



Centre for Environmental Rights

Advancing Environmental Rights in South Africa

Honourable Ms Barbara Creecy

Minister of Environment, Forestry and Fisheries

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Date: 28 April 2020

Dear Minister Creecy

RE: EXPERT ANALYSIS OF THE AIR QUALITY IMPACTS AND HEALTH EFFECTS DUE TO THE EMISSIONS FROM ESKOM'S KENDAL POWER STATION

1. We address you on behalf of our clients, groundWork, Earthlife Africa Johannesburg, and Vukani Environmental Justice Movement in Action (also referred to as the Vukani Environmental Movement).
2. The purpose of this correspondence, as foreshadowed in an email sent by us to Mr Ntsizi November on 24 April 2020, is to provide you with important information relevant to the pending compliance enforcement action against

The Centre for Environmental Rights acknowledges the extraordinary circumstances of this moment and the devastating impacts of COVID-19 on lives, health, and livelihoods for people around the world and in our country.

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Eskom's Kendal power station – located in the highly-polluted Highveld Priority Area¹ – for Eskom's failure to comply with the conditions in the atmospheric emission licence (AEL) for Kendal.

3. We refer to the following correspondence and documents:

- 2.1 our letter addressed to you, dated 22 July 2019, calling for immediate enforcement action against Eskom's Kendal power station, based on clear evidence of non-compliance with its AEL conditions in its monthly emission reports;
 - 2.2 your letter of response, dated 30 November 2019, confirming that the Department of Environment, Forestry and Fisheries (the "Department") was in the process of attending to the situation at Kendal power station;
 - 2.3 our request, in terms of the Promotion of Access to Information Act, 2000 (PAIA), submitted to the Department on 10 October 2019, for access to the pre-compliance notices issued to Kendal and Camden power stations (among other documents); and the Department's decision, dated 1 November 2019, which refused access to these documents;
 - 2.4 our subsequent PAIA request submitted to the Department on 3 February 2020, for access to documents related to the compliance enforcement action instituted against Kendal power station; this included a request for a copy of the compliance notice issued by the Department, in terms of section 31L of the National Environmental Management Act, 1998 (NEMA);
 - 2.5 the decision issued by the Department on 14 April 2020, in response to the PAIA request referred to in paragraph 2.4 above, which remains subject to an appeal by Eskom as the third party in this instance; and
 - 2.6 the compliance notice, dated 10 December 2019, issued to the General Manager of the Kendal power station (the "Kendal compliance notice"). **Eskom provided a copy of the Kendal compliance notice to the Centre for Environmental Rights (CER)** on 21 April 2020, as part of its initial response to a PAIA request that CER submitted to Eskom on 3 February 2020.
4. The Department's letter of decision received by CER on 14 April 2020 – that was understandably unsigned due to the COVID19 virus – was accompanied by an unsigned affidavit in the name of Mr Ishaam Abader, in accordance with section 23(1)(b)(ii) and (2) of PAIA. Paragraph 3.1 of the affidavit confirms that the *"(t)he Minister has suspended the Compliance Notice pending the finalisation of the objection application. As a result, to date, no maintenance plan has been submitted and no response to the objection application has been provided."*
5. As we have received no further update to the contrary, from either the Department or Eskom, our clients presume that you are still considering Eskom's objection application, in terms of section 31M of NEMA.
6. The main purpose of this letter is to bring two relevant expert reports to your attention, by Dr Ranajit (Ron) Sahu and Dr Andrew Gray, respectively, in order to inform your decision-making in relation to the pending enforcement action against Eskom. Together, these reports analyse the monthly emission data from Kendal power station during the period April 2016 to March 2020; in particular, the alarming number of exceedances of the particulate matter (PM) limit in Kendal power station's AEL, and the health impacts caused by Kendal's PM emissions during 2018-9 - including the estimated premature deaths from this pollution.
7. Our clients request that you consider the relevant findings from these reports – outlined below – as part of your decision-making process, in terms of section 31M(2) of NEMA.

