and handling thereof.
5. The use of treated effluent for any purpose must not pose a health risk to human health; therefore before a Water Services Institution grants approval for the use thereof, an EHP should be consulted for health comments and upon receipt of such application for the use of effluent, an EHP must sample the effluent for compliance monitoring.
6. Any tap or point of access through which effluent or non-potable water can be accessed, must be clearly marked with a durable notice indicating that it is “effluent” and that the “effluent” is not suitable for potable purposes.
7. Accidental or unintended cross connection between systems delivering potable water and systems delivering non-potable water must be avoided to prevent potable water system contamination.

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| <p>SECTION 10: SURVEILLANCE OF COMMUNITY DRINKING WATER SUPPLIES, INCLUDING SURFACE AND GROUNDWATER SUPPLIES</p> |
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1. EHPs must conduct monthly surveillance of community-drinking water supplies, such as piped water systems, boreholes with hand pumps, dug well and protected springs continuously, including conducting sanitary inspections, in order to ascertain sufficient provision and quality compliance to highlight any environmental health related risks and to manage it for compliance.
2. Water may be contaminated in households during storage; therefore sampling of household-stored water must be conducted during surveillance. The information from the sources should be integrated /overlaid with household information to determine possible reason for pollution to inform the required interventions.
3. Surveillance must include health education and health promotion activities aimed at improving healthy behavior and management of drinking-water supply and sanitation to establish effectiveness of interventions.
4. EHPs must consolidate information from various water sources to enable understanding of the overall drinking water supply situation for a WSA jurisdiction to influence public health centered policies and practices.
5. Monthly, quarterly and annual reports must be prepared by relevant coordinating authorities and submitted to the National Department of Health to effectively communicate reporting and provide feedback on the outcomes of surveillances.

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| <p>SECTION 11: COMMUNITY EDUCATION</p> |
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1. Communities should be appropriately educated on:
 - Water conservation and the correct use of water;
 - Proper use and care of water taps and storage tanks;
 - Safe storage of domestic water to prevent contamination;
 - Good health and hygiene practices at the point of use: and
 - Proper household water safety management at the point of use, including the above; as well as the ability to take reasonable steps such as household water treatment where they suspect that the water is not of good quality.
2. Through education of the above mentioned, communities should develop the following competencies and hence be able to :
 - Dispose off human excreta, grey water and household refuse in a manner that will not harm the environment o human health.
 - Improve to practice safer hygiene behaviours relating to water and sanitation
 - Relate diarrhoeal disease and its effects, periodic outbreaks of dirrhoea, dysentery to poor water and sanitation in their community.
 - Ensure that sanitation facilities in their communities do not pollute rivers, dams and groundwater sources.
 - Understand the reasons for proper maintenance of their water supply and sanitation facilities.

- Understand what is meant by safe water and the consequences of using water from unsafe sources.
- Properly disinfect water using available disinfecting material for household use.
- Understand the importance of proper storage of household water to guard against contamination.
- Demand the provision of adequate, safe and accessible water supply.
- Save water and eliminate the wastage thereof.
- Understand the relationship between health and hygiene.

SECTION 12: RAINWATER HARVESTING

Rainwater is relatively free from impurities, except those impurities picked up by the rain from the atmosphere. The quality of rain water may also deteriorate during harvesting, storage and household use.

1. Rainwater harvesting systems must be well designed with clean catchments to prevent contamination.
2. Cisterns and storage tanks must be properly covered to prevent pollution, mosquito access and breeding inside the tanks.
3. EHPs must educate the community on good hygiene practices in relation to the use of rainwater at household level to prevent contamination and the spread of diseases.

SECTION 13: MONITORING OF DRINKING WATER QUALITY IN HEALTH ESTABLISHMENTS/HOSPITALS

1. In case a health facility /hospital has additional building-specific sources of water used to augment the external supply, or have specific purposes that increase potential risk, hospitals should have risk assessment plans in place. EHPs must therefore ensure that the testing of water quality is conducted.
2. Health care facilities (hospitals, clinics, etc) should have access to a constant, safe and adequate water supply. If on-site storage facilities are available, storage capacity should be enough for 24hrs.
3. The bacteriological, chemical and physical quality of water supply to health care facilities must comply with the requirements as set out **SANS 241**.
4. Water supply to health care facilities should be adequate to accommodate other uses, e.g. domestic uses, personal hygiene and fire fighting in case of emergencies.
5. Water storage facilities e.g. reservoirs and tanks must be adequately protected from contamination.
6. EHPs should monitor continuously the water in reservoirs and tanks for compliance and possible pollution activities. The water in the storage facilities must be tested for compliance and fitness from consumption.
7. Water source e.g. borehole, must be effectively protected against contamination.
8. If non-compliance is identified when testing of the water, the EHP should then trace the problem back to the possible source of contamination. The possible source of contamination must then be monitored as part of a risk management approach to ensure effectiveness of interventions.
9. To prevent organisms that grow in temperatures between 25^oC and 50^oC e.g. *Listeria* spp hot water temperatures especially in health facilities, must be kept above 50^oC and cold water below 20^oC.
10. The water supply system that includes the sources (if applicable), pumps, purification plant, storage facilities and the distribution network linked to health facilities should be maintained in good working order.
11. Taps and pipes containing water not fit for human consumption must be marked as such.
12. The necessary chemicals should continuously be available for water purification, where purification is undertaken by the hospital.
13. Designated hospital staff should perform regular monitoring should be done of the water system in the hospital.
14. EHPs must perform similar monitoring investigations and carry out regular quality and compliance monitoring.
15. EHPs should keep records of hospital water quality monitoring.

SECTION 14:
MONITORING OF DRINKING WATER QUALITY DURING EMERGENCIES / DISASTERS

1. During emergencies, in cases of relocation of settlements, people affected by the emergency/disaster must be provided with an adequate supply of potable water and sanitation facilities.
2. Drinking water supplied in emergencies or disasters situations must conform to the specifications as set out in the **SANS 241** with regards to bacteriological, chemical and physical quality.
3. If tankers are used, care must be taken to ascertain that they are suitable for delivering safe drinking water and it must first be disinfected before used for potable water distribution.
4. Tankers must be loaded with water from a treated supply.
5. EHPs should monitor water supply closely during emergencies for safety of consumption. Monitoring should include sanitary inspections, water sampling and analysis and monitoring of water treatment processes.
6. A risk management approach should be implemented in emergencies in order to draw a risk profile to direct resources and interventions where required.
7. EH should ensure that a community affected by an emergency is made aware of and educated on the following:
 - The risks to health of the use of contamination of water,
 - Possible contamination of water from the collection point to the point of use,
 - The means to reduce or eliminate risks e.g. household treatment of water.
8. During an emergency, where there is a concern about drinking water quality that cannot be addressed through conventional treatment processes, then household treatment methods must also be evaluated and implemented.
9. EHPs, Health Promoters and other stakeholders charged with the responsibility of providing health and hygiene education, should educate the community affected, and those that use unimproved water sources on the following household treatment methods:
 - Boiling water and cooling before consumption.
 - Adding sodium or calcium hypochlorite solution, such as household bleach (one teaspoon) to a 20-25 litres bucket of water, mixing thoroughly and allow to stand for about 30 min prior to consumption, turbid water should be clarified by settling and/or filtration before disinfection.
 - Using sunlight or Solar Disinfection (SODIS) method for drinking water by vigorously shaking small volumes of water in a clean, transparent container, such as a soft drink bottle, for 20 seconds and exposing the container to sunlight for at least 6 hrs.
 - Applying other approved products such as tablets, or other dosing techniques to disinfect the water, with or without clarification by flocculation or filtration.
10. Chemicals used for the household/emergency of water must be approved by the Department of Health; Environmental Health prior to its use by the consumers to assess the sustainability of such chemical such that it does not cause harm to human health.
11. Containers that are hygienic and appropriate to local needs and habits should be available for the collection and storage of water to be used for washing, cooking and bathing at household level.
12. Adequate sanitation facilities must available for use by people affected by disasters/ emergency.
13. EHPs must ensure that indiscriminate defaecation is strongly discouraged, especially where water sources are close to dwelling areas and in high density areas.
14. Monitoring of water quality in emergencies should also include water quality assessment and the investigation of disease outbreaks, or the evaluation of hygiene promotion activities as required.
15. During an emergency, water must be closely monitored for residual chlorine at the treatment works. To ensure proper levels of turbidity and drinking water must be disinfected and an adequate disinfectant (residual chlorine) must be maintained in the system.
16. Health information should be monitored to ensure that water quality can be rapidly investigated where there is a possibility that water quality may contribute to a health problem and that treatment processes, particularly disinfection –can be modified as required.

Emergency management/response planning

1. EHPs in collaboration with other role-players should ensure that an emergency management plan/ emergency response plan is in place for emergencies such a sewage leaks, spillages and floods, should an emergency occur.

2. The emergency management/response plan should be adapted at the time of the emergency to relate to the emergency at hand.
3. The plan should include the following:
 - A list of accredited laboratories in the area and their contact details
 - Roles and responsibilities during an emergency.
 - A communication strategy with current contact details of regulatory bodies, e.g. DWA, DPH, Emergency response teams, such as police, hazardous spill clean-up teams etc.
 - Communicated strategy with affected community e.g. the use of media
 - In the plan generic sampling protocols must be included e.g. point and non-point sampling sources of pollution. Most accidental spills or leaks will be point sources and floods or landslides will be non-point sources.
 - The frequency, location and the determinands to be sampled should be included in the plan.
 - Emergency response protocols must be communicated to all relevant role-players.
 - Appropriate documentation and reporting procedures during an incident.
4. Plans should be reviewed regularly and where appropriate, EHPs and other personnel involved in emergency response should receive regular training.
5. Following an incident/emergency situation, a debriefing session should be undertaken with all involved stakeholders to discuss performance and address any issues or concerns. Plans should be advised to include lesson learnt from the incident to improve preparedness and planning for future incidents.

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| <p>SECTION 15: SURVEILLANCE OF WATERBORNE AND OTHER WATER RELATED DISEASES</p> |
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1. Effective surveillance programmes are required for effective disease control programmes. Disease surveillance programmes should provide;
 - Accurate and timely information on disease occurrence;
 - Early detection and notification of outbreaks;
 - Assessment of responses to outbreaks; and
 - Efficient monitoring of intervention programmes.
2. Waterborne outbreaks disease surveillance should be linked in a pro-active way with existing outbreak reporting mechanisms (outbreak response teams, water regulatory systems, as part of a risk management system).
3. In the case of independent disease surveillance, timely and accurate information must be provided to public health authorities and the general public, through regular reporting mechanisms. "Hot spots should be highlighted and authorities be warned to institute action.
4. Full reports must be prepared at the end of outbreaks describing events, interventions, lessons learned and recommendation to prevent further occurrence and must be availed to health authorities (if the health authorities are not leading the investigations).
5. EHPs should acquaint themselves with water borne and other water related diseases (**Appendix B**)
6. EH must monitor health facility statistics on diarrhoeal diseases on a monthly basis to identify possible outbreaks and ensure adequate responses and strengthening of environmental health interventions.
7. Communities at risk (unsafe water supplies or inadequate sanitation) must be identified and informed about sources of contamination and ways to avoid infection.
8. EH must monitor the spread of a disease e.g. cholera in high risk areas by periodically sampling strategic sewage effluent (hospitals, prisons, sewage purification works) as an early warning system.
9. Sampling using Moore pads should only be done in high-risk areas where there is a definite chance of identifying the disease.

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| <p>SECTION 16: MONITORING OF THE QUALITY OF WATER FOR RECREATIONAL USE</p> |
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A variety of microorganisms can be found in swimming pools and similar recreational water environments, which may be introduced in a number of ways. In many cases, the risk of illness or infection has been linked to faecal contamination of the water. The faecal contamination may be due to faeces released by bathers or a contaminated source water or, in outdoor pools, may be the result of direct animal

contamination (e.g. from birds and rodents). Microbial colonization of surfaces can be a problem and is generally controlled through adequate levels of cleaning and disinfection.

1. EH must ensure that swimmers are given pre-swimming hygiene education, both in public and semi public pools e.g. by displaying hygiene messages on the premises.
2. The quality of water in swimming pools must be monitored by taking samples. Parameters that are easy and inexpensive to measure reliably and of immediate operational health relevance (such as turbidity, residual disinfectant and pH) must be monitored most frequently and in all pool types.
3. Parameters (physical, chemical and microbial) should also be monitored, especially considering the intensity of use and local practice.
4. Microbial quality of water in public and semi-public pools must be monitored as well as continuous monitoring of residual disinfectant levels, as the disinfectant is dosed.
5. When taking water samples in a swimming pool, the samples should be taken at a depth of 5–30 cm. It is good practice to include as a routine sampling point the area of the pool where, because of the hydraulics, the disinfectant residual is generally lowest. Occasional samples should be taken from other parts of the pool and circulation system.
6. The pH of swimming pool water should be controlled to ensure efficient disinfection and coagulation, to avoid damage to the pool fabric and ensure user comfort.
7. The pH of swimming pools should be maintained between 7.2 and 7.8 for chlorine disinfectants and between 7.2 and 8.0 for bromine-based and other non-chlorine processes.

