

In the matter between

SASOL SOUTH AFRICA LIMITED: SECUNDA OPERATIONS Appellant

and

NATIONAL AIR QUALITY OFFICER First Respondent

**DEPARTMENT OF FORESTRY, FISHERIES AND
THE ENVIRONMENT** Second Respondent

JUST SHARE NPC Third Respondent

**RESPONDING STATEMENT: SASOL'S APPEAL AGAINST THE NATIONAL AIR
QUALITY OFFICER'S DECISION TO REJECT ITS APPLICATION, IN TERMS OF
PARAGRAPH 12A OF THE LIST OF ACTIVITIES, FOR AN ALTERNATIVE LOAD-BASED
LIMIT FOR SULPHUR DIOXIDE GENERATED BY THE STEAM PLANT BOILERS AT ITS
SECUNDA OPERATIONS**

- 1 This is a response to an appeal brought by Sasol South Africa Ltd ("the Appellant" or "Sasol") in terms of section 43 of the National Environmental Management Act, 1998 (NEMA), read with the National Appeal Regulations, 2014, against a decision by the National Air Quality Officer (NAQO) of the Department of Forestry, Fisheries and the Environment (DFFE) ("the appeal").
- 2 The appeal is against the 11 July 2023 decision by the NAQO (attached to the appeal marked Annexure C) ("the Decision") to refuse the Appellant's application in terms of paragraph 12A of the List of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage, 2013 ("the List of Activities"). The application related to the sulphur dioxide (SO₂) emissions from 17 coal boilers at the Appellant's facility operated by its Secunda Operations in Mpumalanga.
- 3 This responding statement is made in terms of regulation 5 of the National Appeal Regulations, 2014, in the Third Respondent's capacity as an interested and affected party.
- 4 The Third Respondent submits that the NAQO was correct to have refused the Appellant's paragraph 12A application, and calls upon the Minister of Forestry, Fisheries and the Environment ("the Minister"), as the appeal authority, to uphold the Decision in terms of section 43(6) of NEMA, and regulation 7 of the National Appeal Regulations.

- 5 This responding statement is structured as follows:
 - 5.1 First, this responding statement briefly describes the Third Respondent.
 - 5.2 Next, we explain the purpose of paragraph 12A, and why the Appellant's application was unlawful.
 - 5.3 Thirdly, we address the Appellant's historical conduct and changing positions in relation to the SO₂ MES.
 - 5.4 Thereafter, we analyse and explain the actual impact of the Appellant's proposed alternative emission limit load-based scheme (**all the Appellant's future reduced load emissions scenarios result in emissions that are about twice those of corresponding MES-compliant scenarios**).
 - 5.5 We then address the grounds of opposition to the appeal.
- 6 The Third Respondent has not responded to every allegation and document contained in the appeal. The failure to do so should not be construed as an admission of the correctness thereof.

THE THIRD RESPONDENT

- 7 Just Share is a non-profit shareholder activism organisation with registration number 2017/347856/08. The Third Respondent exercises the rights and powers of shareholders, using research, advocacy and activism, to advance social and environmental justice.
- 8 The Third Respondent submitted comments on the Appellant's paragraph 12 A application as an interested and affected party on 24 May 2022. A copy of these submissions is attached as "**Annexure 1**".

THE PURPOSE OF PARAGRAPH 12A

- 9 In our 24 May 2022 comments on the Appellant's application (Annexure 1), the Third Respondent argued that granting the Appellant's application would violate the Constitution of the Republic of South Africa, 1996 ("the Constitution"), NEMA, the National Environmental Management: Air Quality Act, 2004 (AQA), the List of Activities, and the 2017 National Framework for Air Quality Management in the Republic of South Africa ("the Framework"). The Third Respondent maintains that it is unlawful for the Appellant to operate in non-compliance with the new plant/2020 MES from 1 April 2025. This would also amount to an unjustifiable limitation of section 24 of the Constitution.
- 10 When the List of Activities was amended on 31 October 2018, it made clear that, *inter alia*:
 - 10.1 No further postponements of 2015/existing plant minimum emission standards (MES) would be granted (para 11D); and

