

**IMPLEMENTATION OF MINIMUM EMISSION STANDARDS (MES):
CENTRE FOR ENVIRONMENTAL RIGHTS
7 NOVEMBER 2017 PCEA WORKSHOP ON MES**

Introduction

The Life After Coal (LAC) Campaign is a joint campaign made up of the Centre for Environmental Rights (CER), Earthlife Africa, Johannesburg, and groundWork. It aims to: discourage investment in new coal-fired power stations and mines; accelerate the retirement of South Africa's coal infrastructure; and to enable a just transition to renewable energy systems for the people.

The LAC Campaign, and other partners and clients with whom we work, including the Highveld Environmental Justice Network (HEJN) and the Vaal Environmental Justice Alliance, have been active in our attempts to ensure implementation, enforcement of and compliance with the minimum emission standards (MES), particularly in the context of the urgent need to improve air quality in the Priority Areas. These are areas so declared, in terms of the National Environmental Management: Air Quality Act, 2004 (AQA), because air pollution is exceeding the health-based National Ambient Air Quality Standards (NAAQS), harming human health, and the Minister of Environmental Affairs has determined that a multi-stakeholder plan is required to address this. There are three: the Vaal Triangle Airshed Priority Area (VTAPA), the Highveld Priority Area (HPA), and the Waterberg-Bojanala Priority Area.

We are particularly concerned about the postponements of MES compliance granted to a number of Eskom coal-fired power stations (CFPSs) and to Sasol – the country's two biggest polluters – for the operations located in the heavily-industrialised HPA. This presentation will focus on Eskom, as we have been more involved in those MES postponement processes.

We seek the full implementation of and compliance with the MES. We strongly object to any and all postponement applications which do not meet the requirements in the MES Section 21 List of

Activities Notice,¹ and the Framework for Air Quality Management.² There are also some examples in the Air Quality Offsets Guideline³ of circumstances in which MES postponement could be sought.

MES postponement applications

Despite their detailed participation in the extensive, collaborative multi-stakeholder process in terms of which the MES were set over some 5 years,⁴ both Eskom and Sasol initially applied to be totally exempt from the MES – which request the Minister rejected as being legally impermissible.

¹ 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 conditions, ecological conditions or cultural heritage, November 2013:

“Postponement of compliance time frames

(11) As contemplated in the National Framework for Air Quality Management in the Republic of South Africa, published in terms of Section 7 of this Act, an application may be made to the National Air Quality Officer for the postponement of the compliance time frames in paragraphs (9) and (10) for an existing plant.

(12) The application contemplated in paragraph (11) must include

(a) An air pollution impact assessment compiled in accordance with the regulations prescribing the format of an Atmospheric Impact Report (as contemplated in Section 30 of the AQA), by a person registered as a professional engineer or as a professional natural scientist in the appropriate category;

(b) a detailed justification and reasons for the application; and

(c) a concluded public participation process undertaken as specified in the NEMA Environmental Impact Assessment Regulations.

(13) The National Air Quality Officer, with the concurrence of the Licensing Authority as contemplated in Section 36 of this Act, may grant a postponement of the compliance time frames in paragraphs (9) and (10) for an existing plant for a period, not exceeding 5 years per postponement.”

² The 2012 National Framework for Air Quality Management in the Republic of South Africa, November 2013:

“5.4.3.3 Listed Activities and Related Emission Standards

...

Given the potential economic implications of emission standards, and mindful that emission standard setting in South Africa was not based on comprehensive sector-based [Cost Benefit Analysis] (at least not for the initial group of Listed Activities as the intention was to ensure that there is no regulatory vacuum when the APPA was repealed), provision has been made for specific industries to apply for possible extensions to compliance time frames, provided ambient air quality standards in the area are in compliance and will remain in compliance even if the postponement is granted. The proponent of a listed activity is allowed to apply for a postponement of the compliance date according to Section 21 of the Act, and for such application to be positively considered, the following conditions must be met:

