



Centre for Environmental Rights

Advancing Environmental Rights in South Africa



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CER/RH/TL

30 November 2017

Dear Olebogeng

SUBMISSIONS ON PROPOSED AMENDMENTS TO THE NATIONAL DUST CONTROL REGULATIONS 2013 PUBLISHED IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004 (AQA)

1. In this document, we submit comments on behalf of a group of non-government and community organisations concerned about poor air quality caused by the prevalence of dust – from multiple sources – in their respective areas. These organisations include:

- 1.1 groundwork (gW);
- 1.2 Earthlife Africa Johannesburg (ELA);
- 1.3 Federation for a Sustainable Environment;
- 1.4 the Highveld Environmental Justice Network (HEJN) - comprising 14 community-based organisations;
- 1.5 the South Durban Community Environmental Alliance (SDCEA);
- 1.6 the Vaal Environmental Justice Alliance (VEJA); and
- 1.7 mining-affected communities in Riverlea, Johannesburg, including members of the Mining and Environmental Justice Community Network (MEJCON) ("our clients").

2. On behalf of our clients and partner organisations, the Centre for Environmental Rights (CER) has provided detailed submissions on the National Dust Control Regulations ("the Dust Control Regulations"), through the public participation process, as well as through formal correspondence addressed to the Minister of Environmental Affairs and a meeting held on 20 February 2017. For ease of reference, the list of submissions and correspondence in response to the draft and final versions of the 2013 Dust Control Regulations is as follows:

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- 2.1 CER Submissions on the Draft National Dust Control Regulations dated 5 February 2013;¹
- 2.2 Request for Review and Strengthening of the National Dust Control Regulations following publication of the Dust Control Regulations 2013, dated 1 November 2013;²
- 2.3 the Minister of Environmental Affairs' response to the request for review (letter and annexure), dated 26 February 2016;³ and
- 2.4 CER's follow up letter to the Minister of Environmental Affairs, dated 26 October 2016.⁴

3. The submissions that follow are in response to the Department of Environmental Affairs (DEA) invitation to provide written comments and recommendations pursuant to the points of issue discussed during the Dust Control Regulations Workshop ("the Workshop"), held on 13 November 2017.
4. The purpose of referring to the previous comments and concerns submitted in relation to the Dust Control Regulations is two-fold: i) the following comments and recommendations reiterate, and where appropriate, substantiate many of the issues raised during the development of the 2013 Dust Control Regulations and beyond; and ii) as Professor Eugene Cairncross indicated during the Workshop, we reiterate the request that the DEA does not repeat the cycle of simply noting key weaknesses in the content of the Regulations, without addressing them in the revised version. Notwithstanding this, we do appreciate the invitation to present recommendations with the objective of strengthening the Dust Control Regulations to be promulgated during the course of 2018.
5. Below, we summarise our general comments on the proposed amendments; thereafter we make specific recommendations, including proposed text to be considered for insertion in certain Regulations.

General Comments on the Proposed Amendments

6. The following general submissions draw on issues previously submitted and statements of intent proffered by the DEA during the course of the Workshop:
 - 6.1 We commend the proposed addition of "mining operations" and "listed activities" in the definitions section and Regulations 9 and 15, in relation to a fugitive dust emissions management plan. However, we note that the explicit inclusion of these significant dust sources is futile without rigorous and effective enforcement of the fugitive dust emission management plan "*developed prior to undertaking the activity*".
 - 6.2 A question tabled during the workshop was whether it was felt that the Regulations should encompass as many significant sources of dust as possible. Our unreserved response is in the affirmative: the Dust Control Regulations should indeed apply to and control all significant sources of dust emissions. We submit that, in addition to mines and listed activities, the Dust Control Regulations should be explicit in relation to their application to activities and sources, and importantly, which non-anthropogenic sources are excluded i.e. arid areas. This will avoid any ambiguity and unintended consequences.
 - 6.3 We submit that the focus and primary objective of the Dust Control Regulations should be to manage, mitigate, and control dust emissions. The content and implementation of a dust management plan should be prioritised in the Regulations, with a monitoring programme and reporting as requirements to assess the effectiveness of the dust management plan in addressing any exceedance/s. We emphasise that section 32 of the National Environmental Management: Air