- 10.2 Only one postponement is permitted of 2020/new plant MES, and no such postponement will be valid beyond 31 March 2025 (para 11A).
- 11 Paragraphs 11 to 14 of the List of Activities all fall under the heading “Postponement of compliance timeframes”. Paragraphs 11B and 11C address “once-off suspensions of compliance” – effectively postponements of (or exemptions from) new plant MES that apply until eligible facilities are decommissioned.
- 12 The Third Respondent - and other interested and affected parties – understand paragraph 12A to be part of and to be read together with the postponement requirements. Paragraph 12A **governs the emission limits that will apply during the postponement**. We understand **paragraph 11A to refer to the timeframe of the postponement (which cannot be longer than 31 March 2025)**, and **paragraph 12A to refer to the emission limits that will be applied during this postponement period**. Timeframes for the postponement and emission limits applicable during that timeframe co-exist and cannot operate independently of one another. Since these provisions operate in tandem, they cannot be applied separately.
- 13 Alternative limits necessarily depend on postponement (or suspension) of compliance being granted. Alternative limits without timeframes are meaningless. Paragraph 12A is not independent from paragraph 12 – it follows on from and stems from paragraph 12. Paragraph 12 specifically states that it is applicable to paragraphs 11A (and B).
- 14 Paragraph 11 of the List of Activities introduces the postponement provisions as providing for the postponement of compliance timeframes as contemplated in the “National Framework for Air Quality Management in the Republic of South Africa”.
- 15 Paragraph 11 provides:
- As contemplated in paragraph 5.4.3.5¹ of 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 paragraph (9) and (10) for an existing plant.*
- 16 Paragraph 5.4.3.4 of the Framework sets out the conditions in terms of which “a proponent of a Listed Activity will be allowed to apply for a postponement or suspension of the compliance date and such an application will be considered”. It includes, amongst such conditions: “[o]ther requirements as may be specified by the [NAQO]”.
- 17 In other words, the requirements set out in the List of Activities should be read together with those in the Framework (which falls under AQA’s definition of “this Act”), and any other requirements the NAQO may specify.
- 18 In the Third Respondent’s view, any interpretation of paragraph 12A which allows it:

¹ This should be para 5.4.3.4.

18.1 to be applied for at any time, for any number of times, and unrelated to any postponement application; and/or

18.2 to govern periods beyond 31 March 2025,

is unlawful.

19 Such interpretation **would clearly undermine the purpose of the 2018 amendments to the List of Activities**, which was to put an end to “rolling postponements” and make clear that:

19.1 **all facilities had to comply with the 2020/new plants MES by 31 March 2025** (assuming they had obtained a postponement until that date); **unless:**

19.1.1 they had met the requirements for and obtained a **once-off suspension of compliance**, in which event the **facility could comply with 2015/existing plant MES until it was decommissioned** by the date in its detailed decommissioning schedule **(no later than 30 March 2030)**.

20 Upholding this interpretation would effectively amount to granting exemptions from the MES, which are legally impermissible.

21 It would also amount to regression in air quality management and in the protection of constitutional rights, including the right to an environment not harmful to health or wellbeing. The March 2022 High Court *Deadly Air* judgement² confirmed that section 24 of the Constitution, the environmental right, is immediately realisable. It also confirmed that poor air quality in the Highveld Priority Area (HPA), where the Appellant’s facility in question is based, violates constitutional rights.