- An air pollution impact assessment being compiled (in accordance with the regulations prescribing the format of an Atmospheric Impact Report (as contemplated in Section 30 of the AQA) by a person registered as a professional engineer or a professional natural scientist in the appropriate category;*
- Demonstration that the facility's current and proposed air emissions are and will not cause any adverse impacts on the surrounding environment;*
- A concluded public participation process undertaken as specified in the NEMA Environmental Impact Assessment Regulations;*
- Any reasonable additional requirements specified by the National Air Quality Officer;*
- The application must be submitted to the Air Quality Officer at least 1 year before the specified compliance date*

This provision would ensure that any requirement to upgrade is informed by an understanding of any environmental impact of the affected plant. At the end of the extension period, a further extension could be granted subject to a repeat of the conditions above-mentioned.”

³ March 2016

“4(a) During an application for postponement of compliance timeframes (Section 21) wherein the application is positively considered (in part or in full)

...

a) There is substantial evidence suggesting that there is no available technology globally to reduce air emissions from the listed activity;

b) Confirmation provided that the plant will be decommissioned within the next 10 years; and

c) If investment in abatement technology/techniques cannot be made due to restrictions by other national strategic and legislative requirements”

In this particular case, the offset programme shall be included as a condition for positively considered postponement applications and will therefore be a condition of a licence that is issued after the postponement is granted.”

⁴ https://www.environment.gov.za/mediarelease/atmospheric_emissionlicense_krielpowerstation

Both Eskom and Sasol then applied for wide-ranging postponements. The CER and its partners and clients objected, in detail, to Eskom's applications (for 14 of 15 CFPs) to postpone MES compliance,⁵ and dispute that it should have received the extensive postponements that were granted to it:⁶ not only were the negative health impacts of granting Eskom's and Sasol's applications shown to be devastating, but these applications did not comply with the requirements of the legislative framework (in that applications can only be made if: the area complies with the NAAQS and will remain in compliance even if the postponement is granted, and the facility can demonstrate that its current and proposed air emissions are not causing and will not cause any adverse impacts on the surrounding environment). Prof Cairncross will provide some detail as to why Eskom's modelling of the impact of its emissions was misleading and inaccurate.

In May 2014, while the postponement applications were pending, Sasol instituted legal proceedings against the Minister and the National Air Quality Officer (NAQO) to set aside a number of the MES. The Department of Environmental Affairs (DEA) opposed Sasol's litigation and defended the MES, with the NAQO filing a strongly-worded answering affidavit, accusing Sasol of using "tactics" and "misdirection" *"to hide their delay in bringing this review application and the associated delay in having to invest in emission abatement technology towards compliance with the minimum emission standards to combat pollution"*. She also said that *"what [Sasol] is in fact seeking is a judicial licence to continue with air pollution from their existing plants... unabated over the next few years"*.⁷

When the postponement outcomes were announced in February 2015,⁸ they had largely been granted by the NAQO.⁹ Sasol then withdraw its litigation.

In her announcement of the postponement outcomes, the Minister stated that *"these postponements provide an opportunity for industry to take the necessary action and retrofit their plants to enable them to comply with the standards in the near future."* She also commented that *"in all cases, the applicants were strictly required to submit compliance road-maps that indicate when they envisage to have completed their tasks regarding investments in pollution control technologies and they submitted this information. As such the decisions made were in view of planned future compliance"*.¹⁰

However, Eskom's "compliance roadmap"¹¹ makes abundantly clear that, for the majority of its stations, it will never comply fully with the MES – nor does it intend to do so. For instance, the only CFPs that definitely plans to retrofit flue gas desulphurisation (FGD) technology (to abate SO₂ emissions) is Medupi, and this commitment to retrofit FGD stems from the World Bank loan conditions, rather than a commitment to comply with the MES. It appears that the first FGD retrofit may be delayed until 2023. Kusile, which has FGD installed into its design, is the only other of the 15 CFPs that will definitely comply with SO₂ 2020 MES. Although there is some mention of possible FGD retrofits at Kendal – although not before FY2027 – and Matimba – which is even less likely, this is clearly not Eskom's preferred plan.

