THE NATURAL RESOURCES CONSERVATION AUTHORITY ACT

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The Natural Resources Conservation Authority (Air Quality) Regulations, 2002

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In exercise of the powers conferred upon the Minister by section 38 of the Natural Resources Conservation Authority Act, the following Regulations are hereby made:-

Citation and commencement.

1. These Regulations may be cited as the Natural Resources Conservation Authority (Air Quality) Regulations, 2002 and shall come into effect on the [1st day of September, 2002].

Interpretation.

2. - (1) In these Regulations -

"air pollutant" means –

(a) any fume, smoke, particulate matter, vapour, gas, odorous substance or any combination thereof; or

(b) any other substance or matter whether physical, chemical, biological, or radioactive, including source material, special nuclear material, and by-product materials,

which is emitted into or otherwise enters the atmosphere and has caused, is causing or, if unabated, may cause air pollution, but does not include water vapour, steam condensate or any other emission exempted under these Regulations;

"air pollutant source" or "source" means any object or activity by reason of which any air pollutant is emitted or discharged into the atmosphere or into any contiguous location having an area and from which any air pollutant enters the atmosphere;

"air pollution" means the presence in the outdoor atmosphere of one or more air pollutants in such quantity or duration as has caused, is causing or if unabated –

(a) may cause, injury to human health or welfare, animal or plant life, or damage to property; or

(b) is likely to unreasonably interfere with the enjoyment of life, property or the environment or with the conduct of business,

whether such effects result from direct exposure to air pollutants, deposition of air pollutants or other environmental media, or from alterations to the physical or chemical properties of the atmosphere caused by air pollutants;

"applicant" means an applicant for a licence under these Regulations;

"authorized officer" means –

(a) any person designated as such by the Authority, by a member of the Jamaica Constabulary Force, by an inspector appointed by the Minister under the Clean Air Act, or by a Medical Officer (Health) under the Public Health Act; or

(b) any other person authorized in writing to act in that behalf by the Minister, by a

Local Board of Health or by the Chief Medical Officer under the Public Health Act; or

(c) any person authorized to carry out an inspection under section 62 of the Mining Act;

"background concentration" means the ambient pollutant concentrations due to natural sources, sources located nearby the source specifically being considered, and unidentified sources;

"bituminous coal" includes anthracite, steam coal (other than anthracite), coking coal or coal with a gross calorific value greater than 23 865 kJ/kg on an ash-free but moist basis and with a mean random reflectance of vitrinite of at least 0.6;

"capacity factor" means the ratio of average load to the full load capacity rating of the machine or equipment for the specified period of time;

"distillate fuel oil" means any fuel oil with the specifications fuel oil No. 1 or 2, as defined by the American Society for Testing and Materials (ASTM) burner fuel specification D396;

"excessive emission" means emission of an air pollutant in excess of an emission standard or emission target;

"existing facility" means any facility having an air pollutant source that is constructed, in

operation, installed, or used, in Jamaica on or before [September 1, 2002];

"existing source" means an air pollutant source that is constructed, in operation, installed or in use in Jamaica on or before [September 1, 2002];

"facility" means any building, structure, establishment, installation, plant, works or activity that emits an air pollutant;

"fugitive emission" means an emission that cannot or is not reasonably likely to pass through a stack, chimney, vent or other functionally equivalent opening;

"greenhouse gas" or "GHG" means any of the following gases or families of gases -

(a) carbon dioxide (CO_2);

(b) methane (CH_4);

(c) nitrous oxides (N_2O);

(d) hydrofluorocarbons (HFCs);

(e) perfluorocarbons (PFCs); and

(f) sulphur hexafluoride (SF_6);

"guideline document" means the most recent ambient air quality guideline document issued by the Authority;

"haul road" means a road other than a public road that is used for –

(a) commercial [or industrial] hauling of material; or

(b) the hauling of material by any organization or agency of the Government;

"heavy fuel oil" means any fuel oil with the specification of fuel oil No.5 or 6, as defined by the American Society for Testing and Materials (ASTM) burner fuel specification D396;

"incinerator" means any equipment, device or contrivance used for the destruction, by burning, of solids, liquids or gaseous wastes, other than any equipment, device or contrivance used exclusively to burn wood wastes;

"licence" means an air pollutant discharge licence granted under these Regulations;

"licensee" means a person who is granted a licence under these Regulations;

"light oil" means any fuel oil with the specification of fuel oil No.1 or 2, as defined by the American Society for Testing and Materials (ASTM) burner fuel specification D396;

"major facility" means any facility having an air pollutant source with the potential to emit –

(a) one hundred or more tonnes/y of any one of total suspended particulate matter (TSP);

(b) particulate matter with a diameter less than ten micrometres (PM10);

(c) sulphur oxides measured as sulphur dioxide (SO_2);

(d) carbon monoxide (CO);

(e) nitrogen oxides (NOx) measured as equivalent nitrogen dioxide;

(f) five or more tonnes/y lead;

(g) ten or more tonnes per year of any single priority air pollutant; or

(h) twenty-five or more tonnes per year of any combination of priority air pollutants;

"major modification" means any change in a source, which increases or decreases the source's potential to emit a pollutant set out in column A of the First Schedule, at a rate of emission equal to or greater than the rate set out in relation thereto in column B of the First Schedule;

"malfunction" means any sudden, infrequent and not reasonably preventable failure of air pollution control equipment, process or process equipment, to operate in a normal manner, but does not include any failure that is primarily caused by poor maintenance or negligent operation;

"medium oil" means any fuel oil with the specification fuel oil No.3, as defined by the American Society for Testing and Materials (ASTM) burner fuel specification D396;

"modification" means any physical change in a facility, or change in the method of operation of a facility, which increases the amount of any air pollutant emitted into the atmosphere by that facility or which results in the emission of any air pollutant not previously emitted by that facility;

"new facility" means any facility, other than an existing facility, having an air pollutant source that commenced construction or operation or was installed in Jamaica after [September 1, 2001];

"new source" means an air pollution source that commenced construction or operation or was installed in Jamaica after [September 1, 2001];

"nitrogen oxides" means the sum of nitric oxide (NO) and nitrogen dioxide (NO2) expressed collectively as a nitrogen dioxide equivalent;

"opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background;

"owner" means any person who owns or operates a facility, source, or air pollution control equipment, as the case may be;

"particulate matter" or "PM" means any finely divided solid or liquid material, other than uncombined water, as measured by the reference methods specified under each applicable regulation or an approved equivalent or alternative method;

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

"PM10" means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to ten micrometers emitted to

the ambient air as measured by applicable reference methods established by the U.S. Environmental Protection Agency, or an approved equivalent or alternate method;

"potential to emit" means the maximum capacity of a source to emit a pollutant under its physical and operational design, and any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment, restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of a source's design if the limitation is enforceable under the Act;

"priority air pollutant or "PAP" means an air pollutant included in the list of priority air pollutants set out in the Second Schedule, which, whether through ambient concentrations, bioaccumulation, deposition or otherwise, presents a threat to human health or to the environment;

Second Schedule.

"prescribed area" means an area prescribed by the Minister by order pursuant to Section 9 of the Act;

["regulated air pollutant" means any pollutant for which there is a national ambient air quality standard;]

"renewable energy" means energy derived from resources that are regenerative or that, for all practical purposes, cannot be depleted, including moving water (hydro, tidal and wave power), thermal gradients in ocean water,

biomass, municipal solid waste (MSW), geothermal energy, solar energy and wind energy;

"renewable fuel" means fuel derived from a resource that is regenerative or that, for all practical purposes, cannot be depleted, including biomass, municipal solid waste and fuels derived from biomass (such as ethanol, biodiesel and hydrogen);

"residual oil" means any fuel with the specification of fuel oil No. 5 or 6, as defined by the American Society for Testing and Materials (ASTM) burner fuel specification D396;

"start up" means the setting into operation of a facility, or sources in a facility, as the case may be, for any purpose;

"shut down" means the cessation of operation of a facility or source, as the case may be, for any purpose;

"significant facility" means any facility having any air pollutant emitting activity or source with the potential to emit –

(a) twenty-five or more but less than 100 tonnes per year of one or more of TSP, PM10, SO_2, CO, or NOx;

(b) one or more but less than 5 tonnes per year of lead;

(c) one or more but less than 5 tonnes per year of any priority air pollutant; or

(d) one or more but less than 10 tonnes per year of any combination of priority air pollutants;

"significant impact", in relation to the impacts of sources on ambient air quality, means –

(a) the increment in the predicted average concentration of SO_2, TSP, PM10 or NO_2 is greater than an annual average of 21.0 µg/m^3 or a 24-hour average of 805 µg/m^3; or

(b) the increment in the predicted average concentration of CO is greater than 500 µg/m^3 as an 8-hour average or 2000 µg/m^3 as a 1-hour average,

when such predictions are made using an approved air dispersion model;

"standard conditions" means a temperature of 293° K (20°C) and a pressure of 101.3 kilopascals (29.92 in Hg);

"sub-bituminous coal" means coal that is classified as sub-bituminous A, B, or C according to the American Society of Testing and Materials (ASTM) Standard Specification for Classification of Coals by Rank D388.

(2) The list of units and abbreviations set out in the Third Schedule shall apply for the purpose of interpreting the abbreviations used in these Regulations.

Third Schedule.

Application.

3. - (1) These Regulations shall not apply to trucks, cars, buses, trains, ships, airplanes or any other mode of transportation.

(2) Subject to paragraphs (3) and (4), these Regulations apply to all facilities having air pollutant sources falling within any of the categories set out in the Fourth Schedule.

Fourth and Fifth Schedules.

(3) Regulation 18 applies to all facilities having air pollutant sources falling within any of the categories set out in the Fourth or Fifth Schedules.

[(4) Where, in relation to a particular air pollutant or air pollutant source, there are no emission standards, targets or guidelines set out in these Regulations, the Authority may apply, subject to such modifications (if any) as the Authority shall think fit, any recognised emission standards, targets or guidelines in relation to the air pollutant or air pollutant source.]

Part I – *Licence Requirements*

Air pollutant discharge licence.

4. - (1) Every owner of a major facility or significant facility shall apply for an air pollutant discharge licence in the manner set out in regulation 5.

(2) Where a licensee proposes to undertake any modification of the licensed facility, which will result –

(a) in the case of a major facility, in the facility becoming a significant facility; or

(b) in the case of a significant facility, in the facility becoming a major facility; or

(c) in a major modification of the facility,

such owner shall apply to the Authority for a new licence, at least sixty days before commencing any such modification, in the manner set out in regulation 5.

(3) Where a licensee proposes to undertake a modification of the licensed facility, which will not have any of the results referred to in subsection (3)(a), (b) or (c), such owner shall apply to the Authority for an addendum to his licence if –

(a) the total of all changes in annual permitted emissions due to the modification, are or are likely to be less than or equal to 10% of total permitted emissions under the existing licence;

(b) the maximum predicted ground level concentration of any pollutant emitted from the facility before the modification is less than or equal to 75% of the ambient air quality standard or guideline concentration in the case of priority air pollutants that may be affected by the change;

(c) the emissions from a source that is being modified currently do not exceed the emission target or the emissions from the new source will not exceed any emission standard; and

(d) emissions from any proposed new source do not exceed any applicable emission standard.

(4) No modification referred to in paragraph (4) shall be undertaken unless the Authority approves the addendum.

(5) An application for an addendum under paragraph (3) shall be accompanied by the appropriate fee referred to in regulation 9.

(6) Where a single site contains a facility that has several air pollutant sources or groups of sources, the owner or operator may apply for separate licences in respect of each source or group of sources.

(7) Where a single site contains more than one facility, the operator shall apply for a separate licence in respect of each facility:

[Provided that where any two or more such facilities are engaged in the same enterprise and are owned and operated by the same person, the owner may apply for a single licence in respect of all such facilities.]

Licence application procedure. Sixth Schedule.

5. - (1) An application for a licence shall be in the form set out in the Sixth Schedule.

(2) An application is complete when the following (requirements are satisfied –

(a) the application form is complete in respect of all the information required of the applicant, including any necessary supporting data and calculations;

(b) the licence application shall be accompanied by a compliance plan that indicates the activities and schedule for bringing the facility into compliance if -

(i) the emissions from any source or activity in the application exceed

any applicable emission standard or target;

(ii) any emissions from the facility are predicted, based on dispersion modelling, to exceed any ambient air quality standard; or

(iii) any ambient air quality measurements at required monitoring locations exceed an air quality standard;

(c) an authorized official of the applicant certifies the truth, accuracy, and completeness of the application, as provided in the application form; and

(d) the application form is accompanied by proof of payment of the appropriate licence application fee referred to in regulation 9 and the discharge fee referred to in regulation 12 (2).

(3) Unless the Authority informs the applicant, in the manner set out in paragraph (4), that an application is incomplete, an application shall be deemed to be complete sixty days after the date of submission of the application.

(4) A notification of incompleteness shall -

(a) be in writing;

(b) be delivered to the applicant within sixty days of receipt by the Authority of the application;

(c) specify the information needed to make the application complete and prescribe a

reasonable time frame for response from the applicant.

(5) If, while processing an application that has been deemed to be complete, the Authority determines that additional information is necessary to evaluate or take final action on that application, the Authority may in writing request such information and set a reasonable deadline for response.

(6) Once the Authority has determined that an application is complete, the Authority shall notify the applicant that the application is complete and such notification shall constitute a provisional air pollutant discharge licence, which shall remain in effect until the Authority notifies the applicant in writing that the application is approved or refused.

Form and duration of licence. Seventh Schedule.

6. - (1) A licence shall be in the form set out in the Seventh Schedule and may contain such terms and conditions as the Authority thinks fit, including requirements for periodic or continuous stack monitoring, performance or compliance testing, ambient and meteorological monitoring, and such other measures to maintain or improve ambient air quality as the Authority shall think fit.

(2) A licence, other than a provisional licence, shall be valid for a period of five years beginning on the date of the approval of the application for the licence, and may be renewed, on application, for successive five-year periods.

Renewal of licences. Sixth

7. - (1) An application for the renewal of a licence shall be in the form set out in the Sixth Schedule, and such application shall be made no later than

Schedule.

sixty days before the date of expiry of the licence.

(2) Provisions for the continuation of an ambient air monitoring or meteorological monitoring programme, source testing (including the frequency of tests) and of any other conditions stipulated in the licence shall be determined by the Authority at the time of the application for renewal, and for the purposes of such determination it shall be the responsibility of the applicant to demonstrate the adequacy of existing data, its relationship to past, present and future facility operating conditions, and the adequacy of other means to document continuing compliance.

Transfer of licence, etc.

8. - (1) A licensee shall notify the Authority, in writing, of any proposed change in the –

(a) ownership of the licensed facility and of the name and address of the new owner;

(b) name of the licensed facility;

(c) mailing address of the owner,

at least ninety days prior to any such change.

(2) In the case of a change referred to in paragraph (1)(a), the licensee shall apply for a transfer of the licence and shall pay the appropriate fee set out in regulation 9 in respect of the transfer.

(3) A licence shall not be transferable from one facility to another.

Licence fees.