22 The Vaal Environmental Justice Alliance and groundwork make the same argument regarding the interpretation of paragraph 12A in litigation launched on 11 August under case number 2023-079658 in the Gauteng Division of the High Court.³ In a review application citing the Minister, the NAQO and ArcelorMittal South Africa (AMSA), the applicants seek the following declaratory relief:

22.1 that no application for postponement of compliance with the MES is permissible for areas where the National Ambient Air Quality Standards (NAAQS) are non-compliant;

22.2 that the Minister’s decision to allow for weaker emission limits than the existing plant standards for AMSA was unreasonable, unlawful, unconstitutional and invalid;

22.3 that no further postponement applications will be granted beyond 31 March 2025;

² *Trustees for the time being of groundwork Trust and another v Minister of Environmental Affairs and others (United Nations Special Rapporteur on Human Rights and the Environment as Amicus Curiae)* [2022] JOL 53812 (GP).

³ <https://cer.org.za/news/the-minister-of-forestry-fisheries-and-the-environment-and-national-air-quality-officer-face-legal-action-over-alleged-permitting-of-excessive-hydrogen-sulfide-pollution-by-arcelor-mittal-south-afric>

- 22.4 that paragraphs 11 and 12 of the List of Activities must be read integrally, and in line with the Constitution and relevant air quality management legislation;
- 22.5 that paragraph 12A of the List of Activities is not a standalone provision;
- 22.6 that paragraph 12A of the List of Activities must be read in conjunction with the preceding provisions; and
- 22.7 that paragraph 12A, read together with paragraphs 11 and 12 of the List of Activities, does not allow for alternative emission limits weaker than existing plant standards.
- 23 The Third Respondent agrees with this interpretation.
- 24 There is also **no reasonable interpretation of an application in terms of para 12A that does not amount to a postponement**. As set out above, para 12A also falls under the heading “Postponement of compliance timeframes”. The 31 March 2025 deadline applies to such applications too. To hold otherwise would negate paragraphs 11A and D. This would amount to a regressive application of the law and essentially allow exemptions from MES compliance, which are legally impermissible. It would also amount to an unjustifiable limitation of constitutional rights.
- 25 This is also supported by the *Deadly Air* judgement. In paragraph 241.5.8 of decision, the Minister was directed - in making regulations to implement and enforce the HPA Air Quality Management Plan - to pay due regard, *inter alia*, to:
- the need to address the postponement and/or suspension of compliance with MES in the priority area; including to ensure that the atmospheric emission licences of all facilities that have not obtained once-off suspension of compliance and **that cannot meet new plant MES by April 2025** are withdrawn, and decommissioning and rehabilitation of those facilities is enforced.* (our emphasis)
- 26 **If paragraph 12A is intended to allow facilities “that cannot comply with [emission standards for] a particular pollutant or pollutants” to receive additional leniency beyond 31 March 2025, then the prohibitions in paragraphs 11A and 11D are completely superfluous.** Every single facility (except perhaps for any that do not comply with *any* emission standards) would simply instead apply in terms of paragraph 12A, so that its application is not limited to 31 March 2025 and/or to compliance with 2020/new plant standards. This cannot be what the legislature intended in making the 2018 amendments to the List of Activities.
- 27 In our understanding of the List of Activities, read with the Framework, **a facility seeking leniency beyond any postponement of compliance already granted to it, is legally required - whether it frames this application as one in terms of paragraph 11A or paragraph 12A** - to comply with the requirements of paragraph 5.4.3.4 of the Framework, and paragraphs 12 and 12A of the List of Activities.
- 28 For these reasons, the Third Respondent submits that the Appellant should not have been permitted to submit an application that would result in non-compliance with the 2020/new

plant MES beyond 31 March 2025, irrespective of how such application is framed. As set out below, **all of the Appellant's future reduced load emissions scenarios result in emissions that are about twice those of corresponding MES-compliant scenarios.** In addition, the Appellant seeks this leniency in perpetuity.

