



Centre for Environmental Rights

Advancing Environmental Rights in South Africa

Ms Marissa Botha
Naledzi Environmental Consultants CC
By email: botham@naledzi.co.za

Copied to:

Dr Thuli Khumalo
National Air Quality Officer
Department of Environmental Affairs
By email: tkhumalo@environment.gov.za

Derick Makhubele
Department of Environmental Affairs
By email: dmakhubele@environment.gov.za

Ms. Nosipho Ngcaba
Director-General
Department of Environmental Affairs
By email: dg@environment.gov.za

11 September 2018

Dear Ms Botha

SUBMISSIONS ON THE BACKGROUND INFORMATION DOCUMENT (BID) FOR ESKOM'S APPLICATION FOR POSTPONEMENT OF THE MINIMUM EMISSION STANDARDS (MES) FOR 14 OF ITS COAL AND LIQUID FUEL-FIRED POWER STATIONS

1. We address you as the Life After Coal campaign, a joint campaign by the Centre for Environmental Rights (CER),¹ groundWork (gW),² and Earthlife Africa Johannesburg (ELA)³ that aims to: discourage the development of new coal coal-fired power stations and mines; reduce emissions from existing coal infrastructure and encourage a coal phase-out; and enable a just transition to sustainable energy systems for the people. We also address you on behalf of the Highveld Environmental Justice Alliance Network (HEJN),⁴ and the Vaal Environmental Justice Alliance

¹ The CER is a non-profit environmental rights law clinic that helps communities defend their Constitutional right to a healthy environment. Its lawyers help communities and civil society organisations in South Africa realise their Constitutional right to a healthy environment by advocating and litigating for transparency, accountability and environmental justice. See more information at <http://cer.org.za/>.

² GW is a non-profit environmental justice service and developmental organisation working primarily in Southern Africa in the areas of Climate & Energy Justice, Coal, Environmental Health, Global Green and Healthy Hospitals, and Waste. See more information at: <http://www.groundwork.org.za>.

³ Earthlife Africa is a non-profit organisation that seeks to encourage and support individuals, businesses and industries to reduce pollution, minimise waste and protect natural resources. See more information at: <http://earthlife.org.za/description/>.

⁴ HEJN is a community organisation aimed at raising awareness on key health and environmental issues within the Highveld region and improving the quality of life of vulnerable people living in the Highveld.

Cape Town: 2nd Floor, Springtime Studios, 1 Scott Road, Observatory, 7925, South Africa
Johannesburg: 9th Floor, Southpoint CNR, 87 De Korte Street, Braamfontein, 2001, South Africa
Tel 021 447 1647 (Cape Town) | Tel 010 442 6830 (Johannesburg)
Fax 086 730 9098
www.cer.org.za

(VEJA).⁵ CER, groundWork, Earthlife Africa, HEJN, and VEJA are all interested and affected parties (I&APs) in relation to Eskom's application to postpone compliance with the minimum emission standards (MES).

2. Life After Coal, and HEJN, in particular, work with a network of communities within the Mpumalanga Highveld whose health and well-being have been detrimentally impacted by industrial developments in the area – such as Eskom's existing fleet of 12 coal-fired power stations in the Highveld Priority Area (HPA) (which includes Kusile, still under construction). VEJA is an active role-player in various environmental (including air quality) issues within the Vaal Triangle Airshed Priority Area (VTAPA), which is also home to Eskom's Lethabo coal-fired power station.

Introduction and background

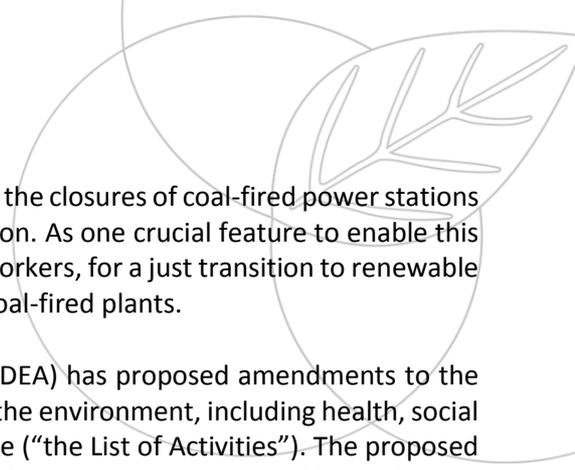
3. We place on record that Eskom – as one of the country's largest polluters – already received multiple postponements of compliance with the MES in February 2015. It has also made two other subsequent applications for postponement – for its Medupi, Matimba, and Tutuka stations. It appears that Eskom is still awaiting the outcome of the applications for Medupi and Matimba. We note that the Background Information Document (BID) does not apply to Medupi and Matimba, but it appears from table 6 that both stations also seek postponements of new plant SO₂ MES. *We ask to be advised of the outcome of the Medupi and Matimba existing plant SO₂ re-applications as soon as these are available, and seek urgent confirmation regarding further postponement applications – if any - sought in relation to Medupi and/or Matimba.* In relation to the Tutuka application, the BID (page 2) indicates that *“Tutuka's postponement application process commenced in early 2018 and is running slightly ahead of the remaining postponement applications, and will be submitted before 31 March 2019”*. This statement creates the impression that there is still a separate postponement application process for Tutuka. However, *“Table 1: Power Stations (and nearest large city forming part of the postponement application)”* (also page 2) indicates that Tutuka will form part of the current application process. *Kindly clarify this as soon as possible.*
4. We confirm that, in relation to Eskom's previous applications to postpone compliance with the MES – in respect of its Tutuka power station (2018),⁶ located in the HPA, the Medupi and Matimba power stations (2017), located in the Waterberg-Bojanala Priority Area (WBPA),⁷ and the wide-ranging postponements for multiple coal-fired stations (all but Kusile) sought in 2013⁸ – we submitted extensive comments and objections pertaining to:
 - 4.1. the legal requirements of MES postponement applications;
 - 4.2. why the applications sought by Eskom do not comply with those legal requirements; and
 - 4.3. the illegality of the exemption/rolling postponement applications brought by Eskom.
5. We reiterate the objections raised in those submissions in relation to the present submission and at the outset, we wholly and unequivocally object to this “further postponement” application for multiple power stations and maintain that **Eskom should not be permitted to apply for any postponements of MES compliance, as it has not met the prescribed conditions for a postponement application.** These prescribed conditions are addressed in more detail in the legislative requirements section below.
6. As we have consistently argued, because all of Eskom's operations are in priority areas where there is consistent non-compliance with the national ambient air quality standards (NAAQS), their atmospheric emission licences (AELs) should contain stricter emission limits than the MES. **Eskom's power stations should not be granted postponements of MES compliance; instead, where stations cannot meet MES, they should not operate and/or**

⁵ VEJA is a non-profit organisation that advocates for environmental justice, through the promotion of environmental awareness; education; active engagement with role-players; assistance to vulnerable and previously disadvantaged communities; and through advocating for a healthy environment and sustainable development within the Vaal Triangle.

⁶ <https://cer.org.za/wp-content/uploads/2018/02/LAC-and-HEJN-comment-on-Tutuka-MES-postponement-BID-19.02.18.pdf>

⁷ <https://cer.org.za/wp-content/uploads/2016/07/170224-Life-After-Coal-Campaign-submissions.pdf>.

⁸ Comments are as follows: https://cer.org.za/wp-content/uploads/2014/02/Annexure-3_CER-submissions_Eskom-BID_19-July-20131.pdf (19 July 2013) and https://cer.org.za/wp-content/uploads/2014/02/CER-submissions-on-Eskom-postponement-applications_12-Feb-2014_final1.pdf (12 February 2014).



their decommissioning dates should be expedited. We also reiterate that the closures of coal-fired power stations (and mines) should be done in a way that facilitates a just energy transition. As one crucial feature to enable this transition, we believe that Eskom should actively plan, together with its workers, for a just transition to renewable energy, rather than risk stranding the workforce, along with redundant coal-fired plants.

