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**NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS
ENFORCEMENT AGENCY (ESTABLISHMENT) ACT, 2007**

**NATIONAL ENVIRONMENTAL (MINING AND PROCESSING OF COAL,
ORES AND INDUSTRIAL MINERALS) REGULATIONS 2009**



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**NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS
ENFORCEMENT AGENCY (ESTABLISHMENT) ACT, 2007**

**NATIONAL ENVIRONMENTAL (MINING AND PROCESSING OF COAL,
ORES AND INDUSTRIAL MINERALS) REGULATIONS 2009**

In exercise of the powers conferred on me by Section 34 of the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007 and all other powers enabling me in that behalf, I, John Odey, Minister of Environment hereby make the following Regulations:

30th September, 2009

PART 1 – PRELIMINARY PROVISIONS

1. The purpose of these Regulations is to minimize pollution from the Mining and Processing of Coal, Ores and Industrial Minerals.
2. (1) New development in the Mining and Processing techniques shall apply up-to-date, efficient cleaner production technologies to minimize pollution to the highest degree practicable.
(2) Mines using old operating methods shall take necessary measures to limit risks by installing leachate collection tanks and such others.
(3) Mines using new designs shall evaluate their installations and ensure that control routine are sufficient to prevent risks of pollution or accident.
(4) Environmental Impact Assessment (EIA) study shall be conducted for new development in the sector and approval obtained from the Federal Ministry of Environment while comprehensive Environmental Evaluation Study (EES) shall be carried out on facilities without EIA at the commencement of operations and reports submitted to the Agency.
(5) Every existing facility shall conduct and submit a three (3) yearly Environmental Audit Report to the Agency for review.
3. (1) Every facility shall adopt cleaner production processes and pollution prevention measures that would yield both economic and environmental benefits.

(2) Every facility shall implement programmes on best practice as specified in Schedule 3 to these Regulations.

(3) Every facility shall provide bund for ancillary equipment and bund wall in the event of any unanticipated discharge or spillage.

PART II – GENERAL PERMIT, MONITORING, ENFORCEMENT AND INCENTIVES

4. Procedures for application for permits or licences for mine emissions in excess of permissible levels including revocation of such permits when it has already been issued, are contained in the National environmental (Permitting and Licensing System) Regulation 2009.
5. (1) Every facility shall –
 - a) Have a pollution monitoring unit within its premises;
 - b) Have on site pollution control unit; or
 - c) Assign the responsibility for pollution control to a person or body corporate accredited by the Agency if there is no capability within.(2) A liquid discharge from every facility shall be analysed and reported to the nearest office of the Agency every month, through a Discharge Monitoring Report (DMR).
6. Every facility shall be given equal treatment on inspection and enforcement matters.
7. There shall be sustainable community relationship with the host communities.
8. (1) The Enforcement Officer shall –
 - a) be responsible for co-ordinating, monitoring compliance and enforcement of these regulations;
 - b) determine the times and places of effluent discharge, air emission and noise interference in the area of jurisdiction;
 - c) investigate complaints relating to violation of these Regulations;
 - d) prohibit the continuation of undesirable activities which cause violation of these Regulations.

(2) The Enforcement Officer may permit activities beyond acceptable limits as specified in the permit for the operation or by such a cause or for a purpose as the Agency may by notice specify.

(3) Any person may lodge a complaint with the Agency on the grounds that he or she is aggrieved or adversely affected by any activity in contravention of these Regulations.

(4) Any person or group of persons is entitled to bring an action in a court to stop, prevent or control contravention of these Regulations.

(5) In lodging a complaint under these Regulations, it is not necessary for the complainant to show or prove personal loss or injury or discomfort caused by the activity.

(6) On receiving a complaint under these Regulations, the Enforcement Officer shall take all reasonable steps to ensure that the violation is abated or controlled, and that these Regulations are complied with.

(7) Whenever an Enforcement Officer has reasonable cause to believe that a person is violating or is likely to cause violation of these Regulations, the Enforcement Officer shall serve an improvement notice on that person or body corporate on the form prescribed in the relevant Schedules, ordering all or any of the following –

- a) stop, prevent or discontinue the violation, or prohibit or restrict its occurrence or re-occurrence;
- b) ensure compliance with the provisions of these Regulations;
- c) ensure reduction in the level of pollution emanating from the activity to a level as may be specified in the notice;
- d) ensure the conduct of an environmental audit;
- e) prevent further violation in the area of operation;
- f) issue such directives intended to mitigate the impact in the area of activity;
- g) execute such works, and take such steps, as may be specified in the notice; and
- h) carry out any other as may be issued.

(8) Notwithstanding any other provisions of these Regulations, where it appears to the Enforcement Officer that the level of violation of these Regulations is not acceptable or

is causing public nuisance, the Enforcement Officer may issue an improvement notice, for the benefit of the public.

(9) An improvement notice issued under these Regulations shall specify the period within which the requirements of the notice are to be complied with.

(10) The improvement notice shall be served on the person or body corporate responsible or alleged to cause or likely to cause pollution, if that person cannot be found, or the violation or abuse has not yet occurred, on the facility from which the violation is likely to occur.

(11) Any person or body corporate on whom an improvement notice is served under these Regulations who fails to carry out any requirement of the improvement notice, commits an offence.

(12) The Failure to comply with the conditions of the improvement notice within the period specified, constitutes an offence.

(13) An Enforcement Officer may seize, impound or confiscate any property, tool, machinery or other instrument which is likely to, or has caused the violation in the area of operation.

9. (1) Each Facility or body corporate that demonstrates environmental leadership, adopts environmentally responsible practices, demonstrates commitment to environmental quality and maintains exemplary environmental compliance records shall be recognized and encouraged by the Agency.

(2) The environmental performance requirements shall be based upon agreed criteria and rating for each sector as may be determined by the Agency.

(3) The Agency shall recognize environmental compliance in five categories and reward deserving facilities.

(4) The Agency shall institute and certify the best environmentally performing facility and organization with the Agency's Green Mark (✓)

(5) The Logo of the Agency's green Mark (✓) shall only be used by facilities and organizations certified and duly recognized by the Agency

PART III – EFFLUENT LIMITATIONS

10. (1) Every facility which discharges effluent shall treat it to an acceptable limit.
 - (2) Dilution of effluent to achieve the standards specified in Schedule 1 to these Regulations is prohibited.
 - (3) Tailings containing heavy metals or other toxic materials or substances shall be treated and disposed off in a government approved designated site or landfill.
 - (4) Mine water containing heavy metals or other toxic materials or substances shall be treated to acceptable level before disposal.
 - (5) Every facility shall ensure that –
 - a) no waste material beyond permissible limits is released from the premises at which the operation is being carried out; and
 - b) all effluents are cleaned up and disposed off at an appropriate discharge point or waste treatment facility at the conclusion of each operation.
 - (6) Burrow pits containing mine water shall be safely secured.
 - (7) Heaps, dumps and spent solutions shall be detoxified to reduce deleterious chemical components such as cyanide, acidity and metal loadings.
 - (8) Acid Mine Drainage testing shall be carried out by the facility throughout operations and closure.