⁵ https://cer.org.za/wp-content/uploads/2014/02/CER-submissions-on-Eskom-s-postponement-applications_12-Feb-2014_final1.pdf and https://cer.org.za/wp-content/uploads/2014/10/Final-CER-additional-submissions-on-Eskom-s-postponement-application_16-Oct-2014.pdf

⁶ The letter available here, summarises the relevant emission standards, per Eskom station: http://cer.org.za/wp-content/uploads/2016/07/CER-Letter-to-Eskom-re-emission-reduction-plans-and-decom-plans-for-all-15-power-stations_25-April-2016.pdf

⁷ <https://cer.org.za/wp-content/uploads/2014/12/Respondents-Answering-Affidavit.pdf>

⁸ <https://cer.org.za/wp-content/uploads/2015/05/MinistersDecisionsPostponement.pdf>

⁹ https://cer.org.za/wp-content/uploads/2015/02/airqualitymanagement_postponementapplications1.pdf

¹⁰ <https://cer.org.za/wp-content/uploads/2015/05/MinistersDecisionsPostponement.pdf>

¹¹ Available at <https://cer.org.za/programmes/pollution-climate-change/key-correspondence> under "Objection to Eskom's applications to delay compliance with the Minimum Emission Standards"

As groundWork will address in their presentation tomorrow, the postponement decisions also indicated that so-called “air quality offsets” would be a condition of the Eskom postponements (apart from at Matimba and Medupi). The NAQO’s decisions indicated: *“in addition, you are to implement an offset programme to reduce PM pollution in the ambient/receiving environment. A definite offset implementation plan is expected from yourselves by 31 March 2016”*.

Offsets were also required as conditions of the MES postponements granted to Sasol’s operations: *“In addition, Sasol is required to implement an offset programme to reduce PM and SO2 pollution in the ambient/receiving environment. A definite offset implementation plan is expected from Sasol by 30 June 2015”*.

More than a year after the postponement decisions, an Air Quality Offset Guideline was published, recommending that air quality offsets be used where MES postponements are granted. We strongly dispute that offsets can be implemented as an alternative to compliance with the law (quite apart from the fact that these offsets do not meet the principles of offsetting – these are rather examples of corporate social responsibility projects). This – and other problems with offsets – will be elaborated on in groundWork’s presentation tomorrow.

After the postponements were granted, the relevant atmospheric emission licences (AELs) were varied by the licensing authorities to incorporate the relaxed emission standards and the air quality offsets.

Air quality in Priority Areas today

It is now almost three years since the postponement applications were granted and air pollution remains high, particularly in the Priority Areas. For the HPA in particular, the DEA’s draft “mid-term review” (MTR) of the Air Quality Management Plan (AQMP) – made available for comment in February 2016¹² - confirms that, despite some ten years since the HPA’s declaration, there is little, if any, improvement: air quality remains poor, with numerous exceedances of the NAAQS. This is despite the fact that South African NAAQS are significantly weaker than the now outdated guidelines of the World Health Organisation. Subsequent to submitting our comments,¹³ we have had no further feedback from the DEA as to when the MTR will be finalised; nor received a copy of any updated MTR.

This dire conclusion about the air pollution levels also appears from the DEA’s 2017 State of the Air Report presented at the October 2017 Air Quality Lekgotla: *“many South Africans may be breathing air that is harmful to their health and well-being especially in the priority areas”*.¹⁴

It is evident that the decision of the NAQO to grant postponements of compliance with MES to Eskom and Sasol, had a significant negative impact on the prospects of the HPA ever meeting its main goal of reducing air pollution to meet the NAAQS.

Since Eskom and Sasol are the largest emitters in the HPA, and in South Africa for that matter, ensuring that both entities comply at least with the MES should make a significant contribution to lowering the excessive ambient air pollution in the HPA.

¹² https://cer.org.za/wp-content/uploads/2016/07/HPA-AQMP-Midterm-review-Draft-Report_February-2016.pdf.