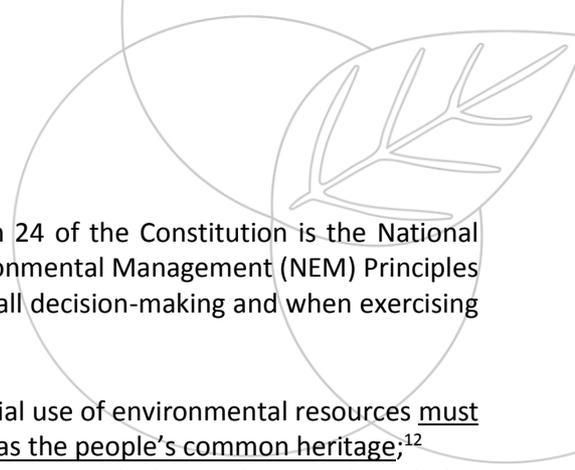
7. We also place on record that the Department of Environmental Affairs (DEA) has proposed amendments to the List of activities which have or may have significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage (“the List of Activities”). The proposed amendments include that: no further postponements of existing plant MES are permissible; only one postponement of new plant MES is permissible; and that industrial facilities, which provide a clear schedule for decommissioning by 2030, will be permitted to apply, by 31 March 2019, for a once-off suspension of compliance timeframes with new plant standards.⁹ Once promulgated, these amendments would, we submit, render illegal the majority of the current postponement applications sought by Eskom. It is not clear what Eskom plans to do in relation to the current postponement application when these amendments come into force.
8. We are instructed to comment on the BID in respect of Eskom’s MES postponement applications – only in relation to Eskom’s coal-fired power stations - dated August 2018 and initially received on 10 August 2018. The BID was subsequently revised, and we received an amended version on 24 August 2018. For the purposes of these submissions, we refer to this revised BID document, which apparently aims to:
 - 8.1. highlight Eskom’s intention to apply for postponement of the compliance time-frames for the existing plant MES and for the new plant MES for sulphur dioxide (SO₂), particulate matter (PM) and oxides of nitrogen (NO_x) for various stations;
 - 8.2. present an overview of Eskom’s reasoning for the postponement applications; and
 - 8.3. facilitate the public participation process in respect of the application.
9. Our submissions are set out below and address the following items in turn:
 - 9.1. summary of the legislative requirements for MES postponement applications;
 - 9.2. the Highveld Priority Area;
 - 9.3. overview of the BID;
 - 9.4. inaccurate and incomplete information provided in the BID;
 - 9.5. insufficient explanation for the delay in meeting MES;
 - 9.6. health impacts attributed to Eskom’s coal-fired power stations;
 - 9.7. Eskom’s proposed air quality monitoring is inappropriate;
 - 9.8. Impermissibility of rolling postponements and exemptions from MES compliance;
 - 9.9. request for information; and
 - 9.10. conclusion.

Summary of the legislative requirements for MES postponement applications

10. Section 24 of the Constitution of the Republic of South Africa, 1996 (“the Constitution”) guarantees everyone the right to an environment not harmful to health or well-being, and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. As the Constitution is the supreme law, any law or conduct inconsistent with it is invalid, and the obligations imposed by it must be fulfilled.¹⁰ All law and conduct must be measured against the right to an environment that is not harmful to health or wellbeing. It is to give effect to the constitutional environmental right that environmental legislation - including air quality legislation - was enacted.

⁹ <https://cer.org.za/news/proposed-new-air-quality-rules-will-force-eskom-to-comply-with-pollution-standards-or-shut-down>.

¹⁰ Section 2 of the Constitution.



11. The overarching environmental legislation which gives effect to section 24 of the Constitution is the National Environmental Management Act, 1998 (NEMA),¹¹ and the National Environmental Management (NEM) Principles in NEMA's section 2, which must be adhered to by any organ of state in all decision-making and when exercising its functions. Some of these binding directive principles are as follows:

- 11.1. the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage;¹²
- 11.2. a risk-averse and cautious approach must applied, which takes into account the limits of current knowledge about the consequences of decisions and actions¹³ ("precautionary principle");
- 11.3. negative impacts on the environment and on people's environmental rights must be anticipated and prevented, and where they cannot be altogether prevented, must be minimised and remedied;¹⁴
- 11.4. environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons;¹⁵
- 11.5. responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its lifecycle;¹⁶
- 11.6. sensitive, vulnerable, highly dynamic or stressed ecosystems...require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure;¹⁷
- 11.7. the cost of remedying the pollution, environmental degradation and consequent adverse health effects and of preventing controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment ("polluter pays' principle");¹⁸
- 11.8. pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;¹⁹
- 11.9. use and exploitation of non-renewable natural resources must be responsible and equitable, and take into account the consequences of the depletion of the resource;²⁰ and
- 11.10. the participation of all interested and affected parties in environmental governance must be promoted.²¹

12. In the context of giving effect to section 24 of the Constitution and embodying the NEM Principles, the National Environmental Management: Air Quality Act²² (AQA) was promulgated and came into effect in 2005. The AQA aims to ensure that air pollution is not harmful to human health or well-being, and to enhance the quality of air in South Africa.²³ The AQA provides that its interpretation and application must be guided by the NEM Principles and accordingly, the National Air Quality Officer (NAQO) and Eskom (an organ of state) must adhere to the NEM Principles and legal provisions of the AQA in its decision-making and exercise of their functions.

13. More specifically, Eskom is bound by the Framework for Air Quality Management ("the Framework"), Air Quality Management Plans (AQMPs), and the MES. The Framework – which was first established in 2007 – aims to achieve the objectives of the AQA and provides various norms and standards to control emissions, manage and monitor

¹¹ Section 2(1) of NEMA.

¹² Section 2(4)(n) of NEMA.

¹³ Section 2(4)(a)(vii) of NEMA.

¹⁴ Section 2(4)(a)(viii) of NEMA.

¹⁵ Section 2(4)(c) of NEMA.

¹⁶ Section 2(4)(e) of NEMA.

¹⁷ Section 2(4)(r) of NEMA.

¹⁸ Section 2(4)(p) of NEMA.

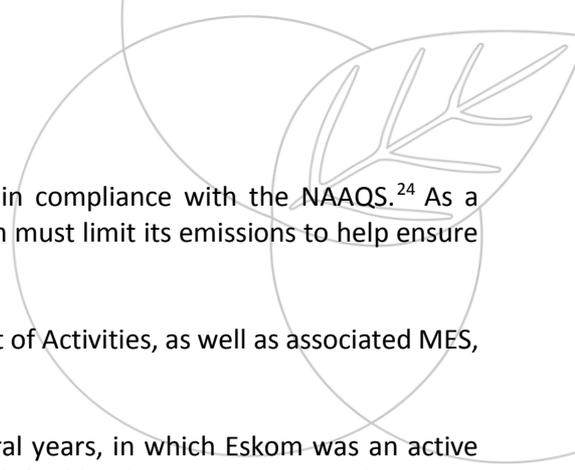
¹⁹ Section 2(4)(a)(ii) of NEMA.

²⁰ Section 2(4)(a)(v) of NEMA.

²¹ Section 2(4)(f) of NEMA.

²² Act 39 of 2004.

²³ Section 2 of the AQA.



air quality, and provide mechanisms, systems, and procedures to attain compliance with the NAAQS.²⁴ As a significant emitter and a major source of pollution in South Africa, Eskom must limit its emissions to help ensure NAAQS compliance.

14. In order to control atmospheric emissions, the Minister published the List of Activities, as well as associated MES, in terms of s21 of the AQA.
15. The List of Activities were set in a multi-stakeholder process over several years, in which Eskom was an active participant. In this regard, we refer to the following press statement published by the DEA on 4 December 2014, which states:

“It is important to note that the development of the Section 21 Notice constituted an elaborate consultation and participation processes in terms of Section 56 and 57 of the AQA. All affected stakeholders (including Eskom) were part of these processes and they made contributions regarding limits that are achievable with the view of upholding the constitutional right of all people in the country to an environment that is not harmful to health and well-being.