11. (1) There shall not be contamination arising from leakage of oil of fuel storage facility or chemicals likely to cause pollution to the environment including the surface water, groundwater and soils.
 - (2) A facility shall have base for any ancillary equipment and provide an appropriate bund wall in the event of any unanticipated discharge or spillage.

12. (1) No facility shall cause to be discharge, any effluent into the natural water system and land without a permit form the Agency.
 - (2) Every facility shall apply for and obtain permit from the Agency during an upgrade or expansion of such facility.
 - (3) Every facility shall obtain permit from the Agency for new point sources of pollution.

(4) No effluent with constituents beyond permissible limits shall be discharged into mine pits or the ecosystem.

13. (1) The collection, treatment, transportation and final disposal of wastes within the specified standards and guidelines, shall be the responsibility of the facility generating the wastes.

(2) In the event of a pollution resulting in an impact on the environment whether socio-economically or healthy wise, the facility shall as specified in Schedule 4 to these Regulations, be responsible for –

- a) the cost of clean-up;
- b) remediation;
- c) reclamation;
- d) compensation to affected parties; and
- e) cost of damage assessment and control.

14. The owner or operator of a facility shall prepare an emergency response plan that describes the measures to be taken in respect of a deleterious substance to prevent any deposit or discharge out of the normal course of events of such a substance and to mitigate the effects of such a deposit or discharge and such emergency response plan shall include such details as specified in Schedule 5 to these Regulations.

PART IV – SAMPLING AND ANALYSIS

15. (1) For all discharges, required data shall be obtained using appropriate sampling techniques including –

- a) Water, sediment and soil sampling;
- b) Time proportioned composite sampling;
- c) Multiple grab sampling or any other type of sampling; that will provide a representative sample, as approved by the Agency for all parameters indicated in Schedule 1 to these Regulations.

(2) The grab sample shall be taken during the first thirty minutes of the discharge.

(3) If the collection of grab sample during the first thirty minutes is impracticable, a sample can be taken during the first hour of the discharge and the industry shall submit

discharge monitoring report describing why a grab sample collection during the first 30 minutes was impracticable.

(4) A composite sample shall either be flow weighted or time weighted.

(5) Industries shall collect flow proportioned composite samples over 24 hours or the duration of the discharge if the duration of the discharge is less than 24 hours.

(6) The Agency may waive flow proportioned composite samples if required.

(7) Composite samples may be taken with a continuous sampler or as a combination of a minimum of 3 grab sample aliquots shall be taken in each hour of discharge for the entire discharge.

16. (1) All discharge samples shall be preserved, and analyzed using techniques that provide sufficient precision and accuracy to determine the regulated pollutant, using standard analytical methods.

(2) Where necessary, sample shall be preserved as appropriate for a minimum period as the Agency may direct.

17. Where the effluent is discharged into a drainage system, samples shall be taken from the upstream, fallout point and at appropriate intervals downstream.

PART V – INDUSTRIAL WASTEWATER MONITORING AND REPORTING

18. (1) Subject to categorical standards, the permit holder shall comply with reporting requirements under the Agency's Permit including Annual Monitoring Report, Monthly Effluent Discharge Monitoring Report, Incident Report in compliance with Environmental Management Plan (EMP), to the Agency's field office as specified in Schedules 2,6,7 and 8 to these Regulations.

(2) A Permit holder must submit to the Agency at least quarterly, on dates specified, a description of the nature, concentration and flow of the pollutants required to be reported.

(3) The report shall be based on sampling analysis performed in the period covered by the report and all reporting shall be compliance with the format as in Schedules 2 and 6 to these Regulations.

(4) The permit holder shall report all sample results for parameters listed on Effluent Limitations and Monitoring Requirement, on the Industrial or Commercial Discharge Monitoring Report forms.

(5) The permit holder shall install at its own cost, monitoring equipment approved by the Agency to facilitate the accurate observation, sampling and measurement of wastes as required by the permit.

(6) Such equipment shall be in working order and kept safe and accessible at all times and such monitoring facilities shall be constructed according to the specifications given by the Agency and other applicable construction standards, whether owned by public or private organization.

(7) Plans and specifications for such work shall be submitted to the Agency, for review and comments before construction.

(8) A permit holder discharging or proposing to discharge wastewater to a general sewer or treatment plant shall maintain the following –

- a) records of production;
- b) water consumption and discharge flow records;
- c) complete monitoring records as specified in the Regulations;
- d) process monitoring records;
- e) incident reports; and
- f) waste handling records and any other records necessary to demonstrate compliance with these Regulations.

(9) A permit holder shall be required to file reports with the Agency if the permit holder –

- a) in any month commits a serious violation or fails to submit a completed discharge monitoring report;

- b) exceeds an effluent limitation for the same pollutant at the same discharge point source by any amount for four out of six consecutive months; and
 - c) has any discharge that could cause problems to the environment, including any sludge loading.
- (10) The permit holder shall sign the report and attach a copy of the certificate of analysis from the Agency's accredited laboratory.
19. Each report must be signed by the appropriate officer as follows –
- a) a responsible corporate officer, if the permit holder submitting the reports is a body corporate.
 - b) All reports shall include the following certification statement:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted., the information herein submitted is, to the best of my knowledge and belief, true, accurate, and complete."
20. Such records shall be made available to the Agency and shall be retained for a minimum of five (5) years and throughout the course of any pertinent litigation.
21. (1) The Agency shall adopt charges and fees that shall include –
- a) fees for processing application for permit;
 - b) fees for reviewing discharge, prevention procedures and construction; and
 - c) other fees as the Agency may deem necessary to carry out the requirements contained herein which include emergency incident response and cost of personnel and equipment.
- (2) These fees relate only to the matters covered by these Regulations and are separate from all other fees chargeable by the Agency and subject to review.
22. Public access shall also be governed by the Act, however, wastewater constituents and characteristics shall not be recognized as confidential information.