Table 2: Recommended sampling frequency for swimming pools:

| Pool type | Heterotrophic plate count | Thermotolerant coliform/ <i>E. coli</i> | <i>Pseudomonas aeruginosa</i> | <i>Legionella</i> spp. |
|--|---------------------------|---|------------------------------------|------------------------|
| Disinfected pools, public and heavily used | Weekly (<200/ml) | Weekly (<1/100 ml) | When situation demands (<1/100 ml) | Quarterly (<1/100 ml) |
| Disinfected pools, semi-public | Monthly (<200/ml) | Monthly (<1/100 ml) | When situation demands (<1/100 ml) | Quarterly (<1/100 ml) |

8. In addition to routine sampling, samples should also be taken from public and semi-public facilities:
 - Before a pool is used for the first time;
 - Before it is put back into use, after it has been shut down for repairs or cleaning;
 - If there are difficulties with the treatment system; and
 - As part of any investigation into possible adverse effects on bathers' health.
 - Frequency of sampling for swimming pools
9. In case of an accidental faecal release or vomit, the pool management should take measures to prevent the use of the pool until the contaminants are deactivated.
10. EHPs should ensure that parents/caregivers of small children and other swimming pool users are educated on good hygienic behaviour at swimming pools to improve health safety at swimming pools and the reduction of accidental faecal releases.

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| SECTION 17: WATER POLLUTION CONTROL |
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1. Rivers, streams and dams must be protected from pollution by human activity, illegal dumping of waste, sewerage and from contamination by storm water runoffs.
2. Ground water sources must be protected from pollution.
3. EHPs must educate communities on health and hygiene issues relating to the use, handling and prevention of contamination of collected water at household level.
4. EH must ensure that appropriate measures are taken during emergency accidents e.g. oil and sewerage spillages, to contain and minimize the effects of the incident and undertake clean up procedures and remedy the effects of the incident.
5. EHPs should conduct Environmental Health Impact Assessments prior to and after any borehole drilling activities, following specific tariffs to predict and advice on mitigation measures for possible pollution of a water sources.

6. If any pollution of water is occurring, it has to be dealt with in accordance with the WSAs water safety plan and recorded in the incidence management register.
7. Siting of sanitation facilities must be monitored to ensure that construction of such facilities is not such that any water source might be contaminated.
8. EHPs must provide health comments for all applications for environmental authorization in terms of the NEMA 1998, for construction of sanitation facilities and any other activity that may result in contamination of a water source and have a negative impact on human health.

**SECTION 18:
INTERSECTORAL COLLABORATION/INSITUTIONAL ARRANGEMENTS**

Coordination and co-operative governance between Municipal Health Services (MHS), WSAs and other role players in water quality management is vital for the protection of public health. There is a need for district level communication forums with all role players represented to facilitate collaboration and sharing of water quality related information and reports on water quality monitoring by WSAs/ WSPs and MHS.

EHPs based at District and Metropolitan Municipality level, within Municipal Health Services are responsible for all aspects of health related water quality monitoring within the areas of jurisdiction, in exception of Port Health water quality, whose responsibility lies with EHPs employed by Provincial Department's of Health.

**SECTION 19:
CAPACITY BUILDING AND TRAINING**

The development of adequately skilled human resources is important to ensure effective water quality monitoring. EHPs and other professionals responsible for EH monitoring of drinking water quality must be competent to conduct water sampling, analysis and interpretation of the results. Continual in service training on water quality monitoring is therefore essential.

Accredited training programmes in the water sector, which encompass water quality legislation, sampling, data collection and communication should be made available to EHPs.

Managers responsible for Municipal Health Services should assess the capacity of EHPs on all aspects related to health related water quality monitoring, and where necessary provide them with access to training and skills development on water quality monitoring e.g. capacity must be provided in mapping of water sources and mapping of critical water points that need to be monitored and reviewed, to track changes in water supply and of monitoring of water sources as well as on the use of Geographic Information System (GPS) equipment to be able to appropriately geo code the risk based sampling points from all water sources, to ensure that the same sampling points are monitored over a period of time to observe trends. Ship crew, including Port Health Officials should be suitably trained in all aspects of operation and maintenance of the water system and all treatment components e.g. bunkering procedures, onboard water production, temperature and stagnation, maintenance of the water system and all treatment components.

Building capacity amongst other health service providers is needed, e.g. health promoters, NGO's, Community Health Workers on issues related to water quality i.e. health and hygiene education.

Training programmes should be coordinated to ensure consistency of intent and understanding in all activities associated with water systems so as to contribute to a consistently high standard of design, construction, operation, maintenance and management. Such training can be in a form of formal courses that are accredited, stand alone courses or within broader training programmes provided for specialists.

**SECTION 20:
MONITORING, EVALUATION AND DATA REPORTING**

Monitoring and evaluation of water quality monitoring programmes is necessary to ensure that programmes are achieving the desired impact and whether there is a need for review. Analysis reports should be communicated with all relevant stakeholders and communities to inform EH interventions. Monitoring at provincial and municipality level should focus on progress in achieving national targets by reporting on water quality indicators the District Health Information System (DHIS)

SECTION 21: COMPLIANCE ENFORCEMENT

6. EHPs must investigate any non conformances in relation to requirements relating to premises and take appropriate action.
7. In case of other non conformances an EHP should issue compliance notice to the person in charge or the offender in terms of the National Health Act 61 of 2003, or the relevant Municipal By-laws, prescribing the nature of the offence and the corrective action that should be taken within a prescribed time period.
8. If non conformances still exist upon follow up inspection, an EHP may issue a warning notice, with compliance period, if deemed necessary or serve spot fine or a notice to appear in court. Spot fines and notices issued to appear in court shall be followed up by the EHP until the matter is resolved. If non conformances still prevails, despite compliance notices and legal action taken, the municipality may exercise any remedial measures to remove the nuisance and recover the costs thereof from the owner.
9. The severity of the health and safety risks should always be considered when environmental health compliance enforcement is exercised. "Zero tolerance" approach in extreme health and safety risks and any other risks so deserving in the opinion of the EHP, shall be exercised e.g. illegal dumping of health care risk, where if the offender is caught red handed, can be fined and instructed to remove the dump immediately without being given any compliance.
10. EHPs should cooperate and collaborate with other pollution control agencies, such as the "Green Scorpions" in enforcement of environmental law.

SECTION 22: REMARKS AND RECOMMENDATIONS

This document has sought to outline the functions of Environmental Health Services and Port Health in water quality monitoring and address the gaps that are there in existing legislation with regards to the role and responsibilities of the Department of Health and Environmental Health Practitioners in water quality monitoring and sanitation issues.

The document provides guiding standards in effective management of water quality aspects by EHPs as according to the Scope of Practice for Environmental Health, R698 of 26 June 2009, to monitor and identify water that has the potential to impact human health following use. Although the document provides guiding standards, it is however prescriptive to Environmental Health Services health related water quality monitoring. Cross reference is also made to legislation and standards that also set out compliance parameters for WSAs and WSPs in providing water quality that complies with national standards with regards to it bacteriological, chemical and physical quality for protection of public health.

To enhance the effectiveness of this document, there's a need for a formal communication strategy between DWA, WSAs and DOH (EHS). The strategy will ensure coordinated water quality monitoring and sharing of information between various role players, avoidance of the duplication of efforts, clarified roles and responsibilities between various role players and promote synergy and effective cooperative governance on water quality management issues.

There is a need for district level communication forums with all role players represented to facilitate collaboration and sharing of information and reports on water quality monitoring by WSAs/ WSPs and EHS.

To ensure effectiveness of EH water quality monitoring programmes, dedicated personnel should be available for coordinating water quality monitoring within municipalities, and ensure proper auditing of the programme, identification of challenges and gaps and need for any required improvements.

Water quality monitoring function needs to be sufficiently budgeted for within funding mechanisms within MHS. Other resources, such as human resources, material and equipment need to be adequately provided for to ensure sustainable and effective water quality monitoring.

Chapter 4

WASTE MANAGEMENT

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DEFINITION OF APPLICABLE TERMS

The following definitions apply on this set of norms and standards.

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| Adequate | Acceptable, suitable or satisfactory in the opinion of the local authority |
| Approved building plan | Refers to a building plan approved by the local authority or approved by the review board on appeal to the review board in terms of the National Building Standards Act, 1977 |
| Building waste | Refers to waste produced during construction, alteration, repair or demolition of any structure and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition |
| Bulky waste | Refers to business waste or domestic waste which by virtue of its mass, shape, size or quantity is inconvenient to remove in the routine door to door municipal service provided by the council |
| Business premises | Refers to premises used for business activities including but not limited to retail, wholesale distribution, import and export. |
| Business waste | Refers to other than hazardous waste, health care risk waste, building waste, industrial waste garden waste, bulky waste, recycle waste and special industrial waste, that emanates from premises that are used wholly or mainly for commercial, retail, wholesale, entertainment |
| Chemical waste | Refers to waste which consists of discarded solid, liquid, and gaseous chemicals products that contain dangerous or polluting chemicals that pose a threat to humans, animals or the environment, when improperly disposed of including but not limited to |
| Condemned foodstuffs | Refers to any foodstuffs proved to be unsound in terms of Regulation 328, Regulation Relating to the powers and Duties of Inspectors and Analyses on Foodstuffs at the Food premises, and any foodstuffs declared to be unsuitable by the owner of the premises. |
| Dangerous goods | Means goods listed in the SANS code 10228, as goods that are capable of posing a significant risk to health and safety to property or the environment during transport |
| Dailies | Refers to putrescible waste generated by hotels, restaurants, food shops, canteens and hospitals and clinics serving cooked food to patients and the public |
| Domestic waste | Refers to waste health care general waste, building waste, garden waste that generates from residential, educational, recreational or sports, public halls, health care and places of worship |
| Environmental health impact assessment | Refers to the potential impact of the waste disposal facility site on the health of the public and the environment. |
| Environmentally sound manner | Means taking all practicable steps to ensure that waste is managed in a manner that will protect the health of the public and the environment. |
| Event waste | Refers to waste that is generated from social activities related to an event, including but not limited to putrescible waste, cans , papers, plastics, boxes. |
| General waste | Refers to any waste that does not pose any threat to the health of the public and the environment, and includes domestic waste, building waste, business waste and general health care risk waste. |
| Genotoxic waste | Includes but it is not limited to certain cytostatic drugs, vomit, urine, or faeces from patients treated with cytostatic drugs, genotoxic substances or chemicals which have mutagenic, tetragogenic or carcinogenic properties. |
| Hazard | Means an intrinsic potential or ability of an agent, equipment, material, activity or process to cause harm. |
| Hazardous waste | Refers to waste that has the potential, even in low concentrations to have an adverse effect on the health of the public and the environment e.g. gases, flammable liquids and solids, infectious health care risk waste. |

| | |
|---------------------------|--|
| Health care facility | Means whole or part of a private or public institution, facility, building or place, whether for profit or not, that is operated or designed to provide inpatient or outpatient treatment, diagnostic or therapeutic interventions, nursing, rehabilitation, palliative, convalescent, preventive or other health care services. |
| Health care general waste | Includes but not limited to human and anatomical waste, infectious human and anatomical waste, sharps, chemical waste, pharmaceutical waste and radioactive waste generated by health care professionals, health care facilities and other non health care professionals such as tattooists and taxidermists. |
| Health care risk waste | Refers to infectious waste or which is suspected to contain pathogens; and which normally causes, or significantly contributes to the cause of increased morbidity or mortality of human beings. |
| Industrial waste | Refers to waste generated as a result of industrial activities such as manufacturing, maintenance, fabricating, processing or dismantling activities, mining activities or the operation of power stations. |
| Laboratory waste | Refers to human or animal specimen cultures from health care and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of bacteria, viruses, or the use of spores, discarded, live and attended vaccines, and culture dishes and devices used to transfer, inoculate and mix cultures; and waste containing any microbiological specimens sent to a laboratory for analysis. |
| Landfill site | Has same meaning as waste disposal facility |
| Major generator | Means a generator that generates up to 20kg per day of health care risk waste, including the container, calculated monthly as a daily average, but does not include domestic generator. |
| Miscellaneous substances | Means substances that maybe difficult to classify according to definitions in the SABS Code 0228. |
| Nuisance | Means nuisance as defined in the National Health Act 61 of 2003 . |
| Packaging group | Means the group symbol that indicates the degree of danger/hazard of the primary property of a specific substance in accordance with internationally recognized classifications (SANS 10228). |
| Permitted | means permitted by the Department of Environmental Affairs |
| Pharmaceutical waste | Refers to pharmaceutical products and medical chemicals that are no longer usable in human or animal treatment, and that have become outdated or contaminated or are no longer required; and items contaminated with cytotoxic pharmaceuticals |
| Pathological waste | Refers to diseased animals or animal parts infected with zoonotic diseases; human and animal tissues, organs, body parts, blood, fluid blood products and body fluids; containers or equipment containing blood that is fluid or blood from animals known or suspected to be infected with any zoonotic disease; and human fetuses. |
| Radioactive waste | means liquid, solid or gaseous materials that contain or contaminated, or are contaminated with, radio nuclides |
| Waste | Means waste as defined in the NEMA Waste Act ..of 2009 |
| Subsidiary risk | Substance supplementing the danger risk of another substance as defined in SANS Code 10228 |
| Standard | Qualitative statements that describe what constitutes acceptable or adequate performance or resources or services |
| United Nations Number | Serial number that consists of four digits and that is assigned to dangerous goods by the United Nations Committee of Experts on the Transport of Dangerous Goods as defined in SANS Code 10228 |

BACKGROUND

Waste management is the control of generation, storage, collection, transfer and transport, processing and disposal of waste in a manner that is in accordance to the best principles of aesthetics, economics, engineering, conservation, public health and other environmental considerations (Tchobanoglous, et al, 1993). In line with international trends and focus on new approaches to waste management, waste minimization is considered to be the first element in waste management, before waste generation. At the national waste summit held in Polokwane in September 2001, the Polokwane Declaration was adopted, which commits South Africa to a waste reduction of 50% in the amount of waste landfilled by 2012 and to zero waste by 2022.