9. The following fees shall apply in relation to licences –

(a) in the case of a major facility –

(i) for each application for a licence or for the renewal of a licence a fee of ten thousand dollars;

(ii) in the case of a late application for a licence or a late application for the renewal of a licence, a fee of thirty thousand dollars, which shall be in addition to the fee referred to in subparagraph (i);

(iii) for an addendum to a licence, a fee of six thousand dollars;

(iv) for the transfer of a licence, a fee of two thousand five hundred dollars;

(b) in the case of a significant facility –

(i) for each application for a licence or for the renewal of a licence a fee of ten thousand dollars;

(ii) in the case of a late application for a licence or a late application for the renewal of a licence, a fee of fifteen thousand dollars, which shall be in addition to the fee referred to in subparagraph (i);

(iii) for an addendum to a licence, a fee of three thousand dollars;

(iv) for the transfer of a licence, a fee of two thousand five hundred dollars.

Record keeping and reporting.

10. - (1) A licensee shall make a record of –

(a) ambient measurements and stack emission measurements; and

(b) the operation of air pollutant sources and air pollution control devices,

relating to the licensed facility, and such record shall be retained by the licensee for a period of not less than seven years from the date on which the record was made.

(2) A licensee shall make available, during the licensee's hours of business, any record made pursuant to paragraph (1) for examination or the taking of copies by –

(a) the Authority; or

(b) any member of the public, unless the Authority has approved the classification of that record as confidential.

(3) The licensee shall also make available to the Authority, for examination or the taking of copies, any other information in the licensee's possession or control and relating to the matters referred to in paragraph (1) (a) or (b).

(4) A licensee shall, in respect of each calendar year, submit to the Authority a report of its emissions, in accordance with the Eighth Schedule.

Eighth Schedule.

(5) A licensee shall, if requested by the Authority, submit a report on the ambient air quality or stack emission measurements relating to the facility, in such form and within such time as may be specified by the Authority.

(6) A licensee shall report to the Authority any event that results in –

(a) an excess emission; or

(b) ambient measurements that exceed any ambient air quality standard or any applicable guideline concentration for a priority air pollutant,

by submitting to the Authority –

(i) a notice of such event, in accordance with the form set out in the Ninth Schedule, within twenty-four hours after the occurrence of the event; and

Ninth Schedule.

(ii) within ten days after the occurrence of the event, a written report describing the circumstances surrounding the event and the corrective measures taken or planned to be taken to prevent future occurrence of the event.

(7) A report submitted pursuant to paragraph (6) shall contain such information as is sufficient to enable the Authority to determine whether the excessive emission was caused by a sudden and unavoidable malfunction or the failure of any process or of any fuel burning or emission control equipment.

(8) Where the shut down of air pollution control equipment is likely to cause excess emissions, the licensee shall, in the manner set out in paragraph (9), notify the Authority of the planned shutdown of any such equipment, unless such shut down is accompanied by the shut down of the air pollutant source that such equipment is intended to control.

(9) Notice of a planned shut down of air pollution control equipment shall be in writing delivered to the Authority not less than forty-eight

hours before the shut down, and shall include the following information –

(a) identification of the facility, the licence number, the unit identification number and location of the specific control equipment to be shut down;

(b) the expected length of time that the air pollution control equipment will be shut down;

(c) the nature and quantity of emissions of air [pollutants] likely to occur during the shut down period;

(d) the measures (such as the use of off-shift labour and equipment) that will be taken to minimise the length of the shut down period; and

(e) the reasons making it impossible or impractical to shut down the air pollutant source during the maintenance period.

Emissions reports.

11. - (1) A licensee shall submit an emissions report in respect of each calendar year to the Authority within six months after the end of that calendar year, unless otherwise directed by the Authority.

(2) An emissions report shall be in the form set out in the Eighth Schedule and shall contain –

Eighth Schedule.

(a) an estimate of the emissions for the relevant calendar year; and

(b) all the data applicable to the emissions sources,

in respect of the licensed facility.

(3) Estimates of annual emissions shall be made based on the following methods, in order of preference –

(a) continuous emission monitoring data;

(b) calculation of SO_2 emissions based on fuel use and sulphur content data (combustion processes in which exhaust gases do not come in contact with products);

(c) most recent and representative stack monitoring measurements conducted in the previous five years and activity data for the year for which emissions are estimated;

(d) AP42 emission factor or equivalent methods and activity data for the year;

(e) AP42 emission factor or equivalent methods and plant capacity data;

(f) mass balance (including fuel use data) based on the two previous years or the most recent representative year;

(g) other approved methods supported by calculation and documentation,

and the procedures set out in the g*uideline document*.

Air pollutant discharge fees. Tenth Schedule.

12. - (1) On or before June 30 in each year, a licensee shall pay to the Authority, in respect of that licensee's previous calendar year's emissions estimated in the manner set out in regulation 11, the fees set out in column two of the Tenth Schedule in relation to the pollutants listed in column one of that Schedule.

(2) An applicant for a licence shall pay to the Authority, in respect of that applicant's previous

calendar year’s emissions estimated in the manner set out in regulation 11, the fees set out in column two of the Tenth Schedule in relation to the pollutants listed in column one of that Schedule.

Tenth Schedule.

(3) The Authority shall refund to the licensee or applicant, as the case may be, any air pollutant discharge fees paid by the licensee or applicant in excess of those payable under this regulation, and such excess fees shall be credited to the licensee's or applicant's account within ninety days after [such payment].

(4) The Authority shall send to a licensee or applicant, as the case may be, an invoice for any amounts by which the air pollutant discharge fees paid by the licensee as applicant are less than those set out in paragraph (1) and the licensee or applicant shall remit the amount owed, within ninety days of receipt of the invoice.

Allowances and incentives.

13. - (1) Subject to paragraphs (2) and (4), within two years after the submission of any initial licence application, the air pollution discharge fees payable for the first year of the licence in relation to existing facilities may be reduced by the actual costs for compliance stack tests conducted, up to a maximum of one hundred thousand dollars per stack.

(2) Such stack tests shall be for [any][all] pollutants for which there are discharge fees and must be performed according to the methods and procedures set out in these Regulations, and if the costs of acceptable compliance stack tests exceed the

discharge fees for the first year the Authority shall not remit to the licensee any amounts by which costs of such tests exceed such discharge fees.

(3) Subject to paragraph (4), discharge fees for all emissions from the combustion of –

(a) renewable energy fuels (such as bagasse, landfill gas, and agricultural wastes); or

(b) municipal waste, excluding oily wastes or hazardous or non-hazardous waste,

shall be waived, but discharge fees shall be payable for emissions from supplementary fossils fuels or other non-renewable fuels or combustible materials used in the same process as the renewable fuels or in different processes.

(4) Licensees in respect of existing facilities that have excess emissions or whose emissions are predicted to cause ambient air quality standards to be exceeded shall not be exempt from payment of any discharge fee.

Compliance plan.

14. - (1) As part of the requirements of a control order or of an application for the grant or renewal of a licence, the Authority may require the completion of a compliance plan in accordance with this regulation.

(2) A compliance plan shall include –

(a) a description of the current compliance status of the facility with respect to all applicable requirements, including all sources that exceed emission standards or targets or are predicted to exceed ambient air quality

standards or guideline concentrations, the monitoring locations at which ambient air quality standards or guideline concentrations are exceeded, and any other administrative or other requirements that have not been satisfied;

(b) a statement of the methods used to determine the facility's compliance status, including a description of all monitoring, record keeping, reporting and test methods, and any other information necessary to verify compliance with or to enforce applicable requirements;

(c) a statement that the facility will continue to comply with each applicable requirement in respect of which compliance is currently achieved at the facility; and

(d) in respect of each applicable requirement for which compliance is not currently achieved at the facility –

(i) a detailed statement of how the facility will achieve compliance;

(ii) a proposed compliance schedule setting forth the remedial measures to be taken, including a sequence of actions with milestones leading to compliance;

(iii) if the facility is subject to a control order, the proposed schedule of remedial measures shall incorporate the order and shall be at least as stringent as the order;

(iv) a schedule for submission of progress reports to the Authority at least once in every six months or more frequently if so required by the licence; and

(v) a schedule for the submission of compliance reports to the Authority, at least once in every six months or more frequently if so required by the licence, indicating what (if any) progress has been made in relation to the schedule and the milestones.

(3) The Authority shall review a compliance plan within ninety days of the receipt thereof, and shall, before the end of that period, notify the person who submitted the plan as to whether the plan is approved, disapproved, or if further information is required:

Provided that where a compliance plan is submitted as part of the requirements of a licence application, such plan shall be reviewed along with all other aspects of the licence application and all provisions relating to the time period for review of licence applications shall apply to the review of the compliance plan.

(4) Where a compliance plan is approved as part of the review of a licence application, such plan shall be affixed to the licence and shall form a part of the terms and conditions of the licence.

(5) Where a compliance plan is disapproved, the notification of such disapproval shall –

(a) set out the reasons for the disapproval; and

(b) inform such person that he is entitled to revise and resubmit the compliance plan within sixty days of the date of delivery of such notification.

(6) If after the review of a resubmitted compliance plan there remain aspects of the plan that are unsatisfactory to the Authority, the Authority may approve the plan subject to such terms, conditions or modifications as it thinks necessary to in order eliminate or mitigate the unsatisfactory aspects of the plan.

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

(8) The deadline for the total implementation of a compliance plan shall be no later than seven years from the date of notification of approval of the plan.

(9) In order to ensure that there are equitable conditions in compliance plans and efficient use of the Authority’s resources, the Authority shall coordinate and consider together compliance plans for all facilities located close to each other where the

emissions from such facilities jointly adversely affect ambient air quality in the vicinity of the facilities.

Fugitive emission control plan.

15. The Authority may, as part of the requirements of an application for a licence in relation to a facility with a fugitive emission air pollutant source, or as a requirement of a control order under regulation 41, require the applicant to submit a written fugitive emission control plan for the control of fugitive particulate emissions, if –

(a) the facility has a fugitive emissions source operating with emissions in excess of 20% opacity as determined by methods provided in this regulation;

(b) the facility has a fugitive emissions source operating with visible emissions that are being transported off the property on which the source is located; or

(c) in relation to the facility, the ambient air quality standard for total suspended particulates or for PM_{10} specified in the Natural Resources Conservation Authority (Ambient Air Quality Standards) Regulations is being exceeded at a location off the property on which the source is located.

(2) The Authority shall review a fugitive emission control plan within sixty days of the receipt thereof, and shall, before the end of that period, notify the person who submitted the plan as to whether the plan is approved, disapproved, or if further information is required:

Provided that where a fugitive emissions control plan is submitted as part of the requirements of a licence application, such plan shall be reviewed along with all other aspects of the licence application and all provisions relating to the time period for review of licence applications shall apply to the review of such plan.

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

(a) set out the reasons for disapproving the plan; and

(b) inform such person that he is entitled to revise and resubmit the plan within thirty days of the date of delivery of such notification.

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

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

(6) The Authority may periodically review any fugitive emission control plan approved by it and if

the Authority determines that the objectives of the plan are not being met, it shall require the submission of a revised plan within sixty days after such request.

(7) For the purposes of this section, fugitive emission air pollutant sources shall include -

(a) construction activities;

(b) storage and handling (including loading and unloading) of materials such as bauxite, alumina, gypsum, or Portland cement or the raw materials therefor;

(c) mining and quarrying activities;

(d) haul roads;

(e) haul trucks;

(f) tailings piles and ponds;

(g) demolition activities;

(h) blasting activities; and

(i) sandblasting operations.

(8) A fugitive emission control plan may require the employment of measures or operating procedures that include -

(a) control of fugitive particulate emissions from storage piles through use of enclosures, covers or stabilisation, 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 Authority;

(b) enclosing, covering, watering, or otherwise treating loaded haul trucks and railroad cars,

or limiting size of loads, to minimise loss of material to wind and spillage;

(c) minimising the area of disturbed land or tailings;

(d) planting special wind break vegetation at critical points;

(e) prompt removal of coal, rock minerals, soil, and other dust-forming debris from paved roads and scraping and compaction of unpaved roads to stabilise the road surface as often as necessary to minimise re-entrainment of fugitive particulate matter from the road surface;

(f) minimising the period of time between initially disturbing the soil and re-vegetating or other surface stabilisation;

(g) restricting the areas to be blasted at any one time;

(h) restricting the speed of vehicles in or around mining, tailing or quarrying operations;

(i) revegetating, mulching, or otherwise stabilising the surface of all areas adjoining roads that are a source of fugitive particulate emissions;

(j) substitution of covered conveyor systems for haul trucks;

(k) synthetic or revegetative covers;

(l) to the extent practicable, restricting vehicular travel to established paved roads;

(m) watering or chemical stabilisation of unpaved roads as often as necessary to minimise re-

entrainment of fugitive particulate matter from the road surface, or paving of roads;

(n) wind breaks; and

(o) the paving of roads.

Part II – *Emissions Standards, Guidelines, Testing and Monitoring*

Stack emission targets, standards and guide-lines. Eleventh and Twelfth Schedules.

16. - (1) The stack emission targets specified in the Eleventh Schedule (hereinafter in this regulation referred to as the targets) shall apply to all existing facilities with air pollutant sources.

(2) The stack emission standards specified in the Twelfth Schedule (hereinafter in this regulation referred to as the standards) shall apply to all new facilities with air pollutant sources.

(3) No person shall emit or cause to be emitted from any air pollutant source at an existing facility, any visible air pollutant the opacity or pollutant amount of which exceeds the targets.

(4) No person shall emit or cause to be emitted from any air pollutant source at a new facility, any visible air pollutants the opacity or pollutant amount of which exceeds the standards.

(5) The targets and standards shall not apply to the following –

(a) uncombined or uncondensed water vapour;

(b) emissions during start up and shut down operations;

(c) permitted open burning;

(d) burning of sugar cane fields for harvesting; or

(e) visible emissions during malfunctions.

(6) Visible emissions during –

(a) the cleaning of a firebox or the building of a new fire;

(b) soot blowing;

(c) equipment changes;

(d) ash removal; or

(e) rapping of precipitators,

may exceed the targets or standards for a period of not more than six consecutive minutes in any hour, or not more than six hours in any ten day period:

Provided that this paragraph shall not apply to sources that comply with the alternate particulate emissions mass rate standard.

Fugitive particulate emission guidelines.

17. - (1) No owner shall cause or permit the emission of particulate matter or visible emissions that –

(a) cause or are likely to cause damage to property;

(b) create or are likely to create a nuisance;

(c) cause or are likely to cause substantial loss of enjoyment of the normal use of any property; or

(d) adversely interfere, or are likely to adversely interfere, with the normal conduct of any business.

(2) Every owner of a facility with one or more air pollutant source or activity shall employ such control measures and operating procedures as are necessary to minimise fugitive emissions into the atmosphere, and such owner shall use available practical methods which are technologically feasible and economically reasonable and which reduce, prevent or control fugitive emissions so as to facilitate the

achievement of the maximum practical degree of air purity.

Priority air pollutants guidelines. Fourth and Fifth Schedules.

18. An owner of an existing facility with any source or potential source referred to in the Fourth or Fifth Schedules may be required, as a condition of an air pollutant discharge licence, to measure the emission of every priority air pollutant emitted therefrom and to develop and implement a plan to control such emissions in accordance with ambient air quality emission guidelines established by the Authority.

Odour guidelines.

19. Any owner who causes or allows the generation, from any source, of any odour that unreasonably interferes, or is likely to unreasonably interfere, with any other person’s lawful use or enjoyment of his property shall use recognised good practices and procedures to reduce such odours to a reasonable minimum, including any guidelines for reducing odours published by the Authority.

Sulphur content of fuels standard.

