DEPARTMENT OF ENVIRONMENTAL AFFAIRS

NO. 602 **18 SEPTEMBER 2015**

NATIONAL ENVIRONMENTAL MANAGEMENT ACT: AIR QUALITY ACT, 2004 (ACT NO. 39 OF 2004)

DECLARATION OF A SMALL-SCALE CHAR AND SMALL-SCALE CHARCOAL PLANTS AS CONTROLLED EMITTERS AND ESTABLISHMENT OF EMISSION STANDARDS

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby declare small-scale char and small-scale charcoal plants as controlled emitters in terms of Section 23(1) of the National Environmental Management: Air Quality Act, 2004, and hereby also establish emission standards for the small-scale char and small-scale charcoal plants in terms of Section 24 of the National Environmental Management: Air Quality Act, 2004, set out in the Schedule hereto.

BOMO EDITH EDNA MOLEWA
MINISTER OF ENVIRONMENTAL AFFAIRS

SCHEDULE

Part 1: Definitions

Definitions

In this Notice a word or expression to which a meaning has been assigned in the Act has that meaning and, unless the context otherwise indicates—

'existing plant' means any plant or process that was legally authorized to operate before 01 April 2010 or any plant where an application for authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) was made before 01 April 2010;

'new plant' means any plant or process where an application for authorization in terms of the National Environmental Management Act, 1998 (Act No.107 of 1998) was made on or after 01 April 2010;

'operator or owner' means a person that owns, manages, or controls—

(a) small-scale char; or
(b) small-scale charcoal plants;

'small-scale char' means char plant with a design production capacity not exceeding 20 tons of char per month;

'small-scale charcoal plant' means a charcoal plant with a design production capacity not exceeding 20 tons of char per month; and

'this Notice' include the Annexure to this Notice.

Part 2: General

Purpose

1. The purpose of this Notice is to regulate small-scale char and small-scale charcoal plants.

Application

2. This Notice shall apply to all small-scale char and small-scale charcoal plants which are operating anywhere in the country.

Implementation

3. An Air Quality Officer shall be responsible for coordinating matters pertaining to this Notice.

Compliance timeframes

4. (1) New small-scale char and small-scale charcoal plants must comply with the new plant emission standards as contained in Part 3 immediately.

(2) Existing small-scale char and small-scale charcoal plants must comply with minimum emission standards for existing plant as contained in Part 3 immediately.

(3) Existing small-scale char and small-scale charcoal plants must comply with minimum emission standards for new plant as contained in Part 3 by 01 April 2020.

Emission measurements

5. (1) The concentration or mass of pollutant for which emissions standards have been set in this Notice shall be reported as the average of at least three measurements, measured over a minimum sample period of 60 minutes, under normal operating conditions to obtain a representative sample.

(2) The manner in which measurements shall be carried out must be in accordance with the standard sampling and analysis methods listed in Annexure A of this Notice.

(3) Methods other than those contained in Annexure A may be used with the written consent of the National Air Quality Officer.

(4) In seeking the written consent referred, an applicant must provide the National Air Quality Officer with any information that supports the equivalence of the method other than those referred.

(5) Emission measurements required under 5(2) may be supplemented by means of mass balances or any other acceptable surrogate parameters for months between reporting periods as approved by the National Air Quality Officer.

Reporting requirements

6. (1) The operator or owner of a small-scale char or small-scale charcoal plant must—

(a) submit at least one emissions report per annum to the relevant Air Quality Officer in the format set out in Annexure B of this Notice;

(b) submit the first emissions report to the relevant Air Quality Officer within 12 months from the commencement date of this Notice;

(c) provide any additional emissions reports as requested by an Air Quality Officer for the implementation of this Notice; and

(d) produce the record of the measurement results for inspection if requested to do so by an Air Quality Officer.

(2) The report mentioned under paragraph 6(1) must be accompanied by information on how measurements were carried out, equipment used, calibration certificates and any other information that may be required for validation of the emission results.

Part 3: Emission Standards

Emission Limits

7. A small-scale char plant or a small-scale charcoal plant must comply with the emission limits and requirements set out in the table below. All limit values are expressed on daily averages, at specified reference conditions.

Description	The production of char or charcoal		
Application	All small-scale char plant or small-scale charcoal plant.		
Substance or mixture of substances		**Plant status**	**Limit value (dry mg/ Nm³ at 273K and 101.3kPa)**
Common name	**Chemical or Commonly-used symbol**		
Particulate Matter	PM	New	50
		Existing	100

Polycyclic Aromatic Hydrocarbons	PAH	New	0.1
		Existing	0.5

ANNEXURE A: EMISSION MEASUREMENT METHODS AND ANALYSIS

The following referenced documents are indispensable for the application of the Notice.

(1) ISO Standards

(a) ISO 9096: Stationary source emissions – Manual Determination of mass concentration of particulate matter.

(b) ISO 10155: Stationary source emissions – Automated monitoring of mass concentrations of particles – Performance characteristics, test methods and specifications.

(c) ISO 10396: Stationary source emissions – Sampling for the automated determination of gas emissions concentrations for permanently-installed monitoring systems.

(d) ISO 10780: Stationary source emissions – Measurement of velocity volume flow rate of gas steams in ducts.

(e) ISO 12141: Stationary source emissions – Determination of mass concentration of particulate matter (dust) at low concentrations- Manual gravimetric method.