In 1998, waste generation in South Africa amounted to 533 million ton per annum (CSIR, 2009). With rapid urbanization and migration that the South Africa is experiencing, more and more waste will be generated if there is no effective and efficient management of waste. Poor waste management can result in adverse effects such as infestation of pests, spread of diseases, land, air and water pollution, and injuries to the health of the public and the environment. In terms of section 24 of the Constitution of RSA, "everyone has a right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures".

There are different role players in the management of waste, and that include, national, provincial and local governments, recycling companies, NGOs interested in waste management, conservation and the environment, as well as the community. Waste management is also an environmental health function as defined in the National Health Act 61 of 2003. as a municipal health service. The scope of profession for environmental health, promulgated under the Professions Act, 1974 Act 56 of 1974 advocates for the following environmental health activities with respect to waste management:

- a) Ensuring proper effuse storage, collection, transportation, transfer and processing, materials recovery and final disposal;
- b) Ensuring proper management of liquid waste including sewage and industrial effluents;
- c) Sampling and analyzing waste or waste products such as sewage or refuse;
- d) Investigating and inspecting any activity relating to the waste stream or any product resulting there from;
- e) Advocating proper sanitation;
- f) Controlling the handling and disposal of diseased animal tissue;
- g) Ensuring safe usage of treated sewage sludge and ensuring that reclaimed waste is safe for health;
- h) Ensuring waste management including auditing waste management systems and adherence to the 'cradle to grave' approach.

In terms of section 21 of the National Health Act, 2003, Act 61 of 2003, it is the function of the national department of health Director General, to issue and promote adherence to, norms and standards on health matters, including; environmental health conditions that constitute a health hazard. Therefore, this set of norms and standards for waste management are hereby developed in fulfillment of the mentioned legislative mandate.

The purpose of the waste norms and standards are to:

- a) Protect the health of the public and the environment and ecological degradation;
- b) Provide reasonable waste management system's measures that should be controlled and monitored by Environmental Health Practitioners;
- c) Promote the reduce, reuse, recycling and recovery of waste; and
- d) Promote and ensure effective management of waste from 'cradle to grave'.

2. SCOPE OF APPLICABILITY

This set of norms and standards applies to

- Waste generators;
- Waste handlers;
- Waste collectors;
- Waste transporters; and

- Waste disposers; for general and hazardous waste, which are categorized according to the risk they poses, (Tchobanoglous, et al, 1993)
- Aspects on labeling, packaging, and storage, to assist Environmental Health Practitioners in the identification of improper labeling in case of illegal dumping of radioactive waste as well as for transportation of hazardous substances, to be able to make appropriate recommendations when approving building plans of major health care facilities, as well identifying non conformances on vehicles parked on premises and report to the relevant authorities.

General waste include, domestic; business; building or demolition; industrial and garden waste.

Hazardous waste is divided into 9 (nine) classes as per SABS Code 0228 and include:

Class 1- Explosives

Class 2- Gases

Class 3- Flammable liquids

Class 4- Flammable solids

Class 5- Oxidizing substances

Class 6- Toxic and infectious substances

Class 7- Radioactive substances

Class 8- Corrosives

Class 9- Miscellaneous substances

Exclusions and limitations to the scope of application of these norms and standards

This set of norms and standards are not applicable to:

- Mining waste, which is monitored and controlled by the mining inspector appointed under the Mine Health and Safety Act- Department of Minerals is excluded on the scope of application
- Explosives as defined in Explosives Act are excluded in the scope of application, as they are regulated by the Department of Safety and Security
- Radioactive waste-aspects on the handling of radioactive wastes in controlled areas are excluded on the scope of application, as access to controlled areas is only permitted to authorized personnel, patients and persons authorized by law.
- Aspects on disposal of radioactive waste and the handling of radioactive wastes in controlled areas are excluded from the scope as they are dealt with in Regulation Relating to Group IV Hazardous Substances R247, framed under Hazardous Substances Act No. 15 of 1973.
- Aspects on transportation of hazardous wastes, whose standards are prescribed in the following:
 - ✓ National Road Traffic Act and SANS 10229-1: Transport of dangerous goods- Packaging and large packaging for road and rail transport Part 1: Packaging
 - ✓ SANS 10229-2: Transport of dangerous goods- Packaging and large packaging for road and rail transport Part 2: Large Packaging
 - ✓ SANS 10233: Transport of dangerous goods- Intermediate bulk containers for road and rail transport ;and
 - ✓ Emergency information systems response guides and emergency cards; and

3. ROLES AND RESPONSIBILITIES OF VARIOUS ROLE PLAYERS IN THE WASTE MANAGEMENT SECTOR

3.1 Department of Environmental Affairs

- DEA is the custodian of the National Environmental Management Act, therefore are responsible for policy and legislation on waste.
- Licensing and permitting of certain waste management activities.

3.12 Department of Water Affairs

- DWA is the custodian of water resources and therefore for the protection thereof, such as effects of waste management practices.

3.3 Department of health

- DOH has oversight of health and is responsible to ensure that waste management practices do not pose negative impacts on human health by enforcing policy and legislation on waste management;

- Provides municipal health services through District and Metropolitan municipalities, which includes monitoring of the provision of waste management services; by
- Ensuring proper refuse storage, collection, transportation, transfer and processing, materials recovery and final disposal;
- Ensuring proper management of liquid waste including sewage and industrial effluents;
- Sampling and analyzing waste or waste products such as sewage or refuse;
- Investigating and inspecting any activity relating to the waste stream or any product resulting there from;
- Advocating proper sanitation;
- Controlling the handling and disposal of diseased animal tissue;
- Ensuring safe usage of treated sewage sludge and ensuring that reclaimed waste is safe for health; and
- Ensuring waste management including auditing waste management systems and adherence to the 'cradle to grave' approach.
- DOH is the custodian of the Hazardous Substances Act and is therefore also responsible for regulating and monitoring hazardous waste, including health care risk waste to ensure the control thereof to prevent injury, illness or death.

3.4 Department of Minerals

- Prescribe measures regarding discarding of radioactive waste and the storage of irradiated nuclear fuel, and is responsible to ensure the health and safety of miners against mine waste.

3.5 Department of Agriculture, Forestry and Fisheries

- Guides the safe disposal of agricultural waste.

3.6 Department of Safety and Security

- DSS should ensure the safe storage and disposal of explosive waste as defined in the Explosives Act.

3.7 Department of Transport

- DOT is responsible for the safe transportation of dangerous goods, including hazardous waste.

3.8 Department of Labour

- Prescribe precautionary measures for the disposal of hazardous substances to be exercised by employers in order to protect employee health and safety.

4. Other role players in waste management include:

- Waste association, organizations and NGOs in the waste recycling industry, as well as waste contractors, generators etc.
- I don't think it's advisable to list the companies by name, we should just say NGOs and CBOs. This because companies change all the time and the list is not exhaustive, so rather put them in one umbrella.
- Waste Contractors- Various waste contractors which differ in capacity and type of service provision (e.g. collectors, operators of waste management facilities (treatment and disposal) of waste are available in the public.
- I would advice that we leave the discussion of roles and responsibilities to national departments, as these will cascade down to PG and LG.

5. WASTE MANAGEMENT PRINCIPLES AND NORMS

The following principles and norms on waste management are internationally recognized and have been agreed upon at the Basel Convention. These principles and norms need to be applied and considered by any person engaged in the handling, storage, collection disposal and transportation of waste, and shall also be applicable for this set of environmental health norms and standards for waste management.

- **Duty of care principle**

Any generator of waste is responsible to ensure that waste is handled, stored, collected disposed and transported in an environmentally sound manner.

- **Polluter pays principle**

Any person causing pollution is responsible for any costs incurred in the cleaning and rehabilitation of the impacts on the environment.

- **Precautionary principle**

It is the responsibility of the waste generator to ensure that waste is less hazardous before it is disposed off.

- **Proximity principle**

The treatment and disposal of hazardous waste should take place as near as possible to the point of production, in order to minimize transportation and environmental risks.

- **Cradle to Grave principle**

Any generator of health care risk waste is legally responsible for its final disposal from point of generation to final disposal.

STANDARDS

SECTION 1: WASTE MINIMIZATION

Waste minimization refers to activities that involves the reuse, reduce, recovery and recycling of waste. Recovery means the process of converting waste into other resources such as electricity, heat, compost or fuel, through thermal and biological means. Resource recovery occurs after reduce, reuse and recycle have been attempted. To recycle means to use, re use or reclamation waste. To reduce means to limit the amount of waste generated, and to reuse means to use materials or items that one would normally dispose of, again.

1. Responsibilities of waste generators with regards to reduce, reuse, recycle and recovery of waste:

- a) In terms of the NEMA Waste Act 59 of 2008, the waste generator must:
 - Take practicable measures to avoid the production of waste and to reduce it or reduce its toxicity, recycle and recover waste, where possible;
 - Separate waste with the aim of minimizing waste and its impacts on the environment; and
 - Consider the use of less natural resources than disposal and protection to the environment before any reduce, reuse, recycle and recovery of waste activity takes place.
- b) Recycled wastes from residential, business, Industrial premises and kerb side collection must be stored in suitable, intact, corrosive resistant and leak proof containers or bags.
- c) Recycled waste shall be collected within reasonable time to prevent a nuisance to be created.

EHPs should monitor waste minimization activities on premises during inspections and educate and encourage businesses and the community on:

- The type of waste to minimize;,,
- How minimize waste;
- Where and how to store recycled waste;
- Recycling companies to be contacted when starting a recycling project.

2. Waste Recycling at business premises and industrial premises and Buy-Back centers or Drop Off Centers

EH should monitor that the premises used for waste recycling at business, industrial premises, and buy back or drop off centers conform to the following standards:

- a) The premises used for recycling shall be located, designed, constructed in accordance with approved building plans and in such a manner that a public health hazard will not occur.
- b) The premises must have an approved fire protection plan in terms of the National Building Regulations and National Building Standards Act, 1977, to show fire protection measures.
- c) The premises must be provided with adequate ventilation and lighting as prescribed in the National Building Regulations and National Building Standards Act, 1977.
- d) The floors of the premises must be constructed of cement concrete or similar impervious material. The floors must be adequately graded and drained for the disposal of effluent to an approved disposal system.
- e) The inside walls must be smooth and painted with a light coloured washable paint, except where glazing, glass bricks or glazed tiles are used.
- f) The surface of the open space on the yard of the premises shall be paved with paving bricks or with concrete or similar impervious material brought to a smooth finish.
- g) Adequate supply of portable water shall be provided.
- h) Adequate sanitary fixtures for use by workers and patrons shall be provided as prescribed in the National Building Regulations and National Building Standards Act, 1977.
- i) The perimeter wall around the premises shall be made of bricks, concrete or steel palisade, or other durable material, with a minimum height of 2 meters.
- j) The gates to the premises shall be of solid construction with a minimum height of 2 meters.

SECTION 2: OBLIGATIONS FOR GENERAL AND HAZARDOUS WASTE HANDLING

EHPs should monitor to ensure that the below obligations with regard to general and hazardous waste handling are adhered to:

- a) Waste generators are responsible for their waste from point of generation to final disposal;
- b) The generation, recycling, storage, collection, treatment, transportation and disposal of waste shall be managed so as not to endanger the health of the public or the environment or become a nuisance;
- c) All waste generators shall ensure that they have adequate, approved storage waste receptacles or containers.
- d) All waste generators of the following classes of waste must have Waste Management Plans in place, such plans must be submitted to the local authority environmental health department for evaluation, monitoring implementation, approval and record keeping to ensure that waste is managed in a sound manner to protect the health of the public.
 - Business waste;
 - Industrial waste;
 - Building waste;
 - Event waste;
 - Hazardous waste.
- e) The Waste Management Plan shall include-:
 - an assessment of the quantity of waste that will be generated;
 - type or characteristic of waste that will be generated;
 - a description of the services provided to store, collect, transport and dispose of such waste;
 - a contract with the service provider for collection and final disposal to the licensed waste disposal facility; and
 - a description on the separation of recyclable and non-recyclable waste at the point of source;
 - the waste minimization measures through reduction, reuse, reuse and recovery
 - pollution prevention measures; the impact or potential impact on the environment and the health of the public and any workers, that can be created by the waste generated;
 - remedial measures that are to be implemented on the impacts identified; and
 - Any additional information that the local council or municipality may require.
- f) All generators of hazardous waste shall have a safety data sheet as prescribed in SANS 10234;
- g) All waste management activities (storage, reuse, recovery, recycling, treatment and disposal of general and hazardous waste) as listed in the attached schedule (**Appendix A**), must apply for environmental authorization in terms of the NEMA: Environmental Impact Assessment (EIA) Regulations 543 of 2010.

SECTION 3: STORAGE OF GENERAL WASTE

EH should monitor the storage of general waste at premises to ensure conformance to the following standards.