20. - (1) Paragraph (2) shall apply to new sources at a major or significant facility.

(2) No owner shall burn, or permit to be burned, residual oil fuel (No. 5 or 6) containing over 2.2 percent sulphur by weight as fired.

(3) Paragraph (4) shall apply to existing sources.

(4) No owner shall burn, or permit to be burned, residual oil fuel (No. 5 or 6) containing over 3 percent sulphur by weight as fired:

Provided that existing facilities with permit conditions that require a fuel with a specified

sulphur content lower than three percent shall be required to continue to satisfy those conditions.

(5) Paragraph (6) shall apply to existing and new facilities.

(6) No owner shall burn, or permit to be burned, light oil fuel (No. 1 or 2) containing over 0.5 percent sulphur by weight as fired in an existing source or in a new source.

(7) Paragraph (8) shall apply to new and existing sources.

(8) No owner shall burn, or permit to be burned, medium oil fuel (No. 3 or 4) containing over 1.1 percent sulphur by weight as fired.

(9) Notwithstanding the provisions of paragraphs (1) to (8), heavy fuel oil with no more than 3% sulphur may be burned at a new or existing facility with new fuel combustion sources or a combination of new and existing fuel combustion sources if –

(a) one or more of such sources operate so that sulphur dioxide is absorbed by virtue of coming in contact with a product or with a scrubbing device or other material; and

(b) the actual total sulphur dioxide emissions from the entire facility are less than the allowable sulphur dioxide emissions.

(10) For the purpose of paragraph (9), the allowable sulphur dioxide emissions are the sum of the following amounts –

(a) SO_2 emissions from all new sources at the facility based on actual fuel used by new

sources using 2.2% residual oil without any absorption of SO_2;

(b) SO_2 emissions from existing sources based on actual fuel used by new sources using 3.0% residual oil without any absorption of SO_2;

(c) SO_2 emissions from new or existing sources based on actual fuel used by new sources using 1.1% medium oil without any absorption of SO_2;

(d) SO_2 emissions from new or existing sources based on actual fuel used by new or existing sources using 0.5% light oil without any absorption of SO_2.

Reporting sulphur content of fuels.

21. - (1) A person who imports or receives for use distillate oil, residual oil, medium oil, or coal in Jamaica shall submit to the Authority quarterly reports itemising the quantity, sulphur content, ash content and heat content for each shipment of such fuel.

(2) It shall be the responsibility of the person importing or receiving such fuel to maintain a record of the certified fuel analyses upon which the quarterly reports are based and provide the user with a copy of the certification.

(3) A person who uses residual oil or bituminous or sub-bituminous coal shall maintain certification records of the all fuel analyses provided by the supplier or performed by the user of the fuel.

(4) Methods for the sample collection and analysis of fuels shall be in accordance with the

methods, procedures and conditions specified in regulations [23 to 30].

(5) An owner of a source who uses or permits to be used, any fuel with a sulphur content greater than that permitted under this regulation commits an offence and shall be liable on summary conviction to a fine not exceeding ten times the difference between the cost of the amount of fuel used and the cost of an equal amount of fuel with the allowable sulphur content.

Stack emissions monitoring methods.

22. – (1) The monitoring methods set out in this Part are to be used for measuring emissions of pollutants into the air from stacks and other sources, and may be required by the Authority for one or more of the following –

(a) applications for licences under these Regulations;

(b) stack emissions monitoring to satisfy monitoring and reporting requirements or conditions of licences under these Regulations;

(c) estimation of emissions for the purpose of calculating annual air pollutant discharge fees under these Regulations;

(d) estimation of total licensed discharges or discharge rates under these Regulations;

(e) assessing compliance with [stack emission standards and targets in the Stack Emission Standards and Targets, Fuel Sulphur Content and Odour Regulations];

(f) any other monitoring or reporting requirements as may be specified by the Authority from time to time.

(2) The Authority may require that any of the pollutants and parameters listed in the Eleventh or Twelfth Schedules are to be measured as stated in this Part.

Eleventh and Twelfth Schedules.

Stack emission test methods and pre-test protocol plan.

Eleventh, Twelfth and Thirteenth Schedules.

23. - (1) The stack emission test methods and procedures for each of the pollutants mentioned in the [Eleventh and Twelfth] Schedules shall be measured as applicable according to the methods specified in the Thirteenth Schedule:

Provided that alternate methods or test conditions other than maximum normal operating conditions may be used if the owner submits to the Authority a pre-test sampling protocol plan and obtains the prior approval of the Authority before undertaking measurements by such methods or under such conditions.

(2) An owner of a major or significant facility with sources of air pollutants, who is required to conduct performance emission testing for any of the purposes mentioned in regulation 22, shall submit to the Authority a pre-test sampling protocol plan in accordance with paragraph (3).

(3) Every pre-test sampling protocol plan shall indicate the programme objectives, any proposed deviations from test methods or test conditions, justification (including documentation) for alternate test methods or test conditions, sampling locations, sampling and analytical procedures, quality assurance

and quality control activities, reporting and data reduction, plant entry and safety, personnel responsibilities, the proposed test schedule, and a list of test methods.

(4) The Authority shall, within ninety days of the submission of a pre-test sampling protocol plan, evaluate and –

(a) approve the plan with or without conditions; or

(b) disapprove the plan and inform the applicant of required changes.

(5) Approval of a pre-test sampling protocol plan may be subject to the following conditions -

(a) inspection of the test site;

(b) reasonable modifications to the stack or duct to obtain acceptable test conditions;

(c) additional tests to allow for adverse conditions such as interferences, non-steady or cyclic processes;

(d) the keeping of process operating parameter records, operating logs, or charts during the test;

(e) conditions on control equipment operation to make the operation of control equipment representative of normal operation;

(f) the recording of specified control equipment operating parameters during the test; and

(g) such other conditions as the Authority thinks fit.

(6) If the Authority requires modification to any test methods, analytical methods, operational parameters, or other matters included in a pre-test sampling protocol plan, the Authority shall notify the person who submitted the plan by letter at least fifteen days prior to the proposed test date.

(7) If a licensee or applicant desires to change any procedures or conditions in any previously submitted pre-test sampling protocol plan, such licensee or applicant shall notify the Authority of such change thirty days prior to the proposed test date, and such changes shall not be made unless approved by the Authority prior to the test.

Stack emission measurements

Thirteenth Schedule.

24. - (1) The methods set out in the Thirteenth Schedule shall apply to the measurement of the following –

(a) opacity;

(b) particulate matter;

(c) sulphur dioxide;

(d) carbon monoxide;

(e) nitrogen oxides;

(f) sulphuric acid mist;

(g) lead;

(h) sulphur compounds;

(i) measurement of priority air pollutants;

(j) analysis of residual fuel oils and solid fuels; and

(k) sulphur content of fuels and other fuel characteristics .

Performance test

25. - (1) Each performance test shall consist of at least three separate runs conducted or samples

require-ments.

collected, as the case may be, using the applicable test method.

(2) Each run shall be conducted or each sample collected, as the case may be, while the source is operating at maximum normal production level and under the conditions suitable for the applicable standard or target.

(3) For the purpose of determining compliance with an applicable standard or target the arithmetic mean of the results of at least three runs shall apply at the significance level of the standard or target.

(4) All performance tests shall be conducted while the source of air pollutants is operating –

(a) at maximum normal operating conditions;

(b) or under such other conditions, within the capacity of the equipment, as may be requested by the Authority, including source-operating periods of start-up, shut-down or other operations (excluding malfunction) specific to certain sources.

(5) The owner of the source shall make available to the Authority such records as the Authority may require to determine the conditions of source operation that occurred during the performance test.

Authority to take samples or to witness tests.

26. - (1) The owner of a facility shall give the Authority at least thirty days prior written notice of the date of any performance test required under these Regulations, and shall afford the Authority the opportunity to have an authorized officer

present.

(2) Any such authorized officer designated by the Authority shall be afforded the opportunity to obtain samples or make measurements of stack emissions or of fugitive emissions.

(3) Where the Authority wishes to conduct tests of any source to determine compliance with emission targets or standards, the owner of the facility shall provide, upon request and free of charge to the Authority, the necessary openings in stacks, vents and ducts, along with safe and easy access thereto, and a suitable power source to the point of testing.

(4) The owner of the source to be tested shall provide the Authority with such data as may be required to establish test conditions.

(5) Where the Authority wishes to conduct tests of any source, the Authority shall –

(a) provide the owner with a written notice requiring the performance of the tests required by the Authority;

(b) prepare a pre-test plan including the approximate date of the tests and provide the owner with a copy of the pre-test plan prior to the scheduled conduct of the test; and

(c) notify the owner of the final date of the tests within thirty days of such date:

Provided that the owner may consent to the waiver of such notice.

Provision of services for stack

27. Where the Authority requires stack emission tests to be performed under these Regulations, the owner of the facility shall provide the following –

sampling.

(a) sampling ports adequate for test methods applicable to the facility;

(b) safe sampling platform(s) or other suitable and safe structures or equipment, either permanent or temporary, mobile or stationary;

(c) safe access to sampling platforms; and

(d) testing equipment and utilities for sampling.

Stack emission recording and reporting requirements.

28. - (1) Results of emissions sampling and analysis shall be expressed in metric units consistent with the emission standards or targets set out in these Regulations or in the conditions (if any) imposed in the relevant licence.

(2) Measurements of emissions into the atmosphere from stacks, vents or other air pollutant sources, which are reported to the Authority whether voluntarily or as a requirement of these Regulations or of any condition of a licence, shall be reported to the Authority in the form of a test report that includes the following information –

(a) the testing methods and results, certified as being true, accurate, and in compliance with these Regulations by the person responsible for conducting the emissions test;

(b) the name and location of the facility, the name and location of the source tested, the purpose of the tests, the test participants and their titles, and the date of the performance test;

(c) a summary of the results, setting out emission rates for each pollutant and a comparison with applicable emission standards or targets and with any emission limits in the licence;

(d) a description of the facility tested and the type of process and control equipment utilised;

(e) a description of the process sampled and associated emission control devices referenced to process ID, and locations at which sampling took place consistent with information provided in the relevant licence application or licence, as the case may be;

(f) a schematic of each location sampled including duct diameter, direction of flow, dimensions to nearest upstream and downstream disturbances (including the number of duct diameters), location and configuration of the sampling ports, nipple length and port diameters, and the number and configuration of traverse points;

(g) confirmation that sampling locations meet the criteria in the test methods set out in the Thirteenth Schedule, or the reasons why those locations do not meet such criteria and a discussion of the effect on results;

(h) a discussion of special traversing or measurement schemes (if any);

(i) a process flow diagram, maximum design capacities, a fuel analysis and heat value for heat input rate determinations, process and control equipment operating conditions, stack height, exit diameter, volumetric flow rate, exit temperature, exit velocity and a discussion of variations from normal plant operations;

(j) a description of the sampling methods used;

(k) a brief discussion of the analytical procedures, with justifications for any variance from prescribed method procedures;

(l) the number of sampling points, time per point and the total sampling time per run;

(m) a cross-sectional diagram showing sampling points and a diagram of the sampling train;

(n) a diagram showing stack dimensions, sampling location and the distance from the nearest flow disturbance upstream and downstream, respectively, of the sampling points;

(o) results and calculations in units consistent with the applicable emission limits with one complete calculation using actual data for each type of test performed;

(p) the tabulated data and results of the process weight rate or heat input rate in metric units, the referenced or derived conversion factors, the stack gas flow rate, the measured emissions given in units

consistent with the applicable emission limits, the visible emissions observations or six consecutive minute average continuous opacity monitor readings, and the average value of emissions from any continuous gaseous emissions monitoring system in units consistent with applicable emission limits;

(q) quality assurance procedures;

(r) appendices with raw data and details of calculations, including –

(i) raw production data signed by the source official;

(ii) photocopies of all raw data;

(iii) a chain of custody report; and

(iv) copies of all calibration data;

(s) for particulate matter tests, copies of visible emissions evaluations or opacity monitor readings, and, for gaseous pollutant tests, copies of any continuous gaseous emissions monitoring system readings during the tests.

(3) All emission test reports shall be delivered to the Authority within ninety days from the date of completion of the testing.

(4) The Authority may, if it thinks fit, grant an extension of the period specified in sub-paragraph (3) upon the submission to the Authority, not less than five days before the expiration of such period, of a written explanation for the requested extension.

Continuous

29. - (1) A licensee having any of the sources set

emission monitoring system (CEMS) require-ments.

out in column A of the Fourteenth Schedule shall install, calibrate, maintain and operate equipment for continuously monitoring and recording, according to methods specified in these Regulations or approved by the Authority, the emissions set out in relation thereto in column B of that Schedule.

Fourteenth Schedule.

(2) A control order served under regulation 41 may require continuous emissions monitoring systems (CEMS) for any source or facility.

(3) CEMS equipment shall be installed in a location that accords with sound engineering practices to provide for accurate emission readings.

(4) The averaging times for CEMS shall correspond to the averaging times for the appropriate emission standards or targets.

Performance requirements for continuous emission monitoring systems (CEMS).

30. - (1) Every CEMS shall satisfy performance require-ments in accordance with the methods specified by the Authority.

(2) Every licensee shall maintain records of all such monitoring, for a period of not less than two years from the date on which the record is made, and shall make those records available for inspection upon request by any authorized officer.

(3) A licensee who is required to install CEMS under these Regulations shall complete the installation and performance testing of CEMS –

(a) in relation to an existing source, on or before [August 31, 2004];

(b) in relation to a new source or major modification of an existing source, within one year after commencement of operation or

effecting the modification, as the case may be.

(4) Every licensee who is required to install, maintain, and calibrate CEMS equipment shall -

(a) prepare a schedule of the calibration and maintenance of the continuous monitoring system;

(b) prepare and submit annual reports of emissions measured by CEMS as required in the terms and conditions of the licence.

CEMS malfunctions.

31. - (1) A licensee who is required to install maintain and calibrate CEMS equipment shall notify the Authority, in the manner provided by paragraph (2), of the malfunction of any such CEMS.

(2) A notification under paragraph (1) shall be made within two days after the malfunction and shall contain the following information -

(a) the date and time of each period of equipment malfunction; and

(b) the nature of the system repairs or adjustments, if any, made to correct the malfunction.

(3) Upon the written request of a licensee, the Authority may exempt the licensee from the monitoring and reporting requirements of regulations 29 and 30 during any specified period, for the purpose of monitoring system malfunctions, if the Authority is satisfied that the malfunction is unavoidable and is being repaired as expeditiously as is practicable.

Part III - *Ambient air quality monitoring and assessment*

Applic-

32. - (1) The Authority may, subject to the requirements

ability. of this Part, require the completion of an ambient air quality assessment.

(2) Ambient air quality assessment and monitoring may be required in respect of -

(a) an applicant for a licence in relation to an existing or proposed major or significant facility, as a requirement of such application;

(b) a licensee in relation to an existing significant or major facility, for the purpose of evaluating compliance with ambient air quality standards, stack emission standards and stack emission targets;

(c) a licensee, where ambient air quality assessment and monitoring is required as a condition of the licence;

(d) a licensee who is required to conduct an air quality assessment or ambient monitoring as a condition of an application to undertake a major modification of any source;

(e) any source or facility that the Authority determines is not in compliance with ambient air quality standards, stack emission standards or stack emission targets, the control of which will prevent or alleviate air pollution episodes;

(f) any case where the Authority establishes that one or more air pollutants may cause injury to human, plant or animal life, injury to property, or may unreasonably interfere with

the comfortable enjoyment of life or property or with the conduct of business.