¹ <https://cer.org.za/wp-content/uploads/2016/08/CER-comments-2012.pdf>

² <https://cer.org.za/wp-content/uploads/2016/08/CER-Letter-to-Minister-of-Environmental-Affairs-requesting-the-strengthening-of-the-National-Dust-Control-Regulations-16-Oct-2015.pdf>

³ <https://cer.org.za/wp-content/uploads/2016/08/Follow-up-email-on-the-review-of-the-National-Dust-Contro-Regulations-10-June-2016.pdf>; <https://cer.org.za/wp-content/uploads/2016/08/161025-Annexure-A.pdf>

⁴ <https://cer.org.za/wp-content/uploads/2016/08/161025-CER-letter-to-Minister.pdf>.

Quality Act, 2004 (AQA) requires measures to “control dust” and “prevent nuisance” by dust, as opposed to merely monitoring dustfall rates where there is evidence that exceedances already exist.

- 6.4 In terms of the method to be used for measuring dustfall rates, the DEA appears to acknowledge that the American Standard for Testing and Materials (ASTM) D1739 is not fit-for-purpose, and the extended averaging period for monitoring constrains an immediate response to short-term incidents/activities (e.g. demolition activities or wind storms). Additionally, as we have noted in previous correspondence, the ASTM D1739 suffers from severe limitations as a method of measuring dustfall rates. It remains our submission that alternative monitoring and measurement methods need to be considered by the DEA, for which recommendations are provided below.
- 6.5 During the course of the Workshop, the DEA explicitly stated “on record” that the objective of the AQA is to protect the environment and human health in giving effect to section 24 of the Constitution of the Republic of South Africa, 1996. Furthermore, in managing dust emissions, one cannot separate nuisance dust and dust that causes health impacts. We agree with this statement, and it is therefore critical to correctly characterise the scope of these emissions to encompass all sizes and properties of dust particles. It is with this understanding that we can ensure that the measures adopted in the Regulations to control dust emissions are rationally connected to the purpose of protecting the environment and human health in terms of section 24 of the Constitution.

Comments on Specific Regulations as Proposed

Definitions

7. The definition of “residential area” as “*any area classified for residential use in terms of the local town planning scheme*” may have the effect of excluding some informal and traditional areas. This applies, in particular, to informal settlements that develop around ‘*mining operations*’, or vice-versa, and are not accounted for in the local town planning scheme. The definition should be amended to ensure that such areas – which are very vulnerable to poor air quality – are not excluded.
8. We support the inclusion of mining operations in the proposed Dust Control Regulations. However, a significant source of dust emissions from mines is caused by the transportation of materials, minerals, or other material, by vehicles between the mining operation and other facilities. Dust emissions from mine haul roads both on the premises and outside the mining operation boundaries should be considered as directly incidental. We therefore submit that ‘*transportation of any materials*’ should be explicitly included in the definition of ‘*matters directly incidental thereto*’.
9. With reference to proposed Regulation 16(2), requiring the undertaking of “best practicable measures” to prevent and mitigate measures, we submit that this should be amended to “best practicable environmental measures” (BPEM). We recommend that the following definition for BPEM, which draws on the definition for ‘best practicable environmental option’ in the National Environmental Management Act, 1998, be inserted in the proposed Dust Control Regulations:

*“means the set of mitigation measures, on a case-by-case basis, that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term”.*⁵

⁵ Proposed text adapted from the definition of ‘*Best Practicable Environmental Option*’ in the National Environmental Management Act 107 of 1998.