(f) ISO 14164: Stationary source emissions – Determination of the volume flow-rate of gas streams in ducts - Automated method.

(g) ISO 11338-1: Stationery source emissions – Determination of gas and particle-phase polycyclic aromatic hydrocarbons Part 1: Sampling.

(h) ISO 11338-2: Stationery source emissions – Determination of gas and particle-phase polycyclic aromatic hydrocarbons Part 2: Sample preparation, clean-up and determination.

(2) US EPA Methods

(a) Method 1 – Traverse Points

(b) Method 1A – Small Ducts

(c) Method 2 – Velocity - S-type Pitot

(d) Method 2A – Volume Meters

(e) Method 2B – Exhaust Volume Flow Rate

(f) Method 2C – Standard Pitot

(g) Method 2D – Rate Meters

(h) Method 2F – Flow Rate Measurement with 3-D Probe

(i) Method 2G – Flow Rate Measurement with 2-D Probe

(j) Method 2H – Flow Rate Measurement with Velocity Decay Near Stack Walls

(k) Memo – New Test Procedures of Stack Gas Flow Rate in Place of Method 2

(l) Method 3 – Molecular Weight

(m) Method 3A – CO_2, O_2 by instrumental methods

(n) Method 3B – CO_2, O_2 by Orsat apparatus

(o) Method 3C – CO_2, CH_4, N_2, O_2 by determined by thermal conductivity

(p) Method 4 – Moisture Content

(q) Method 5 – Particulate Matter (PM)

(r) Method 5D – PM Baghouses (Particulate Matter)

(s) Method 5I – Determination of Low Level Particulate Matter Emissions

(t) Method 6A – SO_2, CO_2

(u) Method 6B – SO_2, CO_2 - Long Term Integrated

(v) Method 9 – Visual Opacity

(w) Method 17 – In-Stack Particulate (PM)

(x) Method 18 – VOC by Gas Chromatography (GC)

(y) Method 19 – SO_2 Removal & PM, SO_2, NO_X Rates from Electric Utility Steam Generators

(z) Method 21 – VOC Leaks

(aa) Method 22 – Fugitive Opacity

(bb) Method 25D – Volatile Organic Concentration

(cc) Method 28A – Air to Fuel Ratio, Burn Rate - Wood-fired Appliances

(dd) Methods 203A, B, and C – Opacity Determination for Time-Averaged Regulations

(3) British Standards

(a) BS 3405:1983 Method for measurement of particulate emission including grit and dust (simplified method).

(b) BS EN 14181:2004 Stationary source emissions. Quality assurance of automated measuring systems.

(c) BS EN 15259: Air quality. Measurement of stationary source emissions. Measurement strategy, measurement planning, reporting and design of measurement sites.

(d) BS EN 15267-1: Air quality. Certification of automated measuring systems. General principles.

(e) BS EN 15267-2: Air quality. Certification of automated measuring systems. Initial assessment of the AMS manufacturer's quality management system and post certification surveillance for the manufacturing process.

(f) BS EN 15267-3: Air quality. Certification of automated measuring systems. Performance criteria and test procedures for automated measuring systems for monitoring emissions from stationary sources.

ANNEXURE B: TEMPLATE FOR REPORTING EMISSIONS

EMISSION MEASUREMENTS REPORT FOR A SMALL- SCALE CHAR OR SMALL- SCALE CHARCOAL PLANT

Name of Enterprise:_____

Declaration of accuracy of information provided:

I, _____, declare that the information provided in this report is in all respects factually true and correct.

Signed at_____ on this_____day of _____

_____

SIGNATURE

_____

CAPACITY OF SIGNATORY

1. Enterprise Details

Enterprise Name	
Trading As	
Postal Address	
Telephone Number (General)	
Fax Number (General)	
Industry Type (Nature of Trade)	
Land Use Zoning as per Town Planning Scheme	
Land Use Rights if outside Town Planning Scheme	

2. Contact Details

Responsible Person Name	
Telephone Number	
Cell Phone Number	
Fax Number	
E-mail Address	

3. Laboratory/Emission Testing Body

Name of the Service Provider			
Accreditation Status*			
Last Audit Conducted (Date)		Audit status	
Address			
Telephone Number		Mobile Number	
Name (s) of stack tester (s)/Analyst (s)			

*Accreditation certificate and schedules of accredited methods to be attached (where required).

4. Controlled Emitter Information

Serial Number	Product Name	Product Model	Capacity

5. Energy Used (where applicable)

Energy Source	Sulphur Content of Fuel (%) (if applicable)	Ash Content of Fuel (%) (if applicable)	Design Consumption Rate (volume)	Actual Consumption Rate (volume)	Units (quantity/ period)

6. Point Source Parameters

	1	2	3	Average
Stack gas exit temperature (^{o}C)				
Volumetric flow rate (Actual) (m^3/hr)				
Volumetric flow rate (Normalized) (Nm^3/hr)				
Mass flow rate (g/s)				
Stack gas exit velocity (m/s)				
Barometric Pressure (kPa)				
Static Pressure (kPa)				
Moisture content (% v/v)				
Oxygen Content (% v/v)				
Percent Isokinetic (%I)				

7. Emissions Results

Pollutant	Run	Concentration (mg/Nm^3)	Emission Rate (kg/hr)	Emission Rate (tons/day)	Average Concentration (mg/Nm^3)	Average Emission Rate (kg/hr)	Emission Limit