Requirements for ambient air quality monitoring and assessments.

33. - (1) The methodology for ambient air quality assessments shall be that set out in the guideline document.

(2) The Authority shall require air dispersion modelling as part of an ambient air quality assessment, and may require ambient air quality and meteorological monitoring as set out in the guideline document.

(3) A person who is required to conduct ambient air quality monitoring shall submit an air quality monitoring plan and shall provide documentation and reporting in accordance with the monitoring programme set out in the guideline document.

(4) Every applicant for a licence in relation to an existing significant facility shall conduct screening modelling and -

(a) may proceed with the application for a licence if the maximum predicted ground level concentration of an emitted pollutant plus the background concentration is less than or equal to 75% of the applicable national ambient air quality standard for any criteria pollutant or objective for any priority air pollutant;

(b) except as noted in paragraph (6), shall conduct stack tests as appropriate and revise the screening model estimates based on such tests before continuing with the application for a licence, if the maximum ground level ambient concentration plus the background concentration predicted by a

screening model is greater than 75% of the applicable national ambient air quality standard for any criteria pollutant, or objective for any priority air pollutant;

(c) may proceed with the application for a licence, if the stack tests show that no stack emission standard is exceeded;

(d) shall conduct detailed modelling as a requirement of the licence application or for completing the air quality assessment, as the case may be, if the maximum predicted ground level ambient concentration from the screening modelling plus the background concentration is greater than the applicable national ambient air quality standard for any criteria pollutant, or objective for any priority air pollutant,

and, where -

(i) the stack tests show that any stack emission standard or target is exceeded; or

(ii) the maximum predicted ground level ambient concentration from the detailed modelling plus the background concentration show that any ambient air quality standard is exceeded,

the preparation of a compliance plan shall be deemed a condition of any licence granted to the applicant.

(5) In relation to a major or significant facility for which screening modelling is not appropriate, as specified in the guideline document,

an applicant for a licence shall conduct detailed dispersion modelling before proceeding with the application or any air quality assessment and -

(a) may proceed with the application for a licence or air quality assessment, if the maximum predicted ground level concentration plus the background concentration is less than or equal to 75% of the applicable national ambient air quality standard for any criteria pollutant or objective for any priority air pollutant;

(b) except as specified in paragraph (6), shall conduct stack tests as appropriate and conduct detailed modelling for completing the air quality assessment before continuing with the application, if the maximum ground level ambient concentration plus the background concentration predicted by a screening model is greater than 75% of the applicable national ambient air quality standard for any criteria pollutant, or objective for any priority air pollutant.

(6) Stack tests shall not be required for estimating emissions of sulphur dioxide from any fuel combustion process that burns heavy, residual, distillate, medium or light fuel oils or natural gas, if the exhaust gases are emitted directly into the atmosphere and do not come in contact with any process stream (for example, cement, alumina or lime kilns that remove sulphur dioxide).

(7) An application for approval to construct a new source or facility or to carry out a major modification to any existing source shall not be granted if the impact predicted by the dispersion model is significant:

Provided that such approval may be granted in locations where the predicted impact based on detailed dispersion modelling plus the background concentration is less than or equal to 75% of the applicable [NAAQS], and the source emissions do not exceed any applicable stack emission standards.

(8) In relation to an existing source, where the maximum ground level ambient concentration is predicted by the detailed model to exceed any [NAAQS], the applicant shall prepare a compliance plan as a requirement of the application for a licence, and the provisions of these Regulations requiring ambient and stack emission monitoring and reporting shall be deemed to be conditions of the licence.

(9) Where the stack test results show that a pollutant is emitted at a level above the applicable emission standard or target, the applicant shall prepare a compliance plan as a requirement of the application for a licence.

Requirements in relation to a new or existing facility that uses renewable

34. A licensee in relation to a new or existing major or significant facility that uses renewable fuels for eighty percent or more of its annual fuel requirements shall -

(a) develop a plan for optimising combustion efficiency, and that plan shall indicate current practices, targets for optimisation and mile-

fuels for eighty percent or more of its annual fuel requirements.

stones for indicating progress towards achieving the targets;

(b) report to the Authority in writing at least once in every six months, the licensee's progress toward achieving such targets.

Methods for measuring ambient air pollutant concentrations. Fifteenth and Sixteenth Schedules.

35. - (1) Measurement shall be made by methods using the minimum specifications given in regulation 33(4).

(2) Ambient concentrations of air pollutants shall be monitored using methods that have the minimum performance specifications set out in the Fifteenth Schedule.

(3) Measurements of ambient concentrations of PM, PM_{10}, sulphur dioxide, carbon monoxide, ozone, nitrogen oxides or lead shall be made by the methods set out in the Sixteenth Schedule, or by such other equivalent methods as are approved by the Authority.

(4) The Authority shall compile and maintain a current list of [United States Environmental Protection Agency] reference and designated methods and make the list available upon request to any person required to conduct ambient monitoring or monitoring for criteria or priority air pollutants.

Methods for measuring meteorological parameters.

36. - (1) Measurements of meteorological parameters shall be required whenever a detailed air quality assessment or site-specific meteorological data is required.

(2) Guidelines for siting, station operation and maintenance for the purposes of paragraph (1) shall be in accordance with the procedures for the **[*NEPA Guideline Document*]**.

Part IV - *General*

Consequences of non-compliance with Regulations.

37. - (1) The owner of a facility to which these Regulations apply shall ensure that the facility, and each source in the facility, is operated in accordance with these Regulations and all terms and conditions of the licence.

(2) The Authority may issue a warning notice to any person who fails to comply with paragraph (1), stipulating the nature of the breach, the required remedial action, specifying a reasonable period within which the remedial action shall be carried out and informing the person that he may apply to the Authority to be heard in relation to the case within such time as may be specified in the notice.

(3) Where a person fails to comply with a warning notice issued under paragraph (2), the Authority may, in relation to the facility in respect of which the non-compliance occurs -

(a) issue a control order;

(b) impose administrative penalties;

(c) suspend or revoke any licence;

(d) refuse an application for renewal of any licence;

(e) apply to the Supreme Court for an injunction to prohibit the operation of the facility or any source at the facility,

as it thinks appropriate, in accordance with the provisions of these Regulations.

(4) The Authority may act under paragraph (3) without serving a warning notice in relation to any

breach if a control order is in effect in relation to the breach.

Procedure for revocation or suspension of a licence.

38. - (1) The Authority may, by notice in writing to the licensee, revoke or suspend a licence if -

(a) a breach of any term or condition of the licence is committed;

(b) the licensee no longer carries on operations at the facility;

(c) the licensee fails to pay any fees due to the Authority in respect of the licence;

(d) the licensee, in any application, report or record submitted pursuant to these Regulations, wilfully and knowingly submits any false or misleading information, omits any relevant information or falsifies any record of environmental monitoring;

(e) fails to obey a control order issued under these Regulations;

(f) fails to submit and comply with a fugitive particulate emissions control plan or a compliance plan as required under these Regulations.

Refusal of an application for renewal of a licence.

39. - (1) The Authority may deny an application for a renewal of a licence where -

(a) the licensee fails to pay any fees due to the Authority in respect of the licence;

(b) the licensee, in any application, report or record submitted pursuant to these Regulations, wilfully and knowingly submits any false or misleading information, omits

any relevant information or falsifies any record of environmental monitoring;

(c) fails to obey a control order issued under these Regulations;

(d) fails to submit and comply with a fugitive particulate emissions control plan or a compliance plan required under these Regulations.

Resumption of operations subsequent to control order or licence revocation.

40. A facility that resumes operations, after being inactive for more than two years by virtue of a control order or the revocation of a licence, shall be treated as a new facility for the purposes of these Regulations.

Control Orders.

41. - (1) A control order may be issued in anticipation of a breach of any provision of these Regulations or of any term or condition of a licence, or in response to such breach.

(2) A control order –

(a) shall specify the breach in respect of which it is issued;

(b) shall specify the steps to be taken to ameliorate the effects of the breach;

(c) shall specify the time within which the steps referred to in subparagraph (b) shall be taken;

(d) may, where appropriate, require the immediate cessation of the breach;

(e) shall be in the form set out in the

Seventeenth Schedule.

Seventeenth Schedule.

(3) Any person who fails to comply with the provisions of a control order issued under this regulation shall be liable on conviction –

(a) in the case of a first offence, to a fine not exceeding one million dollars or imprisonment for a term not exceeding [one] year;

(b) in the case of a second or subsequent offence, to a fine not exceeding two million dollars or imprisonment for a term not exceeding [two] years.

(4) Where a compliance plan is required by a control order, the person to whom the control order is issued shall submit a compliance plan within ninety days of receipt of the order.

(5) The Authority shall, within ninety days of receiving a compliance plan pursuant to subsection (1), indicate in writing whether or not the compliance plan is approved.

Fugitive emissions control plan.

42. A person to whom is issued a control order requiring the submission of a fugitive emissions control plan shall submit such plan within ninety days of receipt of the control order.

Offences.

43. - (1) Any person who -

(a) where required to provide any information under these Regulations, knowingly provides false or misleading information;

(b) fails to provide information as required under these Regulations;

(c) fails to allow access to any thing or information in respect of which he is obliged to provide access under these Regulations;

(d) assaults or obstructs a duly authorized officer acting in the execution of his duty;

(e) fails to report a pollution event as required by regulation 10;

(f) discharges air emissions, or causes air emissions to be discharged, without a licence,

commits an offence and shall be liable on summary conviction before a Resident Magistrate to a fine not exceeding one million dollars or to imprisonment for a term not exceeding [one] year or to both such fine and imprisonment.

(2) Subject to paragraph (3), an owner or operator of a facility, who carries out a major modification to an existing source, which results in the source producing excess emissions or emissions in excess of those permitted under any licence in respect of the facility, shall be liable [upon conviction before a Circuit Court to a fine not exceeding [ ] dollars or to imprisonment for a term not exceeding [ ] or to both such fine and imprisonment].

(3) An owner of an existing facility having sources that at the time of application for a licence exceed any emission standard or target, shall not be liable to conviction under paragraph (2) if the owner submits a compliance plan along with the licence application and continues to meet all of the

milestones or other conditions specified in the compliance plan.

(4) A person who commits an offence for which no specific penalty is provided under these Regulations shall be liable upon conviction [before a Circuit Court] to a fine not exceeding two million dollars or to imprisonment for a term not exceeding [two] years, or to both such fine and imprisonment.

[Administrative penalties. Eighteenth Schedule.

44. - (1) Subject to the provisions of this Regulation, the Authority may, in respect of the offences set out in the Eighteenth Schedule, give to any person who, in the opinion of the Authority, has committed any such offence, a notice in writing in accordance with paragraph (7) offering that person the opportunity to discharge any liability to conviction of that offence by payment of a fixed penalty under this regulation.

(2) The amount of a fixed penalty under this regulation shall be calculated in accordance with paragraph (3) and the method of calculating the penalty shall be communicated to the person against whom it is levied in the notice referred to in paragraph (1).

(3) The amount of a fixed penalty shall be five thousand dollars for each day during which, in the opinion of the Authority, the alleged offence continues, measured from the date on which the notice referred to in paragraph (1) is given to the person.

(4) Where a person is given notice under this regulation in respect of an offence, no criminal proceedings in respect of that offence shall be taken until the end of the period specified in the notice.

[(5) A person who pays a fixed penalty levied against him under this regulation in respect of an offence and complies with the requirement in respect of which the offence was committed before –

(a) the expiration of the period specified in the notice; or

(b) the date on which criminal proceedings are commenced in respect of the offence,

shall not be liable to conviction for such offence.

(6) A person against whom three fixed penalties are levied for the same or similar offences in the course of one calendar year, shall, if liable for conviction in respect of any such subsequent offence, not be eligible for the imposition of a fixed penalty in lieu of conviction for the offence.

(7) A notice under paragraph (2) shall -

(a) specify the offence alleged;

(b) give such particulars of the offence as are necessary for giving reasonable information of the allegation;

(c) state –

(i) the period during which, by virtue of paragraph (4), proceedings will not be taken for the offence;

(ii) the person to whom and the address at which the fixed penalty may be paid.]

Dispute resolution.

45. - (1) Any licensee or applicant who is aggrieved by a decision of the Authority regarding –

(a) the refusal of a licence;

(b) any term or condition inserted in a licence or compliance plan;

(c) the disapproval or modification of any compliance plan;

(d) the amount of any air pollutant discharge fees imposed; or

(e) any administrative penalty levied,

pursuant to these regulations, may within twenty days after the date of the communication of such decision to the licensee or applicant, submit to the Authority a written notification for dispute resolution.

(2) If any grievance has not been resolved within thirty days of the submission to the Authority, by the licensee or applicant (as the case may be), of a notice for dispute resolution of such grievance, the licensee or applicant (as the case may be) may appeal to an Appeals Tribunal in accordance with [section 34 of the Act].

National Emissions Inventory.

46. - (1) It shall be the responsibility of the Authority to –

(a) develop a National Emissions Inventory to track air quality within identified air sheds and emissions;

(b) make such Inventory available to the public; and

(c) provide to the Minister an annual report containing information on air quality.

(2) The Minister shall lay a report referred to in paragraph (1)(c) on the table of the House of Representatives at least once in every three years.

Air pollu-

47. - (1) The Authority shall maintain a register of all

tant discharge licence register.

applications for licences and all compliance plans submitted to the Authority, with an alphabetical index of the names of all persons applying to the Authority for a licence and a notation of the current status of the application.

(2) For each entry in the register, the Authority shall maintain a record of each application, all non-confidential correspondence and non-confidential information concerning the application, approved licences including terms and conditions of the licences, any notifications of rejected licence applications, and any control orders relating thereto.

(3) A copy of the register shall be maintained in the possession of the Authority and, except for confidential information referred to in regulation 10(2)(b), shall be made available to the public as follows -

(a) the register shall be made available for inspection by the public at the premises of the Authority and by such other means as the Authority deems fit;

(b) there shall be no fee for the inspection of the register;

(c) if any person requests an officer of the Authority to conduct a search of the register, the person shall pay a fee of one hundred dollars for the conduct of such search;

(d) the Authority shall, upon the request of any person and upon payment by such person of a fee of fifty dollars per page, provide

that person with a copy of any information in the register.

Part V –*Transitional*

Implementation of air pollutant discharge licence system.

48. - (1) The Authority shall, by notice published in a widely circulated newspaper, identify the pollutant sources or facilities that will be required to obtain a licence and indicate the time frames by which applications for licences shall be submitted to the Authority.

(2) Any failure by Authority to notify a facility in accordance with paragraph (1) shall not relieve that facility of the obligation to file a timely and complete application for a licence.

(3) Subject to paragraph (5), every existing major facility in the following source categories shall complete and submit an application for a licence, in accordance with to the following timetable -

(a) mineral processing, on or before [March 15, 2003];

(b) fuel combustion (electric power generation and cogeneration only), on or before [May 15, 2003];

(c) other fuel combustion (sugar industry, industrial boilers), on or before [September 15, 2003];

(d) petroleum refining, on or before [May 15, 2003];

(e) all other major facilities in all other categories, on or before [November 15, 2003].

