

**Policy Directive:  
Monitoring of Air Contaminants**

Division: Pollution Prevention Division PD: PPD 98-01

Prepared by: Geoff Dawe. Issue Date: 1998-10-09

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**Subject:**

The methods approved by the Minister for the Monitoring of Air Contaminants as per Section 4 and 12.2 of the Air Pollution Control Regulations(957/96) under the Environment Act (O.C. 96-246).

**Objective:**

To define the appropriate methods for the monitoring of Air Contaminants. These contaminants are defined as Particulate Matter (includes Total Suspended Particulate, PM<sub>10</sub> and PM<sub>2.5</sub>), Sulfur dioxide, Carbon monoxide, Nitrogen oxides (as Nitrogen dioxide), Ozone, Volatile Organic Compounds and Lead. Further contaminants may be added, and methods determined, by the Department as the need arises.

**Background:**

The Air Pollution Control Regulations under the Environment Act state that the Minister may require the installation of such monitoring devices as are necessary to measure the concentrations of various air contaminants. This policy directive sets out the manner in which the monitoring (and reporting) is to be carried out. The policy directive is intended to ensure that the monitoring and reporting activities of the Certificate of Approval, or other requirements set out by the Department, are carried out in a consistent and standardized fashion. This directive is effective immediately and the Department should be consulted in regard to any departure from its requirements. Because of the many approaches to Ambient Air monitoring by various levels of government, the Department should be consulted when in doubt, so that the proponent can adhere to this Department's standards and approach.

**Legislative Authority:**

Section 4 and 12.2 of the Air Pollution Control Regulations(957/96) under the Environment Act (O.C. 96-246)

**Policy:**

The Department's Standard Operating procedure for the monitoring of common air contaminants shall be those methods approved by the United States EPA in the "Quality Assurance Handbook for Air Pollution Measurement Systems" Volume II- Ambient Air Specific Methods. The noted exception is in regard to the

Rupprecht & Patashnick TEOM(Tapered Element Oscillating Microbalance) because of the different setup configuration for the colder Canadian climate.

The Standard Operating Procedures shall be further defined, by contaminant, to be:

A: Particulate Matter

1: Total suspended Particulate shall be determined by "Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)". Section 2.2, 1983

2: High Volume PM10 shall be determined by "Reference Method for the Determination of Particulate Matter as PM10 in the Atmosphere (High Volume PM10 Method) Section 2.11, 1990

3: Dichotomous PM10 (includes PM2.5) shall be determined by "Reference Method for the Determination of Particulate Matter as PM10 in the Atmosphere (Dichotomous Sampler Method) Section 2.10, 1990

4: TEOM PM10 and PM 2.5 are in accordance United States EPA Automated Equivalent Method EQPM-1090-079, and within the guidelines of the Atmospheric and Air Quality Division of Environment Canada for the deployment of Particulate Matter analysers into the National Air Pollution Surveillance Network. Standard Operating Procedures have been established by the Department and methods used should be in consultation with, and the approval of, the Department.

B: Sulfur Dioxide shall be determined by the "Reference Method for the Determination of Sulfur Dioxide in the Atmosphere (Fluorescence) Section 2.9, 1982

C: Carbon Monoxide shall be determined by the "Reference Method for the Determination of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Spectrometry) Section 2.6, 1983

D: Nitrogen Oxides (as Nitrogen Dioxide) shall be determined by the "Reference Method for the Determination of Nitrogen Dioxide in the Atmosphere (Chemiluminescence) Section 2.3, 1979

E: Ozone shall be determined by the "Determination of Ozone by Ultraviolet Analysis", A new Method for Volume II, Ambient Air Specific Methods, Quality Assurance Handbook for Air Pollution Measurement Systems. May, 1997.

F: Lead shall be determined by the "Reference Method for the Determination of Lead in Suspended Particulate Matter collected from Ambient Air (Atomic Absorption Spectrometry) Section 2.8, 1981

G: Other contaminants shall be determined after consultation with the Department, and in a method agreeable to the Department.

H: Meteorological data shall be determined according to the procedures and requirements set out in the "Quality Assurance Handbook for Air Pollution Measurement Systems" Volume IV: Meteorological Measurements (revised March, 1995)

These Standard Operating Procedures have been determined to be acceptable by the Department, but in all cases any monitoring initiative, or change in existing procedure, should only proceed after consultation with the Department.

This policy will take effect as soon as it is signed and shall remain in effect until altered or cancelled by the signatories.

**Definitions:**

The Department refers to the Newfoundland Department of Environment and Labour