29 As expressed by the NAQO in the Decision (Annexure C to the appeal):

... to consider any deviation from the MES, including by an alternative emission limit, after the 31 March 2025 compliance deadline, would be contrary to the purpose of the Section 21 Notice and the empowering legislation. To grant such indulgence would, in effect, enable a deviation from compliance timeframes into perpetuity. This would be contrary to the mechanisms provided for in the Section 21 Notice, to progressively bring all emitters into compliance with the MES by 2025.

30 Even if paragraph 12A does permit such independent application to be made (which is denied), it is submitted that the Appellant has failed to meet the requirements to support its application for a proposed alternative emission limit. This is addressed in the opposition to the appeal grounds below. The Appellant attempts to distract from this failure by focusing on issues that are extraneous and, in fact, not relevant considerations for granting or refusing its application.

31 For instance, the Appellant makes much of its valuable position in the South African economy. It is not disputed that the Appellant plays an important role. The Appellant cannot, however, rely on this position to justify acting outside of the legal framework. Nor is this a reasonable basis for a decision-maker to permit it to do so. The Appellant seeks that, in the Minister's assessment of its appeal, she "bear in mind the unique position in which Sasol finds itself". However, it would be neither appropriate nor lawful to provide the Appellant with any special treatment in deciding this application. This was also the position of the then Minister and NAQO in DFFE's October 2014 answering affidavit in the application brought by the Appellant seeking to review and set aside the majority of the MES (this is addressed in the next section). It is also worth pointing out that Sasol has enormous financial and technical resources at its disposal to implement the necessary mitigation measures.

32 The Appellant also make substantial reference to its plans to reduce its greenhouse gas (GHG) emissions, and states that these are all on track. It has not provided shareholders and other stakeholders with evidence that it has a feasible, measurable plan to reduce its emissions in line with the goals of the Paris Agreement. Nor has it disclosed evidence of the steps it has already taken to ensure it will meet its own goals.⁴

33 Although an analysis of the Appellant's application for an alternative emission load for SO₂ will result in substantial MES non-compliance, it argues that its "integrated air emission solution" is the "best practicable environmental option" (BPEO). Not only is this strongly disputed, but the Appellant does not explain why this is the appropriate benchmark against which to address its application.

⁴ https://justshare.org.za/wp-content/uploads/2022/11/221122_Sasol_Climate-Change-analysis-briefing_November-2022.pdf; <https://justshare.org.za/media/news/climate-change/briefings-sasols-climate-and-air-quality-disclosures/>

34 Before explaining this, we address the Appellant's actions to date in relation to the SO₂ MES.

THE APPELLANT'S CONDUCT IN RELATION TO THE SO₂ MES

Setting the MES and Sasol's efforts to set these aside

35 The MES were set following a multi-year, multi-stakeholder process in which the Appellant was an active and vocal participant. Despite this, both Eskom and Sasol sought to be completely exempt from the MES. The then Minister refused this request, reiterating that, as the Appellant was well aware, it was not legally permissible to grant MES exemptions, but that postponements were possible. Subsequent to that failed attempt, and instead of making the investments required to meet the standards, both companies brought multiple applications to the NAQO to delay MES compliance – the majority of which have succeeded.

36 In May 2014, whilst its first such application was pending, the Appellant brought a court application seeking to set aside the majority of the MES in their entirety (case number 36444/2014). The respondents were the then Minister and the then NAQO - who was, of course, also the decision-maker in the pending MES application.

37 This application was vigorously opposed by the then NAQO, who, in her October 2014 answering affidavit, called Sasol out for its "opportunistic" and "misleading" application. She also referenced the Appellant's "apparently deliberate obfuscation of the whole concept of minimum emission standards". She elaborates as follows, in paragraphs 56.1-56.2:

56.1 Minimum emission standards (i) affect all listed activities; (ii) will require a minimum level of performance; (iii) will ensure a minimum level of regulation no matter the competence or capacity of the licensing authority; (iv) will lead to a stepwise overall decrease in the permissible emissions over time; and (v) will ensure a level playing field in specific industrial sectors. In our experience many industries, especially those having operated for decades with almost impunity as far as air quality emission control is concerned, have been fighting this threat to the status quo tooth and nail since the concept of these standards were included in the earliest draft bill that preceded the NEM: AQA.