Application of Regulations

10. It cannot be overstated how fundamental local government's role is toward the effective implementation and enforcement of the Dust Control Regulations, and air quality management in general. We were pleased to note the large number of district and local municipal officials in attendance at the Workshop and the various practical submissions tabled by a number of officials. We submit that the amended Regulations should:

- 10.1 call upon all metropolitan, district, and local municipalities to amend their respective by-laws so as to give effect to the amended Regulations as the minimum dust control standard; and
- 10.2 clarify, where relevant, which air quality officers and other officials, in which government spheres, are responsible for implementation and enforcement of the Regulations.

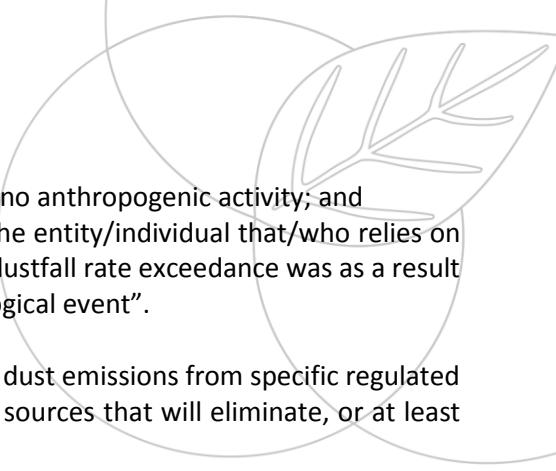
Dustfall Standard (Proposed Regulation 4 and 6)

11. In terms of the ASTM D1739 test method, our concerns remain that the proposed Regulation does not take into account acute dust exposure over a short duration. The 30-day average for residential areas would reduce the quantification of dust emissions, should they occur at high concentrations during discrete intervals. The Regulations should be amended to set standards for exposure over a short duration, such as 24 hours.
12. We reiterated during the Workshop that even the ASTM website describes ASTM D1739 as “*.... a crude and non-specific test method, but it is useful in the study of long-term trends*”. Simply put, the ASTM method is not appropriate for the determination of the dustfall rate in small areas affected by specific sources, for the purpose of controlling dust emissions.
13. The ASTM method in the context of these Dust Control Regulations and section 32 of the AQA, presents concerns of both effectiveness and responsiveness. This was acknowledged in the DEA presentation at the Workshop. We acknowledge that the monitoring of fugitive dust emissions and the measurement of emission rates from these sources are inherently difficult. Nonetheless, available technologies can be adapted to provide quantitative or semi-quantitative cost -effective methods for both monitoring and measurement.
14. We suggest, for example, the use of two or three (or more for an activity with an extended area of operation) security cameras, which will require minimal adaptation to fit the purpose of monitoring the appearance of a dust plume from its source. At the very least, the digital visual record will identify the source of a dust event. With appropriate setup, calibration, and analysis of digital images, the images can provide a qualitative measurement of the dust concentrations and the severity of the dust event. Robust portable PM measurement devices (such as the DUSTTRAK DRX AEROSOL MONITOR 8533 (<http://www.tsi.com/DUSTTRAK-DRX-Aerosol-Monitor-8533/>) or similar devices from PCE (www.pce-instruments.com/) may be co-located with the security cameras to continuously measure PM concentrations. The regulatory development and deployment of these devices will, in due course, provide the data needed to determine appropriate enforceable standards.

Non-anthropogenic Discount Factor (Proposed Regulation 5)

15. Regulation 5 is an entirely new provision that is not included in the 2013 Dust Control Regulations. During the Workshop, the DEA confirmed that this text was drawn from a related technical instrument, however the definition and application of “discounting” required further consideration. It was further stated that the initial intent was for the application of Regulation 5 to be confined to arid areas only.
16. We submit that the text of this provision requires revision, as it is currently too ambiguous and could be subject to exploitation by entities or individuals that exceed the dustfall rates. We therefore recommend the following amendments in this regard:

- 16.1 the terms “extreme weather” and “geological event” must be defined in the Regulations;



- 16.2 the text is narrowed to arid areas only, with limited and/or no anthropogenic activity; and
- 16.3 it is made explicit that an evidentiary onus is imposed on the entity/individual that/who relies on Regulation 5, i.e. it must be clearly demonstrated that the dustfall rate exceedance was as a result of a non-anthropogenic “extreme weather” event or “geological event”.