PART VI – ENFORCEMENT

23. (1) The Agency has the primary responsibility of enforcing all applicable pretreatment standards and requirements and on the basis of any information available to it, the Agency may enforce any applicable pretreatment standard and requirement at any time as appropriate.
- (2) While a permit is valid, it shall be the duty of the Agency to take such action under these Regulations as may be necessary for the purpose of ensuring that the conditions of the permit are complied with.
24. (1) If the Agency is of the opinion that an operator has contravened, is contravening or is likely to contravene any condition of the permit, the Agency shall serve it an enforcement notice.
- (2) An enforcement notice shall –
- a) specify the matters constituting contravention or matters making it likely that contravention will arise;
 - b) specify steps that must be taken to remedy the contravention or to remedy the matters making it likely that contravention will arise; and
 - c) specify the period within which those steps must be taken.
- (3) Regulation 23(2) of these Regulations shall apply whether or not the particular manner of operating the facility in question, is regulated by or contravenes a condition of the permit.
25. Failure to comply with such notice within the specified number of days as specified under regulation 24(2)(c) of these Regulations, second notice shall be served with a shorter time frame before commencement of appropriate legal action.
26. Enforcement notice shall be delivered by registered post or courier or hand delivery at any of the registered offices of the organization.
27. (1) Where a suspension notice is served under these Regulations the permit shall, on the service of the notice, cease to have effect.
- (2) The Agency may withdraw a suspension notice after compliance.

PART VII – OFFENCES

28. (1) It shall be an offence if a facility fails to comply with:
- a) or contravenes a condition of a permit;
 - b) the requirements of an enforcement notice, or a closure notice under these Regulations;
 - c) any requirement imposed by a notice served by the Agency without reasonable excuse.
- (2) It shall be an offence if a facility makes a statement which is known to be false or misleading particularly where the statement is made –
- a) in purported compliance with a requirement to furnish any information imposed by or under any provision of these Regulations;
 - b) for the purpose of obtaining a permit for the facility for variation, transfer or surrender of a permit;
 - c) to internationally make a false entry in any record pertaining to the permit; or
 - d) with intent to deceive, to forge or use a document issued or authorized to be issued under a condition of the permit.
- (3) It shall be an offence to make a statement or have in possession a document that is likely to mislead or deceive the Agency.
- (4) It shall be an offence if a facility fails to –
- a) take reasonable measures to remove or treat and dispose of any effluent in order to minimize adverse effects;
 - b) take measures required by the Agency after unauthorized release of effluent;
 - c) remediate the environment to the standard prescribed by the Agency;
 - d) furnish all information to the inspector;
 - e) remove equipment or contain materials causing release into the environment from any place when requested by inspector;
 - f) produce document when requested by the inspector;
 - g) comply with guidelines with respect to the handling storing and transport of any effluent;

- h) ensure the use of Personnel Protective Equipment (PPE) while handling, storing, treating, or disposing of effluent.
- (5) It shall be an offence if a facility –
- a) handles effluents in a manner which causes adverse effect to human and the environment;
 - b) knowingly obstructs the inspectors from performing their duties;
 - c) dismisses or suspends or sanctions an employee who reports contravention of the Act;
 - d) impose penalty on employee who reports cases of contravention of the Regulations to the Agency;
 - e) transports any effluent and sludge which is not covered by a manifest;
 - f) transport effluent and sludge which is not completely enclosed, covered and secured;
 - g) transports effluent without prior authorization from the Agency;
 - h) transports sludge in bulk without prior authorization form the Agency.
- (6) It shall be an offence if a facility fails to –
- a) file annual report on effluent and sludge discharges;
 - b) maintain books on record of effluent and sludge discharges;
 - c) submit record of receipt of removal of effluent and sludge within the time frame prescribed by these Regulations.
- (7) It shall be an offence if a facility –
- a) releases effluent and sludge into the environment in excess of permissible level;
 - b) fails to report release of effluent and sludge into the environment in excess of permissible level as specified in Schedule 11 to the Regulations;
 - c) fails to take treasonable measures to prevent, reduce, or remedy the adverse effect of effluent and sludge on the environment.

PART VIII – PENALTY

29. (1) Any person who violates any of the provisions of regulation 28 of these Regulations, commits an offence and shall on convictions, in the case of an individual, be liable to a fine not exceeding N100,000 or imprisonment for a term not exceeding two years or both such fine and imprisonment and an additional fine of N5,000 for every day the offence subsists.
- (2) Where an offence under regulation 28 is committed by a facility, it shall on conviction, be liable to a fine of not exceeding N100,000,000 and an additional fine of N5,000 for every day the offence subsists.
30. (1) Operators involved in mining and processing of Coal, Ores and industrial minerals shall ensure that their activities conform with prescribed guidelines for safe levels of air pollutants tolerable to human, aquatic organisms and vegetation.
- (2) For the purpose of these Regulations, fugitive emission air pollutant sources shall include operations and related activities as specified in Schedule 9 to these Regulations.
- (3) In these Regulations, guidelines for emission limits from stationary sources represent maximum allowable levels of pollutants from a site process, stack ore vent and similar sources, as specified in Schedule 9 to these Regulations.
31. Operators shall ensure that their activities do not impact on ambient and indoor air, beyond regulatory limits for safe levels of air pollutants for specific substances in the air as specified in Schedule 11 to these Regulations.
32. Operators shall ensure that their activities do not impact on ambient and indoor air, beyond regulatory limits for safe levels of air pollutants for specific substances in the air as specified in Schedule 11 to these Regulations.
33. (1) The Agency may, as part of the requirements of an application for a Permit in relation to a facility with a fugitive emission source, or as a requirement of a control order, require the applicant to submit a written fugitive emission control plan for the control of fugitive particulate emissions.
- (2) The Agency shall review a fugitive emission control plan within sixty (60) days of receipt thereof and shall, before the end of that period, notify the facility that submitted

the plan as to whether the plan is approved, disapproved, or if further information is required.

(3) Where a fugitive emission control plan is submitted as part of the requirements of an application for permit, such plan shall be reviewed along with all other aspects of the application and all provisions relating to the time period for review of license applications shall apply to the review of such plan.

(4) Where fugitive emission control plan is disapproved, the notification of the disapproval shall –

- a) set out the reasons for such disapproval; and
- b) inform the facility of the need to revise and resubmit the plan within thirty (30) days of the date of delivery of such notification.

(5) If after the review of a resubmitted fugitive emission control plan, there remain aspects of the plan that are unsatisfactory to the Agency, the Agency may approve the plan subject to such terms, conditions or modifications as it thinks necessary in order to eliminate the unsatisfactory aspects of the plan.

(6) Where a plan is made subject to any term, condition, or modification under sub-regulation (4) of this regulation, the notification of the approval shall contain a written statement of the reasons for inserting the term, condition or modification, as the case may be.

(7) The Agency may periodically review any fugitive emission control plan approved by it and communicate the findings to the facility.

(8) A fugitive emission control plan may require the employment of control measures or operating procedures as in Schedule 12 to these Regulations.

34. (1) A facility with any source or potential source may be required, as a condition of an air pollutant discharge Permit, to measure the emission of every priority air pollutant emitted there from and to develop and implement a plan to control such emission in accordance with conditions as may be prescribed by the Agency.

(2) Any facility that causes or allows the generation of any odour from any source, that unreasonably interferes, or is likely to unreasonably interfere, with any other person's

lawful use or enjoyment of his property shall use recognized good practices and procedures to reduce such odour to a reasonable minimum, including any method for reducing odour as may be specified by the Agency.