....

An extensive consultation process was followed in setting these emission standards over a 5 year period. This process:

- *continuously engaged with all stakeholders around the identification of listed activities and their associated minimum emission standards; and*
- *reviewed current national and international work related to the identification of activities and their related minimum emission standards.*

Eskom participated directly in this process, and standards seek to balance the economic, social and environmental imperatives.”²⁵

16. The List of Activities came into force on 1 April 2010 and prescribe MES for particular activities, including those for combustion installations such as Eskom’s coal-fired power stations, for particulate matter (PM), sulphur dioxide (SO₂), and oxides of nitrogen (NO_x) for both new and existing plants. Existing plants, like all of Eskom’s stations, had to comply with more lenient standards by 1 April 2015 – a transitioning period – so that they could adhere to stricter new plant standards by April 2020. In essence, since the List of Activities was published on 31 March 2010, older plants (although this includes Medupi and Kusile, which are still under construction) were given a transitioning lead period of 5 years to come into compliance with a more lenient 2015 standard, and to come into compliance with a stricter standard by 2020. Eskom was therefore well aware of this provision at least from April 2010, and was aware from several years before that that the MES would come into force, requiring the necessary emission control measures to ensure compliance with the law.
17. South African MES are very weak, compared even to other developing countries. For instance, as reflected in the table below, our SO₂ existing plant MES are 17.5 times weaker than those in China, Germany, and the European Union (EU), nearly 6 times weaker than India’s, almost 5 times weaker than Indonesia’s, and almost double as lax as Thailand’s. The existing plant PM MES are more than 3 times weaker than China’s, and 5 times weaker than in Germany and the EU. Our new plant MES also do not compare favourably to other jurisdictions, as the table below demonstrates:

²⁴ Section 7(1) of the AQA.

²⁵ https://www.environment.gov.za/mediarelease/atmospheric_emissionlicense_krielpowerstation.

'Existing Plant' ratios: SA/ country		
	SO2	PM
SA/ China	17.5	3.3
SA/ Germany	17.5	5.0
SA/ India	5.8	1.0
SA/ Indonesia	4.7	0.7
SA/ Thailand	1.7	0.6
SA/ EU IED	17.5	5.0

'New Plant' ratios: SA/ country		
	SO2	PM
SA/ China	14.3	5.0
SA/ Germany	3.3	5.0
SA/ India	5.0	1.7
SA/ Indonesia	0.7	0.5
SA/ Thailand	1.0	0.6
SA/ EU IED	3.3	5.0

Data source: IEA Clean Coal Centre²⁶

18. Whilst AQA deals with exemptions in general,²⁷ there is no provision that allows for exemption from MES compliance. Paragraphs 11-13 of the List of Activities, read together with paragraph 5.4.3.3 of the Framework, however, provides for applications for possible extension of compliance timeframes. According to the Framework, such application is only possible if “ambient air quality standards in the area are in compliance, and will remain in compliance even if the postponement is granted”. For this reason alone, the postponement applications must be denied, because, as explained below, 11 of the 14 power stations to which this application applies are located in the HPA; which was designated an air pollution priority area in November 2007 because ambient air quality in the area was not in compliance with NAAQS. In addition, Lethabo coal-fired power station is located in the VTAPA, declared for the same reason in 2006. Based on the DEA’s own data and reports, both the HPA and the VTAPA continue to be in non-compliance with NAAQS.²⁸
19. **If – and only if - NAAQS are in compliance**, postponement applications may be considered by the NAQO, in concurrence with the licensing authority, if the following conditions are met:
- 19.1. an atmospheric impact assessment is submitted, which is compiled in accordance with the regulations prescribing the format of Atmospheric Impact Reports (AIR) in terms of section 30 of AQA, by a person registered as a professional engineer or as a professional natural scientist in the appropriate category;
 - 19.2. there is a concluded public participation process in terms of NEMA’s Environmental Impact Assessment Regulations;
 - 19.3. the application is submitted to the NAQO at least 1 year before the specified compliance date;
 - 19.4. there is a detailed justification and reasons for the application; and
 - 19.5. if the applicant can demonstrate that the industry’s current and proposed air emissions are not causing, and will not cause any adverse impacts on the surrounding environment.²⁹
20. The NAQO, in concurrence with the licensing authority, may review any postponement granted, should ambient air quality conditions in the affected area of the plant not conform to NAAQS, and on good grounds, may withdraw a postponement, having considered representations from the affected plant and affected communities.³⁰

²⁶ <https://www.iea-coal.org/library/emission-standards/>.

²⁷ Section 59 of AQA.

²⁸ In relation to the HPA, see for example: http://www.airqualitylekgotla.co.za/assets/2017_1.3-state-of-air-report-and-naqi.pdf; The ‘AQ Monitoring Overview from December 2016 to May 2018’ presentation from the VTAPA Multi-Stakeholder Reference Group meeting shows exceedances for NOx, SO2, PM10 and PM2.5. The presentation concludes that “according to the NAAQS, the VTAPA is in non-compliance”.

²⁹ Please refer to Section 12 of the List of activities; and Section 5.4.3.3 of the 2012 National Framework for Air Quality Management in the Republic of South Africa.

³⁰ Paragraph 14 of the List of Activities.

The Highveld Priority Area (HPA)

21. The postponement application seeks a postponement of compliance with the MES for 11 of Eskom's 12 coal-fired power stations located within the Mpumalanga Highveld.
22. Due to the significantly-polluted air in the Highveld, the then Minister had declared the Mpumalanga Highveld as a priority area in 2007. The declaration of a priority area is possible in terms of section 18 of AQA, if the Minister believes that NAAQS are being or may be exceeded in the area, or any other situation exists which is causing, or may cause, a significant negative impact on air quality in the area, and this requires specific air quality management action to rectify the situation.³¹ In terms of section 19, a priority area air quality management plan (AQMP) is required to be prepared and approved. A priority area's declaration can only be withdrawn if the area is in compliance with NAAQS for more than 2 years,³² and the AQMP lapses when the declaration is withdrawn.³³ Section 19 sets out the requirements for an AQMP, which must: (a) be aimed at coordinating air quality management in the area; (b) address issues related to air quality in the area; and (c) provide for the implementation of the plan by a committee representing relevant role-players.³⁴
23. The HPA AQMP has been in place since 2012, and its primary objective is to bring the air quality in the Highveld in line with all NAAQS. Among other goals, by 2020, it aims to reduce industrial emissions in order to achieve compliance with NAAQS and dust fallout limit values.³⁵ It is submitted that continued MES postponements will render compliance with this goal impossible. It is not disputed that the deteriorating air quality within the HPA has a devastating effect on people living within the area. Indeed, this is acknowledged in the Preamble of the AQA. It is submitted that the ongoing air pollution is a perpetuation of environmental injustice, unfairly discriminating against vulnerable and disadvantaged persons, in particular.
24. Unfortunately, almost 11 years since the declaration, air quality in the HPA has not improved, and remains non-compliant with the NAAQS, despite the fact that South African standards are weaker than the World Health Organisation (WHO)'s 2005 guidelines (which are themselves outdated and under review). The continued NAAQS non-compliance is reflected in the DEA's own annual State of the Air reports, the reports presented the HPA multi-stakeholder reference group meetings, and the DEA mid-term review of the HPA AQMP. The DEA's 2017 State of the Air report states that "*many South Africans may be breathing air that is harmful to their health and well-being especially in the priority areas*", and a 9 year trend of pollutants indicates that the air quality has not improved. The dire air pollution situation in the HPA, and its implication on human health and the environmental right is extensively reported in the "*Broken Promises*" report, which was submitted to the DEA in October 2017.³⁶
25. The HPA AQMP also states that power generation, followed by mining haul roads and mines (some of which supply the power generating plants), are by far the largest contributor to air pollution in the Highveld. For instance, in respect of PM₁₀, power generation accounts for 12%, and mine haul roads 49% of overall PM in the HPA, whilst household fuel burning is a mere 6%. Further, power generation accounts for 73% of all NO_x and 82% of SO₂ in the Highveld. In comparison, household fuel burning accounts for a mere 6% of PM₁₀, 1% of SO₂, and 1% of NO_x in relation to overall ambient air pollution in the Highveld. The DEA's mid-term review of the HPA AQMP,³⁷ dated December 2015 but made available for comment in February 2016, indicates that:

³¹ Section 18 of the AQA.

