EMB Memorandum Circular No. 001
Series of 2015

SUBJECT: GUIDELINES FOR ESTABLISHMENT EMPLOYING THE EMISSION AVERAGING APPROACH FOR COMPLIANCE PURPOSES

Section 1: Legal Basis

Pursuant to Part V, Rule XXI, DAO 2000-81, the set of guidelines on emission averaging are hereby formulated.

Section 2. Purpose and Scope

The purpose of this Memorandum Circular is to further clarify the provisions of Part V, Rule XXI, of DAO 2000-81 by providing more detailed guidelines to establishment having multiple sources within a contiguous property and owned by same entity that intends to use emissions averaging for compliance purposes for management of attainment and non-attainment areas.

For purposes of this set of guidelines, emissions averaging shall not apply to new sources except those existing sources which have undergone modification to reduce its emissions.

Section 3: Definition

Air Pollution Control Installation - refers to any equipment, facility, devise or other means which effectively prevent or reduce emissions;

Actual emission – refers to the emission of a source measured after the air pollution control device based on the actual hours of operation per year;

Bureau – refers to the Central Office of the Environmental Management Bureau;

Continuous Emission Monitoring System – refers to the total equipment, required under the Implementing Rules and Regulations, or as directed by the Bureau, used to sample and condition (if applicable) analyze, and provide a permanent record of emissions or process parameters. Such record shall be the basis of the firm's compliance with the emission standards. Further, it may be an approved monitoring system for continuously measuring the emission of a pollutant from an affected source or facility and as such, may be used in computing annual emission fees;
Compliance Plan – refers to a plan submitted to the Bureau for approval which details how an existing stationary air emissions source will be brought into compliance. The owner of the facility must submit the plan within two months of notification of non-compliance by the Bureau. The plan must include a schedule that will be enforceable.

Emission averaging - refers to a technique whereby a facility having more than one source of a given pollutant may, under certain circumstances and with Bureau approval, reduce emissions from one or more sources sufficiently so that the average of all the facility’s source emissions is equal to or below the applicable standard for a particular pollutant. Emission averaging is computed on an annual actual ton per year basis;

Establishment - refers to any enterprise or part of an enterprise, that is situated in a single location and in which only a single (non-ancillary) productive activity is carried out or in which the principal productive accounts for most of the value added. An enterprise is an institutional unit in its capacity as a producer of goods and services;

Existing source – refers to any source already erected, installed, and in operation; or any source for which construction has been offered for bidding or actual construction has commenced prior to the date of effectivity of DAO 200-81 (CAA Implementing Rules and Regulations). Any existing source which in the opinion of the Department has undergone a modification after the date of adoption of an applicable rule and regulation, shall be reclassified and considered a new source;

New source – refers to any plant, equipment, or installation in any trade, business or establishment which generates, emits or disposes air emissions into the atmosphere and constructed after the date of effectivity of these Implementing Rules and Regulations. This includes any existing stationary source transferred or moved to a different location or site for the purpose of installation, operation or use after such date;

Owner or Operator – refers to the person or juridical entity that owns and/or manages the establishment;

Permit to Operate – refers to the legal authorization granted by the Bureau to operate or maintain any installation for a specified period of time;

Stationary Source - refers to any building or fixed structure, facility or installation that emits any air polluant;

Section 4. Applicability

Facilities having multiple sources owned by the same entity may use averaging for compliance purposes if provided for in either Part III or Part IV of DAO 2000-81.
Section 5. Approach

Establishment owners intending to use emission averaging for compliance purposes shall prepare an enforceable Compliance Plan which shall be submitted to the EMB Regional Office where the establishments are located as part of the Permit to Operate application. The Bureau through its concerned Regional Office shall approve the Compliance Plan prior to implementation.

Section 6. Requirements

a. When using an emission averaging program, the establishment shall submit the following to the Regional Office of the Bureau:

1. Letter of Intent
2. Description of the Stationary source of pollution
3. Compliance plan

b. Installation of Continuous Emission/Opacity Monitoring System (CEMS/COMS): After approval of the emission averaging program as part of the Compliance Plan, the establishments shall install a Continuous Emission and/or Opacity Monitoring System (CEMS/COMS) approved by the Bureau for the pollutant(s) to which the emission averaging is hereby applied. The CEMS/COMS shall be installed on each source subject to emission averaging. Application, installation and operation of the CEMS/COMS shall meet the criteria provided in Rule X, Section 5, DAO 2000-81 and DAO 2007-22.

Section 7. Calculation of Emissions Averaging

The average emission concentration shall be weighted according to the pollutant concentration and volumetric flow rate from each source and shall be computed using the formula below:

**Weighed Average**

\[
C_{ave} = \sum_{i=1}^{n} \left[ C_i \times Q_i \right] / Q_{tot}
\]

Where,
- \( C_i \) = concentration of emission from ith source in (mg / Nm³)
- \( Q_i \) = stack flow rate in (Nm³ / min), dry basis
- \( Q_{tot} \) = total stack flow rate in (Nm³ / min), dry basis

A sample computation using the above formula is attached as Annex “1”
Section 8. Monitoring, Recordkeeping and Reporting

A written summary of the monitoring, recordkeeping and reporting procedures that will be used to demonstrate compliance on a daily basis, when using emission averaging approach, shall be submitted to the Bureau.

1). The monitoring, recordkeeping and reporting procedures shall be structured in such a way that inspectors and facility owners or operators may determine an establishment’s compliance status for any day;

2). In case of breakdown and non-operation of a source equipment or air pollution control installation lasting more than one (1) hour must be reported to the EMB-Regional Offices within twenty-four (24) hours from its occurrence in accordance with Memorandum Circular NO. 2011-004; and

3) For CEMS/COMS malfunction, refer to DAO 2007-22, Section 6(2)(9).

Section 9. Exceedance of the Averaged Emission Concentration

If the average emissions of the sources included in the emissions averaging program exceeds the allowable emission standards, the facility owner or operator shall be given 90 calendar days to institute corrective measures to bring it to compliance applying the existing enforcement procedures (i.e. Notice of Violation and Technical conference). Provided, however, that if the average emissions continue to exceed the applicable standard, the case shall be endorsed to the PAB for appropriate action.

Section 10. Separability Clause

All orders, circulars and instructions inconsistent herewith are hereby repealed or amended accordingly.

Section 11. Effectivity

The Order shall take effect after fifteen (15) days from its date of publication in a newspaper of general circulation and submission to the Office of the National Administrative Registry (ONAR).

ATTY. JONAS R. LEONES
Undersecretary
and concurrent EMB Director
Assume regulatory limit for fuel burning equipment Sources is 700 mg/Nm³ SOₓ

Table 1
Emission Averaging

<table>
<thead>
<tr>
<th>Source</th>
<th>SOₓ Concentration</th>
<th>Stack flow</th>
<th>Weighing factor</th>
<th>Average concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C mg/Nm³</td>
<td>Q Nm³ / min</td>
<td>QC sumQ</td>
<td>sumQC/sumQ mg/Nm³</td>
</tr>
<tr>
<td>1</td>
<td>1,000</td>
<td>100</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>400</td>
<td>150</td>
<td>60,000</td>
<td></td>
</tr>
<tr>
<td>Sum or avg</td>
<td></td>
<td>250</td>
<td>160,000</td>
<td>640</td>
</tr>
</tbody>
</table>

Source 1 and Source 2 are located on a contiguous property and owned by the same entity.

As shown in Table 1, Source 1 alone would not be in compliance. However, the average SOₓ concentration of Source 1 and Source 2 (weighed based on the stack flow rates) is within the regulatory limit.