35. (1) Methods for the sample collection and analysis of emissions shall be in accordance with the standard acceptable methods, procedures and conditions that will comply with the average time requirements.

(2) Measuring emissions of pollutants into the air from stacks and other sources may be required by the Agency for one or more of the following –

- a) Applications for permits under these Regulations;
- b) Stack emissions monitoring to satisfy monitoring and reporting requirements or conditions of permits under these Regulations;
- c) Estimation of emissions for the purpose of calculating annual air pollutant discharge fees under these Regulations;
- d) Estimation total licensed discharged or discharge rates under these Regulations;
- e) Assessing compliance with stack emission standards and targets in fugitive emission and odour limitations; and
- f) Any other monitoring or reporting requirements as may be specified by the Agency from time to time.

36. (1) Any person who violates any of the provisions of regulations 30, 31, 32, 33, 34 and 35(1) of these Regulations, commits an offence and shall on conviction, be liable to a fine not exceeding N50,000 or imprisonment for a term not exceeding two years or both such fine and imprisonment and an additional fine of N5,000 for every day the offence subsists.

(2) Where an offence under sub-regulation (1) of this regulation is committed by a facility, it shall on conviction, be liable to fine not exceeding N500,000 and an additional fine of N50,000 for every day the offence subsists.

PART X – NOISE POLLUTION AND CONTROL

37. Every Facility shall evaluate its installations and ensure that routine controls are sufficient to prevent risks of noise pollution.
38. (1) Daily noise exposure for workers and the environment of the facility arising from its activities, should not exceed 90 decibels (dB) daily for an 8-hour working period.
- (2) For the purpose of these Regulations equivalent 8-hours exposure limits to be maintained are outlined in National Environmental (Noise Standards and Control) Regulations 2009.
- (3) No person shall for an activity specified in these Regulations, emit noise in excess of the permissible noise level, unless permitted by a license issued under National Environmental (Permitting and Licensing System) Regulations 2009.
- (4) Any person who contravenes sub-regulation (1), (2) or (3) of this regulation commits an offence.
39. (1) The employer shall administer a continuing, effective hearing conservation programme, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 90 decibels measures as outlined in Schedule 13 to these Regulations.
- (2) For purposes of the hearing conservation programme, employee noise exposure shall be computed, regardless of the provision and the use of Personal Protective Equipment.
- (3) An 8-hour time weighted average of 90 decibels shall be referred to as the action level.
40. (1) When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 90 decibels the employer shall develop and implement a monitoring programme as may be specified by the Agency.
- (2) The sampling strategy for the monitoring programme shall be designed to identify employee for inclusion in the hearing conservation programme and enable proper selection of hearing protectors.

(3) The employer shall use appropriate representative personal sampling to comply with the monitoring requirements.

(4) Instrument used to measure employer noise exposure shall be calibrated to ensure measurement accuracy.

(5) Monitoring shall be repeated whenever a change in production, process, equipment or control, increases noise exposures to the extent that –

a) additional employees may be subjected to risk at the action level; or

b) the attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet requirements of these Regulations.

41. (1) Employers shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees and hearing protectors shall be replaced as may be necessary.

(2) Employers shall ensure that hearing protectors are worn by –

a) any employee who is required to wear personal protective equipment; and

b) any employee who is exposed to an 8-hour time-weighted average of 85 decibels or greater.

(3) Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer.

(4) The employer shall provide training in the use and care of all hearing protectors provided to employees.

(5) The employer shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

PART XI – GUIDELINES AND CODES OF PRACTICE

42. (1) The Agency may, in consultation with a lead agency, issue guidelines requiring the use, in connection with any plant or machinery, or devices or arrangements for purposes of reducing the noise caused by the plant or machinery or from other sources of noise.

(2) For the purpose of giving guidance on appropriate methods, including the use of specified types of plant or machinery for minimizing noise, the Agency with the publicity shall –

- a) issue codes of practice as, in his or her opinion are suitable for the purpose; and
- b) approve codes of practices issued or proposed to be issued by other relevant bodies which, in the opinion of the Agency, are suitable for the purpose.

43. It shall be offence, if a person –

- a) contravenes regulation 39(1) of these Regulations by emitting noise in excess of the permissible noise levels as prescribed in Schedule 13 to these Regulations;
- b) fails, neglects or refuses to control noise in accordance with these Regulations;
- c) fails to immediately reduce noise to a permissible noise level when required to do so;
- d) causes or contributes to the emission of noise in excess of the permissible noise levels from or within the vicinity of the premises during a prohibited period;
- e) fails, without lawful justification, to comply with any term or condition of a licence or order issued under these Regulations;
- f) makes a statement, or produces a document, that is false or misleading in a material particular.

PART XII – AUDIOMETRIC TESTING AND COMPLIANCE VERIFICATION

44. The employer shall maintain an audiometric testing programme for employees whose exposures equals or exceeds an 8-hour time-weighted average of 90 decibels.

45. (1) The Agency shall request to observe or verify any noise measurements conducted pursuant to this regulations.

(2) The employee shall have access to such records.

46. (1) Any person who violates any of the provisions of regulations 38(1) to (3) and 43 of these Regulations commits an offence and shall on conviction, be liable to a fine not

exceeding N50,000 or imprisonment for a term not exceeding one year or both such fine and imprisonment and an additional fine of N50,000 for every day the offence subsists.

(2) Where an offence under sub-regulation (1) of this regulation is committed by a facility, it shall on conviction, be liable to fine not exceeding N500,000 and an additional fine of N50,000 for every day the offence subsists.

PART XIII – INTERPRETATIONS

47. In these Regulations unless the context otherwise requires –

“Act” means the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007.

“Agency” means the National Environmental Standards and Regulations Enforcement Agency established under section 1 of the Act;

“ambient air” means outdoor in the troposphere, excluding work places;

“assessment” means any method used to measure, calculate, predict or estimate the level of a relevant pollutant, ozone or ozone precursor substances in the ambient air;

“authorization” means a license, permit, approval or exemption granted, issued or given under these Regulations;

“adverse effect” means unfavourable or environmentally unacceptable impact condition;

“Biochemical Oxygen Demand (BOD)” means the quantity of oxygen, dissolved in water, that is consumed by biochemical matter, when tested in accordance with the BOD test;

“bulk” means items in large quantities at one time;

“deleterious” means items damaging or harmful;

“DG and CEO” means the Director General and Chief Executive Officer of the National Environmental Standards and Regulations Enforcement Agency;

“dump” means an accumulation of rock fragments or other unconsolidated material formed by pushing or dropping the loose material over a crest and allowing it to come to rest without further handling;

“effluent” means any liquid waste, discharge from mining facilities including mine water, tailings, acid leaching, acid mine drainage, fuels and lubricants;

“enforcement officer” means an officer of the Agency responsible for coordinating, monitoring compliance, and enforcement of the Agency’s Regulations;