³² Section 18(5) of the AQA.

³³ Section 19(7) of the AQA.

³⁴ Section 19(6) of the AQA.

³⁵ HPA AQMP, pg xvi.

³⁶ <https://cer.org.za/news/broken-promises-the-failure-of-south-africas-priority-areas-for-air-pollution-time-for-action>

³⁷ https://cer.org.za/wp-content/uploads/2016/07/HPA-AQMP-Midterm-review-Draft-Report_February-2016.pdf.



- 25.1. “industrial sources in total are by far the largest contributor of SO₂ and NO_x in the HPA, accounting for approximately, 99.57 % of SO₂ and 95.97% of NO_x, while mining is the largest contributor of PM₁₀ emissions”;³⁸ and
- 25.2. “there has not been a significant decrease in emissions of industrial and mining sources... Nonetheless, industrial sources are still the largest contributors of SO₂ and NO_x in the HPA with mining being the main contributor of PM₁₀.”³⁹
26. Similarly, despite the declarations of the VTAPA (home to Lethabo power station) in 2006, and the WBPA (home to Medupi and Matimba power stations) in 2012, both remain in non-compliance with NAAQS⁴⁰, and granting further MES postponements will only exacerbate this position and worsen the health impacts. Based on the evidence before us, none of the 3 priority areas has any reasonable prospect of being withdrawn in the foreseeable future.
27. The law is clear that only in such cases where the areas in which the facilities are based are in compliance with NAAQS (which the HPA, VTAPA, and WBPA are not), can postponement applications even be considered. In terms of section 1(a)(ii) of the Promotion of Administrative Justice Act, 2000 (PAJA), the powers to exercise administrative action are derived from and only extend insofar as the legislation allows. Therefore any granting of postponement application in the HPA (or the other priority areas) would be *ultra vires* the Constitution, AQA and its regulations, the List of Activities, NEMA, and the Framework.
28. Eskom has not met the required timeframes and limits under the first round of postponement applications, which is clear from the updated Emission Reduction Plan in table 3 in the BID. Eskom now applies for further postponement applications through, in several cases, to the decommissioning of the older fleet of power stations, which is in effect, an illegal exemption from the MES. We submit that this application should not even be considered as it is not legally permissible.
29. Furthermore, if any additional MES postponements were to be considered (which would be illegal), Eskom would still be required to show that its air emissions are not causing and will not cause any adverse impacts on the surrounding environment. In this regard, the Regulations prescribing the Format of the AIR, 2013 (“the AIR Regulations”), requires that the AIR specify the impact of the activity to the receiving environment - which include health impact and environmental impact components. More specifically, the AIR requires “*analysis of emissions’ impact on human health*” to assess the impact of facility on human health,⁴¹ and consideration of the facility’s impact on the environment (considerations should include soil, water bodies, and commercial agricultural operations), to be shown through the Air Dispersion Modelling (ADM).⁴² The ADM should also comply with the Regulations regarding ADM, 2014 (“the ADM Regulations”).
30. There is a plethora of health impact assessment research – including reports commissioned by Eskom itself – which illustrate the devastating impacts of Eskom’s stations on human health. It is submitted that, read with paragraph 19.5 above, this the adverse health impacts caused by Eskom’s coal-fired power stations is reason alone to summarily reject this application. Postponements of compliance (and issuing of additional AELs to new facilities) will only sustain the state of non-compliance with the NAAQS in the priority areas and contribute to the continued breach of section 24 of the Constitution. These health impacts are addressed below.

Overview of the BID

31. The BID states that its purpose is to:

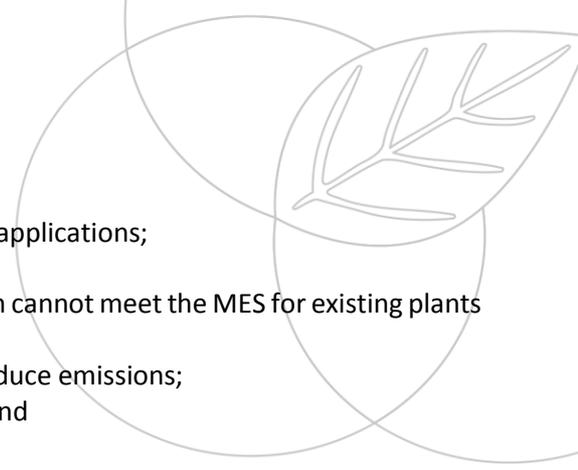
³⁸ Page 2 of Broken Promises Report.

³⁹ Page 85 of Broken Promises Report.

⁴⁰ The ‘AQ Monitoring Overview from December 2016 to May 2018’ presentation from the WBPA MSRSG meeting shows exceedances for PM₁₀, PM_{2.5} O₃. It concludes that “according to the NAAQS, the WBPA is in non-compliance”.

⁴¹ Regulation 5.1 of the AIR Regulations.

⁴² Regulation 5.2 of the AIR Regulations.



- 31.1. present an overview of Eskom's reasoning for the postponement applications;
- 31.2. provide a description of the MES;
- 31.3. provide an explanation of the process and reasons as to why Eskom cannot meet the MES for existing plants and the new plant standards that will come into effect in 2020;
- 31.4. highlight the interventions that Eskom will be implementing to reduce emissions;
- 31.5. outline the process to be followed in respect of this application; and
- 31.6. invite public participation in the applications.

32. With regard to the substance of the application , the BID *inter alia* states that:

- 32.1. *"Eskom intends to submit applications for postponement for 14 of its power stations to the National Air Quality Officer at the DEA at 31 March 2019"*;
- 32.2. *"This postponement application includes 11 of Eskom's coal fired power stations in the Mpumalanga Highveld Region, one (1) station in the Vaal Triangle as well as one (1) liquid fuel-fired power station each in the Western Cape and Eastern Cape provinces"*;
- 32.3. Due to *"various existing constraints"*, Eskom states that *"it is not possible for most of the power stations, to comply on time or, in some cases indefinitely with more stringent limits that come into effect from 2020"* (own emphasis); and
- 32.4. *"Accordingly, further postponements are required from 2020 from the 'existing' and 'new plant' limit compliance timeframes"*.

33. The BID indicates that an Atmospheric Impact Assessment will be provided and that:

- 33.1. *"Atmospheric dispersion modelling [ADM] will be used to predict the ambient air quality implications of not complying with the applicable limit values prescribed in the MES until abatement technology is installed/ upgraded for specific pollutants. The predicted ambient concentrations will be assessed in combination with reviews of ambient air quality monitoring data to ascertain how emissions from the power stations influence ambient air quality"*;
- 33.2. *"The dispersion modelling will only include the individual Eskom Power Stations and the cumulative impact of Eskom power stations in the same air shed. However the ambient data will be compared to the model output when model verification takes place. In this exercise it will be possible to see whether there are other source contributors to specific ambient air pollution. Depending on the signature trend of the diurnal variation plots, it can then be ascertained what type of other sources contribute to the ambient air pollution considered"*;
- 33.3. *"Eskom commissioned independent air quality specialists to prepare AIR's for each of the applications, to ascertain how the required compliance with the ambient air quality around Eskom's power stations will be affected by the delayed compliance with the MES, or not meeting the MES at all"*; and
- 33.4. *"A cost benefit analysis will also be conducted by independent consultants to help ascertain how non-compliance and full-compliance with the MES impact on techno-socio-economic factors; this includes health impacts, the effects of a steep increase in the electricity tariff and the consequent effects on Eskom, society and the country as a whole"*