2.1 Storage of domestic, business, industrial, dailies and events waste.

- a) In terms of National Waste Collection Domestic Standards 2008, all domestic, business, industrial, dailies and event waste generators shall have an approved receptacle provided by the local council or municipality, which is leak proof, intact, corrosive resistant and have a close fitting lid.
- b) The general waste storage area must have an impermeable floor.
- c) All domestic, business, industrial, dailies and event waste generators shall have a designated convenient storage space for the location of waste receptacles or containers.
- d) The waste storage area for business, industrial, dailies and event waste must have a drainage system to collect all water runoff from the storage area in the event of rainy weather conditions.
- e) Black, beige, white or transparent heavy-duty refuse bags with a thickness of 80µm or more shall be used where no approved receptacles are provided.
- f) Dailies must be placed in approved waste receptacles lined with heavy duty refuse bags of 80µm or more thickness and not be stored for more than 24 hours
- g) Contamination of dailies to other waste streams should be avoided.
- h) Condemned perishable foodstuffs shall be stored in refrigerators not accessed by the patrons.
- i) Condemned non perishable foodstuffs shall be stored in separate dry storage area not accessed by the public.
- j) Every approved waste receptacle shall be kept closed, clean and in a hygienic condition at all times.

2.2 Storage of garden refuse

- a) The generated garden waste may be composted on the premises provided such composting does not cause a nuisance.
- b) The generated garden waste may be stored in a composted heap or suitable, intact and strong bags

2.3 Storage of building refuse

- a) The building waste generated shall be kept in bulk, steel containers.
- b) The building waste container shall be marked with the name, address and telephone numbers of the person in control of that receptacle so that he/she can be contacted should there be any nuisance emanating from the stored building waste.
- c) The building waste container shall be fitted with reflecting chevrons or reflectors which must completely outline the front and the back thereof, to prevent any accidents due to non visibility.
- d) The building waste container shall be covered when not receiving or emptying waste, to prevent displacement or waste from being blown away.
- e) The building waste container shall be placed on or near the premises on which waste is generated, as approved by the municipality concerned. Municipality can remove rubble from premises at a cost in terms of own By-Laws.
- f) EH should monitor that building rubble from premises is not dumped illegally on open land.
- g) EH should monitor to ensure that accumulation of building rubble on any premises does not create a nuisance to neighbouring premises and favour the breeding of rodents, and that refuse is always kept in approved containers as indicated above.

SECTION 4: COLLECTION OF GENERAL WASTE

3.5 Collection of domestic, business, condemned foodstuffs and industrial waste from premises.

- a) The collection of domestic, business, and industrial waste on premises must take place at least once per week by the approved service provider or municipality, to prevent any nuisances and possible illegal dumping.
- b) The collection of event waste must take place daily, if not possible, on the next immediate service day available.
- c) The collection of dailies must take place daily to prevent decomposition of waste.
- d) The waste container or bags must not be placed on the public place/pavement except on the collection day.
- e) Condemned perishable foodstuffs must be removed for disposal within 48 hours of identification from the premises.
- f) Condemned non perishable foodstuffs must be removed for disposal within 5 days of identification from the premises.
- g) Condemned foodstuffs must be recorded by an EHP and be collected in the presence of an EHP.

3.2 Collection of garden and bulky waste from premises.

- a) The generator of garden waste and bulky waste must ensure that it is collected within reasonable time after the generation thereof to prevent the emanation of any nuisance
- b) The bulk waste container must be collected within reasonable time once full or the use thereof is no longer in need.

SECTION 5: TRANSPORTATION OF GENERAL WASTE

- a) Any general waste transportation vehicle must be of adequate size and construction for the type of waste being transported.
- b) Any waste container loaded on the transportation vehicle must be intact, not corroded and not rendered unfit for the transportation of waste
- c) The waste transported must be covered with tarpaulin or suitable net with 5cm² holes or any suitable cover to prevent blowing of waste by wind.
- d) The waste transport vehicle shall be roadworthy and maintained in a hygienic condition at all times when not in use.
- e) The transportation of waste must also comply with all other requirements as specified in the National Road Traffic Act, 1996 (Act No. 93 of 1996)

SECTION 6: DISPOSAL OF GENERAL WASTE

5.1 EHPs should conduct inspections on premises and monitor compliance with the following:

- a) No illegal dumping or littering of general waste is allowed on any premises.
- b) No burning of waste is occurring at the general waste disposal facility nor any residential and business premises except at an approved and permitted incinerator.
- c) All general waste is disposed at a designated, permitted landfill or waste disposal site or transfer station in the local council or municipality.
- d) Building waste is disposed at permitted landfill site or must be used for the purpose of reclamation or for recycling subject to written approval by the municipality.
- e) Garden waste is disposed at a designated, permitted garden waste disposal facility or any other approved facility by the local council or municipality.
- f) Dailies and condemned foodstuffs is covered immediately upon arrival at the disposal facility, in the presence of the EHP.

1.6 Requirements for waste transfer station and landfill sites:

EHPs should monitor waste transfer station and landfill sites to ensure conformance to the following requirements:

- a) A transfer station must be enclosed with a minimum 2 meter high brick/palisade/concrete to prevent unauthorized entry.
- b) A transfer station must have a controlled entry gate to prevent unauthorized entry
- c) A transfer station must have adequate equipment required for the operation of the station.
- d) There must be a person in charge and personnel during operational times to administer and manage the facility.
- e) A transfer station must have sanitary facilities as prescribed in the National Building Regulations and National Building Standards Act.
- f) Wind screens must be provided to protect blowing papers.
- g) Water sprays must be provided to control dust.
- h) A spill kit must be available and spilled general waste shall be picked up immediately.
- i) No general waste must be disposed off or littered in public places, open spaces, vacant land, pavement, street or watercourse other than at a permitted landfill site or garden refuse site.
- j) An operating general waste disposal facility must have an approved site and layout plan, operational plan, and an end use plan. The site and layout plan; and operational plan shall indicate the layout design, equipments and all the required facilities. The end use plan shall include the cover and landscape design, control of landfill gases, collection and treatment of leachate and environmental monitoring systems.

Waste disposal facilities/facility

- a) An operating general waste disposal facility must have an approved site and layout plan, operational plan, and an end use plan. The site and layout plan; and operational plan must indicate the layout design, equipments and all the required facilities. The end use plan must include the cover and landscape design, control of landfill gases, collection and treatment of leachate and environmental monitoring systems.
- b) A waste disposal facility must be enclosed with a minimum 2 meter high brick/palisade/concrete to prevent unauthorized entry;
- c) A waste disposal facility must have a controlled entry gate to prevent unauthorized entry;
- d) There must be a person in charge and personnel during operational times to administer and manage the facility;
- e) There must be adequate sanitary facilities for use by staff as prescribed in the National Building Regulations and National Building Standards Act;
- f) There must be adequate changing area for all sexes, provided with-
 - wash hand basin provided with hot and cold portable running water supply.
 - an adequate supply of soap and disposable towel or hand drying material.
- g) Unsafe excavations shall be protected by the person in charge of the waste disposal facility;
- h) All waste disposal facility personnel must have appropriate protective clothing, including industrial gloves, effective face masks, safety boots and overalls at all times while working;
- i) Adequate drainage system and storm water diversion measures shall be in place to prevent stagnant water runoff;
- j) Leachate and gas management system must be in place when significant leachate is generated;
- k) The waste disposal facility site must be adequately maintained on a daily basis.
- l) Windblown litter that must be removed daily and be contained in the facility by means of screens or barriers.
- m) Odours must be controlled by effective odour suppressants and air quality monitoring at the boundary of the facility and from any treatment facilities located on the landfill site.
- n) Vermin and public health vectors, must be adequately prevented and controlled by daily cover and elimination of standing water
- j) Dust, must be controlled by spraying water on the entrance and on internal road gravel access roads; and fire control prevention and measures must be in place.

SECTION 7: CLASSIFICATION, PACKAGING, LABELLING, COLLECTION AND TRANSPORTATION OF HAZARDOUS WASTE

6.1 Classification of hazardous waste

Hazardous waste is regarded as hazardous substances and dangerous goods, because of their composition and physical properties.

The SABS 10228 classifies and divides hazardous substances into 9 (nine) 9 classes. These include:

- Class 1- Explosives:
- Class 2- Gases
- Class 3- Flammable liquids
- Class 4- Flammable solids
- Class 5- Oxidizing substances
- Class 6- Toxic and infectious substances
- Class 7 – Radioactive substances
- Class 8- Corrosives
- Class 9- Miscellaneous substances

The 9 classes are further classified/divided in accordance with the hazard and risk involved;

1.7 Packaging and labeling of hazardous waste

EHPs should conduct thorough inspection to ensure that the following labeling and packaging requirements for hazardous substances for storage and transportation as outlined in the relevant SANS codes are complied with:

- a) Hazardous waste are securely and efficiently packaged for transportation to prevent any leakages.
- b) The type of packaging group depends on the degree of the hazard posed by the hazardous waste class.
- c) The three packaging groups are categorized as Group 1, 2 and 3. (SABS Code 10228) as follows:
 - Packing Group I: include substances that present a high danger;
 - Packing Group II: includes substances that present a medium danger; and
 - Packing Group III: includes substances that present a low danger;
- d) Annexure B in the SANS Code 10228, outlines technical name and description, UN number, the class, packaging group, the subsidiary risk, references to appropriate packaging instructions given in SANS 10229-1 and SANS 10229-2, and special provisions and limited transportation quantity requirements of SANS 10229-1 and SANS 10229-2.
- e) Hazardous waste packed for storage and transportation must be labeled with appropriate international hazard signs and pictograms as prescribed in SANS 10234 and SANS 10229-1 and SANS 10229-2.

6.3 Collection of hazardous waste

EHPs should monitor the collection of hazardous waste to ensure conformance to the following:

- a) Hazardous waste is are collected as close as possible to the hazardous waste generation point.
- b) Hazardous waste is not allowed to accumulate such that a risk to the public, workers and the environment can take place.

6.4 Transportation of hazardous substances

EHPs should be familiar with the contents of the below SANS codes to be able to report non conformances to the dangerous goods inspectors and the traffic officers, employed by the Department of transport and municipalities.

- a) Hazardous waste must be transported as per requirements of;

- SANS 10229-1- Transport of dangerous goods- Packaging and large packaging for road and rail transport Part 1: Packaging
- SANS 10229-2 -. Transport of dangerous goods- Packaging and large packaging for road and rail transport Part 1: Large Packaging
- SANS 10233 -. Transport of dangerous goods- Intermediate bulk containers for road and rail transport
- SANS 102232 Part 3 and 4: emergency information systems response guides and emergency cards
- National Road traffic Act 93 of 1996 enforced by the dangerous goods inspector and the traffic officers, employed by the Department of transport and municipalities.

SECTION 8: TEMPORARY STORAGE OF HAZARDOUS WASTE

7.1 Temporary storage areas for hazardous substances must comply with the following requirements:

EHPs should monitor temporary storage areas for hazardous substances to ensure compliance with the following requirements:

- a) The area must adequately illuminated and ventilated in accordance with the National Building Regulations and National Building Standards Act.
- b) The storage area must be rodent-proofed in accordance with the best available method.
- c) The floor surface must be free from cracks and must have a firm waterproof base to prevent permeation of storm water and constructed of a fire proof and theft resistant materials.
- d) The walls, fittings and shelving must be constructed of non combustible materials
- e) The storage area must be enclosed and secured to prevent unauthorized entry.
- f) The storage area must be marked/labelled with the relevant hazard symbols of the relevant waste streams and have a written warning statement.
- g) Hazardous waste material must be separately stored from other chemicals or products.
- h) Hazardous waste must be stored separately to prevent possible reactions and spillages of material
- i) Hazardous waste must be stored away from sources of heat and materials that are flammable and can easily catch fire.
- j) The use of wood pallets should be avoided.
- k) Hazardous waste must be stored away from the door and areas with excessive pedestrian traffic.
- l) Safe and convenient height storage to be maintained to avoid accidental tip over.
- m) Hazardous waste containers must not be placed directly on the floor.
- n) Overcrowding hazardous waste containers shall be avoided.
- o) The storage area must be kept clean and dry at all times.

1.6 Management of accidental spillages

An EHP must monitor spillages of stored waste and transported waste to ensure that it is managed as follows, to prevent surface and groundwater pollution and any public health hazards

- a) The storage area must have a waterproof spillage area, with effective drainage system. The spillage area must have a spill kit equipped with:
- b) Hazardous substances dealer's premises must have an emergency response policy and strategy in place, to deal with spills of infectious and chemical waste and such policy and strategy must include:
 - Means to notify the person designated to supervise and execute the clean up;
 - Clean up procedure for each type of spillage;
 - Spill kit, consisting of elbow length gloves, closed shoes, full overalls, safety glasses and respirators; disinfectants; absorbent material; brooms, dustpans and shovels; and health care risk waste containers and heavy duty plastic bags.
 - Procedures for the protection of the public and other personnel;
 - Procedures for the containment and disposal of types of hazardous waste;
 - Health and safety policy with proof that it has been communicated to all employees;
 - Means to notify the relevant authorities where necessary;
 - Arrangement of medical examination o for all affected personnel, including preventative treatment cleaning procedures; and

- The spillage area shall be marked, secured and demarcated to prevent unauthorized entry.
- c) The spillage area shall be marked, secured and demarcated to prevent unauthorized entry.
- d) In case of spillages on the road, the EHP must assist the driver where necessary, in notifying the disaster management center/department in the municipality, the municipal traffic police officers and / or provincial traffic police officials and emergency medical service.