(4) Subject to paragraph (5), every existing significant facility in the following categories shall complete and submit an application for a licence, in accordance with the following timetable -

(a) fuel combustion and all significant facilities in which oil fired boilers are the only source, on or before [March 15, 2004];

(b) inorganic and organic chemical processing, on or before [September 15, 2004];

(c) incinerators, on or before [March 15, 2004];

(d) all other sources in all other categories, on or before [September 15, 2004].

(5) An existing major or significant facility that has been granted a permit under the Natural Resources Conservation (Permits and Licences) Regulations, 1996, shall submit a licence application on or before [June 30, 2003], and the terms and conditions of such licence shall continue in effect in respect of the facility until that date or until a licence is granted under these Regulations, whichever occurs earliest.

(6) No application shall be processed prior to the payment of the full amount of the application fee and of the discharge fee for the previous full calendar year.

(7) The discharge fees shall be as set out in the Tenth Schedule.

Tenth Schedule.

FIRST SCHEDULE (Regulation 2)

Rates of emission constituting major modification

Column A	**Column B**
Pollutant	**Rate: Tonnes/Year**
Carbon monoxide	100
Nitrogen oxides	40
Sulphur dioxide	40
Particulate matter (PM)	25
Fine particulate matter (PM10)	15
Volatile organic compounds (VOC)	40
Lead	0.6
Fluorides	3
Sulphuric acid mist	7
Hydrogen sulphide (H_2S)	10
Total reduced sulphur (including H_2S)	10
Municipal waste combustor organics (measured as total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	0.0000035
Municipal waste combustor metals (measured as PM)	15
Municipal waste combustor acid gases (measured as SO_2 and hydrogen chloride)	40;

SECOND SCHEDULE (Regulation 2)

Priority Air Pollutants

Chemical	**CAS No.**	**Concentrations in mg/m^3**		
		1 h	24 h	Annual
1,1,2,2-tetrachloroethane	79-34-5	0.2		
1,1,2-trichloroethane	79-00-5	0.6		
1,2-dichloroethane	107-06-2	0.4		
1,3-butadiene	106-99-0	0.04		
1,3-dichloropropene	542-75-6	50	20	
2,3,7,8-tetrachlorodibenzo (p)dioxin	1746-01-6	$2.3x10^{-7}$		
2,4-dinitrotoluene	121-14-2	0.05		
2-nitropropane	79-46-9	50	20	
Acetaldehyde	75-07-0	1,250	500	
Acetone	67-64-1	120,000	48,000	
Acetonitrile	75-05-8	375	150	
Acrolein	107-02-8	58.75	23.5	
Acrylic acid	79-10-7	2.5	1	
Acrylonitrile	107-13-1	250	100	
Aldrin	309-00-2	0.002		
Ammonia	7664-41-7	9,000	3,600	
Aniline	62-53-3	2.5	1	
Antimony & compounds	7440-36-0	62.5	25	
Arsenic & compounds	7440-38-2	0.75	0.3	
Benzene	71-43-2			1
Benzo(a)pyrene	50-32-8	0.00275	0.0011	
Benzyl chloride	100-44-7			0.2

Chemical	**CAS No.**	**Concentrations in mg/m^3**		
		1 h	24 h	Annual
Beryllium & compounds	7440-41-7			0.0013
Cadmium & compounds	7440-43-9	5	2	
Calcium oxide	1305-78-8	25	10	
Carbon dioxide (process emissions)				
Carbon disulphide	75-15-0	1,750	700	
Carbon tetrachloride	56-23-5	6	2.4	
Chlordane (technical)	12789-03-6	12.5	5	
Chlorinated dibenzo-p-dioxins (cdds)	NA	12.5 pg TEQ/m^3	5pg TEQ/m^3	
Chlorine dioxide	10049-04-4	75	30	
Chloroform	67-66-3	1,250	500	
Chromium, hexavalent compounds	18540-29-9	3.75	1.5	
Chromium, trivalent compounds	16065-83-1	3.75	1.5	
Cobalt & compounds	7440-48-4		0.12	
Copper & compounds	7440-50-8	125	50	
Cresols	1319-77-3	187.5	75	
DDT	50-29-3			0.1
Dieldrin	60-57-1			0.002
Endrin				
Ethylene dibromide	106-93-4	7.5	3	
Ethylene dichloride	107-06-2	5	2	
Ethylene glycol	107-21-1	31,750	12,700	
Formaldehyde	50-00-0	162.5	65	
Heptachlor	76-44-8			0.008

Chemical	**CAS No.**	**Concentrations in mg/m³**		
		1 h	24 h	Annual
Hexachlorobenzene	118-74-1			0.02
Hydrogen sulphide	7783-06-4	2.5	1	
Lead	7439-92-1			
Manganese & compounds	7439-96-5			119
Mercaptans (as methyl mercaptan)	74-93-1	50	20	
Mercury & compounds	7439-97-6	5	2	
Mercury alkyl	7439-97-6	1.25	0.5	
Methyl bromide	74-83-9	3,375	1,350	
Methylene chloride	75-09-2	550	220	
Mirex				
Nickel & compounds	7440-02-0	5	2	
Nitric acid	7697-37-2	87.5	35	
Nitrogen oxides as nitrogen dioxide	10102-44-0	400		
PAC				
P-dichlorobenzene	106-46-7	237.5	95	
Pentachlorophenol	87-86-5	250	100	
Phenol	108-95-2	250	100	
Polychlorinated biphenyls	1336-36-3	0.375	0.15	
Polychlorinated dioxins and furans				0.02 pg/m3 #
P-xylene	106-42-3	5,750	2,300	
Quinoline	91-22-5			0.003
Selenium & compounds	7782-49-2	25	10	
Sodium hydroxide	1310-73-2	25	10	
Styrene	100-42-5	2,500	1,000	
Sulphuric acid	7664-93-9		23.8	

Chemical	**CAS No.**	**Concentrations in mg/m^3**		
		1 h	24 h	Annual
Sulphuric acid	7664-93-9	87.5	35	
Tetrachloroethylene	127-18-4	900	360	
Toxaphene	8001-35-2			0.03
Trichloroethylene	79-01-6	57.5	23	
Vinyl chloride	75-01-4		1	0.2
Vinylidene chloride	75-35-4	87.5	35	
Xylenes	1330-20-7	5,750	2,300	
Zinc and compounds	7440-66-6		12	

Expressed as 2,3,7,8-Tetrachlorodibenzo-p-dioxin equivalents

THIRD SCHEDULE (Regulation 2)

Units and Abbreviations

°C - degree Celsius (centigrade)

dscm – dry standard cubic metre

g - gram

h - hour

J - joule

k – kilo (1,000)

l - litre

lpm - litre per minute

Mg – million grams

mg - milligram

m^3 – cubic metre

pg – picogram (10^{-12}g)

scm - cubic metre at standard conditions

s - second

min - minute

ml – millilitre

mol. wt. - molecular weight

n – nano

ppm – parts per million

t – tonne

μ - micro (10^{-6})

TEQ – toxicity equivalent

Chemical nomenclature

As - arsenic

Cd - cadmium

Co - cobalt

CO - carbon monoxide

Cr - chromium

Cu - copper

H_2S - hydrogen sulphide

H_2SO_4 - sulphuric acid

HCl - hydrochloric acid

Hg - mercury

Mn - manganese

Ni - nickel

NO - nitric oxide

NO_2 - nitrogen dioxide

NOx - nitrogen oxides

O_2 - oxygen

Pb - lead

PCDD - polychlorinated dibenzo-p-dioxin

PCDF - polychlorinated dibenzofurans

PM- particulate matter

PM10 - particulate matter with aerodynamic diameter less than or equal to 10 μm

Sb - antimony

Se – selenium

SO_2 - sulphur dioxide

SO_3 - sulphur trioxide

SOx - sulphur oxides

Te - tellurium

Tl - thallium

V - vanadium

VOC - volatile organic compound

Zn - zinc

FOURTH SCHEDULE (Regulation 2)

Categories of Air Pollutant Sources

Electricity generation

Mineral Industries

Petroleum Refineries

Municipal incinerators

Biomedical incinerators

Hazardous waste incinerators

Chemical Processing

Inorganic Chemicals Manufacturing

Organic Chemicals Manufacturing

Liquids Distribution – Petroleum Products

Non-Ferrous Metals Processing

Ferrous Metals Processing

Polymers And Resins Production

Food And Agricultural Processes

Agricultural Chemicals Production

Surface Coating Processes

Waste Management

Fuel Combustion in any of the above categories including stationary fuel combustion sources

FIFTH SCHEDULE (Regulation 2)

Potential Sources of Priority Air Pollutants

1) AGRICULTURAL CHEMICALS PRODUCTION

- 2,4-D Salts and Esters Production
- 4-Chloro-2-Methylphenoxyacetic Acid Production
- 4,6-Dinitro-o-Cresol Production
- Captafol Production
- Captan Production
- Chloroneb Production
- Chlorothalonil Production
- Dacthal (tm) Production
- Sodium Pentachlorophenate Production
- Tordon (tm) Acid Production

2) FERROUS METALS PROCESSING

- Ferroalloys Production
- Integrated Iron and Steel Manufacturing
- Non-Stainless Steel Manufacturing-Electric Arc Furnace (EAF) Operation
- Iron Foundries
- Steel Foundries
- Steel Pickling-HCl Process

3) FIBRES PRODUCTION PROCESSES

- Acrylic Fibres/Modacrylic Fibres Production
- Rayon Production
- Spandex Production

4) FOOD AND AGRICULTURAL PROCESSES

- Baker's Yeast Manufacturing
- Cellulose Food Casing Manufacturing

- Vegetable Oil Production

5) FUEL COMBUSTION

- Engine Test Facilities
- Industrial Boilers
- Institutional Commercial Boilers
- Process Heaters
- Stationary Internal Combustion Engines
- Stationary Turbines

6) LIQUIDS DISTRIBUTION

- Organic Liquids Distribution (Non-Gasoline)

7) MINERAL PRODUCTS PROCESSING

- Alumina Processing
- Asphalt/Coal Tar Application-Metal Pipes
- Asphalt Concrete Manufacturing
- Asphalt Processing
- Asphalt Roofing Manufacturing
- Chromium Refractories Production
- Clay Products Manufacturing
- Lime Manufacturing
- Mineral Wool Production
- Portland Cement Manufacturing
- Taconite Iron Ore Processing
- Wool Fibreglass Manufacturing

8) MISCELLANEOUS PROCESSES

- Aerosol Can-Filling Facilities
- Benzyltrimethylammonium Chloride Production
- Butadiene Dimers Production

  Carbonyl Sulphide Production
- Chelating Agents Production

- Chlorinated Paraffins Production
- Commercial Sterilization Facilities
- Dodecanedioic Acid Production
- Dry Cleaning (Petroleum Solvent)
- Ethylidene Norbornene Production
- Explosives Production
- Hydrazine Production
- Industrial Process Cooling Towers
- OBPA/1,3-Diisocyanate Production
- Paint Stripper Users
- Photographic Chemicals Production
- Phthalate Plasticizers Production
- Plywood/Particle Board Manufacturing
- Polyether Polyols Production
- Rubber Chemical Manufacturing
- Semiconductor Manufacturing
- Symmetrical Tetrachlorophyridine Production
- Tire Production
- Wood Treatment

9) NON-FERROUS METALS PROCESSING

- Secondary Aluminum Production
- Primary Copper Smelting
- Primary Lead Smelting
- Lead Acid Battery Manufacturing
- Primary Magnesium Refining

10) PETROLEUM AND NATURAL GAS PRODUCTION AND REFINING

- Oil and Natural Gas Production
- Petroleum Refineries-Catalytic Cracking (Fluid and other) Units, Catalytic Reforming Units, and

Sulphur Plant Units

11) PHARMACEUTICAL PRODUCTION PROCESSES

- Pharmaceuticals Production

12) POLYMERS AND RESINS PRODUCTION

- Acetal Resins Production
- Acrylonitrile-Butadiene-Styrene Production
- Alkyd Resins Production
- Amino Resins Production
- Boat Manufacturing
- Butadiene-Furfural Cotrimer (R-11)
- Butyl Rubber Production
- Carboxymethylcellulose Production
- Cellophane Production
- Cellulose Ethers Production
- Epichlorohydrin Elastomers Production
- Epoxy Resins Production
- Ethylene-Propylene Elastomers Production
- Flexible Polyurethane Foam Production
- Hypalon (tm) Production
- Maleic Anhydride Copolymers Production
- Methylcellulose Production
- Methyl Methacrylate-Acrylonitrile-Butadiene-Styrene Production
- Methyl Methacrylate-Butadiene-Styrene Terpolymers Production
- Neoprene Production
- Nitrile Butadiene Rubber Production
- Non-Nylon Polyamides Production
- Nylon 6 Production
- Phenolic Resins Production
- Polybutadiene Rubber Production

- Polycarbonates Production
- Polyester Resins Production
- Polyethylene Terephthalate Production
- Polymerized Vinylidene Chloride Production
- Polymethyl Methacrylate Resins Production
- Polystyrene Production
- Polysulphide Rubber Production
- Polyvinyl Acetate Emulsions Production
- Polyvinyl Alcohol Production
- Polyvinyl Butyral Production
- Polyvinyl Chloride and Copolymers Production
- Reinforced Plastic Composites Production
- Styrene-Acrylonitrile Production
- Styrene-Butadiene Rubber and Latex Production

13) PRODUCTION OF INORGANIC CHEMICALS

- Ammonium Sulphate Production-Caprolactam By-Product Plants
- Antimony Oxides Manufacturing
- Chlorine Production
- Chromium Chemicals Manufacturing
- Cyanuric Chloride Production
- Fume Silica Production
- Hydrochloric Acid Production
- Hydrogen Cyanide Production
- Hydrogen Fluoride Production
- Phosphate Fertilizers Production
- Phosphoric Acid Manufacturing
- Quaternary Ammonium Compounds Production
- Sodium Cyanide Production

14) SURFACE COATING PROCESSES

- Auto and Light Duty Truck (Surface Coating)
- Flat Wood Paneling (Surface Coating)
- Large Appliance (Surface Coating)
- Manufacture of Paints, Coatings, and Adhesives
- Metal Can (Surface Coating)
- Metal Coil (Surface Coating)
- Metal Furniture (Surface Coating)
- Miscellaneous Metal Parts and Products (Surface Coating)
- Paper and Other Webs (Surface Coating)
- Plastic Parts and Products (Surface Coating)
- Printing, Coating, and Dyeing of Fabrics
- Printing/Publishing (Surface Coating)
- Shipbuilding and Ship Repair (Surface Coating)

15) WASTE TREATMENT AND DISPOSAL

- Hazardous Waste Incineration
  Biomedical waste treatment and disposal
- Municipal Landfills
- Sewage Sludge Incineration
- Site Remediation
- Solid Waste Treatment, Storage and Disposal Facilities
- Publicly Owned Treatment Works Emissions

SIXTH SCHEDULE **(Regulations 5 and 7)**

AIR POLLUTANT DISCHARGE LICENCE APPLICATION

To be completed as follows:

1. Applications for a licence to discharge air pollutants (licence) must be submitted by owners or operators of

existing major and significant facilities as specified in the regulations.

2. Applications for licence renewals must be submitted not later than the 60 days prior to the expiration date.

3. Owners or operators of proposed major or significant facilities or who propose to make major modifications to existing facilities must submit an application for a licence no later than 60 days months prior to commencement of operation.