34. As discussed below, the BID is problematic in several respects, including:

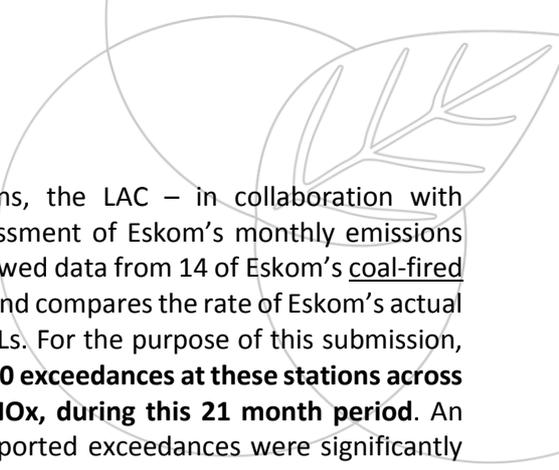
- 34.1. inaccurate and/or incomplete information is provided, which undermines the public participation processes, and ultimately, the decision-makers' ability to reach a rational, informed conclusion;
- 34.2. inadequate and/or inaccurate explanation is provided in respect of Eskom's delay in meeting its obligations, which it claims necessitates the current postponement application;
- 34.3. there are deficiencies in the proposed approach for conducting an AIR; and
- 34.4. there is an inappropriate approach to the proposed air quality modelling.

Inaccurate and incomplete information provided in the BID

35. The BID does not contain the necessary information required for reasonable public participation. As a result, it is submitted that it misrepresents the position in relation to compliance with the legal requirements. For this reason alone, the BID should be rejected, and an accurate, informative, complete BID provided for comment on an urgent basis.
36. I&APs require (and are entitled to) the provision of adequate and accurate information so that the relevant questions and concerns can be raised and answered, and to ensure rational decision-making on the postponement application at the final stage. The provision of complete information is not only important at a later stage, but at the initial BID stage, which is crucial as the information (or the lack thereof) will be pertinent to I&APs' understanding of – and decision to participate in - the whole process.
37. Paragraph 5.9.1.1 of the Framework provides that *“(a)ctive participation and contributions from individual citizens and citizen groups is of utmost importance in developing, implementing and enforcing air quality management decisions within the context of the AQA. The potential benefits of public participation are numerous. If well-planned and managed, public participation can bring new and important knowledge to the table, mediate between conflicting perspectives early in the process and facilitate more efficient air quality governance. Equally important, public participation in air quality management plays a vital role in strengthening and deepening democracy in South Africa and in giving effect to the constitutional right to an environment which is conducive to health and well-being”* (our emphasis).
38. The information missing from and/or not adequately provided in the BID is set out below:
- 38.1. As explained above, the regulatory framework does not permit postponement applications to be made in areas which are out of compliance with NAAQS. The BID, in paragraph 8, only relies on the legislative requirements in the List of Activities, and neglects to set out the provisions in the Framework.
- 38.2. The BID does not mention that 11 of these coal-fired power stations are in the HPA, and 1 in the VTAPA, areas which are out of compliance with NAAQS. This is a crucial consideration for the postponement application, and one which we submit is fatal for Eskom's power stations operating in the HPA and in the VTAPA. It also does not indicate that, according to the Framework, applications for postponements of MES compliance may not be made where NAAQS are out of compliance. This is likely because Eskom does not wish to point out that it is not legally permitted to submit postponement applications for these 12 stations located in areas where NAAQS are out of compliance. As indicated above, I&APs should be made aware from the outset what the postponement requirements are, the state of the air quality in the HPA and VTAPA, that there is non-compliance with NAAQS in these areas, and what the health impacts of such non-compliance are.
- 38.3. The BID has set out the actual MES and timeframes for 2015 and 2020, but has failed to include the relaxed AEL limits which currently apply to the coal-fired power stations. By simply providing the MES, without comparison with the relaxed AEL limits which currently apply, the BID fails to provide a complete picture of the legal requirements with which Eskom is required to comply. It also fails to address the significant number of exceedances of emission limits in its AELs at the majority of its power stations – as presented below. This information should be provided to I&APS.
- 38.4. It is stated on two occasions in the BID that Eskom currently complies with the emission limits as stipulated in the stations emission licences.⁴³ We continue to dispute⁴⁴ that this is the case at a number of Eskom's coal-fired power stations in relation to various emission limits contained in their relaxed AELs. In order to

⁴³See pages 1 and 11 of the BID.

⁴⁴ See https://cer.org.za/wp-content/uploads/2016/07/CER-letter-to-DEA-re-Eskom-non-compliance_31-May-2017.pdf;
https://cer.org.za/wp-content/uploads/2016/07/AEL-Compliance-Assessment-of-Eskom-CFPSS-final-19-May-2017_final.pdf



closely monitor Eskom's performance against its AEL conditions, the LAC – in collaboration with international air quality experts – are currently finalising an assessment of Eskom's monthly emissions reports for the period April 2016 – December 2017. This study reviewed data from 14 of Eskom's coal-fired power stations, excluding Kusile which is still under construction,⁴⁵ and compares the rate of Eskom's actual monthly emissions against the limits prescribed in the stations' AELs. For the purpose of this submission, we can confirm that, based on this assessment, **there were over 3000 exceedances at these stations across the applicable daily average emissions limits for PM, SO₂, and NO_x, during this 21 month period.** An aggravating finding from the assessment is that many of these reported exceedances were significantly greater than the applicable AEL emission standards.

- 38.5. Further, the reference to 2013 MES amendments creates the incorrect impression that Eskom only knew in 2013 of its compliance limits and timeframes. This is also misleading since the MES in respect of coal-fired power stations have not changed since 2010. As indicated above, the process of putting together the List of Activities commenced in about 2004 and over an approximate 5 year period, a multi-stakeholder process was convened to determine appropriate MES for the listed activities. Eskom was integral to this process. This is supported by the DEA's press statement referred to above. It should, therefore be made clear in the BID, as well as in the public participation process, that Eskom knew of the compliance limits and timeframes as far back as 2004 – or at least by 2010, giving it many years' advance warning that it would need to make the necessary plans and investments to come into compliance with MES.
- 38.6. The BID also does not indicate the air quality models which will be used as per the ADM Regulations. It merely mentions that it will use a "puff model" that will *"take a puff of pollution and then disperse that puff through the atmosphere as a function of the state of the atmosphere when the puff is emitted"*. The ADM Regulation lists 5 types of air quality models -including CALPUFF and SCIPUFF - which may be used. The 5 models are designed for different applications and assessment, and choosing the correct or relevant type is essential. In order to assess the suitability of the chosen air quality model and the modelling approach to be used, the BID (and the public participation process) should set out the key criteria to be used to select the model, and the modelling approach to be used with a detailed justification for its choices. This would enable any concerns to be addressed before any modelling is conducted.
- 38.7. The BID also does not indicate that there are an inadequate number of ambient air quality monitoring stations and/or data from the monitoring around these power stations, which may also have an impact on any AIR which Eskom proposes to undertake. In the previous 2014 postponement application, DEA requested further information from Eskom in order to make its decision; including an explanation as to why limited data were supplied to undertake the health and environmental impact study.⁴⁶ This is problematic, since any health and environmental impact from PM_{2.5} will largely be ignored. Since SO₂ and NO_x are precursors to secondary PM_{2.5} formation, and secondary PM_{2.5} contributes to total ambient PM_{2.5}, the AIR should report on the impacts of the postponement application with respect to PM_{2.5}, PM₁₀, SO₂, and NO_x. Exposure to ambient PM_{2.5} as a major health concern cannot be underestimated – recent research (September 2018) into global estimates of mortality associated with long-term exposure to outdoor fine particulate matter, has revealed that outdoor particulate air pollution is an even more important population health risk factor than previously thought.⁴⁷ Global Exposure Mortality Models (GEMM) were constructed for five specific causes of death examined by the global burden of disease (GBD) and it predicts 8.9 million deaths in 2015 due to PM_{2.5}, a figure 30% larger than that predicted by the sum of deaths among the five specific causes and 120% larger than the risk function used in the GBD.
- 38.8. In relation to the proposed cost-benefit analysis, it is not sufficient to only engage "independent consultants". In the absence of specific guideline in South Africa for the purpose of such a cost-benefit

⁴⁵ The gas-fired plants were also excluded from the analysis due to incomplete data being provided.