17. In any event, below, we recommend methods for continuously monitoring dust emissions from specific regulated sources and for measuring ambient concentrations in the vicinity of these sources that will eliminate, or at least minimise, ambiguity as to the source of emissions.

Dustfall Monitoring Programme Section / Implementation of Dust Management Plan Section

- 18. With reference to general comment 6.3 above – the focus and primary objective of these Dust Control Regulations should be to manage, mitigate and control dust emissions – we submit that the order of the monitoring programme and management plan sections should be reversed. The implementation of a dust management plan should be prioritised in the Regulations, with a monitoring programme and reporting requirements as secondary to assess the effectiveness of the dust management plan.
- 19. We contend that such proposed restructuring of the Regulations, which would require “*any person, through a written notice, to implement a dustfall management plan, if an air quality officer reasonably suspects that the person is contravening regulation 4*”, would better serve section 32 of the AQA and section 24 of the Constitution.

Implementation of the Dust Management Plan

- 20. In terms of the timeframe for implementation of the dust management plan (Regulation 14), we support the DEA’s proposition tabled during the Workshop that the plan should be implemented immediately, foregoing upfront approval by the air quality officer. We understand, however, that this proposition was conditional on the inclusion of a prescriptive, but flexible, list of “Best Practicable Environmental Measures” to be undertaken to prevent and mitigate dust emissions.
- 21. In order to permit the immediate implementation of a dust management plan, whilst ensuring that it is robust and effective, we recommended the following additional text for Regulation 16(2):

“Detail the best practical environmental measures to be undertaken to prevent and mitigate dust emissions, which may include the following:

- a) minimise exposed surfaces (applies to all surfaces including roads);*
- b) retain and cultivate trees and vegetation (insofar as is practicable);*
- c) install windbreak material in proximity of significant dust sources;*
- d) provide tarpaulins, hoods, vacuum blasting, or similar emission containment techniques;*
- e) immediately remove surplus and / or spilt materials;*
- f) for road management: apply water, alternatively, approved spray-on adhesives or organic treatments; impose a speed limit for vehicles, surface gravel roads that are of regular use; and restrict larger vehicles to surfaced roads and operational areas; and / or*
- g) implement such alternative measures as approved by the Air Quality Officer”.*

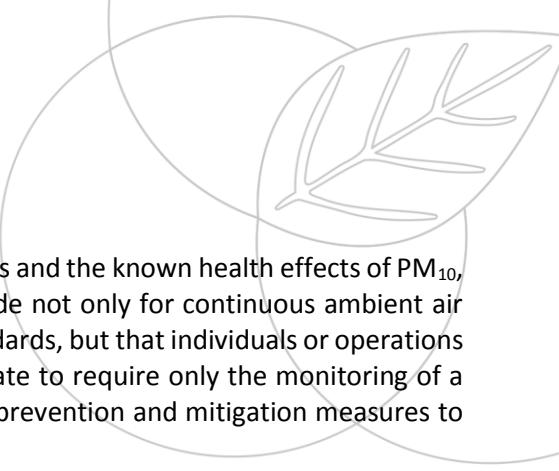
- 22. In relation to proposed Regulation 16(3) – “*detail an implementation schedule*” – we support the provision of and, importantly, compliance with a detailed schedule. In addition, however, we suggest that the text of the Regulation specifies the level of detail necessary to ensure that the measures implemented are actually effective. We propose that Regulation 16(3) requires that the schedule sets out a clear timeframe in which the operation/individual will implement the appropriate prevention/mitigation measures to reduce dust emissions to the acceptable rates in

the dust impact area. This will allow for the implementation schedule to be objectively monitored as a measure of progress in controlling dust emissions.

23. Furthermore, we support the addition of proposed Regulation 17 requiring the proof of implementation of a dust management plan in the monitoring reports. Notwithstanding the fact that the proof should be demonstrated in the reduction of and sustained control of dust emissions below the acceptable rates. We submit that the inclusion of the proof of implementation in the monitoring reports should be mandatory; therefore, we propose the deletion of “*and when required to do so by an air quality officer*”.