SECTION 9: DISPOSAL OF HAZARDOUS WASTE

An EHP must monitor the disposal of hazardous waste to ensure the following:

- 5.1 Hazardous waste must only be disposed at a hazardous waste landfill permitted by DEA.
- 5.2 Hazardous wastes are grouped into 4 categories; according to the hazard rating they pose, in order to determine the correct hazardous waste landfill.

| Hazardous waste rating | Hazardous waste landfill |
|---------------------------------|--------------------------|
| Hazard rating 1 (extreme risk) | H:H landfill |
| Hazard rating 2 (high risk) | H:H landfill |
| Hazard rating 3 (moderate risk) | H:h landfill |
| Hazard rating 4 (low risk) | H:h landfill |

| Hazardous waste stream | Disposal Requirements: |
|---|---|
| Class 1-Explosives | Direct landfilling is prohibited |
| Class 2- Gases | Empty gas cylinders and aerosol dispensers shall not be incinerated. Empty gas cylinders shall be returned to the supplier for reuse, where appropriate. Waste aerosol dispensers maybe landfilled. Maybe released into the atmosphere except in contravention with Air Quality Act. |
| Class 3- Flammable liquids | Direct landfilling is prohibited Treatment to non flammability before landfilling |
| Class 4- Flammable solids | Direct landfilling is prohibited Treatment to non flammability before landfilling |
| Class 5- Oxidizing substances | Direct landfilling is prohibited Treatment to neutralize before landfilling |
| Class 7 – Radioactive substances | Consult the National Department of Health Radiation Control Directorate |
| Class 8- Corrosives | Direct landfilling is prohibited Treatment before landfilling |
| Class 9- Miscellaneous substances e.g acenaphthene, acetylaminofluorene, adipic acid, aerosol dispensers and anthracene. | Department of Environmental Affairs should be consulted for hazard rating and approval for disposal |

SECTION 10: TOXIC AND INFECTIOUS WASTE/HEALTH CARE RISK WASTE

9.1 WASTE MANAGEMENT PLAN

- a) An EHP should monitor waste management practices at health facilities to ensure that acceptable methods of handling, segregation, labeling, packaging, collection, storage, transportation, and disposal of waste are adopted.
- b) The EHP must monitor health care facilities to ensure compliance to the following standards:
 - Each health care facility must have a documented waste management plan, and such plan must consist of: something is not clear, should a WMP consist of a waste management team? Or should we say that a facility must have a WM team in place.

- A waste management team, that comprises of the following members must be in place in each facility, to implement the facility waste management plan:
 - A facility Waste Management Officer;
 - An Environmental Health Practitioner;
 - Heads of departments within the health care facility;
 - An Infection Control Officer;
 - A Chief Pharmacist;
 - A Radiation Officer;
 - A Senior Nursing Manager;
 - A nominated Health and Safety representative;
 - Cleaning contractor/ cleaning manager;
 - A Health and Safety Manager; and
 - A waste management contractor, when required.

- c) The WMP must outline and document the following:
 - Duties and responsibilities of each team member;
 - An assessment of health care risk waste generated by the facility
 - Documents for all processes in the health care facility, and such documents must include but not limited to, documented work instructions and work procedures, which are maintained and implemented in the facility.
 - The work procedures and instructions which are easy to read, such procedures and instructions must be posted at work places and at the point of use and must contain:
 - ✓ identification of health care risk waste category;
 - ✓ segregation of HCRW into appropriate container;
 - ✓ training in work procedures and work instructions;
 - ✓ cleaning and disinfection;
 - ✓ correct use of all facilities, equipment and personal protective clothing;
 - ✓ storage of HCRW at the point of generation until collection;
 - ✓ transportation of containerized HCRW for intermediate storage;
 - ✓ transportation of HCRW for final treatment and disposal;
 - ✓ controls and monitoring processes in each unit or department to achieve the specified cleanliness and infection control.
 - Material safety data sheets for chemical waste;
 - Employees training detailing;
 - ✓ the attendance of training by all full time and part time/contract employees when employed and the attendance register,
 - ✓ training schedule for new employees and refresher trainings with training dates,
 - ✓ the scope of training, should include; aspects of the health care risk management policy, technical instructions relevant to the target group on the application of waste management practices, monitoring techniques, procedures in case of spillages and accidents, the use of personal protective clothing, safe handling of health care risk waste and the contents of material safety data sheets.
 - Personal and workplace hygiene procedures, detailing personal and environmental hygiene practices that must be exercised by all employees to protect themselves from accidental infections and exposures;
 - Inspection and quality control procedures, which outlines types and volumes of health risk waste generated, waste segregation procedures, collection schedules, the authorized contractor for collection, transportation and disposal,, with record keeping thereof, any deviations from the procedures and corrective action;
 - Health and safety policy with recommendations for medical examinations, check up, and a policy on immunization;
 - Safety instructions and precautions for the handling and storage of health care risk waste;
 - An emergency response policy and strategy to deal with spills of infectious and chemical waste. Such policy and strategy shall include:
 - ✓ Means to notify the person designated to supervise and execute the clean up;
 - ✓ Clean up procedure for each type of spillage;
 - ✓ Spill kit, consisting of:

- Elbow length heavy duty gloves, closed safety shoes, full overalls, heavy duty apron, safety glasses and respirators.
 - Disinfectant;
 - Absorbent material,
 - Brooms, dustpans and shovels,
 - Health care risk waste containers and heavy duty plastic bags
- ✓ Procedures for the protection of the public and other personnel;
 - ✓ Procedures for the containment and disposal of different types of waste;
 - ✓ Health and safety policy with proof that it has been communicated to all employees;
 - ✓ Means to notify the infection control nurse in case of accidental needle stick injuries and other relevant authorities where necessary;
 - ✓ Arrangement of medical examination of for all affected personnel, including preventative treatment.
 - ✓ Non compliant procedures and appropriate corrective actions to be taken.
- Record keeping for monitoring waste management contractors, detailing proof of proper treatment, destruction and disposal of the health care risk waste by the waste management contractor.
 - Procedures for disinfection of reusable health care risk waste containers which shall include:
 - ✓ responsible person for disinfecting the reusable health care risk waste container;
 - ✓ approved testing methodologies for relevant biological or other indicators relating to adequate disinfection of a health care risk waste reusable container;
 - ✓ monitoring of the disinfection by responsible person for disinfecting the reusable health care risk waste container;
 - ✓ all pertinent operating procedures;
 - ✓ frequency of testing;
 - ✓ the competent person to determine the sampling area or location of the reusable health care risk waste container;
 - ✓ adequate disinfection of reusable health care risk waste containers must be tested and documented based on swap tests or similar sampling procedures;
 - ✓ the accredited laboratory to process the samples for bacterial and fungal organisms;
 - ✓ Quarterly reports of the level of disinfection achieved by the facility must be compiled by the responsible person for disinfecting the reusable health care risk waste container;
 - ✓ Laboratory results must be kept on record or a period of 3 years.

9.2 HEALTH CARE RISK WASTE COLLECTION AND DISPOSAL BY CONTRACTORS

An EHP must monitor the collection and disposal of HCRW to ensure that:

- a) Only permitted waste management contractors must be contracted to render treatment and disposal services for the health care facility;
- b) An EHP should monitor that the contracted service provider for the collection and disposal of HCRW adheres to the terms of the contract with the facility.
- c) Contractual requirements between the health care facility and the waste management contractor must include:
 - ✓ Description of waste streams and volume of waste to be collected for treatment and disposal;
 - ✓ Treatment and disposal processes to be used.;
 - ✓ Verification of the physical condition of the health care risk waste packages received,
 - ✓ The responsibility to sort, count and collect the health care risk waste packages.
 - ✓ A method to account for different health care risk waste units collected by the waste management contractor,
 - ✓ Collection schedule;
 - ✓ Modes of transportation to be used;
 - ✓ Health and safety measures to be implemented, including emergency response policy and strategy;
 - ✓ Proof of training for all workers in direct contact with health care risk waste during collection and disposal;
 - ✓ Transitional arrangements during mobilization, termination of services and interfaces with current waste management contractor and the succeeding waste management contractor;

- ✓ Alternative emergency collection, treatment and disposal of health care risk waste shall be agreed upon between the health care risk waste facility and the waste management contractor;
- ✓ The location of temporary and central health care risk waste storage areas; and
- ✓ The collection points, routes and times of the HCRW from the temporary HCRW storage areas.

2.10 CLASSIFICATION OF HEALTH CARE RISK WASTE

EHPs should monitor HCRW to ensure that they are classified as follows:

- a) All health care waste must be classified in accordance with SANS 10228, and further classified/divided in accordance with the hazard and risk involved. According to technical guidelines on environmentally sound management of biomedical and health care waste provided by the conference of parties to the Basel convention on the control of transboundary movements of hazardous waste and their disposal, health care waste is classified as follows:
 - **Category A:** Health care general waste e.g. office waste, food or garden waste
 - **Category B:** Biomedical and health care waste requiring special attention includes
 - ✓ Human anatomical wastes such as human body parts, organs and tissues;
 - ✓ Pharmaceutical waste such as , cytotoxic pharmaceutical waste, expired pharmaceuticals, and wastes containing heavy metal and non hazardous pharmaceutical waste such cough syrups;
 - ✓ Waste sharps such as needles, scalpel blades
 - **Category C:** Infectious and highly infectious waste.
Infectious waste include , discarded materials (disposable gloves, line, aprons) and equipments contaminated with blood and other body fluids from patients with hazardous communicable diseases and from patients with blood borne infections undergoing haemodialysis. Highly infectious waste include microbiological waste with any kind multiple pathogens and laboratory waste such as cultures with viable biological agents
 - **Category D:** Other hazardous waste includes chemical waste such as empty aerosol cans, heavy metal waste and discarded chemical disinfectants
 - **Category E:** Radioactive waste includes liquids, gases, solids contaminated with radionuclide's whose ionizing radiation have genotoxic effects

2.11 SEGREGATION OF WASTE AT A HEALTH CARE FACILITY

Segregation refers to the separation of waste into different types of recyclable, reusable and disposable wastes. Segregation is one of the most important steps to successively manage HCRW.

- a) An EHP should conduct audits in a health facility to monitor waste segregation practices and ensure that acceptable methods are adopted.
- b) In accordance with the NEMA: Waste Act, waste generators must reduce adopt methods and practices to reduce the generation of waste where possible, and segregate waste with the aim of minimization (reuse, reduce, recycle and recover).
- c) Health care waste must be segregated correctly at the point of generation, and be containerized and correct liners used.
- d) All workers/employees shall be trained in the correct identification and segregation of the waste generated.
- e) An EHP should monitor the collection of waste in a health facility to ensure that the facility containers used for the storage of waste complies with the following requirements waste:
 - Waste containers are SABS approved;
 - General waste is stored in plastic bags with thickness of 80µm or more, or approved refuse receptacles or bulk steel containers for the storage of any generated building waste or garden waste
 - Health care risk waste containers are labeled with colour codes and the international biohazard symbol for health care risk waste as per (SANS 10248-1:2008 Annexure F- extract) as follows:

Table 1:

| Waste | Waste sub-category | Colour coding | Labelling |
|-----------------|---------------------------|----------------------|-----------------------------|
| Human or animal | Infectious human | RED | ▪ Marked "infectious waste" |

| | | | |
|---|----------------------------------|---|--|
| anatomical waste | anatomical | | <ul style="list-style-type: none"> Have the appropriate international infectious hazard label. |
| | Infectious animal anatomical | ORANGE | <ul style="list-style-type: none"> Marked "infectious waste" Have appropriate international infectious hazard label |
| | Non infectious animal anatomical | BLUE | <ul style="list-style-type: none"> Marked non infectious animal anatomical waste No hazard label |
| infectious non anatomical waste | None | RED | <ul style="list-style-type: none"> Have appropriate international "infectious hazard" label |
| Sharps | None | YELLOW, | <ul style="list-style-type: none"> Marked with the words "Danger contaminated sharps". Have appropriate international infectious hazard label |
| Chemical waste including pharmaceutical waste | Chemical pharmaceutical or | DARK GREEN | <ul style="list-style-type: none"> Have appropriate international hazard label. Marked with words - e.g. pharmaceutical waste-liquid or Pharmaceutical waste-solid. For flammable liquids or solids, e.g. chlorinated organic solvent waste and a bold warning "HIGHLY FLAMMABLE" or "FLAMMABLE" For oxidizing substances or organic peroxides ; e.g. "Oxidizing chemical waste" or "organic peroxide waste" |
| | Cytotoxic pharmaceutical | DARK GREEN | <ul style="list-style-type: none"> Cytotoxic or genotoxic contaminated sharps marked "Cytotoxic sharps" or "Genotoxic sharps" Cytotoxic and genotoxic pharmaceutical waste marked "Cytotoxic waste" or "Genotoxic waste" Cytotoxic hazard label. (SANS 10248-1:2008 Annexure E- extract |
| Radioactive waste | None | No colour coding | <ul style="list-style-type: none"> Have the appropriate international radiation hazard label. The name and contact number of the radiation officer, for emergency purposes. |
| General waste | | Black, beige, white or transparent packaging can be used. | <ul style="list-style-type: none"> Marked general waste. No hazard label. |

- The thickness of the plastic bags used as standalone containers is 80µm or more;
- Plastic bags used as liners which form an integral part of a rigid container have a thickness of 60µm or more;
- All health care risk waste containers clearly indicate the contents e.g. pharmaceutical waste, infectious waste, etc; and

- The name of the health care facility, ward, date of containerization and the service provider also appear on each HCRW container.