⁴⁶ Eskom's letter to DEA, dated 17 July 2014.

⁴⁷ Published by Proceedings of the National Academy of Sciences of the United States of America, available at <https://doi.org/10.1073/pnas.1803222115>.

analysis, international procedures should be adopted. Furthermore, the health impact assessment should not simply form part of a 'cost-benefit analysis', reducing health impacts to monetary value. We reserve our rights to challenge the scope and methodology of this analysis, pending the availability of further detail.

Insufficient explanation for the delay in meeting MES

39. Upfront, we emphasise our submission that when the List of Activities is amended, the majority of Eskom's current postponement applications will become illegal.
40. Eskom's reason for the delay is at best, incomplete and vague, and at worst, misleading and inaccurate. The BID states that:
- 40.1. *"Eskom currently complies with the emission limits as stipulated in the stations' emission licences, but due to various existing constraints, it is not possible for most of the power stations, to comply on time or, in some cases, indefinitely, with the more stringent limits that come into effect from 2020";*
- 40.2. *"Eskom is requesting postponement applications for stations which will mostly be able to comply with the existing MES and in some cases the new plant MES, however, not within the legislated timeframes. Eskom is requesting postponement for stations which are unable to comply with the new plant MES for SO₂, as this would place heavy strain on the tariff, the already strained water resources and would create new waste streams and create additional sources of CO₂"; (own emphasis)*
- 40.3. *"Eskom is requesting postponement for some of its older fleet, which will be decommissioned within the next 12 years, where, if the retrofit were to be applied, it would only operate for a few years post-retrofit, before the power station is shut down according to its 50-year life expectancy"; (own emphasis) and*
- 40.4. *"Eskom does not continuously emit emissions at levels that exceed the minimum emission standards. However, because emissions stemming from stations are variable, there are instances in which they exceed the emission standards, and it is for these instances that Eskom's stations need to request postponement from the compliance timeframes, until relevant technology is installed to bring the station into continuous full compliance".*
41. In the BID, Eskom provides no reasonable explanation as to why it has waited more than 8 years since the List of Activities came into force, or more than 3 years from when the 2015 postponement application was granted, to begin – and/or adequately progress and plan for - the abatement equipment installations.
42. In respect of Tutuka, for example, even though Eskom's current relaxed PM limit is 3.5 times weaker than the MES it was required to meet in 2015 and 7 times weaker than 2020 standards, it seeks to retain this extremely lenient standard until 2024. According to the BID's table 6, in addition to Tutuka, Eskom also seeks to postpone compliance with PM existing plant MES for Matla and Kriel, and with PM new plant MES for Kendal, Lethabo, Duvha, Matla, Kriel, and Komati. The List of Activities envisaged that old plants would conduct the necessary retrofitting from 2010 to ensure that they could meet the existing plant PM MES of 100 mg/Nm³ by 2015 and the new plant MES of 50 mg/Nm³ by 2020.
43. For SO₂, table 6 records Medupi and Matimba's re-applications to postpone compliance with SO₂ existing plant MES, and that every single station (except Kusile) seeks to postpone compliance with SO₂ new plant MES. In fact, Eskom has made clear that, of these stations, apart from Medupi – which will eventually comply – **no other station will ever meet the SO₂ new plant MES**. It will seek "rolling postponements" of compliance; which, as we have consistently submitted, amount to illegal exemptions. We note from the BID that *"a pilot project to reduce SO₂ emissions at Kendal Power Station will be initiated in 2021/2022 to test Circulating Fluidized Bed Flue Gas Desulphurisation (CFB-FGD) technology as an option to bring down the stations SO₂ emissions to levels between the new plant and the existing plant standards"*. We place on record that it is simply unacceptable that, apart from

Medupi, and Kusile – and now possibly Kendal – not a single one of its stations will ever comply with emission standards any stricter than the 2015 SO₂ MES. It is also unacceptable that Eskom seeks to only pilot a FGD technology (CFB-FGD) that is far less effective than wet FGD, four years from now. The List of Activities envisaged that old plants would conduct the necessary retrofitting from 2010 to ensure that they could meet the existing plant SO₂ MES of 3500 mg/Nm³ by 2015 and the new plant MES of 500 mg/Nm³ by 2020.

44. In relation to NO_x, table 6 records the following stations seek to postpone compliance with existing plant MES: Majuba, Tutuka, Matla, Kriel, Hendrina, Camden, and Komati; and, apart from Kusile, Medupi, and Matimba, every single one of the stations seeks to postpone compliance with new plant MES. The List of Activities envisaged that old plants would conduct the necessary retrofitting from 2010 to ensure that they could meet the NO_x existing plant MES of 1100 mg/Nm³ by 2015 and the new plant MES of 750 mg/Nm³ by 2020.
45. Eskom had ample opportunity to take the necessary steps to ensure MES compliance. It should be stressed that it is not for Eskom to dictate when and how they wish to comply with the law, and when to begin retrofitting. In 2015, Eskom obtained numerous postponements of compliance with the MES, to allow it more time to come into compliance. Since it has failed to do so, it must give a detailed explanation as to why it has delayed in commencing the necessary retrofitting process, what issues or challenges were experienced during the retrofit programme, and what actions were taken – and when - to remedy the delay.
46. We submit that this postponement application should not be considered, not only because it is legally impermissible as explained above, but also because Eskom has failed to provide justifiable reasons for not meeting the timeframes granted in the previous 2014 postponement application.

Health concerns attributed to Eskom's coal-fired power stations

47. The World Health Organisation has confirmed that, air pollution, both ambient and indoor, is one of the largest causes of death worldwide. According to reports from the DEA,⁴⁸ confirmed by our own experience and analysis,⁴⁹ air quality exceeds the South African NAAQS on an ongoing basis; especially in the Highveld, Mpumalanga, and Waterberg-Bojanala priority areas.
48. Ongoing exceedances of the NAAQS are closely correlated with non-communicable diseases. About a quarter of all heart attack deaths, and about a third of all deaths from stroke, lung cancer, and chronic obstructive pulmonary disease are due to air pollution exposures. Health impacts are largest among women, children, older people, and the poor.⁵⁰ Although NAAQS are intended to be health-based, there are no safe levels of exposure to several pollutants.
49. Industrial emissions, particularly from coal-fired power generation, are major sources of South Africa's air pollution – and its attendant health impacts; as well as being significant contributors to climate change.
50. As part of our opposition to Eskom's first round of MES postponement applications in 2014, we strongly objected to the fact that Eskom had not undertaken detailed assessments of the health impact of the postponement (and subsequent AEL variation) applications.⁵¹ This is on the basis that an applicant for a postponement from the MES must show that the facility's current and proposed air emissions are and will not cause any adverse impacts on the surrounding environment. Given the absence of the health assessment, our objections in 2014 place detailed reliance on a research study by Lauri Myllyvirta⁵² – a coal and air pollution specialist – which concluded that

⁴⁸ See, for example, http://www.airqualitylekgotla.co.za/assets/2017_1.3-state-of-air-report-and-naqi.pdf.

⁴⁹ <https://cer.org.za/news/broken-promises-the-failure-of-south-africas-priority-areas-for-air-pollution-time-for-action>

⁵⁰ See, for example: [http://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](http://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health) ; <https://ehp.niehs.nih.gov/ehp299/>.

⁵¹ See page 48-50 of the 2014 objections at https://cer.org.za/wp-content/uploads/2014/02/CER-submissions-on-Eskom-postponement-applications_12-Feb-2014_final1.pdf.

