



ASPASA
AT WORK

Environmental

4th Edition

ASPASA Environmental Bulletin

Introduction

This reported is tasked in providing broad overviews of the current and relevant activities and the work of the Environmental Committee and industry related matters relevant to ASPASA members.



21 June 2018 – Environmental Committee Meeting

NAEIS SEMINAR FEEDBACK

Introduction

A seminar was held on Friday the 18th of May at the ASPASA Offices in Randpark Ridge. The purpose of the seminar was to assist ASPASA Members in fulfilling the requirements of GN R283, the National Atmospheric Emission Reporting Regulations, 2015.

The meeting was chaired by Colleen Cluett of Cluett Consulting on behalf of ASPASA with Dr. Patience Gwaze of the Department of Environmental Affairs (DEA) as the main speaker.

The purpose of the National Atmospheric Emissions Inventory System (NAEIS) is to develop an emissions inventory for criteria pollutants. An emissions inventory is an accounting of pollutants that are emitted for a certain period time and in a defined area, in this case within South Africa. This will assist the authorities in developing programmes to manage and enhance air quality across the country. NAEIS is an emerging system that will become more inclusive and specialised over time.

A desired outcome of the seminar was to develop a relationship between ASPASA and the DEA so as to enable an improved understanding of the need for NAEIS, the reporting requirements

for our sector and how to report on the system. It was noted that reporting period for 2018 has now closed but that a follow up workshop would be held in November during which Members will be instructed on how to submit information on the system for the 2018 reporting year.

NAEIS Reporting

At present, NAEIS reporting is required by facilities

1. that include Listed Activities (in terms of Section 21 of the National Environmental Management: Air Quality Act, 2004 (NEM:AQA)) i.e. those with an Atmospheric Emissions Licence (AEL);
2. those that include Controlled Emitters (in terms of Section 23 of NEM:AQA);
3. those with a mining authorisation (either a permit or a right); or,
4. those that may be identified through a municipal by-law.

The NAEIS reporting requirements are a consequence of Section 12 of NEM:AQA and, for the Mining Industry, Regulations 64 and 73 contained in the Mineral and Petroleum Resources Development Act Regulations, 2004 (GN R527, April 2004).

The system functions as follows:

- Identified facilities are required to register through their local municipality or metro
- Facilities are required to submit their information for the preceding year **between January and March** annually.
 - Facilities will need to submit their activity rates (amount mined and amount of different products generated)
 - The pollutants emitted will be calculated automatically utilising a defined formula, where the Emission Factor will be calculated by DEA.

$$E_{\text{pollutant}} = AR_{\text{prod}} \times EF_{\text{pollutant}}$$

where

$E_{\text{pollutant}}$: Emission of Pollutant
 AR_{prod} : Activity rate for quarrying / mining
 $EF_{\text{pollutant}}$: Emission Factor

- Reference documentation must be submitted to allow for verification of information
- The authority will audit these submissions
- Emails will be sent following every stage of the process to ensure that each stage has been completed successfully.

Seminar findings

1. At the seminar it was identified that the current system does not cater sufficiently for the surface mining industry, in particular the quarrying industry.
2. During the next 6 months, ASPASA through Colleen Cluett will liaise with Dr Gwaze and her team at DEA to develop facilities within the NAEIS to enable reporting for the industry.
3. Actions will include:

- 🌿 Members will be sent a [Registration Form](#) that they will need to complete and send back to the sender (most likely, Colleen Cluett). These forms will need to be completed carefully to ensure that reporting is appropriate.
- 🌿 DEA will research the *Emission Factors* for the various stockpiles types. The Emissions Factors are influenced by the process, the geology, the type of content and the water content. (Models are used to simulate conditions and to develop expectations of emissions. It is understood that an array of variables will effect the emissions generated by products and stockpiles per site, per geology and over time. However, the generation of factors to account for this is not practical at this stage. Therefore, a generalised model will be developed and may be refined over time and with emerging information and/or empirical results).
- 🌿 Further liaising between the industry and DEA may be required, especially related to the Sand, Lime and Dimension Stone industries

It is important to note that:

- 🌿 Facilities with an AEL and/or “controlled emitters” and/or mining authorisation holders will need to complete multiple registrations. Once for each identified activity, even if all these activities are conducted on the same site;
- 🌿 The emissions generated during mining and the emissions from processing (crushing & screening) and stockpiling will be measured separately;
- 🌿 Facilities will need to supply quantities of substrate mined and of product generated in each grade of product (i.e. G1, G2, G3..., 13mm, 19mm, crusher sand). During registration, facilities will need to supply a list of the products generated;
- 🌿 Facilities do not have to report on dust buckets, vehicle emissions or Greenhouse Gases (GHGs) or overburden dumping, topsoil placement and rehabilitation as these are determined separately from the NAEIS reporting;
- 🌿 Person to be appointed for NAEIS reporting;
 - When registering, 1 person per facility will be registered as the **Facility Accounting Officer (FAO)**.
 - This person must submit their name, surname and email address
 - This person can create additional users but is the only person who can submit information. **It is critical that if this person leaves the facility, the Facility Accounting Officer is updated as soon as possible as it can represent a security threat** (It is also a legal requirement that this is done within 4 weeks)
 - This person can supply their login details to other people, however this should be monitored strictly as any information that person submits will be attributed to the FAO.
- 🌿 The **Facility Accounting Officer** can assign a Facility Preparer or Consultant and/or a Facility Emission Control Officer (ECO) to assist in the execution of the FAO duties;
- 🌿 It is recommended that, **prior to submission**, the FAO or responsible person generates a report that is verified for the facility and is then submitted.