2.12 PACKAGING OF WASTE

2.12.1 Packaging of infectious waste pathological waste (excluding sharps)

- a) The environmental health HCRW audit of a facility should also include the inspection of packaging of infectious waste. An EHP should monitor that:
- The packaging for infectious waste is made from an impermeable and leak proof material;
 - Packaging for infectious waste is filled up to three quarters capacity of the container and is securely closed;
 - Plastic bags are closed by means of non PVC plastics ties, non PVC plastic sealing tags of the self locking type or heat sealers that are purposely made for health care risk waste. The use of staplers on plastic bags is not be allowed;
 - A pathological waste container lids have an airtight seal to prevent the emission of any odours; and
 - The package is properly labeled as per table 1 above.

2.12.2 Packaging for sharps

Sharps refer to waste having acute rigid corners or edges capable of causing cuts and wounds and includes but not limited to items such as needles, syringes, blades or clinical glass, hypodermic needles, scalpels.

- a) An EHP should monitor that:
- All sharps containers utilized are manufactured according to SANS 452 and are made of rigid, puncture proof, tamper proof, and leak proof material;
 - All sharps containers have a tight fitting lid that cannot be opened easily; are tightly closed with a non reversible sealing designed lid when full so as to prevent accidental spillage and forceful opening; and are available in each department or unit and be appropriate for the type of work e.g. large sharps container where trocars are used.

2.12.3 Packaging for chemical waste

- a) An EHP should monitor that:
- Chemical waste is sorted as per the specifications of the **(Annexure D- SANS 10248-1:2008 extract)**;
 - Hazardous chemical waste of different classes is not mixed with other waste;
 - Alternatively, chemical waste may be placed in original containers that contained same type of chemical, provided that the original label is removed or clearly defaced;
 - All chemical waste have a material safety data sheet; and
 - Have an international hazard label and the colour coding as per table 1 above.

2.12.4 Packaging for other waste in a health facility

- a) An EHP should also monitor to ensure that:
- Waste aerosol dispensers are stored in black plastic bags and marked "Waste aerosol dispensers", to distinguish from general waste;
 - Empty gas cylinders are not incinerated but are shall to the supplier for reuse, where appropriate;
 - Chlorinated and non chlorinated solvents are segregated and stored in separated waste containers;
 - Waste flammable liquid can be stored in a metal or high density plastic container or drum that can be sealed with a screw cap lid;
 - Alternatively, flammable liquids may be stored in original that contained same flammable liquid, provided that the original label is removed or clearly defaced; and the international hazard label and the colour coding is done be as per table 1 above;
 - Waste oxidizing substances and organic peroxides are segregated as per (Annexure D- SANS 10248-1:2008–extract).

- Waste oxidizing substances and organic peroxides are stored in plastic lined metal drums, or high density plastics drums, fitted with tamperproof sealable lids; and the international hazard label and the colour coding is per table 1;
- Waste toxic substances is segregated and each type of waste is stored separately;
- Waste toxic substances are stored in a metal or high density plastic container or drum, which can be sealed with a screw cap lid;
- Empty containers in which extremely toxic chemicals are supplied are not be stored for future use as waste storage containers; and
- Liquid pharmaceutical waste containers are made of metal , or high density plastics , fitted with tamperproof lid or screw cap lid.
- Solid pharmaceutical waste is stored in double layer plastic bags, secured by means of non PVC plastics ties, steel wire, non PVC plastic sealing tags of the self locking type or heat sealers that are purposely made for health care risk waste; and the label is per the international hazard colour coding as per table 1;
- Cytotoxic and genotoxic pharmaceuticals contaminated are segregated and stored in sharps container; and
- Cytotoxic and genotoxic pharmaceuticals waste and contaminated materials is stored in containers made of metal, or high density plastics, fitted with tamperproof lid or screw cap lid.

2.13 LOADING, STORAGE AND TRANSPORTATION AND DISPOSAL OF HCRW

An EHP should also monitor that the loading, storage and transportation and disposal of HCRW, to ensure that the following requirements are met:

2.13.1 Internal loading and transportation of health care risk waste in a facility

- a) Health care risk waste must be transported as follows within a facility:
 - On wheeled trolleys, containers or carts, with sufficient storage space and designed to avoid spillages;
 - Waste at all major generators must be collected and removed from the wards and departments on a daily basis and be stored in locked central storage area;
 - The manual lifting of and carrying of waste should be avoided and minimized;
 - Access to transportation vehicles must be easy, safe and unobstructed;
 - Containers must tightly close and secured when loaded;
 - No waste container must be left unattended during loading and transportation;
 - The container, or trolley or cart wheels must always be locked when not in motion;
 - The equipment used for transportation must be:
 - ✓ Easy to load and unload;
 - ✓ Free from sharp edges that could damage containers during loading or unloading;
 - ✓ Easy to clean and disinfect;
 - The mode of transport to treatment and final disposal site must be labeled with appropriate pictogram as prescribed in relevant SANS;
 - The following information must be recorded for offsite collection of HCRW;
 - ✓ Signatures of both the person in charge of the central storage facility and the waste management officer or waste management team member responsible for effective management of waste;
 - ✓ Time and date of collection;
 - ✓ The volume of waste collected for different categories of waste.

2.13.2 Storage of health care risk waste

- a) In terms of the SANS Code 10248, all health care facilities or health establishments must have a temporary waste storage area, the location thereof must be such that there is minimal risk of contamination to main operations of that area, medicines, foodstuffs, textiles, employees, patients and visitors.
- b) Minor generators, such as clinics can use the sluice room as a temporary waste storage area.
- c) All HCRW stored at minor generators must be removed to the final storage area regularly to prevent the occurrence of any nuisances.

- d) Waste storage areas must always be locked and must not be easily accessible to the public, patients and any unauthorized personnel.
- e) The temporary storage area must be adequately ventilated and illuminated, and have non porous floor surfaces, be equipped with a spill kit as prescribed in the waste management plan, and marked with international hazard signs on or adjacent to the exterior doors or lids.
- f) An EHP must monitor health facilities to ensure that waste storage areas and temporary storage areas comply with the above-mentioned requirements.

2.13.3 Storage area for radioactive waste

- a) An EHP must monitor the storage of radioactive waste on the premises, to ensure that:
 - Radioactive waste storage areas are locked at all times to prevent unauthorized access;
 - The storage area is constructed of flameproof material and the floor surface, benches and walls facilitate radioactive decontamination;
 - The walls have sufficient shielding in the walls to prevent the exposure to radiation outside the storage area;
 - The storage areas is fitted with an extraction system and air flow is monitored; and
 - It shall be marked "Radioactive Waste" and display the appropriate international hazard label as per table 1.

2.13.4 Central storage area

- a) The central storage area must be:
 - Clearly demarcated marked with bio-hazardous warning signs on or adjacent to the exterior doors or gates;
 - Adequately ventilated and illuminated;
 - Protected from direct sunlight and be vermin proofed; and
 - Floors and walls be smooth, slip resistant and non-porous and the floor surface shall be equipped with an appropriate drainage system connected to the council sewer.
 - Locked at all times when containers are not stored and have regular security guard monitoring to prevent unauthorized entry;
- b) Waste must be stored off the ground at all times;
- c) The name of the person in charge of the storage facility and contact numbers should be displayed on or adjacent to the exterior doors or gates;
- d) The central storage area must not be overloaded such that ventilation is minimized and offensive odours emanate there from;
- e) Storage containers must be stacked neatly and not at a height that will pose the risk of falling, breaking and spillages;
- f) The area must have sufficient space to accommodate the volume of waste being generated and stored;
- g) Health care risk waste must be weighed and recorded before removal;
- h) Waste must be removed from the storage area for disposal as per the contract specifications;
- i) An EHP and Waste Management Officer of the facility must monitor the service provider to ensure adherence to contract specifications and agreements with regards to regular and adequate removal of the waste;
- j) Refrigeration facilities must be provided for storage of waste that requires storage at low temperatures.
- k) HCRW storage period between generation and treatment or disposal and the required storage temperature shall be as per below table , as prescribed in SANS 10248-1:2008:

Table:

| Waste category | Storage period | Storage temperature |
|-----------------------|--|----------------------------|
| Pathological waste | 24 hours – 90 days Pathological waste not treated with 24 hours shall be stored at -2°C | -2°C |
| Infectious waste | 72 hours – 90 days Infectious waste not treated with 72 hours shall be stored at -2°C | -2°C |

| | | |
|----------------------|---------|-----------------------|
| Sharps container | 90 days | Cool room temperature |
| Pharmaceutical waste | 90 days | Cool room temperature |

- l) HCRW must not be stored for more than 90 days at the central storage area;
- m) If an offensive odour emanate before 90 days, the person in charge of the central storage facility and the waste management officer or waste management team member responsible for effective management of waste, must take measures to make arrangements for the collection of HCRW;
- n) The central storage area must be equipped with a fire extinguisher and a spill kid as prescribed in the waste management plan;
- o) An EHP should monitor the temperatures of refrigerators used for the storage of HCRW;
- p) Foodstuffs and HCRW must be stored separately at all times, the refrigerators used for the purpose of storing HCRW must be used solely for that purpose.

2.13.5 Treatment and disposal of HCRW

- a) Before disposal, all HCRW must be treated by a permitted treatment facility and disposed off only at an approved and hazard rated disposal facility.

SECTION 11: OCCUPATIONAL HEALTH AND SAFETY IN TERMS OF HCRW AND HAZARDOUS SUBSTANCES

EHPs must monitor the following occupational health and safety practices, to ensure that the health and safety of HCRW personnel is protected;

a) Personal Protective Clothing

All employees handling HCRW and hazardous substances must be provided with appropriate personal protective equipment PPEs (Elbow length heavy duty gloves, closed safety shoes, full overalls, heavy duty apron, safety glasses and respirators) at all times.

PPEs must not be laundered together with normal clothing, to prevent possible contamination.

PPEs must be maintained in a clean condition and good state of repair at all times.

b) Personal Hygiene

The importance of good personal hygiene to prevent contaminations and accidental exposures need to be highlighted to all employees, engaged in the handling of HCRW and hazardous substances, including management.

Hand wash facilities with hot and cold running water supply, together with a supply of soap and hand during equipment or material shall be provided at all areas in the workplace where contact with HCRW or hazardous waste is or likely to take place.

Written hand washing procedures shall be developed and communicated to all employees. The summary poster of the hand wash procedure with pictures shall be displayed in the vicinity of all hand wash facilities.

c) Training

Training and retraining on personal hygiene and the importance of personal hygiene to all waste handlers should be conducted. Training should also be conducted on:

- ✓ The health facility's health and safety policy;
- ✓ Work instructions and procedures, including equipment operation procedures;
- ✓ Safety instructions and precautions;
- ✓ Non compliant procedures and corrective action;
- ✓ Management of spillages; and

- ✓ Dealing with and reporting of incidents and accidents.
- ✓ Interpretation of material safety data sheets

Record of such trainings need to be kept for a period of at least five years

d) Immunization

The facility's health and safety policy must make provision for appropriate immunization in the event of accidental needle stick injuries and other accidents involving the handling of HCRW to prevent the spread of any communicable disease.

SECTION 12: COMMUNITY AWARENESS AND EDUCATION

- a) Waste management awareness and education campaigns is critical as part of community education, therefore EHPs should conduct waste management awareness raising, education and promotion in communities on “ the management of HCRW at a household level and general waste management” as part of compliance inspections and health education activities.
- b) Each campaign should have an action plan, detailing the campaign date, venue, target group, objectives of the campaign, campaign activities, stakeholders involved, education materials to be used, and costs implications.
- c) The campaign shall also have a feedback report detailing all aspects included in the action plan as well as campaign impact and recommendations.
- d) Such campaigns shall target formal and informal recyclers, health care facilities, business owners and the general public, especially schools.
- e) These campaigns shall also be done jointly with relevant internal and external stakeholders; and the public.

SECTION 13: ENVIRONMENTAL HEALTH INSPECTIONS

1. EHPs should monitor waste management activities (waste minimization, separation, collections, storage, transportation and disposal), at different residential, business, industrial, places of care and health care facilities at all times during routine or follow inspections as planned and as prescribed in the *norms and standards for health surveillance of the premises*.
2. General and hazardous landfill sites should be inspected at least twice per year; and during pre operation, during closer and after closer.
3. All required permits, waste management plans; waste information records and environmental impact assessment reports should be inspected.
4. Site plans of premises generating business, industrial and hazardous, including health care risk waste, should be evaluated for conformance to relevant legislation specifying requirements for waste storage areas.
5. An EHP should monitor the collection and management of waste during events (festivals, sports, etc) throughout the period of the particular event.
6. Condemned foodstuffs must be collected, transported and disposed of in the presence of an EHP, who shall monitor all processes to ensure that condemned waste is effectively managed until disposal.
7. EHPs should keep records of inspections, findings and recommendations of all inspections conducted on premises generating waste, particularly hazardous, and health care risk waste.
8. An inventory of premises generating and handling hazardous and HCRW must be kept by EH.
9. Inspection report with recommendations should be provided to the person in charge of the premises after conducting inspection.
10. Routine inspection programmes for closed landfill sites should be established and implemented by an EHP.
11. Inspection checklist as per Annexure C shall be completed for all waste management inspections

SECTION 14: INTERSECTORAL COLLABORATION

Environmental Health Practitioners need to establish strong relationships, with various stakeholders, such as Department of Transport, Department of Agriculture, Department of Labour, Department of Minerals and Energy, private sector waste companies, in the waste industry in order to win the battle against poor management of waste in South Africa.

