

**DEPARTMENT OF ENVIRONMENTAL AFFAIRS  
DEPARTEMENT VAN OMGEWINGSAKE**

**No. 201**

**28 March 2014**

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

**DECLARATION OF TEMPORARY ASPHALT PLANTS AS A CONTROLLED EMITTER  
AND ESTABLISHMENT OF EMISSION STANDARDS**

I, Bomo Edith Edna Molewa, Minister of Water and Environmental Affairs, hereby declare the temporary asphalt plants as a controlled emitter and establish emission standards for the temporary asphalt plants in terms of section 23(1) read with section 24 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), set out in the Schedule hereto.



**BOMO EDITH EDNA MOLEWA  
MINISTER OF WATER AND 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:-

**'asphalt plant'** means plant that produces asphalt for road, driveway or pathway surfacing by mixing aggregate, bitumen, and other additives to produce hot mixed asphalt and/or warm mix asphalt;

**'existing asphalt plant'** means any plant that was built before the date on which this Notice takes effect;

**'new asphalt plant'** means any plant that is built after the date on which this Notice takes effect;

**'operator or owner'** means a person or legal entity that owns, manages, or controls asphalt plant; and

**'temporary asphalt plant'** means an asphalt plant that is used for the sole purpose of supplying asphalt for a specific road paving contract not exceeding a period of 24 months.

### *Part 2: General*

#### **Application**

1. This Notice shall apply to all temporary asphalt plants which are operating anywhere in the country.

#### **Implementation**

2. An air quality officer shall be responsible for co-ordinating matters pertaining to this Notice.

#### **Compliance timeframes**

3. New temporary asphalt plant must comply with the new temporary asphalt plants emission standards as contained in Part 3 on the date of publication of this Notice.
4. Existing temporary asphalt plant must comply with existing temporary asphalt plants emission standards as contained in Part 3 within 5 years from the date of publication of this Notice in the *Gazette*.

#### **Emission measurements**

5. 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 (3) measurements; measured over a minimum sample period of 60 minutes, under normal operating conditions to obtain a representative sample.
6. The manner in which measurements shall be carried out must be in accordance with the standard sampling and analysis methods listed in Annexure A to this Notice.
7. Methods other than those contained in Annexure A to this Notice may be used with the written consent of the National Air Quality Officer.
8. In seeking the written consent referred to paragraph 7 above, an applicant must provide the National Air Quality Officer with any information that supports the equivalence of the method other than those listed in Annexure A to this Notice.

#### **Reporting requirements**

9. The operator of a temporary asphalt plant must—
  - (1) submit at least one (1) emission report every six months to the relevant air quality officer in the format set out in Annexure A to this Notice;
  - (2) provide any additional emission reports as requested by an air quality officer; and
  - (3) produce the record of the measurement results for inspection if requested to do so by an air quality officer.
10. For reporting requirements, emissions shall be measured by stack emission measurement and may be supplemented by means of mass balances or engineering calculations.

Part 3: Emission Standards**Emission Standards**

- (1) All temporary asphalt plants must comply with the emission limits and requirements as scheduled in the tables below. All limit values are expressed on daily averages, at specified reference conditions.

<b>Description</b>	The production mixtures of aggregate and tar or bitumen to produce road surfacing in temporary asphalt plants.		
<b>Application</b>	All temporary asphalt plants.		
<b>Substance or mixture of substances</b>		<b>Plant status</b>	<b>Limit value (dry mg / Nm<sup>3</sup> at 273K and 101.3kPa)</b>
<b>Common name</b>	<b>Chemical / Commonly-used symbol</b>		
Particulate matter	N/A	New	50
		Existing	120
Sulphur dioxide	SO <sub>2</sub>	New	1000
		Existing	1000
Total volatile organic compounds from vapour recovery or thermal destruction units.	N/A	New	150
		Existing	150

**ANNEXURE A: EMISSION MEASUREMENT METHODS AND ANALYSIS**

The following referenced documents are indispensable for the application of the Notice. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from Standards South Africa.

- (1) ISO Standards
  - (a) ISO 7934:1989 Stationary source emissions – Determination of the mass concentration of sulphur dioxide - Hydrogen peroxide/barium perchlorate/Thorin method.
  - (b) ISO 7934:1989/Amd 1:1998
  - (c) ISO 7935: Stationary source emissions – Determination of the mass concentration of sulphur dioxide – Performance characteristics of automated measuring method.
  - (d) ISO 9096: Stationary source emissions – Manual Determination of mass concentration of particulate matter.
  - (e) ISO 10155: Stationary source emissions – Automated monitoring of mass concentrations of particles – Performance characteristics, test methods and specifications
  - (f) ISO 10396: Stationary source emissions – Sampling for the automated determination of gas emissions concentrations for permanently-installed monitoring systems
  - (g) ISO 10780: Stationary source emissions – Measurement of velocity volume flow rate of gas streams in ducts.
  - (h) ISO 11632: Stationary source emissions – Determination of mass concentration of sulphur dioxide – Iron chromatography method.
  - (i) ISO 12141: Stationary source emissions – Determination of mass concentration of particulate matter (dust) at low concentrations- Manual gravimetric method.
  - (j) ISO 14164: Stationary source emissions – Determination of the volume flow-rate of gas streams in ducts - Automated method.

- (2) 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<sub>2</sub>, O<sub>2</sub> by instrumental methods
  - (n) Method 3B – CO<sub>2</sub>, O<sub>2</sub> by Orsat apparatus
  - (o) Method 3C – CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>, O<sub>2</sub> 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 6 – Sulphur Dioxide (SO<sub>2</sub>)
  - (u) Method 6A – SO<sub>2</sub>, CO<sub>2</sub>
  - (v) Method 6B – SO<sub>2</sub>, CO<sub>2</sub> - Long Term Integrated
  - (w) Method 6C – SO<sub>2</sub> - Instrumental
  - (x) Method 6C – Figures SO<sub>2</sub>
  - (y) Method 8 – Sulfuric Acid Mist

- (z) Method 9 – Visual Opacity
  - (aa) Method 17 – In-Stack Particulate (PM)
  - (bb) Method 19 – SO<sub>2</sub> Removal & PM, SO<sub>2</sub>, NO<sub>x</sub> Rates from Electric Utility Steam Generators
  - (cc) Method 22 – Fugitive Opacity
  - (dd) Method 28A – Air to Fuel Ratio, Burn Rate - Wood-fired Appliances
  - (ee) 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 Temporary Asphalt Plants**

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. Serial number, product name and model of the temporary asphalt plant

Serial Number	Product Name	Product Model	Capacity

## 4. Energy used

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)

## 5. Point source parameters

Unique stack ID	Point source name	Height of release above ground	Height above nearby building [m]	Diameter at stack tip / vent exit [m]	Actual gas exit temperature	Actual gas volumetric flow	Actual gas exit velocity [m/s]

**6. Point source emissions**

Unique stack ID	Pollutant name	Daily Average Values			Emission hours [e.g. 07H00 – 17H00]	Type of emission [continuous / intermittent]