“environment” means the sum of all external conditions affecting the life, developing and survival of an organism;

“facility” means physical set-up or equipment for mining and processing of coal, ores, or an industrial minerals factory;

“fixed measurements” means measurements taken at fixed sites either continuously or by random sampling, the number of measurements being sufficiently large to enable the levels observed to be determined;

“fugitive emission” means air pollutants that may not be readily obvious, and as outlined in Schedules 9, 11 and 12 to these Regulation;

“impoundment” means a body of water or poorly consolidated solid matter, confined by natural or constructed barriers and includes those barriers, and related items;

“indoor air” mean air within the enclosed space;

“inspector” means an official of the Agency designated to ensure compliance with the guidelines, standards and regulations;

“lead agency” means any Ministry, department, parastatal agency, local government system or public officer in which or upon whom any law vests functions of control or management of any segment of the environment;

“level” means the concentration of a relevant pollution, ozone or ozone precursor substances in ambient air;

“margin of tolerance” means the level of the limit value by which this value may be exceeded subject to the conditions laid down in Schedule 1 to these Regulations;

“mines water” means water emanating from a mine, usually in the process to gain or facilitate access to an ore body;

“mining” means the act of extracting or excavating useful mineral resources from the earth’s crust;

“Minister” means the Minister in charge of environment;

“mulching” means the process of using decaying leaves or grasses that are put on the soil to improve its quality;

“natural events” means volcanic eruptions, seismic activities, geothermal activities, wild-land fires, high-wind events or the atmospheric resuspension or transport of natural particles from dry regions;

“ownership” means a person or body corporate who has rights in relation to any land or facility, and who is for the time being entitled to the rent permissible, or who will be so entitled if the land or facility were let to a tenant;

“oxides of nitrogen” means the sum of nitric oxide and nitrogen dioxide added as parts per billion and expressed as nitrogen dioxide in microgrammes per cubic meter;

“ozone precursor substances” means substances which contribute to the formation of ground level ozone;

“Person” means natural and juristic personality including a facility;

“performance test” means any testing or sampling performed using approved methods to determine the emission rate of an air pollutant from a source;

“permissible” means allowable or acceptable by law or rules;

“PM_{2.5}” means particulate mater which passes through a size-selective inlet with a 50% efficiency cut at 2.5 um, aerodynamic diameter;

“responsible corporate officer”, for the purpose of these Regulations, means Chief Executive, Managing Director, or Chairman of the corporate body in charge of a principal business function, or any designated person who performs similar policy or decision making functions for the corporate body;

“sample” means small part of something intended as a representative of the whole;

“suspended solids” means any solid matter that is present within an effluent;

“tailing” means mining waste that contains mixture of impurities, trace metals an residue of chemicals;

“time-proportioned composite sampling” means a mixture of samples collected at the sampling point at different times;

“Total Suspended Solids (TSS)” means solid matter that is retained on a 1.5 micron pore filter paper when the effluent is tested in compliance with the analytical requirements;

“treatment” means to subject the effluent to physical, chemical or biological action, other than dilution, in order to reduce or eliminate deleterious substances;

“waste rock” means rock removed in order to access an ore or mineral body;

“waste material” means waste generated during mining operations including used abrasive material, waste generated by cleaning an object prior to blasting, and any other waste products created during abrasive blasting, including waste collected in a dust extractor, settling pond or tank, or holding sump;

“wet abrasive blasting” means breaking of rock materials during which water is added to the material or is used as the propellant;

“water body” means any watery environment including ocean, marine, estuarine, wetlands, rivers, dams, lakes, ponds, mine pits.

48. These Regulations may be cited as National Environmental (Mining and Processing of Coal, ores and Industrial Minerals) Regulations 2009.

SCHEDULE 1 – STANDARDS

REGULATIONS 10(2) & 15

EFFLUENT LIMITATION STANDARDS FOR MINING AND PROCESSING OF COAL, ORES AND INDUSTRIAL MINERALS

| S/No. | Parameter | Maximum permissible discharge limit | |
|-------|-------------------------------------|-------------------------------------|------------------|
| | | Into Surface Water | Land Application |
| 1 | pH | 6.5 – 9 | 5.5 – 9.0 |
| 2 | Temperature °C | < 40 | < 40 |
| 3 | Appearance | Clear | Clear |
| 4 | Total Dissolved Solids (TDS) (mg/l) | 2000 | 2000 |
| 5 | Total Suspended Solids (mg/l) | 30 | |

| | | | |
|----|---|-------|-------|
| 6 | Biochemical Oxygen Demand (BOD) | 30 | 50 |
| 7 | Chemical Oxygen Demand (COD) (mg/l) | 80 | |
| 8 | Dissolved Oxygen (D) (mg/l) | < 5.0 | |
| 9 | Oil & Grease (mg/l) | 10 | 20 |
| 10 | Ammonia (mg/l) | 10 | |
| 11 | Boron | 5 | |
| 12 | Chloride (mg/l) | 600.0 | 600.0 |
| 13 | Chlorine (free) | 1.0 | |
| 14 | Cyanide (as CN) (mg/l) | 0.1 | |
| 15 | Fluoride (mg/l) | <1.0 | |
| 16 | Nitrate (as NO ₃ ⁻⁴)(mg/l) | 20.0 | |
| 17 | Phosphate (Total P) (mg/l) | 5 | 10 |
| 18 | Sulphate (as SO ₄ ⁻²) | 500 | 1000 |
| 19 | Sulphite (as SO ₃ ²⁻) | 0.2 | |
| 20 | Aluminum | 1.0 | |
| 21 | Antimony (mg/l) | 1.0 | |
| 22 | Arsenic | 0.1 | |
| 23 | Barium | 5 | 5 |
| 24 | Cadmium (mg/l) | < 1.0 | |
| 25 | Calcium (Ca) (mg/l) | 200 | |
| 26 | Chromium (as Total Cr) (mg/l) | < 1.0 | |
| 27 | Cobalt (mg/l) | 0.5 | |
| 28 | Copper (mg/l) | < 1.0 | |
| 29 | Iron (mg/l) | 20 | |
| 30 | Lead (mg/l) | < 1.0 | |
| 31 | Magnesium | 200 | |
| 32 | Manganese (mg/l) | 5.0 | |
| 33 | Mercury (mg/l) | 0.05 | |

| | | | |
|----|-------------------------------------|-------|-----|
| 34 | Nickel (mg/l) | < 1.0 | |
| 35 | Radium 226 pico Curies/liter (pc/l) | 3.0 | 30 |
| 36 | Selenium (mg/l) | < 1.0 | |
| 37 | Silver (mg/l) | < 1.0 | |
| 38 | Sodium (Na) (mg/l) | - | |
| 39 | Tin (mg/l) | 10 | |
| 40 | Uranyl (UO ₂) (mg/l) | < 1.0 | |
| 41 | Zinc (mg/l) | < 1.0 | |
| 42 | Total Coliform (MPN/100ml) | 400 | 500 |

