



COMPLIANCE MONITORING

NATA ACCREDITATION

Sometimes clients are confused as to whether NATA provides accreditation or certification.

NATA accredits, which includes an assessment of technical competence, whereas certification focuses on an organisation's overall compliance with systems and products standards.

Recently our accreditation was updated against the revised standard ISO/IEC 17025:2017.

Compliance Monitoring has accreditations that cover the following monitoring areas:

- Ambient air quality;
- Meteorological parameters;
- Stack emissions monitoring;
- Water sampling; and
- Workplace monitoring.



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COMPLIANCE MONITORING NEWS

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WELCOME

According to the Bureau of Meteorology¹, the rainfall outlook for the winter season in Western Australia (June to August) is showing roughly equal chances of above or below average rainfall.

Monitoring rainfall on site can be very useful in identifying local trends and weather patterns. This information assists with:

- Knowing the best times for initiating revegetation programs;
- Scheduling works;
- Identifying potential conditions for flooding or erosion;
- Protecting assets; and
- Providing input into weed eradication projects.



FEATURES

In this edition we take a closer look at two further aspects of environmental monitoring.

Stationary Source Emission Monitoring

This refers to collecting and using measurements at individual stationary sources of emissions (e.g. stacks, vents) to assess the level of air pollutant emissions from a process, to assess the performance of an emissions control device, or to verify work practices.

Passive/Diffusive Air Monitoring

Unlike active sampling, passive samplers require no electricity (pumps), have no moving parts and are simple to use. They are ideal for measuring average concentrations over the time of exposure.

Feedback² from CM clients, "Reliable service and always happy to assist with ad-hoc requests"

STATIONARY SOURCE EMISSION MONITORING

An air monitoring program assists companies address their environmental and community responsibilities, enables industrial plant to optimise their processes, help design, implement and monitor clean technology systems and identify waste minimisation opportunities. All of these outcomes lead to a cost saving.

The choice of measurement methods must be compatible with the objectives of the monitoring program and conditions of the regulatory license. Some individual Australian States publish their own methodologies however these usually reference or derive from methods published by the United States Environmental Protection Agency (US EPA).

The following are common elements of a periodic stack sampling campaign:

- Stack moisture. Measured by volume or mass after condensing in a cold trap and/or adsorbed onto silica gel.
- Stack temperature/pressure. Measured using a thermocouple and a manometer.
- Stack velocity. Measured with a pitot (s-type) and a differential pressure meter.
- Stack flows. Calculated using stack dimensions and the above parameters.
- Stack composition – gases - CO, SO₂, NO_x – measured using infra red, electrochemical or chemiluminescence cells.
- Stack composition – gases - O₂, CO₂ – measured using an electrochemical/galvanic or infra red cell
- Stack composition – particulates – measured gravimetrically after trapping on a filter.
- Stack composition – metals – measured by spectroscopy after trapping particulates on a filter or tube (Hg).
- Stack composition – other gases – measured by specific analytical technique after capturing in a sample train.



PASSIVE/DIFFUSIVE AIR MONITORING

Passive/diffusive sampling (PDS) relies on the unassisted molecular diffusion of gaseous analytes through a diffusive surface onto an adsorbent. After sampling, the adsorbent material is sent to a laboratory for analysis where the analytes are desorbed off the adsorbent by solvent or thermal desorption.

There are many advantages of PDS. These include - no pump operation or calibration, lightweight, compact, easy to manipulate, portable, unobtrusive, inexpensive, requires no supervision, non-flammable and noiseless.

PDS provides an indication of average pollution levels over time periods of 8 hours to weeks. The low cost allows for sampling at multiple locations (e.g., for highlighting pollution "hotspots"; or determining long term data trends in a specific geographical area). They are amenable to personal monitoring (breathing zone), indoor air analysis, and outdoor ambient air analysis





MONITORING NOW FOR OUR FUTURE

-  Ambient Air Quality
-  Meteorological Stations
-  Stationary Source Emissions
-  Water Quality
-  Custom Monitoring Solutions
-  Workplace
-  Laboratory Equipment

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Word of the Day

Psychrometer - a device used to measure the humidity of air. It achieves this by comparing the difference in temperature between a dry thermometer bulb and a wet thermometer bulb that has lost some of its moisture through evaporation.



COMING UP IN A FUTURE EDITION

Low level ammonia monitoring.

Certain industries have processes that emit ammonia (NH₃). The TWA for NH₃ is 20 ppm³. CM operates a monitoring network that measures ambient ammonia gas to ppb levels, ensuring all stakeholders have peace of mind.

3. Safe Work Australia