56.2 One of the tactics we encountered in this regard was the attempt to complicate, mystify, confuse, muddy, cloud or obfuscate the concept of minimum emission standards (to create a smokescreen around the concept, as one commentator put it).

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- 38 The NAQO explained that MES represent the “lowest common denominator” of emissions (paragraph 50.5 of the answering affidavit). These provide the “first line of defence against the gross pollution of our ambient air in this country” (paragraph 56.4).
- 39 In the context of the ambient air quality standards (AAQS), the NAQO comments, at paragraphs 49.12 – 49.13 of her answering affidavit, that the Appellant:

...regard[s] the ambient air quality standards as their licence to pollute up to the levels thereof.

...

*... ambient air quality standards set ambient concentrations of specific pollutants in the ambient air that may not be exceeded because if exceeded the environmental right contained in section 24(a) of the Constitution... is infringed upon on threatened. **Achieving ambient air quality standards... is not an exercise in economics nor is it a matter for negotiation with [Sasol]: the fundamental right may not be infringed ... and their argument or defence, that they are infringing that environmental right because it costs too much to adapt their existing plants and bring them up to standard, must be rejected out of hand.** They very idea that our fundamental rights are only valid if they are regarded as being afforded by those undermining these rights is ludicrous. (our emphasis)*

- 40 In paragraph 58.78, the NAQO, referring to what the Appellant had called its “government engagement strategy”, which it described, in paragraph 96 of its founding affidavit, as including the exposure of government to its technical challenges and securing its assistance:

58.78 I think it would be fair to say that with annexure ‘FA 68’ the idea was to impress upon the Department how important Sasol regards itself for the South African economy and society in general. Sasol also alleged that it embraced sustainable development: a bevy of examples were given but, as far as compliance with minimum emission standards was concerned, it was the same refrain of how difficult it would be specifically for Sasol and Natref to meet those standards. I have already dealt with this issue. Broadly speaking it was and remained part of the “*government engagement strategy*” of Sasol (and Natref) to turn attention away from point source emissions and atmospheric pollution by directing the focus to, amongst others, ambient air quality and ambient air quality standards.

The importance of ensuring that pollutants are prevented entering into the atmosphere in the first place, or its volume reduced or minimised, seems to be lost on them and this is in fact what minimum emission standards as well as section 21 of the NEM: AQA is all about.

41 When the NAQO granted the Appellant's pending application to postpone MES compliance in February 2015 – including the SO₂ new plant MES, the Appellant withdrew this court application.

SO₂ MES and the expert panel

42 SO₂ is a notorious pollutant that causes significant harm to human health and the environment. It can affect the respiratory system and the functions of the lungs, and causes irritation of the eyes. Inflammation of the respiratory tract causes coughing, mucus secretion, aggravation of asthma and chronic bronchitis, and makes people more prone to infections of the respiratory tract. Studies have linked SO₂ to low-birth weight in infants and an increased risk for gestational diabetes mellitus, stillbirths, and pre-term births. Hospital admissions for cardiac disease and mortality increase on days with higher SO₂ levels. When SO₂ combines with water, it forms sulphuric acid, which is the main component of acid rain.

43 The relevant 2020/new plant SO₂ MES were originally set at 500mg/Nm³ when the List of Activities was published (following the multi-year, multi-stakeholder process to set the MES) on 31 March 2010. In February 2015, Sasol obtained a postponement of this standard until 1 April 2025.