¹³ Our comments on the draft MTR are available at: https://cer.org.za/wp-content/uploads/2016/07/CER-preliminary-comments-on-mid-term-review_23-March-2017_final-1.pdf

¹⁴ http://www.airqualitylekgotla.co.za/assets/2017_1.3-state-of-air-report-and-naqi.pdf

This is also a conclusion in the October 2017 report entitled *Broken Promises: The failure of South Africa's priority areas for air pollution*.¹⁵ As presented at the recent Air Quality Colloquium, *Broken Promises* was the result of the severe frustrations of the CER, HEJN, and groundWork regarding the lack of progress in achieving the aim of the HPA, and was our own analysis to determine whether the declaration of the HPA and the promulgation of the AQMP have improved air quality within the HPA.

This report also confirms that air pollution remains high in the HPA, ten years after it was declared. It found that the HPA has, to date, dismally failed in its purpose: to improve air quality so that it at least meets the NAAQS. This means that HPA residents are having their constitutional rights to an environment not harmful to health and wellbeing violated. The significant air pollution means that people are dying prematurely, and suffering from respiratory and cardiac illnesses that inhibit their prosperity and wellbeing. This will be elaborated on in groundWork's presentation tomorrow.

Demands in *Broken Promises*

Broken Promises set out various demands which we regard as the minimum required in order for the DEA to meet its constitutional obligations under section 24 (the environmental right) and for all authorities to meet their obligations under the AQA. Although the report focused on the HPA, the demands apply more broadly to the other Priority Areas.

In relation to the widespread ongoing non-compliance with NAAQS, *Broken Promises* indicated that immediate steps must be taken to reduce emissions of pollutants. It stated that:

- All facilities in the HPA must be required to comply at least with the MES. Therefore, having heard representations from the facilities and affected communities, the NAQO should use her powers under AQA to consider withdrawing the postponements of compliance with MES granted to Eskom and Sasol. In this regard, paragraph 14 of the List of Activities empowers the NAQO to “review and withdraw any postponement: (a) should ambient air quality conditions in the affected area of the plant not conform to ambient air quality standards; and (b) following representations from the affected plant or community.”
- No further postponements of compliance with MES or other licence variations that permit exceedances of licence emission standards should be allowed.
- Licensing authorities must suspend the issuing of all new AELs in the HPA, until there is consistent compliance with all NAAQS. Approval and licensing of any expansion plans of existing industries must be contingent on a simultaneous substantial reduction in emissions.
- When facilities reach their scheduled end-of-life (particularly certain Eskom CFPs), AELs must be withdrawn, and decommissioning and rehabilitation enforced.
- The National Dust Control Regulations must be amended to ensure adequate monitoring, measurement, and reduction of the significant dust emissions in the HPA, particularly from mining sources.

Although a response to these demands was promised by the DEA by 11 October 2017, to date, no response has been forthcoming.

¹⁵ The report and an infographic showing the health impacts of emissions from Eskom's coal-fired power stations are available at <https://cer.org.za/news/broken-promises-the-failure-of-south-africas-priority-areas-for-air-pollution-time-for-action>. The infographic is based on the report by UK expert Dr Mike Holland, entitled *Health impacts of coal fired power plants in South Africa* and is available at <https://cer.org.za/wp-content/uploads/2017/04/Annexure-Health-impacts-of-coal-fired-generation-in-South-Africa-310317.pdf>. Dr Holland found that some 2200 annual deaths are attributable to air emissions from Eskom. The total costs associated with these impacts exceed USD2 billion per year.

Additional postponements

This non-compliance with NAAQS is exacerbated by the fact that both Eskom and Sasol have subsequently applied for further MES postponements, and all of their operations are in Priority Areas which are already out of compliance with NAAQS.

Since the original postponement application, Sasol has applied for various additional MES postponements at its Sasolburg, Secunda and Natref operations. In various instances, having been refused its initial five year postponement application and only been granted, for instance, a three year postponement, Sasol has now returned with new requests for further postponement of compliance. The outcomes of the most recent applications are awaited.