Relationships between transboundary provincial and municipalities also need to be strengthened in order to easily address transboundary waste management issues, Memorandum of understanding may be signed where deemed necessary.

In municipalities, environmental health department should build strong relations with other waste management department/utility or contracted company, which renders waste management services, such as collection, transport and disposal for the particular municipality.

Waste management forums need to be established between relevant government departments and municipalities and local waste recycling companies, nongovernmental organizations interested in waste, management, schools, businesses and the community. Environmental health institutions and practitioners need to actively participate in those forums.

SECTION 15: CAPACITY BUILDING AND TRAINING

1. There is a need for various training aspects in the field of waste management, which should focus on various role players in the waste management sector, including in the field of waste handling. Role players in with waste management should ensure that they are kept abreast with new technologies, new concepts, new innovations and new ideas in the fields of waste by attending conferences, seminars and workshops, to enable management of waste in line with current and developing trends.
2. Waste management field workers (from street cleansing to disposal of general and hazardous waste) should be provided with training and information on the risks involved in the handling of waste and the importance of personal hygiene and wearing appropriate protective clothing at all times while engaged in waste handling.
3. EHPs, infection control nurses, quality assurance officers, relevant management of relevant workplaces, health and safety officers and health and safety representatives should also be trained as trainers in relevant aspects of waste management related to their duties. Training must be conducted by accredited institutions and trainers.
4. In-service and refresher training need to be conducted periodically and records thereof should be updated and kept for a period of at least 5 years.
5. It is recommended that major waste generators, including generators of health care risk waste and hazardous waste generators appoint a waste management officer, to monitor and ensure sound management of waste in the facility.
6. Human resource capacity of all people, which can play a major role in good waste management, should be addressed by the public sector, private sector, and non-governmental organizations

SECTION 16: MONITORING, EVALUATION AND DATA REPORTING

The monitoring and evaluation of waste management activities by Environmental Health Practitioners and other role players is essential for effective waste management. All data collected need to be analyzed, interpreted and reported, where required. The quality of monitoring, evaluations conducted as well as data reported need to be analyzed, and strengthened where necessary.

SECTION 17: COMPLIANCE ENFORCEMENT

1. EHPs must investigate any non conformances in relation to waste management and take appropriate action.
2. The following aspects of waste management shall be reported within 24 hours of identification to the relevant authorities as outlined in the table below for further action:

Table:

| Waste management aspect | Relevant authority |
|--|---|
| <ul style="list-style-type: none"> ▪ Unpermitted and unlicensed facilities. ▪ Waste management activities operating without the necessary environmental authorization, for basic assessment or EIA | Department of Environmental Affairs |
| <ul style="list-style-type: none"> ▪ Unsafe handling of radioactive waste and illegal dumping thereof | Department of Health: Radiation Control |

| | |
|---|--|
| ▪ Unsafe transportation vehicles of general and hazardous waste that are parked on site of the premises | Department of Transport |
| ▪ Illegal dumping of general waste, including a dead domestic pets | Relevant Municipality: Environmental Health |
| ▪ Illegal dumping of HCRW | Department of Environmental Affairs Relevant Municipality: Environmental Health |

3. In case of other non conformances in terms waste handling of general and hazardous waste an EHP should issue compliance notice to the person in charge or the offender in terms of the National Health Act 61 of 2003, or the relevant Municipal By-laws, prescribing the nature of the offence and the corrective action that should be taken within a prescribed time period.
4. If non conformances still exist upon follow up inspection, an EHP may issue a warning notice, with compliance period, if deemed necessary or serve spot fine or a notice to appear in court. Spot fines and notices issued to appear in court shall be followed up by the EHP until the matter is resolved. If non conformances still prevails, despite compliance notices and legal action taken, the municipality may exercise any remedial measures to remove the nuisance and recover the costs thereof from the owner.
5. The severity of the health and safety risks should always be considered when environmental health compliance enforcement is exercised. "Zero tolerance" approach in extreme health and safety risks and any other risks so deserving in the opinion of the EHP, shall be exercised e.g. illegal dumping of health care risk, where if the offender is caught red handed, can be fined and instructed to remove the dump immediately without being given any compliance.

SECTION 18: REMARKS AND RECOMMENDATIONS

This set of norms and standards on waste management is aimed at guiding EHPs and other stakeholders in the waste industry to know what is expected in terms of proper storage, collection, transportation and disposal of general and hazardous waste, to prevent any public and environmental health hazards likely to arise as a result of poor management of waste. Waste minimization as highlighted to be the first in the hierarchy of waste management, is also encouraged and emphasized in order for South Africa to achieve its 2001 September Polokwane Declaration, and that is 50% waste reduction at landfills by 2012. Training and capacity building should be addressed by all stakeholders and plan of actions be developed for implementation. To ensure the effectiveness of these norms and standards, intersectoral collaboration as highlighted above should be strengthened between various role players, and environmental health should play a key role in facilitating these collaborations.

Chapter 5

HAZARDOUS SUBSTANCES AND CHEMICALS MANAGEMENT

DEFINITION OF APPLICABLE TERMS

The following definitions apply on this set of norms and standards.

| | |
|----------------------|--|
| Hazard | |
| Hazardous substances | Means any substance which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature or the generation of pressure thereby in certain circumstances during importation, manufacture, sale, use, operation, application, modification, disposal or dumping (RSA, 1973). |
| Chemicals | |
| Chemical safety | Means undertaking all activities involving chemicals in such a way to ensure the safety of human health and the environment. It covers all chemicals, natural and manufactured, and full range of exposure situations from the natural presence of chemicals in the environment to their extraction or synthesis and disposal (WHO, 2012). |
| Toxic | |

1. BACKGROUND

These norms and standards for hazardous substances (HS) and chemical safety (CS) have been developed in terms of the Annual Performance Plan (APP) 2012/13 – 2014/15 of the National Department of Health (NDoH). Environmental Health (EH) has a pivotal role to play in terms of chemical safety and hazardous substances as prescribed in the National Health Act, 2003 (Act No. 61 of 2003) and Hazardous Substances Act, 1973 (Act No. 15 of 1973).

The scope of profession for environmental health, promulgated under the Professions Act, 1974 Act 56 of 1974 advocate for the following environmental health activities with respect to and chemicals management and the control of hazardous substances:

Chemicals safety management:

- a) Monitoring and regulating all operators, fumigation firms and formal and informal retailers that deals with the manufacture, application, transport and storage of chemicals;
- b) Permitting, licensing and auditing the premises of the above, e.g. by issuing Scheduled Trade Permits;
- c) Facilitating advice, education and training on pesticides and/or chemical safety.

Control of hazardous substances:

- a) Ensuring the correct labelling of hazardous substances;
- b) Ensuring all active ingredients are indicated;
- c) Ensuring warning signs are indicated;
- d) Ensuring precautions are taken during storage and transportation, and the appropriate protective gear is used during handling;
- e) Ensuring all hazardous substances are registered with the Departments of Agriculture and Environmental Affairs and Tourism;
- f) Ensuring hazardous substances control to prevent injury, ill-health or death by reason of the toxic, corrosive, irritant or flammable nature of substances;
- g) Ensuring control over the importation, manufacture, sale, operation, application, modification or dumping of such substances;
- h) Ensuring premises are licensed and registered with the appropriate authorities;

- i) Inspecting premises to ensure compliance with safety, storage and other precaution measures;
- j) Ensuring sampling is done according to approved procedures;
- k) Ensuring all labelling regulations are complied with;
- l) Checking all stock records and ensuring the hazardous substance register is up to date;
- m) Ensuring that empty, containers are disposed of according to statutory requirements.

These norms and standards aims to assist in providing a national approach and guidelines to Environmental Health Practitioners (EHPs) in the provision of chemical safety and hazardous substances control, ensure the sound management of chemicals and ensure protection of human health and the environment.

2. The scope of applicability

These norms and standards on hazardous substances and chemical safety shall apply to the following:

- Importers, manufacturers, wholesale distributors, registered pharmacists, general dealers, farmers, industries and factories, retailers (formal and informal), pest control operators, business premises, schools, laboratories, public and private premises, work and home places.
- All Group I hazardous substances premises and dealers shall be inspected for compliance and licensing in terms of the Hazardous Substances Act, 1973 (Act No. 15 of 1973) and the Group I hazardous substances Regulations.
- All consignments of Group I hazardous substances shall be inspected prior to release to licensed premises.
- This norm and standards excludes electronic products and radioactive substances as well as explosives.

3. Roles and Responsibilities of EHPs in role players in hazardous substance control and chemical safety management

3.1 Department of Health

EHPs at Provincial level must:

- Overall responsibility to support and oversee issues pertaining to hazardous substances and chemical safety in the province.
- Monitoring and evaluation of the implementation of hazardous substances control in the province.
- Enforcement and compliance in terms of hazardous substances control.
- Issuing of licenses in terms of the Hazardous Substances Act, 1973 (Act No. 15 of 1973).

EHPs at Municipality level must:

- Issuing of permits in terms of the relevant by-laws.
- Enforcement and compliance in terms of chemical safety issues.
- Monitoring and evaluation of the chemical safety issues in their jurisdiction.

3.2 Department of Environmental Affairs

3.3 Department of Transport

3.4 Department of Labour

3.4 Other stakeholders

- Assist and support in the enforcement, compliance, monitoring and evaluation of hazardous substances control and chemical safety issues in the country.
- Assist and support with awareness campaigns and projects; information, education and communication (IEC) materials and research and development.

NORMS

1. The use, handling, storage and disposal of hazardous substances and the control of chemicals safety to be in line with the requirements of the Hazardous Substances Act, of 1973.
2. Hazardous substances dealer's premises to be operated under a license issued by an EHP to the effect that the premises comply with the environmental and occupational hygiene requirements.

3. The premises used in connection with the handling, storage, use or disposal of hazardous substances and chemicals to in compliance with the provisions of the *Occupational Health and Safety Act 2003, (Act no 85 of 2003)*.
4. The premises in compliance with the requirements of the *National Building Act and the National Building Regulations, act 103 of 1977, and conforms to the specifications of the SANS 10400, application of the National Building Regulations*.
5. Potable water and sanitation services available within 200m of the premises.

ENVIRONMENTAL HEALTH MONITORING STANDARDS

1. Environmental health inspections of hazardous substances dealer's premises should be conducted at least twice (2) a year. The risk profile of the premises should inform the frequency of inspections of specific premises.
2. Inspections should include the assessment of aspects such as ventilation, indoor air quality, lighting, moisture-proofing, thermal quality and structural safety.
3. Inspection checklists should be designed and utilized during all inspections to guide and ensure complete assessment. An inspection report, indicating the conditions of the premises as well as the recommendations applicable, should be provided to the owner or person in charge after every inspection.
4. Health education should form an integral part of all environmental health compliance monitoring inspections.
5. A risk assessment of hazardous substance dealers premises should be conducted by an EHP to assess conditions on the premises that may pose a threat to the health, safety and welfare of children, by:
 - Identifying hazards on the premises;
 - Assessing the likelihood of the hazard posing a risk to the employees on the premises or the general public;
 - Estimating the severity of the consequences, if harm is caused; and
 - Recommending action plans to child care centre management to eliminate the hazard or minimise its effect through control measures.
6. The risk analysis should be done with specific focus to the following areas:
 - The use and handling of hazardous substances;
 - Storage of substances;
 - Transportation of substances; and
7. Inspection checklists should be designed and utilized for every inspection conducted. Environmental Health requirements for day care centers (discussed below) should be used as guide for developing of inspection checklists.
8. An inspection report, with the risk assessment findings and recommendations should be issued to the owner or person in charge of the day care center after every inspection.
9. An inventory of hazardous substances premises (both registered and unregistered) in a municipality concerned, should be maintained for monitoring and control purposes.
10. Monitoring of child care centers should be coordinated with all other relevant stakeholders, such as Social development, Basic Education and Primary Health Care, to ensure synergy, comprehensive provision of services and proper referral of issues where necessary.

STANDARDS

SECTION 1: REQUIREMENTS FOR HAZARDOUS SUBSTANCES DEALER PREMISES

1. License / Permit

- a) In terms of the Hazardous Substances Amendment Act 15 of 1973, all importers, manufacturers, whole distributors, registered pharmacists, general dealers, farmers, industries and factories, retailers (formal and informal), pest control operators, business premises, schools, laboratories, public and private premises and workplaces must be licensed/permitted on hazardous substances and chemical safety issues where applicable. The license shall not transferable from one person or owner to another.

- b) Any change in name and contents of the hazardous substances and chemicals shall render the license/permit to be invalid if the relevant authority is not informed.
- c) An application shall be made on the prescribed form as set out in Annexure A of the Group I hazardous substances regulations.
- d) A license shall be issued in terms of the prescribed form as set out in Annexure B of the Group I hazardous substances regulations.
- e) A license for Group I hazardous substances shall have effect only until the 31st of December in the year in which it is issued.
- f) The suspension and cancellation of a license/permit shall be based on the following:
 - False, inaccurate, untrue or misleading information.
 - Contravenes or fails to comply with the conditions for which the license / permit was issued.
 - Contravenes or fails to comply with provisions of the Act, regulation or by-laws.
 - Ceases to carry on activities authorized by the license / permit.