The completed licence application form must be submitted to:

Pollution Control and Waste Management Division

National Environment and Planning Agency

10 Caledonia Avenue,

Kingston 10.

1. APPLICATION FOR:	YES	NO	DATE OF RECEIPT:	_____/__/__
INITIAL LICENCE	?	?		(yyyy/mm/dd)
MODIFICATION OF EXISTING LICENCE	?	?		
CHANGE IN OWNERSHIP	?	?	COMPLE-TION DATE	_____/__/__
RENEWAL	?	?		(yyyy/mm/dd)
APPLICATION FEE ENCLOSED	?		APPLICATION FEE ENCLOSED	

(Shaded areas above to be completed by NEPA staff)

GENERAL OWNER AND PLANT INFORMATION

2. **Company’ legal name and address**	
Company name:	
Company mailing address line 1:	
Company mailing address line 2:	
Company mailing address line 3:	
Company Phone No.:	( )
Company Fax No.:	( )
Company email address:	

3. **Owner name and address**	
Owner's name:	
Owner’s mailing addressLine1:	
Owner’s mailing addressLine2:	
Owner’s mailing address Line3:	
Owner’s Phone no.:	( )
Owner’s Fax no.:	( )
Owner's email address:	

4. **Plant name and address**	
Plant name:	
Plant mailing address Line 1:	
Plant mailing address Line 2:	
Plant mailing address Line 3:	
Plant Phone no.:	( )
Plant FAX no.:	( )
Electronic mail address:	

5. **Company contact for environmental issues:**	
Contact name:	
Title:	
Phone no.:	( )
FAX no.:	( )
Electronic mail address:	

6. Plant History	
Began operating on (mm/yyyy)	(Use yyyy/mm/dd format)
Previous plant name 1: _____	Date of name change 1: _____
Previous plant name 2: _____	Date of name change 2: _____
Previous plant name 3: _____	Date of name change 3: _____
Previous plant name 4: _____	Date of name change 4: _____
Previous plant name 5: _____	Date of name change 5: _____

7. Current permits issued by NEPA

Identify all current required Permits to Operate for this and any other plants owned by the owner. Use yyyy/mm/dd format for dates

AO#_____ Date ____/____/____

AO#_____ Date ____/____/____

AO#_____ Date ____/____/____

AO#_____ Date ____/____/____

AO#_____ Date ____/____/____

AO#_____ Date ____/____/____

8. Current air pollutant discharge licence(s)

Identify all current required Air Pollutant Discharge

Licences for this and any other plants owned by the owner.

yyyy/mm/dd dd/mm/yyy

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

NEPA #_______________ DATE GRANTED: ____/__/__

EXPIRY DATE: ____/__/__

Category of air pollutant source for this facility (Mark with X):

Electricity generation

Mineral Industries_____

Petroleum Refineries_____

Municipal incinerators_____

Biomedical incinerators_____

Hazardous waste incinerators_____

Chemical Processing_____

Inorganic Chemicals Manufacturing_____

Organic Chemicals Manufacturing

Liquids Distribution – Petroleum Products_____

Non-Ferrous Metals Processing_____

Ferrous Metals Processing_____

Polymers And Resins Production_____

Food And Agricultural Processes_____

Agricultural Chemicals Production_____

Surface Coating Processes_____

Waste Management_____

Fuel Combustion in any of the above categories including Stationary Fuel Combustion Sources_____

Other industry categories as may from time to time be prescribed by the Authority

9. General and non-confidential description of plant activities:

10. North American Industrial Classification System (NAICS) Codes (Four digit code(s) (See Instructions):

NAICS1____ Description

NAICS2____ Description

NAICS3____ Description

NAICS4 ___ Description

11. Plant Boundaries

Attach scale map showing plant boundaries, one reference point and the orientation of this point to one prominent feature within the plant property. (Attach as Appendix A to this license application).

PROCESS INFORMATION

12. Confidential information content.

Does this section of the application require confidential information to be provided? ? Yes ? No

If yes, mark those processes (item 14) claimed confidential and submit diagrams and descriptions required in items 14 and/or 15 under separate cover.

List of processes at the plant. List all processes and their corresponding Source Classification Code. Indicate whether or not any confidential process information will be included. For any process claimed to contain confidential information, provide justification for the claim. Provide any confidential information under separate cover as Appendix B, Item 14.

Process flow diagrams. Provide diagrams of each process or air emission unit at the plant to include air flow rates and other applicable information. Provide a description of the process and a companion flow diagram for each process. Identify points by number, where raw materials are introduced, where air contaminants may be discharged, the general operation of the process, and pollution control equipment used to eliminate or reduce emissions of air contaminants. (Attach as Appendix C):

Detailed process/equipment description (Process description and process and pollution control equipment information). (Attach as Appendix D) Each process description must include: ? Process/Equipment-specific form(s) if applicable as identified in the instructions ? Process Source Classification Code (SCC) description ? Process ID# (same as on diagram in 14) and SCC code ? Fuels and their use ? Equipment used in process ? Description of product(s) including all that can be used to estimates emissions ? Raw materials used including all that can be used to estimates emissions ? Operating schedules ? Description of changes to process (if applicable) ? Pollution control equipment ? Nominal (rated) and actual (if available) control efficiency of pollution control equipment ? Pollutants emitted ? Method used for calculation of emission rate	? All calculations, including conversion factors as appropriate, to support the emissions data above ? Description of any operational constraints or work practices imposed that limit the amount of regulated or Priority Air Pollutants. ? List and describe any fugitive and smaller sources. (Attach as Appendix E)

ENERGY, FUELS USE AND PRODUCTION INFORMATION							
13. Fuel information		Use metric units only (litres, cubic metres, kg, etc.)					
Fuel Type	Asso-ciated SCC	Maximum hourly use	Annual use	Heat content	% Sulphur	% Ash	Density
Heavy fuel oil (No. 5 or 6)							
Heavy fuel oil (No. 5 or 6) (Low Vanadium)							
Coal							
LPG							
Kerosene							
Marine Diesel							
Autodiesel*							
Gasoline (un-leaded)*							
Gasoline (leaded)*							
Bagasse							

Fuel wood							
Charcoal							
Other (speci-fy)							
Other (speci-fy)							
Other (speci-fy)							

* Shall not include fuels used for on-road (public road) transportation, but shall include fuels used for off road (e.g., agricultural, mining use)

Energy from non-fuel sources	
Electrical energy use (MWh)#	
Energy from renewable sources (MWh)	
Wind	
Solar	
Other (specify for each type)	
Other	
Other	

Exclude electrical energy generated on-site from fuels or from renewable sources listed below:

FUELS USE AND PRODUCTION INFORMATION (Continued)

SUMMARY OF SOURCE AND MAXIMUM PLANT CAPACITY EMISSION INFORMATION

14. Regulated Air Pollutant Sources (Add similar pages as need for additional sources)

Source name						
Source ID#						
Associated process ID(s)						
Type of source (point, area)						
Location JIGN or JMGN or UTMN (specify which)						
Location JIGE or JMGE or UTME (specify which)						
Stack height from ground (m)						
Stack height above building (m)						
Stack elevation at base of stack (above sea level) (m)						
Number of flues						
Internal flue diameter (m)						
Exit velocity (m/s)						
Exit temperature (°C)						
Exit flow rate m^3/s						
Exit percent moisture						
Area source length (m)						
Area source width (m)						
Area source direction the long axis is offset from north-south						

Pollutant -TSP or PM_{10}	TSP	TSP	TSP	TSP	TSP	TSP
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate – maximum annual (tonne/y)						
Pollutant	SO_x	SO_x	SO_x	SO_x	SO_x	SO_x
Emission rate -– maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate -– maximum annual (tonne/y)						
Pollutant (NOx as NO_2)	NOx	NOx	NOx	NOx	NOx	NOx
Emission rate -– maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate -– maximum annual (tonne/y)						
Pollutant	CO	CO	CO	CO	CO	CO
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate – maximum annual (tonne/y)						

Pollutant	VOC	VOC	VOC	VOC	VOC	VOC
Emission rate – maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate – maximum annual (tonne/y)						
Pollutant	Pb	Pb	Pb	Pb	Pb	Pb
Emission rate – maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate – maximum annual (tonne/y)						

20a Summary of Greenhouse Gas Emissions

	Greenhouse gases					
Annual Emissions from Renewable fuels						
Annual Emissions from non-renewable fuels						
Annual Emissions from other processes (tonne/y)						
Pollutant						
Annual Emissions from Renewable fuels						
Annual Emissions from non-renewable fuels						
Annual Emissions from other processes (tonne/y)						

15. Summary of Regulated Air Pollutant Emission Information During Maximum Capacity Operation

	SO_x	TSP	PM_{10}	NOx as NO_2	CO	VOC	Pb
Maximum hourly emission rates for each pollutant (based on plant operating capacity) (kg/h)							
Maximum annual emission rates for each pollutant (based on plant operating capacity) (tonnes/y)							
Anticipated average daily emissions for each pollutant (tonnes/day)							
Anticipated annual emissions for each pollutant (tonnes/y)							

SUMMARY OF SOURCE AND MAXIMUM PLANT CAPACITY EMISSION INFORMATION

16. Priority Air Pollutant Sources (Complete for all new sources or modification to existing sources or if required by a licence condition or control order in the case of existing sources)

Source name						
Source ID#						
Associated process ID(s)						
Type of source (point, area)						
Location JIGN/JMGN/UTMN (specify which)						
Location JIGE/JMGE/UTME (specify which)						
Stack height from ground (m)						
Stack height above building (m)						
Stack elevation at base of stack						

(above sea level) (m)						
Number of flues						
Internal flue diameter (m)						
Exit velocity (m/s)						
Exit temperature (°C)						
Exit flow rate m^3/s						
Exit percent moisture						
Area source length (m)						
Area source width (m)						
Area source direction the long axis is offset from north-south						
Pollutant CAS _____						
Emission rate - maximum hourly (g/s)						
Emission rate - Average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						
Pollutant CAS _____						
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						
Pollutant CAS _____						
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual						

(tonne/y)						
Pollutant CAS ___________						
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						
Pollutant CAS ___________						
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						
Pollutant CAS ___________						
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						
Pollutant CAS ___________						
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						
Pollutant CAS ___________						
Emission rate - maximum hourly						

(g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						
Pollutant CAS _____						
Emission rate - maximum hourly (g/s)						
Emission rate - average hourly (g/s)						
Emission rate - maximum annual (tonne/y)						

17. Summary of Priority Air Pollutant Emissions during Maximum Capacity Operation

(Indicate pollutants using CAS number as column headings for columns 2, 3 and 4 and name in each row with pollutant in column 1. Add similar pages to this one as may be needed for additional pollutants)

Pollutant			
Maximum hourly emission rates for each pollutant (based on plant operating capacity) (kg/h)			
Maximum annual emission rates for each pollutant (based on plant operating capacity) (tonnes/y)			
Anticipated average daily emissions for each pollutant (tonnes/day)			
Anticipated annual emissions for each pollutant (tonnes/y)			

Pollutant			
Maximum hourly emission rates for each pollutant (based on plant operating capacity) (kg/h)			
Maximum annual emission rates for each pollutant (based on plant operating capacity) (tonnes/y)			
Anticipated average daily emissions for each pollutant (tonnes/day)			
Anticipated annual emissions for each pollutant (tonnes/y)			
Pollutant			
Maximum hourly emission rates for each pollutant (based on plant operating capacity) (kg/h)			
Maximum annual emission rates for each pollutant (based on plant operating capacity) (tonnes/y)			
Anticipated average daily emissions for each pollutant (tonnes/day)			
Anticipated annual emissions for each pollutant (tonnes/y)			
Pollutant			
Maximum hourly emission rates for each pollutant (based on plant operating capacity) (kg/h)			
Maximum annual emission rates for each pollutant (based on plant operating capacity) (tonnes/y)			
Anticipated average daily emissions for each pollutant (tonnes/day)			
Anticipated annual emissions for each pollutant (tonnes/y)			

Locations of all point and area sources of air pollutants **Site plan of plant drawn to scale to include locations of all point source emission units. Indicate ID# for each source. (Attach as Appendix F):**
18. Plan diagrams for buildings. Provide diagrams showing plan (overhead) view of buildings containing stacks and structures within 5 times the building height or five times the maximum building width (which ever is less) of each point source (stack).
19. Elevation diagrams. Provide diagrams showing elevation (side) view of buildings containing and structures within 5 times the building height or five times the maximum building width (which ever is less) of each point source (stack).
20. Emissions during start-up, shutdown, malfunction, maintenance. Describe air pollutant emissions during maintenance, start-up and shutdown operations.
Source name
Source ID#
Associated process ID(s)
Description of maintenance activity/operation
Typical schedule for maintenance (number per year)
Typical duration of each maintenance event (hours)
Total number of maintenance hours/year
Maximum hourly emission rates for each pollutant
Annual emissions during maintenance for each pollutant
Typical schedule for start-up/shut-down (number per year)
Typical duration of each start-up/shut-down event (hours)
Total number of start-up/shut-down hours/year

Maximum hourly emission rates for each pollutant during start-up/shut-down
Annual emissions during start-up/shut-down for each pollutant

Summary of dispersion calculations and/or air quality assessments Provide Air quality assessment report under separate cover.

MONITORING INFORMATION
21. Compliance emission monitoring devices. List all compliance emission monitoring devices and activities and the associated title test methods. (Attach as Appendix G)
22. Compliance ambient monitoring. List all compliance ambient monitoring activities and the associated monitoring methods. (Include with Appendix G)
APPLICABLE MONITORING AND REPORTING REQUIREMENTS
23. Stack testing data Provide description of stack sampling facilities List for each stack, the stack ID, pollutant measured, measured emission rate, AP42 emission factor, emission target or emission standard, whether or not stack is in compliance with standard or target Attach stack sampling reports
24. Ambient monitoring List for each ambient monitoring station, the pollutant(s) monitored, monitoring method(s), frequency of monitoring, number of exceedances of ambient air quality standards during the ambient air quality assessment period (new plants or first licence application for existing plants) plants or since the licence was granted (renewals) Attach air quality assessment report or summary of monitoring report for the first 4 years of the current licence period
25. Summary of areas not in compliance with stack emission standards or targets or with ambient air quality standards

List the sources/processes not in compliance with emission targets or standards or ambient monitors at which any ambient standard has been exceeded in the previous 5 years.

26. Compliance Plan (Attach as Appendix H)

Complete this only if any areas were indicated as not in compliance in item 30 or if a control order has been issued by the Authority or if a compliance plan has been required as a condition of a licence. As indicated in the regulations, the compliance plan must include the following:

- ? Description of compliance status with respect to all applicable requirements.
- ? A statement that source will continue to comply with all requirements with which the source is in compliance.
- ? A statement that source will comply with any requirement that becomes effective during term of licence.
- ? For requirements not being complied with, a detailed narrative description of how you will achieve compliance.

27. Compliance Schedule (Include with compliance plan, Appendix H)

Schedule must include the following statements:

- ? A schedule of remedial measures that will bring into compliance with any requirement not being met.
- ? A schedule for submission of certified progress reports at least every 6 months for sources out of compliance.

28. Include a certification of compliance with all applicable requirements as outlined in the Compliance Plan (Appendix H) and attach this certification at the end of Appendix H.

- ? Include a statement of the methods used for determining compliance, to include a description of:

? Monitoring

? Record keeping

? Reporting requirements

? Test methods

? Include a schedule for submission of compliance certifications during the permit term to be submitted annually or as specified by the applicable requirement.