Dr Ron Sahu's report - Eskom's Kendal Power Station Exceedances of Applicable Atmospheric Emission License Limit Values for Particulate Matter from April 2016 to March 2020

8. Dr Sahu's report, dated 24 April 2020, is attached marked as **Annexure "A"**. Dr Sahu reviewed the available monthly emissions reports from Kendal power station for the period April 2016 through March 2020 (47 months).

¹ Declared as a priority area in 2007 in terms of section 18 of the National Environmental Management: Air Quality Act, 2004.

This assessment excludes the December 2019 report, which was inexplicably not made available by Eskom, despite repeated requests. The key findings from this review are as follows:

- in that time period, Kendal power station had **2,712 exceedances of its AEL limit of 100 mg/Nm³ for average daily particulate matter (PM) limit**;
- PM exceedances became **three times more frequent starting in April 2018, and have never returned to pre-April 2018 frequencies**. January 2020 had the most PM exceedances of any month (151);
- **in 2019, 83% of exceedances were twice the PM limit**. 35% of 2019 exceedances were four times the PM limit, while 10% were 12 times the PM limit. In 2018, 2% of exceedances were 25 times the PM limit. From 2016 to 2020, between 6 and 9 percent of PM exceedances were 12 times the PM limit. For the three months of data available for 2020, 84% of exceedances were twice the PM limit; 31% were four times the limit, and 6% were 12 times the limit;
- **in the most recent report of March 2020, even with Unit 5 shut down, the remaining units exceeded the PM limit 88 times**. 24% of operating days at Unit 6 emitted PM at 10 times the PM limit (over 1000 mg/Nm³);
- the data indicate that the electrostatic precipitators at all units at the Kendal power station are simply not working properly, even after maintenance on the precipitators is purportedly complete; and
- Dr Sahu recommends that Kendal power station **either shut down or that all units be rapidly retrofitted with properly-designed fabric filters** to effectively control PM emissions and improve regional air quality and public health. Such retrofitting would enable Kendal power station not only to meet its AEL limits, but would also meet the World Bank recommended limits for maximum PM emissions for large power plants in degraded airsheds (25 mg/Nm³).²

9. We note that a number of these key findings support the Department's analysis under 'Justification for Enforcement Action' in Table 1, set out in the Kendal compliance notice. Among other significant issues revealed in the compliance notice, it is also very concerning to note the Department's finding of "*gross misrepresentation of the facts*" and the conclusion that "*(t)he Department therefore does not consider this to be a true reflection of what is occurring on site*". In this regard, we are instructed to point out that it is an offence to supply false or misleading information to an air quality officer, or the Department's Directorate for Air Quality Management, in terms of section 51(1)(g) of the National Environmental Management: Air Quality Act, 2004 (the "Air Quality Act").

10. It is also worth pointing out that these alarming exceedances are likely even more severe at some units since April 2020, when the PM limit for Kendal power station was reduced (50 mg/Nm³ rather than 100 mg/Nm³), as reflected in Kendal's current AEL valid until 30 September 2024.

Dr Andrew Gray's report - Analysis of Air Quality Impacts and Health Effects due to Kendal Power Station's emissions between January 2018 and October 2019

11. Dr Gray's report, dated 22 April 2020, is attached marked as **Annexure "B"**. Dr Gray's report augments his June 2019 report on the air pollution dispersion modelling and the health effects risk assessment for 14 industrial facilities located in and around the Mpumalanga Highveld Priority Area, based on 2016 emissions.³ Dr Gray analysed Kendal's emissions data for the period January 2018 to October 2019 to model the air quality and health impacts from this power station alone. The main findings from this analysis are as follows:

² World Bank/IFC, *Environmental, Health, and Safety Guidelines for Thermal Power Plants* (2017), Table 6 at page 35; available at <https://www.ifc.org/wps/wcm/connect/9ec08f40-9bc9-4c6b-9445b3aed5c9afad/Thermal+Power+Guideline+2017+clean.pdf?MOD=AJPERES&CVID=INwcJZX>.