Content of the Dustfall Monitoring Report:

24. In relation to proposed Regulation 13(3) – *information on sensitive receptors* – we submit that this should explicitly include, but not be limited to, impacts on affected communities.
25. Further to previous submissions and with reference to the recommendations submitted by the Federation for a Sustainable Environment, dated 26 November 2017, we remain particularly concerned about the health impact of dust from tailings storage facilities. There is near certainty that significant health impacts are caused by the inhalation and ingestion of radioactive and toxic dust fallout from gold and uranium tailings dumps – as raised by our clients, the Dust Control Regulations do not – but should - require the geochemical analysis, including the chemical analysis and speciation required to determine the chemical toxicity, and radionuclide analysis to determine the radiological toxicity, of dust from tailings storage facilities.
26. The National Nuclear Regulator published findings on the impacts of mining activities to the public in the Wonderfonteinspruit Catchment Area and found that significant radiation exposure could occur in the surroundings of mining legacies, due to:
 - 26.1 the inhalation of Rn-222 daughter nuclides from radon emissions of desiccated water storage dams (e.g. Tudor dam and slimes dams);
 - 26.2 the inhalation of contaminated dust generated by wind erosion from these objects; and
 - 26.3 the contamination of agricultural crop (pasture, vegetables) by the deposition of radioactive dust particles, which can cause considerable dose contributions via ingestion.
27. The DEA's position in response to this situation, is that the Minister is constrained by the mandate of the AQA and that the regulation of radioactive and toxic dust emissions are beyond the DEA's remit. We contend that, with the proposed addition of “mining operations” in the Dust Control Regulations, these particular categories of dust emissions and the severe health risk posed, fall within the scope and purpose of the Dust Control Regulations, in terms of section 32 of the AQA and section 24 of the Constitution. As a result, they are clearly within the DEA's remit.
28. Our clients request that the Dust Regulations include a provision requiring periodic – at least annual - geochemical analysis of dust from tailings storage facilities and an annual report modelled on atmospheric emission licence reporting requirements. The annual report should also include reporting on the dust monitoring and management programme.
29. To this end, we align ourselves with the call, in relation to a number of legislative instruments under the NEMA framework, for co-operative agreements between the DEA and the Department of Mineral Resources, the National Nuclear Regulator, the Department of Water and Sanitation, the Department of Health, and the Department of Housing to be established, to ensure the implementation of the Dust Control Regulations and to give effect to section 24 of the Constitution.



Ambient Air Quality Monitoring of PM₁₀

30. We re-iterate the purpose of section 32 of the AQA to control dust emissions and the known health effects of PM₁₀, among other forms of dust. We submit that the Regulations should provide not only for continuous ambient air quality monitoring for PM₁₀ in accordance with the ambient air quality standards, but that individuals or operations required to monitor PM₁₀ must *comply* with such standards. It is inadequate to require only the monitoring of a reasonably-suspected dust impact area, without requiring the immediate prevention and mitigation measures to address the source emitting PM₁₀.

Offences

31. Because the AQA binds all organs of state, government offenders must also be held to account when they breach the Regulations.

32. Again, we note section 55(2) of the AQA in this regard. It is submitted that the penalty provisions in the Regulations are applied with due consideration to the factors set out in section 52(a)-(c) of the AQA (the penalty provision).

33. In conclusion, we trust that these submissions are of assistance to the DEA in its revision of the Dust Control Regulations. Although the addition of listed activities and mining operations are significant improvements, we are confident that the recommendations provided in this letter will ensure a pragmatic and effective set of regulations as envisaged by section 32 of the AQA.

34. Please let us know should you require any additional information regarding any aspect of these submissions. We, our clients, and experts who have provided input into this submission continue to be both available and willing to work with the Department during this revision process.

Yours sincerely
CENTRE FOR ENVIRONMENTAL RIGHTS

per:

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