? Include a statement indicating the compliance status with any applicable enhanced monitoring and compliance certification requirements of the act.

CERTIFICATION

29. Certification

I hereby certify that to the best of my knowledge, the information and data submitted in and with this application are true, accurate and complete.

Owner’s Signature: _____

Title: _____

Owner’s Name (Typed or printed)

_____

_____

Date: _____

SEVENTH SCHEDULE (Regulation 6)

LICENCE TO DISCHARGE AIR POLLUTANTS

Licence No: .....

The Natural Resources Conservation Authority, in accordance with the Natural Resources Conservation Authority Act, pursuant to an application completed on the ___ day of _____ , _____, HEREBY GRANTS a Licence to:

Owner(Legal) name:

_____

Address_____

_____

_____

Phone No.: ( ) _____

FAX No.: ( ) _____

With facilities located at

Facility name _____

Address _____

_____

_____

ORIGIN

This permit is based on an application submitted on the _____ day of _____, _____ and was competed on the _____ day of _____.

TYPE OF BUSINESS

The _____ conducts

EMISSION DISCHARGE LIMITS

This licence is granted for the discharge of the following pollutants with anticipated annual discharge rates and up to the maximum amounts shown.

SUMMARY OF MAXIMUM ANNUAL EMISSIONS

FOR THE LICENCE PERIOD _____ *to* _____

Pollutant	Maximum Hourly rate (g/s)	Maximum Annual Rate (tonnes/y)	Maximum Annual Rate for licence period (tonnes/y)

LICENCE CONDITIONS

This licence is issued under the following conditions:

General conditions

Annual reporting of emissions

Payment of discharge fees

Reporting of excess emissions

Notice of maintenance activities that could result in excess emissions

Notice for compliance monitoring

Facility-Specific Conditions

Specific Monitoring and reporting requirements

Stack

Specific emission point identifiers

Parameters to be monitored and frequency

Ambient Parameters to be monitored and frequency

Specific emission point identifiers

Parameters to be monitored and frequency

Compliance requirements

Compliance targets and milestones and reporting

Fugitive Emission Control Plan monitoring and reporting

Record keeping requirements

Notes

Dates this _____ day of _____, ____

SEAL

Signature of authorized officer of the Authority

EIGHTH SCHEDULE (Regulations 10, 11)

ANNUAL AIR EMISSIONS SUMMARY REPORT

FACILITY NAME: _____

Licence No: _____

REPORTING YEAR (January 1 to December 31), _____

This summary report is required for satisfying conditions of licences. The information will be used to determine and adjust emission fees if necessary for the reporting year and also will be used to compile a national air pollutant emission inventory.

Plant information

Plant name:

Plant mailing address:

Plant Activity

Days of week operating	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	☐	☐	☐	☐	☐	☐	☐
Hours per day	☐	☐	☐	☐	☐	☐	☐

Months operating and approximate percentage of annual emissions in each month

J F M A M J J A S O N D

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Days per year facility operated: _____

Fuel informa-tion						
Fuel Type	Asso-ciated SCCs	Annual use (Metric units)	Average Heat content	Average % Sulphur	Avera ge % Ash	Average Density
Heavy fuel oil (No.5 or 6)						
Heavy fuel oil (No 5 or 6 or Low Vanadium)						
Coal						
LPG						
Kerosene						
Marine Diesel						
Auto-diesel*						
Gasoline (un-leaded) *						
Gasoline (leaded) *						
Bagasse						
Fuel wood						
Charcoal						

Other (speci-fy)						
Other (speci-fy)						
Other (specify)						

Raw Materials Used for year

(Include only those necessary for use with emission factors)

Raw Material	Annual use	How stored	How moved	

Products

(Include only those necessary for use with emission factors)

Product	Actual Annual Production	How stored	How shipped

SUMMARY OF ANNUAL ACTUAL EMISSIONS INFORMATION FOR REGULATED POLLUTANTS AND GREENHOUSE GASES

REPORTING YEAR (January 1 to December 31), _____

Total actual air pollutant emission information during normal operation, plant startup, shut down and malfunction and all other operating conditions.

Repeat Table for additional sources as needed

					Source ID#					
Source name										
Associated process ID(s)										
Type of source (point (P), area (A), off road mobile (ORM))										
Stack height from ground (m)										
Area source length (m)										
Area source width (m)										
Area source direction (angle long axis is offset from north-south)										
Six-digit Location UTMN										
Six-digit Location UTME										
Actual annual emissions for each pollutant and basis of estimate (1)										
	ST	EF	MB	Other						
SO_2										
TSP										
PM_{10}										

Nox										
CO										
VOC										
Pb										
Summary of Greenhouse Gas Emissions										
CO_2										
N_2O										
CH_4										
HFCs										
PFCs										
SF_6										

(1) Place a check mark to indicate method used. ST Stack test data; EF Emission factor; MB Mass balance, Other - Specify method used in an attachment.

Total actual priority air pollutant emission information during normal operation, plant startup, shut down and malfunction and all other operating conditions.

Repeat Table for additional sources as needed

	Source ID#					
Source name						
Associated process ID(s)						
Type of source (point, area, off road mobile)						
Stack height from ground (m)						
Area source length (m)						
Area source width (m)						
Area source direction						

(angle long axis is offset from north-south)										
Six-digit Location UTMN										
Six-digit Location UTME										
Actual annual emissions for each priority air pollutant identified by CAS Number (1)										
	ST	EF	MB	Other						

(1) Place a check mark to indicate method used. ST Stack test data; EF Emission factor; MB Mass balance, Other - Specify method used in an attachment.

NINTH SCHEDULE (Regulations 10 and 48)

NOTIFICATION OF UNCONTROLLED RELEASE OF AIR POLLUTANTS

(Fax this form to NRCA)

Fax: …….

This form must be faxed or delivered to the NRCA within 24 hours of an uncontrolled release of air pollutants. Exclude routine events such as soot blowing and scheduled plant start up or shut down. (Note: Include any malfunctions, upset conditions and plant shut down as a result of the release.) This notification must be followed by a detailed written report within 15 working days of the incident.

Plant Name	
Plant Location (address)	
NRCA Air Pollutant Discharge Licence Number	
Date of release (DD/MON/YYYY)	
Time of release	
Duration of release	
Location of release (plant source ID3, or description of location)	
Brief description of release (1) Attach separate page if needed	

(1) Include the following.

Preliminary indication of the likely pollutants emitted.

Indicate whether plant has been shut down or if a decision has been taken to shut down the plant or an affected part of the plant as a result of the release

Indicate if any emergency response plans have been activated or if a decision to activate emergency response plans has been taken.

TENTH SCHEDULE (Regulations 12 and 48)

Air Pollution Discharge Fees

Column One	**Column Two**
Pollutant	**Fee per tonne or portion of a tonne**
Sulphur oxides (SO_2 + SO_3)	$100 per tonne
Particulate matter	$100 per tonne
Nitrogen oxides measured as NO_2	$100 per tonne
Lead	$200 per tonne
Sulphuric acid mist	$200 per tonne
Each Priority Air Pollutant	$200 per tonne

ELEVENTH SCHEDULE (Regulations 16, 22 and 23)

Stack Emission Targets for Existing Sources

SOURCE CATEGORY	SEGMENT	TARGET FOR EXISTING SOURCES	
		Pollu-tant	Value
ALL SOURCES (except where specifically noted)		Opacity	20% opacity and up to 40% opacity for six (6) consecutive minutes in any hour or 6 hours in 10 days except during start-up, shutdown, sootblowing or malfunction for each stack
MINERAL INDUSTRIES	Portland Cement	PM	800 g/t clinker for kilns

		PM	300 g/t clinker for clinker cooler
		PM	50 g/t clinker for finish grinding
		PM	100 g/t aggregate for all other sources
		SO_2	3.0 % sulphur in heavy (Nos. 5 or 6) fuel oils
	Lime manufacture	PM	1000 g/t for all plant sources
		SO_2	3.0 % sulphur in heavy (Nos. 5 or 6) fuel oils
	Alumina manufacture	PM	100 mg/dscm (20°C, 101.3 kPa, dry gas) OR 20% opacity with 40% opacity for six (6) consecutive minutes in any hour or 6 hours in 10 days except during start-up, shutdown or malfunction for each stack
		SO_2	Up to 3.0 % sulphur in heavy fuel oil
	Glass manufac-ture	Opacity	20% opacity with 40% opacity for six (6) consecutive minutes in any hour for each stack
FUEL COMBUSTION	Liquid fuels	SO_2	3% sulphur in heavy fuel oils (Nos. 5 & 6) 2.0 % sulphur in Nos. 3 and 4 oils 0.5% sulphur in light fuel oils (Nos. 1 & 2) and diesel oils
	Coal Fired >70 MW	PM	60 ng/J input except during start-up, shutdown, sootblowing or malfunction for each stack

	All Other Coal Fired	PM	85 ng/J input except during start-up, shutdown, sootblowing or malfunction for each stack
		NO_x	300 ng/J input
	Oil Fired	PM	20% opacity with 40% opacity for six (6) consecutive minutes in any hour for each stack except during start-up, shutdown, sootblowing or malfunction for each stack
		NO_x	200 ng/J input
	Gas Turbines > 50 MW	NO_x	140 ng/J input (water injection)
	20 - 50 MW	NO_x	300 ng/J input (water injection)

KEY AREA	SEGMENT	TARGET FOR EXISTING SOURCES	
FUEL COMBUSTION (Continued)		Pollutant	Value
	< 20 MW	NO_x	300 ng/J input
	Gas turbines (all)	SO_2	1.1% for medium (Nos. 1 and 2) oils
	Bagasse Boilers	PM	Develop code of practice based on combustion efficiency optimisation
PETROLEUM REFINING	Sulphur Plant	SO_2	98% Sulphur Removal

	Steam Plant	PM	200 mg/m^3 Exhaust
		SO_2	1650 mg/m^3 Exhaust
	All	VOC	Leak detection and repair program
WASTE TREATMENT	Municipal /Biomedical Incinerators (<1 tonne/h) (1)	PM	200 mg/m^3 (a)
		CO	150 mg/m^3 (a)
		SO_2	300 mg/m^3 (a)
		VOC	20 mg/m^3 as C (a)
INORGANIC CHEMICALS	Sulphuric Acid	SO_2	15 kg/tonne 100% acid produced

TWELFTH SCHEDULE (Regulations 16, 22 and 23)

Stack Emission Standards for New Sources

KEY AREA	SEGMENT	STANDARD FOR NEW SOURCES	
		Pollutant	Value
ALL SOURCES (except where there is an applicable PM standard)		OPACITY	20% opacity and up to 40% opacity for six (6) consecutive minutes in any hour or 6 hours in 10 days except during start-up, shutdown, sootblowing or malfunction for each stack
MINERAL INDUSTRIES	Portland Cement	PM	100 mg/m^3 from clinker cooler (a)
		PM	50 mg/m^3 from kilns, finish grinders and all other sources (a)

		SO_2	Equivalent to a maximum of 2.2% sulphur in residual (Nos. 5 & 6) fuel oils based on plant wide SO_2 emissions
	Lime	PM	100 mg/m^3 for all sources (a)
		SO_2	Equivalent to a maximum of 2.2% sulphur in residual (Nos. 5 or 6) fuel oils based on plant wide SO_2 emissions
	Alumina	PM	0.092 g/dscm (20°C, 101.3 kPa, dry gas); 10% opacity with 40% for 6 consecutive minutes/hour at start-up
		SO_2	Equivalent to a maximum of 2.2% sulphur is residual (Nos. 5 or 6) fuel oils based on plant wide SO_2 emissions

	Glass (oil fired)	Opacity	20% opacity with 40% opacity for 6 minutes in any hour during or 6 hours in 10 days except during start-up, shutdown, sootblowing or malfunction for each stack
	Container, flat, pressed & blown soda lime; textile & wood fibreglass	PM	0.5 kg/Mg glass produced modified process
	Blown with borosilicate recipe melting furnace modified process	PM	1.0 kg/Mg glass produced
	Pressed & blown Borosilicate regular process	PM	0.65 kg/Mg glass produced
	Soda lime regular process	PM	0.13 kg/Mg glass produced

	Other, wool fibreglass regular process	PM	0.325 kg/Mg glass produced
	Flat glass regular process	PM	0.225 kg/Mg glass produced
	Oil fired, container glass, regular process	PM	0.13 kg/Mg glass produced
FUEL COMBUSTION	Fuel oils	SO_2	2.2% sulphur in heavy fuel oil (Nos. 5 & 6 oils) 1.0 % sulphur in medium (Nos. 3 or 4) fuel oils 0.5% sulphur in light fuel oils (Nos. 1 & 2 oils) and diesel oils
	Coal Fired >70 MW	PM	45 ng/J input except during start-up, shutdown, sootblowing or malfunction for each stack
		SO_2	520 ng/J input
		NOx	260 ng/J
	All Other Coal Fired	PM	60 ng/J input except during start-up, shutdown, sootblowing or malfunction for each stack
		SO_2	520 ng/J input
		NO_x	260 ng/J input

	Oil Fired	PM	43 ng/J input except during start-up, shutdown, sootblowing or malfunction for each stack
		NO_x	130 ng/J input
	Gas fired >73 MW 29 - 73 MW 2.9 to 29 MW Any size Any size	 NOx NOx NOx CO PM	 86 ng/J 40 ng/J 26 ng/J 125 ng/J 13 ng/J
	Gas turbine >29.7 MW	NO_x	STD = 0.0075*14.4/Y + F (b)
	Gas turbine >2.9 and < 29.7 MW)	NO_x	STD = 0.0150*14.4/Y + F (b)
	Gas turbines > 20 MW non peaking	NO_x	380 ng/J output
	Gas turbines 3 - 20 MW non peaking	NO_x	460 ng/J output
	Gas turbines < 3 MW non peaking	NO_x	1250 ng/J output
	Gas turbines peaking	NO_x	530 ng/J output
	Gas turbines (all)	SO_2	1.0% sulphur content in light (Nos. 1 or 2) fuel oils

	Liquid fuel fired Internal Combustion Engines 2 to 50 MW	PM	85 ng/J (100 mg/m^3 at 15% O2)
		NOx	2,981 ng/J (3,512 mg/Nm^3 at 15 % O2)
	Liquid fuel fired Internal Combustion Engines > 50 MW	PM	42 ng/J (50 mg/m^3 at 15% O2)
		NOx	1,700 ng/J (2,000 mg/Nm^3 15 % O2)
	Bagasse Boilers	PM	4,200 g/t input
PETROLEUM REFINING	Sulphur Plant	SO_2	99 % sulphur removal
	FCCU Regenerator	PM	115 mg/m^3 exhaust (a)
		SO_2	830 mg/m^3 exhaust (a)
		CO	2,400 mg/m^3 exhaust (a)
	Coking Calciner	PM	100 mg/m^3 exhaust (a)
	Fluid Coking	PM	0.02 kg/m^3 feed (a)
	Steam Plant	PM	150 mg/m^3 exhaust (a)
		SO_2	830 mg/m^3 exhaust (a)
	All	VOC	Leak detection and repair program
WASTE TREATMENT	Municipal/Biomedical Incinerators	PM	200 mg/m^3 (c)
		CO	100 mg/m^3 (c)
		SO_2	300 mg/m^3 (c)
		VOC	20 mg/m^3 as C (c)

	Cement Kilns burning hazardous and non-hazardous wastes as supple-mentary fuel	PM	20 mg/Rm^3 (d) for that portion of the fuel resulting from combustion of waste fuel
		PCDD & PCDF	0.5 ng/Rm^3 (d)
		HCl	50 mg/Rm^3 (d)
		Sum of Sb, Cu, Pb, Mn, V, Zn	1.5 mg/Rm^3 (d)
		Sum of As, Cr, Co, Ni, Se, Te	0.15 mg/Rm^3 (d)
		Sum of Cd, Hg, Tl	0.15 mg/Rm^3 (d)
INORGANIC CHEMICALS	Sulphuric Acid by contact process	Sulphuric acid mist	0.075 kg/tonne 100% acid produced
		SO_2	2 kg/tonne 100% acid produced

(a) 20°C, 101.3 kPa, dry gas

(b) STD = allowable NOx emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = manufacturer’s rated heat rate at manufacturer’s rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The

value of Y shall not exceed 14.4 kilojoules per watt-hour.