Eskom has also already reapplied for postponements of 2015 SO₂ MES for Medupi and Matimba – although those MES have been in operation for more than two-and-a-half years and despite the fact that the NAQO has already refused that application in early 2015. The outcome of that re-application is awaited.

Eskom's Air Quality Improvement Plan states that it will apply for postponements in 2018/19 and in 2023/24. Eskom takes the view that future postponements will be successful if these are "*aligned with the retrofit plan committed to government*". They identify, as a "key assumption" of their Environmental Management Strategy, that MES postponements will be granted for a further five years.

As things stand, Eskom only intends to be 57% MES compliant by 2025; indicating that full compliance will cost more than R300bn. However, Eskom has indicated that it has identified significant financial savings on the required emission reduction costs by using different technology options, with the revised compliance cost being R107 billion (capital cost) and 1.8 billion (opex costs).¹⁶ However, this new plan apparently does not meet all of Eskom's original commitments and Eskom is "proactively engaging" with authorities on FGD retrofits to address the risk of further postponements not being granted.¹⁷ They intend to "negotiate" with authorities on changes in air quality technology and delayed implementation.¹⁸

In addition, Eskom has been explicit in its intentions to apply for what it calls "rolling postponements" – reapplying for postponements (particularly in relation to the 2020 MES for SO₂) until its stations are eventually decommissioned. We and our partners and clients have consistently pointed out that such "rolling postponements" are illegal, as exemptions from minimum standards are not legally permissible.

Responses to requests for documents for Eskom take many months, and access is regularly refused – either to the complete record or portions of the document. For instance, Eskom has partially refused access to the request for documents regarding the timing and costs of their planned retrofits. Although, in the absence of detailed credible estimates of costs, we cannot confirm the accuracy of the costs Eskom cites, we can understand the reluctance to spend vast sums of money retrofitting stations that will be decommissioned in the near future.

¹⁶ Submission to Board Sustainability and Ethics Committee 26 August 2016.

¹⁷ Submission to Board Social Ethics and Sustainability 26 August 2016; Submission to Board Social Ethics and Sustainability Committee (environmental performance, compliance and risks as of end January 2017).

¹⁸ Submission to Board Sustainability and Ethics Committee 26 August 2016; Submission to Board Social Ethics and Sustainability Committee (environmental performance, compliance and risks as of end January 2017)

However, it is extremely difficult to ascertain what Eskom's true plans are in relation to the life-spans of its CFPSs.

Eskom's plans for its CFPSs?

It has previously indicated that it will extend the lives of its stations, but on other occasions, said that it may decommission a few stations early. Its current Air Quality Improvement Plan assumes a 60-year life for its CFPSs, although these have 50-year design lifespans and the Department of Energy's Integrated Resource Plan for Electricity (IRP) also assumes 50-year lives. Eskom's 2017 Integrated Report says that no decision on the possible decommissioning of stations has yet been made and Eskom has indicated that it has no decommissioning plans or funding for the environmental impact assessments that will be required for decommissioning.

Feasibility studies are apparently underway to reassess the lifespan of power stations, to inform the available options, such as cold reserve, lean preservation, mothballing or decommissioning of stations. We were, however, refused access to key components of the life-extension feasibility study, and refused access to the whole socio-economic impact assessment for early closure of Eskom stations.

In the Integrated Report, Eskom indicates that Hendrina, Grootvlei and Komati will be ramped down to zero production and placed in 'lean preservation' to minimise surplus capacity and optimally manage generation costs: Hendrina in 2018/19, Grootvlei in 2019/20 and Komati in 2020/21. Units at Grootvlei and Komati Power Stations have been placed in extended cold reserve (taken offline) with a callback time of five days.

Eskom also points out that the updated IRP (which we understand will be out in the next couple of weeks) will play a major role in determining the future of its CFPSs.