⁵² https://cer.org.za/wp-content/uploads/2014/02/Annexure-5_Health-impacts-of-Eskom-applications-2014-_final.pdf.

atmospheric emissions from Eskom's coal-fired power stations were then causing an estimated 2,200 premature deaths per year, due to PM_{2.5} exposure. This included approximately 200 deaths of young children. The economic cost to society was estimated at USD2.37 billion per year.

51. Using the data from Lauri Myllyvirta's study, UK-based air quality and health expert Dr Mike Holland assessed the health impacts and associated economic costs of current emissions of just one type of pollutant from Eskom's coal-fired power stations (PM_{2.5}) in 2016. His report, entitled "*Health impacts of coal fired power plants in South Africa*",⁵³ estimates that the following impacts are attributable to these emissions:

- 51.1. 2 239 deaths per year: 157 from lung cancer; 1 110 from ischaemic heart disease; 73 from chronic obstructive pulmonary disease; 719 from strokes; and 180 from lower respiratory infection; 2 781 cases of chronic bronchitis per year in adults;
- 51.2. 9 533 cases of bronchitis per year in children aged 6 to 12;
- 51.3. 2 379 hospital admissions per year;
- 51.4. 3 972 902 days of restricted activity per year;
- 51.5. 94 680 days of asthma symptoms per year in children aged 5 to 19; and
- 51.6. 996 628 lost working days per year.

52. In addition to the two specialist studies referred to above, we reiterate that Eskom is well aware of the health impacts of its stations. We refer, in this regard, to the health impact assessments Eskom itself commissioned as far back as 2006.⁵⁴ We outline the key findings of Eskom's respective reports below:

52.1. The Mpumalanga Highveld study⁵⁵ focused on the emissions from Eskom's then-existing fleet of 10 coal-fired power stations, and concluded that Eskom stations were cumulatively calculated to be responsible for 17 non-accidental mortalities and 661 respiratory hospital admissions per year. What is even more striking, however, is the study's finding that future Eskom's emissions, including increased releases from existing stations and the commissioning of 3 new and 3 return-to-service (RTS) stations, were cumulatively calculated to be responsible for 617 non-accidental mortalities and 24 842 respiratory hospital admissions annually. It is therefore clear that, at least from 2006, Eskom was already well aware that commissioning new coal-fired stations and bringing the RTS stations back online, without installation of SO₂ abatement equipment at all of the stations, would result in a large and disproportionate increase in mortalities and respiratory illnesses.

52.2. The Eskom Limpopo Health Study⁵⁶ analysed the health risks of its Matimba power station and planned Medupi power station and concluded that "emissions from existing Matimba Power Station operations are estimated to be responsible for 80% of the premature mortality and 50% of the respiratory hospital admissions" and that Medupi "would result in health risks being doubled from 1.5 to 3 premature deaths and from 144 to 300 respiratory hospital admissions per year".

53. The lack of improvement of the air quality in the HPA in 10 years (now almost 11 years), and the negative health impacts on communities as a result of air pollution in HPA are extensively outlined in the *Broken Promises* Report, released in October 2017.⁵⁷ The recommendations made in the report include that no more MES postponements

⁵³ <https://cer.org.za/wp-content/uploads/2017/04/Annexure-Health-impacts-of-coal-fired-generation-in-South-Africa-310317.pdf>.

⁵⁴ See "Eskom health studies" at <https://cer.org.za/programmes/pollution-climate-change/key-information>; <https://mg.co.za/article/2014-06-19-power-stations-are-deadly-internal-report-reveals>.

⁵⁵ See generally: Airshed Planning Professionals (Pty) Ltd, "*Air Pollution Compliance Assessment and Health Risk Analysis of Cumulative Operations of Current, RTS and proposed Eskom Power Station located within the Mpumalanga and Gauteng Provinces*", October 2006.

⁵⁶ See generally: Airshed Planning Professionals (Pty) Ltd, "*Air Pollution Health Risk Analysis of Operations of Current and Proposed Eskom Power Stations Located in the Limpopo Province*", November 2006. See the principal findings in the executive summary.

⁵⁷ https://cer.org.za/wp-content/uploads/2017/09/Broken-Promises-full-report_final.pdf

should be granted or AELs issued in priority areas, until such time as the air quality improves so that there is consistent compliance with NAAQS.

54. Acknowledging Eskom's findings of the health impacts caused by its power stations and the two independent studies referred to above, we have submitted, for several years now, that these serious health impacts make it clear that Eskom's postponement applications cannot succeed, as this would be contrary to the Constitution, NEMA, AQA, and the Framework. We reiterate this submission and contend that the proper consideration of this issue is fatal to Eskom's current - and any future – applications to postpone MES compliance. Notwithstanding the cost-benefit analysis to be conducted by independent consultants, including "health impacts", we cannot conceive of a scenario where DEA could justifiably approve a postponement application, in light of the health effects attributed to Eskom's stations. In this regard, we once again reiterate that so-called "air quality offsets" should never be a substitute for MES compliance. We dispute that Eskom's pilot offset projects to date have resulted in any meaningful improvements in air quality.

Eskom's proposed air quality modelling is inappropriate

55. The air quality modelling approach suggested in the BID is not acceptable, for the following reasons:

- 55.1. the BID states that the dispersion modelling will only include *"individual Eskom Power Stations and the cumulative impact of Eskom power stations in the same air shed. However the ambient data will be compared to the model output when model verification takes place. In this exercise it will be possible to see whether there are other source contributors to specific ambient air pollution. Depending on the signature trend of the diurnal variation plots, it can then be ascertained what type of other sources contribute to the ambient air pollution considered"*. We note that there are major emission sources – such as the Sasol Synfuels plant - within a 100km radius of many of the power stations seeking postponement, as well as numerous coal mining operations associated with these operations. The arbitrary *a priori* decision only to include individual Eskom power station emissions in the modelling is unacceptable and not in accordance with international best practice. Similarly, the proposal to assess cumulative effects only relative to an undetermined *"trend of diurnal variation plots"* is unacceptable. Among other aspects, the model validation procedures should include validation of the meteorological parameters and outputs. The modelling should also take cognisance of and encompass the long-range transport of Eskom's emissions from its tall stacks. We reserve our rights to respond in detail to any scoping documents that may follow;
- 55.2. Eskom's power stations emit very significant volumes of SO₂ and NO_x, in addition to PM. The SO₂ and NO_x are transformed through chemical and physical processes in the atmosphere, to secondary fine particulate matter (secondary PM_{2.5}), contributing significantly to total ambient PM_{2.5}. The model selected to assess the air quality impact must therefore be capable of modelling both dispersion and chemical transformation (photochemical) processes, and should include the modelling of SO₂ and NO_x emissions;
- 55.3. the modelling should also include, but not be limited to, PM_{2.5} emissions, with PM_{2.5} stack emission estimated as a fraction (using internationally accepted default values) of PM₁₀ stack emissions;
- 55.4. the magnitude of stack emissions and its stack heights imply that emissions from Eskom's power stations will be transported over long distances, potentially several hundred kilometres, with concomitant impacts. The modelling domain should therefore be sufficiently large to ensure a proper and full assessment of these impacts;
- 55.5. rather than the ill-defined process of *"the ambient data will be compared to the model output when model verification takes place"*, modelled outputs (ambient concentrations) should be rigorously validated against ambient monitored data, and calibrated in accordance with best practice, if necessary, so that modelled outputs may be used with confidence. As stated above, Eskom in a previous postponement application (for the Tutuka power station) maintained that health and environmental impacts of PM_{2.5} could not be

assessed due to ambient air quality monitoring data from the monitoring stations closest to Tutuka being inaccurate or missing. If this is still the case for either Tutuka or any of the other power stations listed in this application, it is a wholly-unacceptable justification for not assessing the impacts of PM_{2.5};

- 55.6. in the interests of accuracy, model runs for the purpose of validating the modelling should include emission rates based on measured daily average emission rates, as reported in emission reports required for each AEL and the List of Activities, for the most recently-available reporting year;
- 55.7. model outputs should include, for each pollutant modelled, and, as appropriate for comparison with the NAAQS, 10 minute, hourly, daily (99% percentile values), and annual average concentration isopleths (lines of equal concentration) drawn at different levels, including at the WHO guideline values; and
- 55.8. the impacts of the requested emission rates should be based on a modelling scenario at the emission rates requested in the postponement application, assuming that the plant is operating at its design maximum capacity or the maximum permitted throughput specified in its AEL, throughout the year. We point out that the United States Environmental Protection Agency guideline⁵⁸ makes this mandatory. It also requires that other “nearby” sources should be assumed to be emitting at these maximum rates. In this regard, there should be full compliance with the ADM Regulations referred to above, including the provision of all input files and data for public scrutiny.