SCHEDULE 2

Regulations 18

FORM

ANNUAL EFFLUENT MONITORING REPORT

| S/No | Parameter (All units are mg/l except stated otherwise) | Months | | | | | | | | | | | |
|------|---|--------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
| 1 | Temperature | | | | | | | | | | | | |
| 2 | pH | | | | | | | | | | | | |
| 3 | Appearance | | | | | | | | | | | | |
| 4 | Total Dissolved Solids (TDS) (mg/l) | | | | | | | | | | | | |
| 5 | Total Suspended Solids (mg/l) | | | | | | | | | | | | |
| 6 | Biochemical Oxygen Demand (BOD) | | | | | | | | | | | | |
| 7 | Chemical Oxygen Demand (COD) (mg/l) | | | | | | | | | | | | |
| 8 | Dissolved Oxygen (DO) (mg/l) | | | | | | | | | | | | |
| 9 | Oil & Grease (mg/l) | | | | | | | | | | | | |
| 10 | Ammonia (mg/l) | | | | | | | | | | | | |
| 11 | Chloride (mg/l) | | | | | | | | | | | | |
| 12 | Chlorine (free) (mg/l) | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 13 | Cyanide (as CN)(mg/l) | | | | | | | | | | | | | |
| 14 | Fluorine (mg/l) | | | | | | | | | | | | | |
| 15 | Nitrate/Nitrite (mg/l) | | | | | | | | | | | | | |
| 16 | Phosphate (Total P)(mg/l) | | | | | | | | | | | | | |
| 17 | Sulphate (as SO ₄ ²⁻) | | | | | | | | | | | | | |
| 18 | Sulphite (as SO ₃ ²⁻) | | | | | | | | | | | | | |
| 19 | Aluminium (mg/l) | | | | | | | | | | | | | |
| 20 | Antimony (mg/l) | | | | | | | | | | | | | |
| 21 | Arsenic | | | | | | | | | | | | | |
| 22 | Calcium (Ca)(mg/l) | | | | | | | | | | | | | |
| 23 | Cadmium (mg/l) | | | | | | | | | | | | | |
| 24 | Chromium (mg/l) | | | | | | | | | | | | | |
| 25 | Cobalt (mg/l) | | | | | | | | | | | | | |
| 26 | Copper (mg/l) | | | | | | | | | | | | | |
| 27 | Iron (mg/l) | | | | | | | | | | | | | |
| 28 | Lead (mg/l) | | | | | | | | | | | | | |
| 29 | Magnesium | | | | | | | | | | | | | |
| 30 | Manganese (mg/l) | | | | | | | | | | | | | |
| 31 | Mercury (mg/l) | | | | | | | | | | | | | |
| 32 | Nickel (mg/l) | | | | | | | | | | | | | |
| 33 | Radium 226 pico Curies/liter | | | | | | | | | | | | | |
| 34 | Selenium (mg/l) | | | | | | | | | | | | | |
| 35 | Silver (mg/l) | | | | | | | | | | | | | |
| 36 | Tin (mg/l) | | | | | | | | | | | | | |
| 37 | Uranyl (UO ₂)(mg/l) | | | | | | | | | | | | | |
| 38 | Zinc (mg/l) | | | | | | | | | | | | | |
| 39 | Total Coliform (MPN/100m) | | | | | | | | | | | | | |

SCHEDULE 3 – BEST PRACTICE

Regulation 3(2)

- | S/No. | Item |
|-------|---|
| (a) | All effluent generated shall be quantified in volume(s) |
| (b) | Every industry shall install – <ul style="list-style-type: none">• anti-pollution equipment for the detoxification of effluent and sludge;• efficient effluent treatment plant based on the Best Practicable Technology (BPT); and• containment equipment for spills in case of accidental discharge. |
| (c) | Every facility shall adopt in-plant waste reduction and pollution prevention strategies. |
| (d) | An unusual or accidental discharge of waste from a facility shall be reported to the nearest office of the Agency within 24 hours of the discharge. |
| (e) | Every facility shall have a buffer zone between it and the nearest human settlement. |
| (f) | There shall be appropriate bund walls around tank farms for containment in case of accidental discharges. |

SCHEDULE 4 – POLLUTER-PAY-PRINCIPLE

Regulation 13(2)

- | S/No. | Item |
|-------|--|
| (a) | The owner or operator of a facility shall submit to the Agency an insurance bond for Reclamation plan. |
| (b) | The compensation plan shall contain the following components; <ul style="list-style-type: none">i) a description of the location of the tailings impoundment area and the habitat/environment affected by the deposit;ii) a quantitative impact assessment of the deposit on the habitat/environment;iii) a description of measures to be taken to offset damage caused by the deposit to the habitat/environment; |

- iv) a description of the measures to be taken during the planning and implementation of the compensation plan to mitigate any potential adverse effect on the environment that could result from the plan's implementation.
- v) A description of measures to be taken to monitor the plan's Implementation.

SCHEDULE 5 – EMERGENCY RESPONSE PLAN

Regulation 14

| S/No. | Item |
|-------|---|
| A | <p>The components of an Emergency Response Plan shall include:</p> <ul style="list-style-type: none"> i) The identification of any waste material out of the normal course of events that can reasonably be expected to occur at the facility and that can reasonably be expected to result in damage or danger to the habitat. ii) A description of the measures to be used to prevent, prepare for and respond to any waste material identified in (i) above. iii) A list of the individuals who are to implement the plan in the event of any waste material out of the normal course of events, and a description of their roles and responsibilities. iv) The identification of the emergency response training required for each of the individuals in (iii) above; v) A list of the emergency response equipment included a part of the plan, and the equipment location; and vi) Alerting an notification procedures including the measures to be taken to notify members of the public who may be adversely affected by the waste material identified in (i) |
| B | <p>The owner or operator shall complete the emergency response plan and have it available for inspection at least not later than 60 days after the facility becomes subject to this section of these Regulations.</p> |

- C The owner or operator shall update and test the emergency response plan at least once in a year to ensure that plan continues to meet the requirement of these Regulations
- D If a facility has been subject to the requirement of the section of these Regulations for more than a year, a new emergency response plan shall be prepared and completed not later than 60 days after the day on which the facility again becomes subjects to this section of the regulation.
- E Every facility shall ensure safe distance and give adequate notice (warning) before the commencement of blasting operations.