F = NOx emission allowance for fuel-bound nitrogen as defined below.

Fuel-bound nitrogen (percent by weight)	F (Nox percent by volume)
N≤0.015	0
0.015<N≤0.1	0.04(N)
0.1<N≤0.25	0.004+0.0067(N–0.1)
N>0.25	0.005

where: N = the nitrogen content of the fuel (percent by weight). Or: Manufacturers may develop custom fuel-bound nitrogen allowances for each gas turbine model they manufacture.

(c) 273°K, 101.3 kPa, dry gas

(d) Rm^3 refer to conditions of 25°C, 101.3 kPa corrected to 11%O_2, dry basis.

THIRTEENTH SCHEDULE (Regulations 23 and 24)

Test Methods for Stack Emission Monitoring

General Requirements

Stack emission test methods and procedures for each of the pollutants shall be measured as applicable according to the methods specified in this Schedule. Alternate methods may be used provided the owner or operator obtains prior approval of the Authority before undertaking measurements by such methods. Failure to obtain prior approval may require the owner or operator to repeat measurements at the owner’s or operator’s expense. The owner or operator must provide the Authority with documentation of equivalence of the methods. The Authority shall determine the acceptability of such alternate methods by reference to

Appendix B of Part 60, Title 40, United States Code of Federal Regulations, or Environment Canada - Protocol & Performance Specifications CEM (EPS 1/PG/7) or other specifications approved by the Authority.

Methods for CEM

Owners and operators of the following categories of sources shall install, calibrate, maintain and operate equipment for continuously monitoring and recording those emissions specified in this paragraph according to Environment Canada EPS 1PG7 or equivalent.

Measurements by CEMs may be made by the following as appropriate:

Protocols for Continuous Monitoring of Gaseous Emissions from Thermal Power Generation, Environment Canada Report EPS 1/PG/7 September 1993.

Performance Requirements For Continuous Emission Monitoring Systems (CEMS)

Any opacity monitoring system must satisfy the performance requirements specified in "New Source Performance Standards Requirement For Opacity Continuous Emissions Monitoring Systems" (CEMS) as contained in U.S. Title 40 Code of Federal Regulations (CFR) Part 60, Appendix B, Performance Specification 1.

In order to demonstrate compliance with Performance Specification 1, the system shall undergo performance specification testing as outlined in 40 CFR 60.13. The owner or operator of the facility will maintain records of all such testing for a period of not less than five years and must make such records available for inspection by NRCA.

Opacity Measurements

Opacity measurements shall be made by one of the following methods as appropriate:

Method 9—Visual determination of the opacity of emissions from stationary sources

A certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere in accordance with Method 9 of Appendix A of 40 CFR Part 60. Current certification of opacity readers for determining opacities under 40 CFR 60, Appendix A, Method 9, shall be accomplished by the successful completion of a visible emissions evaluator's course for opacity readers every six (6) months.

Alternate Method to Method 9, Light Detection and Ranging (40 CFR 60, Appendix A)

Particulate matter

Particulate matter (PM) measurements shall be made at a temperature in the range of 120 ± 14 °C (248 ± 25 °F) or such other temperature as specified by an applicable subpart of the standards or approved by the Authority for a particular application. The PM mass, which includes any material that condenses at or above the filtration temperature, is determined gravimetrically after removal of uncombined water.

Particulate matter measurements shall be made by one of the following methods as appropriate:

Reference Methods for Source Testing: Measurement of Releases of Particulate from Stationary Sources, Environment Canada, Reference Method, EPS 1/RM/8, December 1993.

Method 5—Determination of particulate emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 5A—Determination of particulate emissions from the asphalt processing and asphalt roofing industry published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 5B—Determination of non-sulphuric acid particulate matter from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 5D—Determination of particulate emissions from positive pressure fabric filters published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 5E—Determination of particulate emissions from the wool fiberglass insulation manufacturing industry published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 5F—Determination of non-sulphate particulate matter from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 17—Determination of particulate emissions from stationary sources (in-stack filtration method) published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 201A - PM10 - In-stack, Constant Rate Sampling Procedure.

Method 202 - Condensable Particulate Matter

Sulphur Dioxide

Sulphur dioxide measurements shall be made by one of the following methods as appropriate:

Method 6—Determination of sulphur dioxide emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 6A—Determination of sulphur dioxide, moisture, and carbon dioxide emissions from fossil fuel combustion sources published in the Federal Register of the United States of America, Part 40, Appendix A.
Method 6B—Determination of sulphur dioxide and carbon dioxide daily average emissions from fossil fuel combustion sources published in the Federal Register of the United States of America, Part 40, Appendix A.
Method 6C—Determination of Sulphur Dioxide Emissions From Stationary Sources (Instrumental Analyser Procedure) published in the Federal Register of the United States of America, Part 40, Appendix A.
Standard Reference Methods for Source Testing: Measurement of Emissions of Sulphur Dioxide from Stationary Sources, published by Environment Canada Publication No. EPS 1-AP-74-3.
Carbon Monoxide
Carbon monoxide measurements shall be made by one of the following methods as appropriate:
Method 10—Determination of carbon monoxide emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.
Method 10A—Determination of carbon monoxide emissions in certifying continuous emission monitoring systems at petroleum refineries published in the Federal Register of the United States of America, Part 40, Appendix A.
Method 10B—Determination of carbon monoxide emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.
Reference Method for Source Testing: Measurement of the Releases of Carbon Monoxide from Stationary Sources, Reference Method EPS 1/RM/4, July 1990.
Nitrogen Oxides
Nitrogen oxides measurements shall be made by the following methods:
Method 7E—Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyser Procedure) published in the Code of Federal Regulations of the United States of America, Title 40, Part 60.

Sulphuric Acid Mist
Sulphuric acid mist measurements shall be made by one of the following methods as appropriate:
Method 8—Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Lead

Lead measurements shall be made by one of the following methods as appropriate:

Method 12—Determination of inorganic lead emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Reference Method for the Source Testing: Measurement of Releases of Lead in Particulate from Stationary Sources, Reference Method EPS 1/RM/7December 1993.

Sulphur compounds

Sulphur compound measurements shall be made by one of the following methods as appropriate:

Method 15—Determination of hydrogen sulfide, carbonyl sulfide, and carbon disulfide emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 15A—Determination of total reduced sulphur emissions published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 16—Semicontinuous determination of sulphur emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 16A—Determination of total reduced sulphur emissions from stationary sources (impinger technique) published in the Federal Register of the United States of America, Part 40, Appendix A.

Method 16B—Determination of total reduced sulphur emissions from stationary sources published in the Federal Register of the United States of America, Part 40, Appendix A.

Reference Methods for Source Testing: Measurement of Releases of Total Reduced Sulphur (TRS) Compounds from Pulp and Paper Operations, Environment Canada EPS 1RM/6 January 1992.

Measurement of Priority Air Pollutants

Priority air pollutant measurements shall be made by one of the following methods as appropriate:

Mercury

U.S. EPA Method 29 – Determination of Metals Emissions from Stationary Sources

Reference Method for the Source Testing: Measurement of Releases of Mercury from Mercury Cell Chlor-Alkali Plants. Environment Canada Reference Method EPS 1/RM/5 June 1990.

Vinyl Chloride

Environment Canada -Vinyl Chloride Reference Method (EPS 1-AP-77-1)
Other Priority Air Pollutants

Owners or operators required to make measurements of emissions of other pollutants shall obtain concurrence and written approval of the Authority prior to making such measurements.

Analysis Of Heavy Fuel Oils And Solid Fuels

The following methods shall be used for all fuel sampling plans.

Any deviations from these methods must be approved by the Authority.

Sulphur content in coal - ASTM methods D3177 or D4239.
Sulphur content in oil - ASTM methods D2880 or D4294.
Sulphur content in natural gas - ASTM methods D1072, D3246, D4084 or continuous H_2S monitoring of fuel gas line).
Gross calorific value - ASTM methods D2015 or D3286 (calorific content shall be based on the lowest gross heating value of the fuel).
Ash content - Ash From Petroleum Products by ASTM D482.

Fourteenth Schedule (Regulation 29)

Column A _____ **Source**	**Column B** _____ **Emissions monitoring requirement**
(1) Fossil fuel-fired steam generators burning solid fuels.	(a) opacity, except where the steam generator capacity is less than 73.275 MW heat input; (b) sulphur dioxide, carbon monoxide and nitrogen oxides except where steam generator capacity is less than 73.275 MW heat input or if sulphur dioxide control equipment is required; (c) percent oxygen or carbon dioxide where such measurements are necessary for the conversion of sulphur

	dioxide, carbon monoxide or nitrogen oxides continuous emission monitoring data.
(2) Fossil fuel-fired steam generators burning gaseous fuels.	Nitrogen oxides except where the heat input is less than 73.275 MW.
(3) Sulphuric acid plants.	Sulphur dioxide where production capacity is more than three hundred tonnes per day, expressed as one hundred percent sulphuric acid, except for those facilities where conversion to sulphuric acid is utilised primarily as a means of preventing emissions to the atmosphere of sulphur dioxide or other sulphur compounds.
(4) Fluid bed catalytic cracking units catalyst regenerators at petroleum refineries.	Opacity.
(5) Any air pollutant source referred to in regulation 4(a) having emission control equipment and whose un-controlled particulate matter emissions would exceed t particulate matter emission standard for th source.	PM and opacity.

Fifteenth Schedule (Regulation 35)

Minimum Performance Specifications For Ambient Air Quality Monitoring of Criteria Pollutants

Specification	SO_2	NO_2	CO	O_3	TSP	PM_{10}	Pb
Reference Method	Pararosaniline Method	Chemiluminescence	Non-dispersive IR Gas filter correlation spectroscopy	Ultraviolet photometry	Manual High Volume sampler	Hivol sampler	Hivol sampler
Operating Range	0 to 0.5 ppm	0 – 0.5 ppm	0 – 50 ppm	0.01 – 0.5 ppm	2 – 750 $\mu g/m^3$	Up to 300 $\mu g/m^3$	7.5 $\mu g/m^3$
Minimum Detection Limit	0.010 ppm	0.010 ppm	1.0 ppm	0.010 ppm	2 $\mu g/m^3$	0.07 $\mu g/m^3$	0.07 $\mu g/m^3$
Noise	0.005 ppm	0.005 ppm	0.5 ppm	0.005 ppm	NA	NA	NA
Zero drift (24 h)	±0.02 ppm	±0.02 ppm	±1.0 ppm	±0.02 ppm	NA	NA	NA
Span Drift (24 h) 20% of upper range 80% of upper range	±20.0 % ±5.0 %	±20 % ±5 %	±10 % ±2.5 %	±20 % ±5.0 %	NA	NA	NA
Precision 20% of upper range limit 80% of upper range limit	0.010 ppm 0.015 ppm	0.02 ppm 0.03 ppm	0.5 ppm 0.5 ppm	0.01 ppm 0.01 ppm	3%	≤ 5 $\mu g/m^3$ for conc ≤ 80 $\mu g/m^3$ and 7% for conc > 80 $\mu g/m^3$	5 – 6% within lab RSD 7-9% between lab RSD
Accuracy Annual	±15% 95% CI ≤ ±20%	±10%	95% CI ≤ ±20%	±10% 95% CI ≤ ±20%	±10%	PD ≤ ± 7% for flow rate	Not specified
Completeness (minimum averaging period)	75% (hourly)	90% (hourly)	75% (8 h block)	90% (hourly)	90% (monthly)	75% (Quarterly)	75% (Quarterly)
Averaging time	1 h	1 h	1 h	1 h	24 h	24 h	24 h

CI Confidence interval. PD Percent Difference. RSD Relative Standard Deviation

To convert from parts per million to µg/m 3 at 25°C and 760 mm Hg, multiply by M/0.02447, where M is the molecular weight of the gas.

SIXTEENTH SCHEDULE (Regulation 35)

Methods for monitoring ambient air pollutant concentrations

Pollutant	Averaging time	Method
TSP	24 hours	Any method complying with Particulate (TSP) reference method in Title 40, Code of Federal Regulations, Part 50, Appendix B
PM_{10}	4 hours	Any method complying with reference method in Title 40, Code of Federal Regulations, Part 50, Appendix J
CO	Continuous	Any method complying with reference or equivalent methods in Title 40, Code of Federal Regulations, Part 50, Appendix C, and Part 53, Subpart B
SO_2	Continuous	Any method complying with reference or equivalent methods in Title 40, Code of Federal Regulations, Part 53, Subpart B
SO_2	24 hours	Any method complying with reference method in Title 40, Code of Federal Regulations, Part 50, Appendix A
NO_2, NO	Continuous	Any method complying with reference method in Title 40, Code of Federal Regulations, Part 50, Appendix F
Ozone	Continuous	Any method complying with methods in Title 40, Code of Federal Regulations, Part 50, Appendix D, and Part 53, Subpart B reference or equivalent
Pb	24 hours	Any method complying with reference method in Title 40, Code of Federal Regulations, Part 50, Appendix G

SEVENTEENTH SCHEDULE (Regulation 41)

CONTROL ORDER

Licence No:

The Natural Resources Conservation Authority, in accordance with the Natural Resources Conservation Authority Act, pursuant to an application completed on the _____ day of

_____ , _____,

HEREBY ORDERS:

Owner name: _____

Address _____

_____

_____

Phone No.: ( ) _____

FAX No.: ( ) _____

With facilities located at

Facility name _____

Address: _____

_____

_____

TO:

Attach conditions on separate page(s) as appropriate

Dates this _____ day of _____, _____

SEAL

Signature of authorized officer of the Authority.

EIGHTEENTH SCHEDULE (Regulation 44)

Offences attracting administrative penalties

Paragraph	Description of offence
23 Fugitive Particulate Emissions	Failure to file a written Fugitive Emission Control plan
48 Authority of the NRCA to take samples and or witness tests 27, 28, 29, 42 Recording and reporting requirement	Failure to allow access, or to provide information Failure to maintain records or provide adequate report Failure to maintain records or make reports Failure to report pollution incident or malfunction incident or maintenance that may result in excess emissions
	Failure to submit fugitive emission control plan after control order
15 Transfer of Licence upon Change of Ownership	Failure of licensee to notify Authority Failure of new owner to request licence transfer
33 Regulation 22	Failure to report annual emissions a pay annual discharge fees

Dated this day of , 2002.

Minister of Land and Environment