Impermissibility of rolling postponements and exemptions from MES compliance

56. The Framework forms part of the AQA. The definition of “this Act” in AQA,⁵⁹ includes the Framework. It is clear from the List of Activities that the Framework’s requirements for a postponement must also be met. As set out above, the Framework clearly provides that postponement applications cannot be made where there is non-compliance with the NAAQS. On this ground alone, the DEA is required to refuse this postponement application. Should it not do so, the NAQO would be acting *ultra vires*, since she is exercising powers beyond what is legally permitted.
57. Eskom is seeking yet another postponement application for its power plants after its failure to meet not only the timeframes granted in the first postponement application, but also the significant number of exceedances of the relaxed emission limits in its AELs. We reiterate that exemptions from MES compliance are illegal. Rolling postponements until eventual decommissioning (such as Eskom seeks for SO₂ 2020 MES for almost all of its stations) are illegal, as they are equivalent to exemptions.
58. Eskom has previously confirmed its intention to seek “rolling postponements” until such time as retrofits are completed to bring the plant into compliance with MES; and this is particularly the case for new plant SO₂ MES – until the plant is eventually decommissioned. This is reinforced in the BID, where it is stated that “*it is not possible for most of the power stations, to comply on time or, in some cases, indefinitely*”. Moreover, it is clear, based on a reading of table 4, in particular, that this is the case for the majority of Eskom’s stations, as opposed to in “some” instances. Eskom has still failed to provide evidence that it has taken sufficient steps to ensure compliance with the 2015 MES within the prescribed timeframe, or to make the necessary preparations to comply with the 2020 MES, when it became apparent to Eskom that it had to do so. We submit that Eskom has further abused the leniency provided for when it received the postponement in 2015, and has given wholly-inadequate reasons for its failure to meet the required timeframes. At the October 2017 Air Quality Lekgotla, the DEA itself indicated that MES postponement applications have been the subject of abuse, and that, as a result, section 24 rights in the Constitution has been undermined.⁶⁰ The current applications - again for wide-ranging postponements – are another such example and should be refused.

⁵⁸ Available at https://www3.epa.gov/ttn/scram/guidance/guide/appw_17.pdf

⁵⁹ Section 1 (1) of the AQA.

⁶⁰ http://www.airqualitylekgotla.co.za/assets/2017_5.5-postponement-of-compliance-timeframes--a-critical-analysis-lessonslearnt-possible-solutions.pdf.

Request for information

59. As indicated above, public participation is crucial in order for a holistic public participation process with as much information being accessible as possible, in order that there is informed participation and decision-making on the postponement application. Access to relevant information to allow meaningful public participation is also essential in order to give effect to the right to administrative action that is lawful, reasonable and procedurally fair, as provided for in the PAJA.
60. In addition to responses to the questions in paragraph 3, we therefore request that Eskom provide the following information to enable us to make meaningful input on this application:
- 60.1. detailed confirmation of the pollutant/s and timeframe/s for compliance that Eskom is intending to apply for in this postponement application – and in future postponement applications;
 - 60.2. details of the ADM chosen, a detailed explanation of why this particular model was chosen, and all assumptions that will be made in the ADM;
 - 60.3. all the data and information to be inserted into the model; including but not limited to: the pollutants considered (PM₁₀, PM_{2.5}, SO₂, NO_x); the most recent daily emission data for PM₁₀, SO₂, and NO_x, over the full calendar year, and in an appropriate electronic format (CSV or Excel), for the power stations mentioned in the postponement application;
 - 60.4. monitored hourly average pollutant (PM₁₀, PM_{2.5}, SO₂ and NO₂) data for all Eskom's monitoring stations in the HPA and VTAPA, including monitoring stations' downtime percentage, as well as the values and protocol which is used in case of downtime and/or missing data (CSV or Excel); and
 - 60.5. all meteorological data that may be used in the ADM;
 - 60.6. details, including methodology and all parameters and assumptions used for the health impacts study;
 - 60.7. previous compliance roadmaps submitted to DEA in the 2014 postponement and subsequent updates of the compliance roadmaps to date (more detailed information than is provided in the BID's table 3);
 - 60.8. the full explanation for the delay in installing abatement technologies including:
 - 60.8.1. reasons why it has decided not to commence with – and/or adequately progress - the abatement technology measures for 3 years since the DEA postponement decision in 2015, which required milestones to be achieved in respect of PM by 2019;
 - 60.8.2. the detailed MES compliance measures Eskom has taken from 2015 until now in respect of meeting its SO₂, PM, and NO_x objectives (including any contracting deadlines, funding deadlines, tenders, etc.), and if there was a delay, the nature of the delay and what steps it had taken to solve this issue;
 - 60.8.3. detailed timeframe of what it intends to do from 2019-2024 - with "micro deadlines" which DEA can hold Eskom to account for between 2019- 2024; and
 - 60.9. the costs-benefit analysis of addressing the mercury emissions from Eskom's power stations as calculated by the consultants appointed by the DEA to undertake the Minamata Initial Assessment for South Africa; and the mercury emissions data Eskom submitted to DEA for the mercury inventory.
61. Should Eskom not be willing to make this information (or a part of it) available, kindly provide us with the reasons for this refusal. Our rights in this regard are reserved.

Conclusion

62. As set out above, given that air quality in the HPA and VTAPA (and WBPA) is not in compliance with the NAAQS, postponement applications should not be considered. To do so would be in violation of the Constitution, the Framework, and AQA. For this reason alone, DEA must deny Eskom's application; otherwise it would be acting *ultra vires*.

63. Furthermore, no rolling postponements are legally permissible, and these should not be considered. As a number of the applications sought are tantamount to a rolling postponement, they should be denied for this reason.

64. Even assuming that NAAQS in the HPA and VTAPA were in compliance (which they are not), in the absence of evidence that:

- 64.1. granting of Eskom's applications will not result in NAAQS being exceeded;
- 64.2. there will not be any health, environmental, or other risks if the applications are granted; and
- 64.3. Eskom has made all efforts to ensure compliance with its previous postponements and fully explained why it could not achieve this;

it is submitted that the current applications should not succeed.

65. The BID is defective, as it does not contain material information – as set out above. Among other things, it does not explain: the Framework's postponement requirements, the fact that NAAQS are not in compliance in the HPA or the VTAPA, or the health impacts of the postponement.

66. The accuracy and completeness of the BID is essential to ensure that I&APs understand what is being sought and why their participation is important. Since various material information was missing from the BID, and the BID contains information which is misleading and/or inaccurate, it should be rejected. Although we strongly dispute that Eskom may legally apply for postponement – for the reasons explained above – the process should begin afresh, with the publication of an accurate, informative BID.

67. Should Eskom persist with the intended unlawful postponement applications, and because NAAQS are out of compliance in the HPA and VTAPA, in addition to the current objections, we will have no choice but to request that the NAQO:

- 67.1. review and withdraw any leniency granted to Eskom in its 2015 postponement decision;
- 67.2. require Eskom's immediate compliance with the existing 2015 MES standards; and
- 67.3. require that Eskom immediately meet the new plant standards for PM₁₀, SO₂, and NO_x on 1 April 2020.

68. We look forward to your urgent response to these submissions.

69. Please contact us, should you have any queries.

Yours faithfully

CENTRE FOR ENVIRONMENTAL RIGHTS

per:



Timothy Lloyd

Attorney

Direct email: tlloyd@cer.org.za