SCHEDULE 6

Regulation 18(1)(3) & 5(2)

NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS

ENFORCEMENT AGENCY (NESREA)

FORM

MONTHLY EFFLUENT DISCHARGE MONITORING REPORT (DMR)

(NESREA Discharge Monitoring Report)

| |
|----------------------------|
| FACILITY NAME AND ADDRESS: |
|----------------------------|

PLEASE COMPLETE AND SUBMIT ONE COPY EACH MONTH

THIS REPORT MUST BE POSTMARKED NOT LATER THAN THE 28TH OF THE FOLLOWING MONTH

Mail To:
National Environmental Standards
And Regulations Enforcement Agency
(NESREA),
No. 4, Oro-Ago Crescent,
Garki II, Abuja.

| |
|--------------------------|
| FACILITY E-MAIL ADDRESS: |
|--------------------------|

| | <i>Month</i> | | <i>Year</i> | | | | | | | | | | | | | | | |
|-----------------|--------------|------|-------------|------|------|------|------|------|--|--|--|--|--|--|--|--|--|--|
| SAMPLING TYPE | | | | | | | | | | | | | | | | | | |
| SAMPLING SOURCE | | | | | | | | | | | | | | | | | | |
| PARAMETERS | pH | Temp | TS | TSS | TDS | BOD | COD | DO | | | | | | | | | | |
| UNITS | | °C | mg/l | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 28 | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | |
| MONTHLY AVERAGE | | | | | | | | | | | | | | | | | | | |
| HIGHEST VALUE | | | | | | | | | | | | | | | | | | | |
| LOWEST VALUE | | | | | | | | | | | | | | | | | | | |
| NO. OF TIMES WEEKLY, DAILY, MONTHLY EFFL. LIMITATIONS EXCEEDED | | | | | | | | | | | | | | | | | | | |
| NESREA EFFLUENT LIMITATION STANDARD | | | | | | | | | | | | | | | | | | | |

| | | | |
|------------------------------------|----------------------------|--|---|
| TOTAL FLOW | | Signature with date of Principal Executive Officer or Authorized Agent; | I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted |
| Signature of Certified Operator | Date (month, day, year) | Date: | |
| | | Signature: | |

SCHEDULE 7
REGULATION 18(1)
NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS
ENFORCEMENT AGENCY (NESREA)
INCIDENT REPORT FORM

This report is to be completed when accidental discharge, occupational illness or incident occurs. If an employee is injured or develops gradually a job-related illness as a result of his/her employment at the facility. He or She must complete and submit the "Incident Report". If the employee is unable to complete the form, the Supervisor must complete on his/her behalf.

Incident reporting ensures there is a record on file with the employer. In no way does this waive the employee's right to work's compensation benefits. If an injury occurs, first aid may be appropriate treatment.

All accidental discharges or emergencies or accidents should be reported to the Agency within 48 hours.

FACILITY:

Name and Address of Facility

.....

.....

No. of Employee

Department where the discharge occurred

.....

Place of the accidental discharge

DISCHARGE:

Cause(s) of discharge:

Did the discharge occur as a result of mechanical or technical or unskilled application?

Please specify

Was the discharge gaseous, liquid or solid? Please specify.....

.....
What was the nature of discharge, sludge, effluent or influent? Please specify.

Into which medium was it discharged to i.e. water body, land or air? Please specify.

-
- If water body, specify type of water, pond, stream., lake, river, etc.

-
- If land;
 - Name and location (Geo-reference) of the land where discharge occurred.
 - Ways of disposing of discharge, i.e. burying, burning, etc. Please specify.

Was there any previous accidental discharge of this kind? Yes No

If yes, when?

How?

.....

Who was or were the victim(s)?

SCHEDULE 8

Regulation 18 (1)

GUIDELINES FOR PREPARING ENVIRONMENTAL MANAGEMENT PLAN (EMP)

An Environmental Management Plan (EMP) describes the process that an Organization will follow to maximize its compliance and minimize harm to the environment. This plan also helps an Organization map its progress toward achieving continual improvements.

Regardless of the Organization's situation, all environmental plans must include the following elements –

- Policy;
- Planning;
- Implementation and Operation;
- Checking and Corrective Action;
- Management Review and Commitment

Policy

Policy statements are important to an Organization because they help anchor the Organization on a core set of beliefs. These environmental guiding principles will enable all members of an Organization to focus on the same objective. They provide an opportunity for outside interests to understand the operation of the Organization. The policy should be focused, concise and easy to read. The environmental policy should address the following –

- Compliance with legal requirements and voluntary commitments;
- Minimizing waste and preventing pollution;
- Continual improvement in environmental performance, including areas not subject to regulations;
- Sharing information on environmental performance with the community

Planning

The planning should define the Organization's environmental footprints and set goals. Goals and objectives should be focused on maximizing their positive impacts on the environment. When evaluating, the following elements should be considered –

- Impacts on the environment through its activities, products and services;
- Legal requirements associated with protecting the environment;
- Meaningful and focused environmental objectives and targets.

Implementation and Operation

Implementation and operation should define the activities that the organization will perform to meet its environmental objectives and targets. This section should identify activity each person is responsible for, ensure completion and set targets for each of the identified activity. In addition, this area should specify employee training, communication and outreach activities that are necessary to ensure successful implementation of the plan.

Checking and Corrective Action

The EMP should describe the process that will be followed to verify proper implementation and how problems will be corrected in a timely manner. Routine evaluation and continual improvement to the process is necessary to make sure that the plan successfully leads towards the completion of environmental objectives and targets.

Management Review and Communication to Improvement

Routine management review and support is a necessary and meaningful tool for the organization. This should identify the routine management evaluation that will be conducted to ensure that the plan is appropriately implemented to meet its environmental objectives.

SCHEDULE 9
Regulation 30(2) AND (3)
FUGITIVE EMISSION SOURCES

For the purposes of these Regulations, fugitive emission air pollutant sources shall include activities as listed below that may impact on National Emission Quality Standards as listed in Schedule 2 to these Regulations.

- a) Construction activities;
- b) Storage and handling (including loading and unloading) of materials such as bauxite, alumina, gypsum, or cement or the raw materials thereof;
- c) mining and quarrying activities;
- d) haul road;
- e) haul trucks;
- f) tailings piles and ponds;
- g) demolition activities;
- h) blasting activities;
- i) sandblasting operations; and
- j) any other source as may be determined by the Agency.