If you have any further queries or suggestions please contact: colleen@cluett.co.za

Notice of Intention to amend the list of activities which result in atmospheric emission which have or may have a significant detrimental effect on the environment

Notice: 516
Gazette: 41650
Date: 25 May 2018

The Minister of Environmental Affairs has, in terms of Section 21 (4)(a) read with Section 67(1) of the NEM:AQA given notice of the intention to amend the list of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic condition, ecological conditions or cultural and heritage.

The public is invited to submit written representations to the Minister, within 30 days (i.e on or before 25 June 2018) from the date of the publication of this notice.

Draft National Dust Control Regulations

Notice: 517
Gazette: 41650
Date: 25 May 2018

The Minister of Environmental Affairs has, in terms of Section 53 (o) read with section 32 and 57 of NEM:AQA given notice of the intention to repeal and replace the National Dust Control Regulations, 2014, published in Government Gazette No. 36974 on 1 November 2013.

The public is invited to submit written representations to the Minister, within 30 days, (i.e. on or before 25 June 2018) from the date of the publication of this notice.

Notice of Intention to amend the 2012 National Framework for Air Quality Management in the Republic of South Africa

Notice: 518
Gazette: 41650
Date: 25 May 2018

The Minister of Environmental Affairs has, in terms of section 7(5) and (6)(a), read with section 57(1) of NEM:AQA given notice of the intention to amend the 2012 National Framework for Air Quality Management in the Republic of South Africa.

The public is invited to submit written representations to the Minister, within 30 days (i.e. on or before 25 June 2018) from the date of the publication of this notice.

Coal Ash – Environmentally & Socially Beneficial

Coal Ash is a way to reduce the impact of our industrial practices on the environment.

- Using Ash is an environmentally safe manner saves virgin resources, and reduces energy consumption and greenhouse gas emissions (GHG). In addition, it helps reduce the need for landfill space and new landfills. Using Ash also makes good economic sense; they are often less costly than the materials they replace.
- Coal utilisation by products (CUB) use improves the economies of power generation, conserves natural resources, avoids the consumption of increasingly scarce landfill space, and reduces emissions of carbon dioxide (CO₂).

Fly Ash is more than a high performance material, it meets policy goals for sustainability

- Fly ash has been used in roadways and highways.

Current green building practices encourages using recycled materials such as coal ash and other industrial by-products

- Green building rating systems encourage the use of materials locally available, with recycled content that contribute to innovation and reduction of the consumption of other resources such as water.
- Coal combustion products used in construction practices and concrete products are required to adhere to standards.
- The cost of a ton of fly ash is often half the price of Portland cement. Using fly ash instead of Portland cement can reduce the cost of, concrete in a project while improving its overall performance and durability.

Construction project managers are learning that recycled-content construction products are cost-effective, reliable, easy to obtain, and environmentally friendly

- Green building rating systems encourage the use of materials locally available, with recycled content that contribute to innovation and reduction of the consumption of other resources such as water.

Beneficial Use – Simply Recycling by Another Name

Many people pride themselves on their efforts to recycle paper, glass, can, cardboard and other leftovers from the consumer marketplace. Reduce, reuse and recycle are strategies to help cut down on the need for landfills and conserve limited resources. Many regulators use the terms “beneficial use” when referring to recycling activities.

Reduced Land Disposal

In the same way that households conserve landfill space by recycling it is able to reduce the need for additional landfills by recycling coal ash. For each ton recycled, space equivalent to 455 days’ worth of solid waste is saved in a landfill. Coal ash can be beneficially used in ways

that avoid the need for comparable virgin materials. Coal ash is used safely and often at a lower cost than competing products.

Reduce Utilisation of Virgin Materials

Coal fly ash has many of the chemical properties of Portland cement. It includes constituents such as silica, alumina, iron and other oxides. These characteristics allow fly ash to replace Portland cement in concrete products or to be used in the production of bricks. Ash typically needs no processing and can be delivered from the power plants directly to the readymix producer.

Bottom ash, the heavier particles that remain after combustion, is similar in form and composition to fine aggregates like sand and gravel. Bottom ash can be used in concrete blocks, shingles, asphalt, flowable fill and bricks. This means that the natural materials – sand and fine aggregates – can be saved for other uses. This extends the service life of current virgin sources and delays the need to find new sources.

Green building emphasises the use of “recycled content” as part of the components of many structures.

Reduction in Greenhouse Gases

Using coal ash as a substitute for virgin materials reduces the emissions of greenhouse gases. Energy is consumed and carbon dioxide is released during the production of Portland cement. However, by using recycled coal ash in place of Portland cement these carbon dioxide emissions are avoided. Each ton of coal ash used in this manner saves the equivalent to two months emissions from a typical automobile. The energy saved by using coal ash is equal to 24 days electricity consumption of an average home. Incidentally, concrete made with coal ash requires at least 10 percent less water to produce a long lasting product.

Engineering & Environmental Standards Apply

Projects that use coal ash, such as highway construction, land and mine reclamation, and structural fills are engineered to meet specific design requirements. National transportation and construction codes and standards and state specifications require coal ash to meet certain criteria to be acceptable for these uses.

Therefore

To classify coal ash as a hazardous waste would be contrary to proven science and would result in significant job losses and shut down a multi-billion dollar industry that supports sustainable practices.

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**NICO PIENAAR
DIRECTOR**