³ Gray. H.A., "Air Quality Impacts and Health Effects Due to Large Stationary Source Emissions in and Around South Africa's Mpumalanga Highveld Priority Area (HPA), June 3, 2019 available at: <https://cer.org.za/wp-content/uploads/2019/06/Andy-Gray-Report.pdf>

- emissions from Kendal power station were **responsible for between 67 and 144 early deaths in and around the Highveld Priority Area during 2018 (95% confidence interval), and between 61 and 130 early deaths between November 2018 and October 2019;**
- **in 2018, Kendal power station caused Sulphur dioxide (SO₂) 10-minute average levels over four times the World Health Organisation (WHO)-recommended maximum at Hlanga Phala primary school, 11 km away.** The power station also created ambient SO₂ 10-minute average levels over two times the WHO recommended maximum in the township of Ogies;
- **in 2018, Kendal power station caused SO₂ daily average levels over five times the WHO-recommended maximum at Ogies and Phola,** and exceeded the WHO maximum at numerous other locations throughout the HPA area;
- **in 2018, Kendal power station caused PM smaller than 2.5 microns in diameter (PM_{2.5}) daily average levels to reach half of the WHO-recommended maximum** at Laerskool Panorama, Leandra, Ogies, and Phola; and
- **in 2019, Kendal power station caused oxides of nitrogen (NOx) 1-hour average levels to reach two times the WHO-recommended maximum at Ogies and Phola,** and more than half the recommended maximum at 21 sensitive receptor locations across the Highveld Priority Area, including at Witbank, Secunda, Delmas, and Kinross.

The best interests of children living in the Highveld Priority Area

12. One of the important features of Dr Gray’s April 2020 report, consistent with the methodology in his June 2019 report, is the assessment of the impact of Kendal’s emissions on sensitive receptors, such as primary schools.⁴
13. Our clients submit that the Minister’s decision to ‘confirm, modify or cancel’ Kendal’s compliance notice or any part of the notice, must be consistent with, and give effect to, the relevant provisions in the Constitution of the Republic of South Africa, 1996 (the “Constitution”), NEMA, and the Air Quality Act, among other legislation. In terms of the Constitution, this includes, but is not limited to, sections 1(c), 7(2), 24, and 28(2).
14. Section 28(2) of the Constitution states that the best interests of a child are of paramount importance in every matter concerning the child. This includes a child’s environment. The ‘best interests of the child’ is both an independent right and general principle that should guide the implementation of all other rights afforded to children.⁵ Sections 28(2) and 24 of the Constitution are therefore interdependent. This dependency is affirmed by a recent report by the United Nations High Commissioner for Human Rights:

“Ensuring a clean, healthy and sustainable environment is fundamental to realizing children’s rights now and for future generations, and requires prioritizing children’s best interests in all environmental management and climate action decisions and eliminating childhood exposure to pollution and toxic substances.”⁶

15. On this basis, **there is not only a Constitutional duty imposed upon you to protect people in the Highveld from Kendal’s emissions – which are harmful to their health and well-being – but there is also a heightened duty imposed by the Constitution to effectively protect children in the area, who are more vulnerable to the health impacts caused by air pollution.**⁷
16. Notwithstanding Eskom’s representations opposing the Kendal compliance notice, our clients cannot comprehend a more compelling set of circumstances to at least confirm Kendal’s compliance notice, in terms of section 31M

⁴ See Figure 2 on page 24 of Dr Gray’s report showing the sensitive receptors impacted by Kendal power station.

⁵ *S v M* ZACC 18; 2008 (3) SA 232 (CC); 2007 (12) BCLR 1312 (CC).

⁶ See paragraph 5 in the January 2020 report available at <https://www.ohchr.org/EN/Issues/Children/ThematicReports/Pages/RightsHealthyEnvironment.aspx>

⁷ Toxic substances are particularly harmful for children because children absorb them at a higher rate and quantity due to their smaller size and rapidly-developing physiology; see paragraph 17 of the above United Nations High Commissioner for Human Rights report.

(2), but also to initiate further administrative enforcement and criminal action in terms of NEMA and the Air Quality Act.

17. If you have any queries following your consideration of the above expert reports, please contact us directly. We will relay these to the authors where necessary.

Yours faithfully

CENTRE FOR ENVIRONMENTAL RIGHTS

per:



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