On that note, and quite apart from the multiple other benefits of renewable energy over coal – for human health, water, land, and the climate – CSIR research shows that the share of renewable energy in an electricity mix that would also be the least cost for South Africa could grow to above 90% by 2050.¹⁹

In addition, research by Meridian Economics presented at the NERSA hearings last Monday (and which will be finalised in the next few weeks) – reveals that it is possible to decommission Grootvlei, Hendrina, and Komati and avoid the completion of Kusile Units 5 & 6, giving rise to a financial saving in the region of R17bn. For those stations, the study determined that it was cheaper to provide the services from other resources.²⁰

It is also clear from our own analysis, which Prof Cairncross will explain, of Eskom's compliance with their AELs over the period 1 April 2015 to 31 March 2016²¹ - that they are not even meeting the relaxed emission standards. We addressed a letter to senior DEA officials in the Legal, Authorisation,

¹⁹ <http://rodoyo.com/gtac/GTAC%20in%20Pretoria%20-%20Energy%20Planning%20-%20TBN%20-%204Aug2017.pdf>; <http://www.engineeringnews.co.za/article/new-study-points-to-90-renewables-mix-being-least-cost-by-2050-2017-09-15>

²⁰ Each option's system alternative value (SAV) was calculated – the "system analysis": ie the lowest system cost at which the system can replace the services provided by each power station (energy, capacity, etc.) from other resources, if it were to be retired earlier. Then a more detailed study of the incremental costs of running each of these stations according to the original plans was conducted – the "power station analysis". Then the costs were compared: if it is cheaper for the system to provide the services from other resources, rather than the station under investigation, then the station should be closed:

<http://www.nersa.org.za/Admin/Document/Editor/file/Consultations/Electricity/Presentations/Meridian%20Economics.pdf>

²¹ https://cer.org.za/wp-content/uploads/2016/07/AEL-Compliance-Assessment-of-Eskom-CFPSs-final-19-May-2017_final.pdf and

Compliance and Enforcement Department on 31 May 2017 and provided Prof Cairncross's report.²² This report was also presented at a meeting with the DEA and licensing authorities and was not disputed (although, as Prof Cairncross will explain, this analysis has also been hindered by refusals of access to various documents requested).

However, it does not appear that any meaningful action has been taken against Eskom. On the contrary, Eskom seems quite confident that it will be granted additional postponement applications. In its Environmental Management Strategy, Eskom states that, whilst it *"is making progress towards the objective of achieving full compliance, the journey is not complete"*. But legal compliance is not "a journey": it is a destination that Eskom should have reached years ago.

Conclusion and recommendations

In conclusion, although the provision for MES postponements was apparently intended to provide industries with an opportunity to come into compliance with the MES within, at most, a five year period; in practice, it appears that this provision has been abused. This is recognised by the DEA, as appears from presentations made at the Air Quality Lekgotla, in which the DEA commented that: *"In our view, the shortcomings highlighted above have resulted in the abuse of the provisions, and by extension undermines section 24 of the Constitution of the Republic of South Africa, 1996 as well as the objectives of the [AQA]"*. It proposed possible amendments to the process: to clarify that all postponements were granted "as a once-off" and/or to provide for legal consequences for non-compliance with emission standards during the period of the postponement.²³

The DEA has also recognised that compliance with emission standards is "generally low". It reported that only five of 21 facilities inspected were "proactively fully compliant".²⁴

Eskom and Sasol, the country's two biggest polluters have already applied for additional postponements, and intend to continue to make further applications, despite being located in Priority Areas, in which high air pollution levels negatively impact human health and the constitutional environmental right.

Eskom is not even complying with its relaxed emission standards, and there is no clear plan as to when it will close down its non-compliant stations.

To limit further violations of constitutional rights, the DEA should take the steps identified in *Broken Promises*, starting with undertakings to review the existing postponements in Priority Areas and not to grant further postponements in Priority Areas.

²² http://cer.org.za/wp-content/uploads/2016/07/CER-letter-to-DEA-re-Eskom-non-compliance_31-May-2017.pdf

²³ http://www.airqualitylekgotla.co.za/assets/2017_5.5-postponement-of-compliance-timeframes--a-critical-analysis-lessons-learnt-possible-solutions.pdf

²⁴ http://www.airqualitylekgotla.co.za/assets/2017_5.4-2017-aq-lekgotla-compliance1.pdf