SCHEDULE 10

Regulation 31

NATIONAL EMISSION QUALITY STANDARDS FOR CONVENTIONAL POLLUTANTS

| Pollutant | Averaging Time (Mean) | Concentration (ug/m ³) |
|---|--------------------------|---------------------------------------|
| Benzene | Annual | 16.25 |
| 1,3 – Butadiene | Annual | 2.25 |
| Carbon Monoxide (CO) | 8 hours | 10 |
| | 1 hour | 30 |
| Lead (Pb) | Annual | 0.5 |
| Nitrogen Dioxide (NO ₂) | Annual Mean | 40 |
| | 24 hours | 200 |
| Ozone (O ₃) | 1 hour | 100 |
| Particulate Matter (PM ₁₀) | Annual | 40 |
| | 24 hours | 50 |
| Particulate Matter (PM _{2.5}) | Annual | 15 |
| Poly Aromatic Hydrocarbons | Annual | 0.25 |
| Sulphur Dioxide (SO ₂) | Annual | 50 |
| | Daily 24 hours | 125 |
| | 1 hour | 350 |

SCHEDULE 11

Regulation 32

NATIONAL EMISSION LIMITS FOR SPECIFIC POLLUTANTS

| POLLUTANTS | Emission Limits (mg/m³) | |
|----------------------|---|--|
| | Long-Term limits (24 Hours) | Short-Terms Limits (30 Minutes) |
| Acetic Acid | 0.06 | 0.2 |
| Acetone | 0.35 | 0.35 |
| Ammonia | 0.20 | 0.2 |
| Aniline | 0.03 | 0.05 |
| Benzene | 0.8 | 1.5 |
| Cadmium | 0.003 | 0.01 |
| Chromium | 0.001 | 0.0015 |
| Dichloromethane | 1.0 | 3.0 |
| Diethylamine | 0.05 | 0.08 |
| Diethylether | 65.00 | 155.0 |
| Dimethylamine | 0.005 | 0.005 |
| Dimethyl disulphide | 0.2 | 0.7 |
| Carbon monoxide | 1.0 | 5.0 |
| Carbon tetrachloride | 2.0 | 4.0 |
| Chlorine | 0.03 | 0.1 |
| Chloroform | 10.0 | 50.0 |
| Dimethyl sulphide | 0.05 | 0.08 |
| Ethanol | 5.0 | 5.0 |
| Ethylene | 5.0 | 5.0 |
| Ethylene oxide | 0.5 | 0.8 |
| Fluorides (as F) | 0.005 | 0.02 |
| Fluorides | 0.01 | 0.08 |
| Formaldehyde | 0.012 | 0.055 |

| | | |
|----------------------|--------|-------|
| Furfural | 0.05 | 0.08 |
| Hexachoronhexane | 0.01 | 0.08 |
| Hydrochloric acid | 0.006 | 0.006 |
| Hydrocarbons (total) | 2.0 | 5.0 |
| Hydrogen cyanide | 0.01 | - |
| Hydrogen sulphide | 0.008 | 0.008 |
| Lead | 0.005 | 0.002 |
| Lead sulphide | 0.001 | - |
| Maiathion | - | 0.015 |
| Intrathion | 0.001 | 0.001 |
| Manganese | 0.01 | 0.03 |
| Mercury | 0.0003 | - |
| Methanol | 0.5 | 1.0 |
| Methyl acetate | 0.07 | 0.07 |
| Methyl acrylate | 0.01 | 0.08 |
| Methyl methacrylate | 0.1 | 0.1 |
| Methyl parathion | - | 0.008 |
| Methylene chloride | 20.0 | 55.0 |
| Mono methylamine | 0.01 | 0.01 |
| Naphthalene | 0.008 | 0.008 |
| Nitric acid | 0.006 | 0.006 |
| Nitrobenzene | 0.008 | 0.008 |
| Nitrogen dioxide | 0.085 | 0.085 |
| Nitrogen monoxide | 0.4 | 0.8 |
| Nitrogen oxides | 0.004 | 0.1 |
| Oxidants | 0.08 | 0.1 |
| Ozone | 0.1 | 0.2 |
| Phenol | 25.1 | 100.0 |

| | | |
|------------------------|-------|-------|
| Phosphoric acid | 0.1 | 0.8 |
| Phosphorus Pentoxide | 0.1 | 0.8 |
| Propanol | 0.5 | 0.15 |
| Propanol | 0.5 | 1.00 |
| Propylene | 5.0 | 5.0 |
| Pyridine | 0.08 | 0.08 |
| Silica | 0.02 | 5.0 |
| Soot | 0.05 | 0.1 |
| Styrene | 0.08 | 0.008 |
| Sulphur Dioxide | 0.05 | 0.5 |
| Sulphuric Acid | 0.1 | 0.5 |
| Suspended Particulates | 0.15 | 0.5 |
| Tetrahydrofuran | 0.2 | 0.2 |
| Tetrachloromethane | - | 4.0 |
| Thiophene | - | 0.6 |
| Toluene | 0.6 | 0.6 |
| Toluene Dissocyanate | 0.02 | 0.05 |
| Triethylamine | 1.0 | 0.14 |
| Turpentine | 0.14 | 0.14 |
| Turpentine | 25.0 | 75 |
| Vanadium pentoxide | 0.002 | - |
| Vinyl Acetate | 0.15 | 0.15 |
| Xylene | 0.2 | 0.2 |

SCHEDULE 12

Regulation 33(8)

OPERATING PROCEDURES/MEASURES FOR FUGITIVE EMISSION CONTROL PLAN

A fugitive emission control plan may require the employment of measures or operating procedures as outlined below –

- a) control of fugitive particulate emissions from storage piles through use of enclosures, covers or stabilization, minimising the slope of the upwind face of the pile, confining as much pile activity as possible to the downwind side of the pile and such other methods or techniques as are approved by the Agency;
- b) enclosing, covering, watering, or otherwise treating loaded haul trucks and railroad cars, or limiting size of loads, to minimize loss of material to wind and spillage;
- c) minimizing the area of disturbed land or tailings;
- d) minimizing the period of time between initially disturbing the soil and revegetating or other surface stabilization;
- e) paving of roads;
- f) planting special wind break vegetation at critical points;
- g) prompt removal of coal, rock minerals, soil, and other dust-forming debris from paved roads and scraping and compaction unpaved roads to stabilise the road surface as often as necessary to minimize re-entrainment of fugitive particulate mater from the road surface;
- h) restricting the areas to be blasted at any one time;
- i) restricting the speed of vehicles in or around mining, tailing or quarrying operations;
- j) revegetating, mulching, or otherwise stabilizing the surface of all areas adjoining roads that are a source of fugitive particulate emissions;
- k) substitution of covered conveyor systems for haul trucks; synthetic or revegetative covers;
- l) the paving of roads;
- m) to the extent practicable, restricting vehicular travel to established paved roads;

- n) watering or chemical stabilization of unpaved roads as often as necessary to minimize entrainment of fugitive particulate matter from the road surface; or
- o) wind breaks.

SCHEDULE 13

Regulations 39 (1) AND 43

NOISE STANDARDS

PERMISSIBLE NOISE EXPOSURE LEVELS

| Duration per day (hours) | Permissible Exposure Limit (dB) |
|--------------------------|---------------------------------|
| 8 | 90 |
| 6 | 92 |
| 4 | 95 |
| 3 | 97 |
| 2 | 100 |
| 1 ½ | 102 |
| 1 | 105 |
| 1 ½ | 110 |
| ¼ or less | 115 |

Note: Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

DATED at Abuja this 30th day of September, 2009

Mr John Odey,
Honourable Minister
Ministry of Environment