Environmental health must monitor all hazardous substances dealer's premises to ensure operation under a valid license.

2. Inspection

- a) All importers, manufacturers, whole distributors, registered pharmacists, general dealers, farmers, industries and factories, retailers (formal and informal), pest control operators, business premises, schools, laboratories, public and private premises and workplaces shall be inspected at least twice in a year on hazardous substances and chemical safety issues.
- b) All Group I hazardous substances consignments shall be inspected and released only to a Group I licensed premises.
- c) Storage of hazardous substances shall conform to the requirements as set out in R 453 of 25 March 1977.

3. Conditions of sale or supply of Group I hazardous substances

- This shall be in terms of the requirements as stipulated in R 543 of 25 March 1977.

4. Records to be kept

- This shall be in terms of the requirements as stipulated in R 453 of 25 March 1977 for Group I hazardous substance.
- Every hazardous substance or chemical shall be provided with a safety data sheet (SDS).
- The type of record to be kept shall be a book, register, computer, cardex or any other suitable means.

5. Storage of hazardous substances and chemicals

- a) The following storage for hazardous substances and chemicals shall apply:
 - Containers not in direct contact with the floor.
 - Storage area is labelled.
 - Adequate lighting and ventilation provided.
 - Floors and walls are smooth and non-porous.
 - Roof impermeable/waterproof and firm.
 - Appropriate fire extinguishers and hoses are available and serviced.
 - Spill kit provided.
 - Responsible person/s are trained in using the appropriate fire extinguisher and hose.
 - Area is provided with burglar bars and safety gates.

6. Labelling of hazardous substances and chemicals

- a) The label for Group I Category A and B hazardous substances shall conform to the requirements as stipulated in R 453 of 25 March 1977.
- b) For hazardous substances it should also include the name of the manufacturer and active ingredients/s.
- c) For chemicals it should include directions for use, expiry and manufacture date, list of ingredients, weight of product and cautions, keep out of reach of children, in eye or skin contact, wash immediately, if ingested accidentally, consult medical practitioner immediately.

- d) In addition, all hazardous substances and chemicals, where possible, shall conform to the globally harmonized system (GHS) label requirements.

7. Disposal of empty containers

- a) Each Group I Category B hazardous substances shall be disposed off in terms of the requirements as stipulated in R 453 of 25 March 1977.
- b) All expired or obsolete hazardous substances and chemicals shall be disposed off appropriately.
- c) No hazardous substances and chemicals shall be disposed off into a watercourse, sewerage system or drainage system.

8. Occupational Health and Safety

- a) All employees or workers shall be provided with personal protective equipment (PPE) (gloves, boots, aprons and mask) at all times.
- b) PPEs shall be maintained at all times.
- c) All employees or workers shall be trained on hazardous substances and chemical safety issues.
- d) Procedures and plans shall be in place for accidental spillages and leakages.

9. Detention, seizure and sampling of hazardous substances

- a) This shall be conducted in terms of section 9 of the R 453 of 25 March 1977.

10. Import and export of hazardous substances and chemicals

- b) The import and export of hazardous substances and chemicals shall also comply with the procedures as set out in the various multi-lateral environmental agreements, which include the Stockholm Convention, Rotterdam Convention and Basel Convention.

11. Reporting of pesticide / chemical poisoning incidents

- a) All pesticide/chemical poisoning incidents shall be reported in terms of pesticide/chemical incident report form as adapted from the Rotterdam Convention.
- b) All reported cases of pesticide and chemical poisonings from the Poison Information Centre shall be reported to the municipality concerned.
- c) EHPs shall investigate and report on all cases of pesticide and chemical poisonings.

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7. SANS Code 0133: (Application of pesticides)
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APPENDIX 1

A FRAMEWORK FOR DESIGNING WATER QUALITY MONITORING PROGRAMME

Effective monitoring requires careful design and planning. Monitoring calls for determining the required information that is useful at a minimum cost. This can be achieved with a monitoring programme that focuses on obtaining only the necessary information/data in a cost-effective manner.

EHPs should monitor all water that has the potential to impact human health following use and therefore should develop Water Quality Monitoring programmes that will include monitoring of aspects of untreated water/unimproved water sources, routine monitoring of all surface water and monitoring of water under emergency situations.

The following should be born in mind in designing a water quality monitoring programme:

| | | |
|---------------------------------|--------------------------------------|--|
| 1. | Identifying key stakeholders | <p>Various role players should be identified in order to initialize and sustain the monitoring programme. <i>i.e. <u>Monitoring coordinator</u></i> : a person to be responsible to coordinate all activities required to start the programme and ensure its continuity. <u>External stakeholders</u>: DWA for e.g. may be interested in the result and can assist with in providing background on other water quality monitoring programmes, surface water quality challenges etc. <u>Engineers, town planners</u> can assist with their knowledge of the treatment plant and or the distribution system and be able to advice on the appropriate parts of the system to sample. <u>Laboratories</u>: accredited laboratories which can perform the analysts needed and that are equipped to analyse the number of samples delivered. <u>Samplers</u>: EHPs that will be responsible for sampling, the preservation of the samples and the delivery to the relevant labs should be identified. <u>Data interpreter and reporter</u>: an EHP should be identified, to analyse the data and converting it into information and for the preparation and distribution of the relevant reports.</p> |
| PRE –MONITORING PLANNING | | |
| 2. | Defining clear monitoring objectives | It is important to clearly define the monitoring objectives of each monitoring exercise before embarking on monitoring. What do you want to achieve by conducting monitoring? |
| 3. | Defining the scope monitoring | The scope of the monitoring programme must be defined in terms of the objectives. |
| 4. | Choosing monitoring sites | Before conducting monitoring, background information on the situation and environmental conditions of the monitoring sites must be known, indicators and tools used for monitoring should be collected. |
| 5. | Choosing the monitoring frequency | It is important to understand where, when and at what frequency to sample and to also define what constituents (determinands) to test e.g. turbidity, residual chlorine, PH, Ecoli etc as per SANS 241, to comply with best practice and to achieve the objectives of the monitoring programme. |
| CONDUCTING MONITORING | | |
| 6. | Conducting monitoring | <p>Monitoring should be conducted with objectives of the monitoring programme in mind, the determinands (microbiological, chemical or physical) to be measured and the frequency for sampling. It is also vital to design quality assurance and control protocols</p> |

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|------------------------|---|---|
| | | for conducting monitoring. |
| 7. | Analyzing monitoring results | The data gathered (sampling results) should be compared with water quality standards (SANS 241) for drinking water quality. |
| 8. | Evaluating/ interpreting the monitoring data | Evaluation or interpretation of the monitoring data is the most critical step in the monitoring process as it assists an EHP in taking decisions on what EH corrective actions or interventions to institute. |
| 9. | Reporting/presenting the results | This includes presenting a reporting with regards to trends analysis. Graphics can be utilized to present this for reporting purposes. |
| POST MONITORING | | |
| 10. | Decision making and instituting corrective action | This involves decision making by an EHP and deciding on environmental health interventions necessary in case of non-compliance and well as monitoring of water quality after corrective action are taken by the WSA or WSP. |

APPENDIX 2

A list of water-related diseases most common in the Southern African region

Waterborne diseases are caused by pathogenic microorganisms that are most commonly transmitted in contaminated fresh water. Infection commonly results during bathing, washing, drinking, in the preparation of food, or the consumption of food thus infected.

| Protozoal infections | | | |
|---|---|--|---|
| Disease and Transmission | Microbial Agent | Sources of Agent in Water Supply | General Symptoms |
| Amoebic dysentery (hand-to-mouth) | Protozoan (Entamoeba histolytica) (Cyst-like appearance) | Sewage, non-treated drinking water, flies in water supply. | Abdominal discomfort, fatigue , weight loss, diarrhea, bloating, fever |
| Cryptosporidiosis (oral) | Protozoan (Cryptosporidium parvum) | Collects on water filters and membranes that cannot be disinfected , animal manure , seasonal runoff of water. | Flu-like symptoms , watery diarrhea, loss of appetite, substantial loss of weight, bloating , increased gas, nausea |
| Cyclosporiasis | Protozoan parasite (Cyclospora cayentanensis) | Sewage, non-treated drinking water | cramps , nausea, vomiting , muscle aches, fever, and fatigue |
| Giardiasis (fecal-oral) (hand-to-mouth) | Protozoan (Giardia lamblia) Most common intestinal parasite | Untreated water, poor disinfection, pipe breaks, leaks, groundwater contamination, campgrounds where humans and wildlife use same source of water. Beavers and muskrats create ponds that act as reservoirs for Giardia. | Diarrhea, abdominal discomfort, bloating , and flatulence |
| Parasitic infections | | | |
| Schistosomiasis (immersion) | Members of the genus Schistosoma | Fresh water contaminated with certain types of snails that carry schistosomes | Rash or itchy skin. Fever, chills, cough and muscle aches |
| Taeniasis | Tapeworms of the genus Taenia | Drinking water contaminated with eggs | Intestinal disturbances, neurologic manifestations, loss of weight, cysticercosis |
| Hymenolepiasis (Dwarf Tapeworm Infection) | Hymenolepis nana | Drinking water contaminated with eggs | Abdominal pain, severe weight loss, itching around the anus, nervous manifestation |
| Ascariasis | Ascaris lumbricoides | Drinking water contaminated with feces (usually canid) containing eggs | Mostly, disease is asymptomatic or accompanied by inflammation , fever, and diarrhea. Severe cases involve Löffler's syndrome in lungs, nausea, vomiting, malnutrition , and underdevelopment . |

| Bacterial infections | | | |
|---|---|---|--|
| Cholera | Spread by the bacterium Vibrio cholerae | Drinking water contaminated with the bacterium | In severe forms it is known to be one of the most rapidly fatal illnesses known. Symptoms include very watery diarrhea, nausea , cramps , nosebleed , rapid pulse , vomiting, and hypovolemic shock (in severe cases), at which point death can occur in 12–18 hours. |
| Campylobacteriosis | Most commonly caused by Campylobacter jejuni | Drinking water contaminated with faeces | Produces dysentery like symptoms along with a high fever. Usually last 2-10 days. |
| E. coli Infection | Certain strains of Escherichia coli (commonly <i>E. coli</i>) | Water contaminated with the bacteria | Mostly diarrhea. Can cause death in immunocompromised individuals, the very young, and the elderly due to dehydration from prolonged illness. |
| Gastronteritis | Salmonella enteritis and <i>E.coli</i> | Drinking water contaminated with the bacteria. More common as a foodborne illness. | Symptoms include diarrhoea, fever, vomiting and abdominal cramps. |
| M. marinum infection | Mycobacterium marinum | Naturally occurs in water, most cases from exposure in swimming pools or more frequently aquariums ; rare infection since it mostly infects immunocompromised individuals | Symptoms include lesions typically located on the elbows, knees, and feet (from swimming pools) or lesions on the hands (aquariums). Lesions may be painless or painful. |
| Dysentery | Caused by a number of species in the genera Shigella and Salmonella with the most common being Shigella dysenteriae | Water contaminated with the bacterium | Frequent passage of feces with blood and/or mucus and in some cases vomiting of blood. |
| Legionellosis (two distinct forms: Legionnaires' disease and Pontiac fever) | Caused by bacteria belonging to genus Legionella (90% of cases caused by Legionella pneumophila) | Contaminated water: the organism thrives in warm aquatic environments. | Pontiac fever produces milder symptoms resembling acute influenza without pneumonia . Legionnaires' disease has severe symptoms such as fever , chills , pneumonia (with cough that sometimes produces sputum), ataxia , anorexia , muscle aches, malaise and |

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|---|---|--|---|
| | | | occasionally diarrhea and vomiting |
| Leptospirosis | Caused by bacterium of genus Leptospira | Water contaminated by the animal urine carrying the bacteria | Begins with flu-like symptoms then resolves. The second phase then occurs involving meningitis , liver damage (causes jaundice), and renal failure |
| Otitis Externa (swimmer's ear) | Caused by a number of bacterial and fungal species. | Swimming in water contaminated by the responsible pathogens | Ear canal swells causing pain and tenderness to the touch |
| Swimmer's Itch | Caused by blood flukes (parasitic flatworms) | Swimming water contaminated by eggs | Irritating dermatitis. Causes an allergic reaction or local irritation of the skin |
| Typhoid fever | Salmonella typhi | Ingestion of water contaminated with feces of an infected person | Characterized by sustained fever up to 40°C (104°F), profuse sweating , diarrhea, less commonly a rash may occur. Symptoms progress to delirium and the spleen and liver enlarge if untreated. In this case it can last up to four weeks and cause death. |
| Leptospirosis | Caused by bacterium of genus Leptospira | Water contaminated by the animal urine carrying the bacteria | Begins with flu-like symptoms then resolves. The second phase then occurs involving meningitis , liver damage (causes jaundice), and renal failure |
| Viral infections | | | |
| Hepatitis A | Hepatitis A virus (HAV) | Can manifest itself in water (and food) | Symptoms are only acute (no chronic stage to the virus) and include Fatigue , fever, abdominal pain, nausea, diarrhea, weight loss, itching, jaundice and depression . |
| Poliomyelitis | Poliovirus | Enters water through faeces of infected individuals | 90-95% of patients show no symptoms, 4-8% have minor symptoms (comparatively) with delirium, headache, fever and occasional seizures and spastic paralysis, 1% have symptoms of non- |

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| | | | paralytic asptic meningitis. The rest have serious symptoms resulting in paralysis or death. |
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