44 In October 2018, then acting Minister Hanekom published a standard of 1000mg/Nm³ for coal boilers – half as weak as the previous standard. He did so without inviting public comment, as required by AQA. Interested and affected parties addressed correspondence to Minister Hanekom and Minister Mokonyane seeking the urgent withdrawal of this unlawful notice, to no avail.⁵

45 In December 2018, Minister Mokonyane announced her intention to appoint an expert panel to provide strategic and technical guidance towards effective management of SO₂. Despite objections to the appointment of this panel⁶ including on the basis that:

45.1 this would further delay the implementation of the necessary action to achieve compliance with the MES;

45.2 this would duplicate the extensive work that was done in setting the MES; and

45.3 there is no legislative provision which entitles the DFFE to weaken the MES,

this panel was established in late September 2019.

⁵ https://cer.org.za/wp-content/uploads/2018/12/CER-letter-to-DEA-re-SO2-MES_8-Nov-2018.pdf; https://cer.org.za/wp-content/uploads/2019/03/CER-letter-to-Minister-Mokonyane-re-SO2-MES_23-Nov-2018.pdf; https://cer.org.za/wp-content/uploads/2019/03/CER-Letter-to-Minister-Mokonyane_-5-March-2019-1.pdf

⁶ <https://cer.org.za/wp-content/uploads/2018/12/Annexure-3.pdf>; https://cer.org.za/wp-content/uploads/2018/12/CER-Letter-to-Minister-Mokonyane_Opposition-to-SO2-Expert-Panel_13-Decem....pdf;

46 The expert panel was formed to provide strategic and technical guidance towards effective management of SO₂ emissions from old and existing plants. According to its terms of the reference, the panel's "main objectives" were to:

- *Conduct a comprehensive review on the effectiveness of the implementation of the postponement provision and the associated SO₂ emission limits as they apply to old plants that have been granted postponements (sic) decisions.*
- *Advise the Minister of Environmental Affairs and the affected companies in identifying and implementing mechanisms, technologies, technical and or regulatory tools or action plans that would assist in addressing SO₂ compliance challenges.*⁷

47 In May 2019, following unsuccessful efforts to resolve the issue of the unlawfully-doubled SO₂ MES without litigation, environmental justice group groundwork was forced to approach court to seek aside the unlawful notice.⁸ In May 2019, Minister Mokonyane withdrew the notice and gave the public 30 days to comment on the same proposal to weaken the SO₂ standard.⁹

48 As appears from **Annexure 2**, in January 2020, the Appellant expressed the view that 1000mg/Nm³ for SO₂ MES was a "reasonable" standard which Sasol could achieve with significant effort."

49 Despite evidence of significant health impacts of this doubled standard,¹⁰ the Minister published the new standard of 1000 mg/Nm³ for implementation in March 2020.¹¹ The Minister stated that:

*It is clear that given the current financial situation of both Eskom and Sasol, the achievement of this in the near future is unlikely. It is however of critical importance that both companies commit to a path that set their facilities on the road to a vastly reduced level of emissions. In a letter received by the Department last month, **Sasol committed to achieving the revised standards by 2025.** (our emphasis)*

50 SA's SO₂ MES are now weak, compared even to other developing countries. The revised standards for SO₂ are now approximately 10 times weaker than the equivalent standards in India and about 28 times weaker than the standards in China.

51 The Third Respondent understands that the expert panel submitted its final report to DFFE in July 2021. Despite requests and despite the clear public interest in this report, it has not, to date, been made public by DFFE, nor was any public explanation given as to whether or not its recommendations were being followed and why.

⁷ <https://cer.org.za/wp-content/uploads/2020/05/Annexure-1-ToR-SO2-Expert-Panel.pdf>

⁸ <https://cer.org.za/news/groundwork-goes-to-court-to-defeat-ministers-plan-to-weaken-air-pollution-standards>

⁹ <https://cer.org.za/news/victory-environment-minister-withdraws-illegally-doubled-so2-pollution-standards>

¹⁰ <https://cer.org.za/news/doubling-so2-pollution-standards-would-have-deadly-consequences-for-highveld-communities>

¹¹

https://www.dffe.gov.za/mediarelease/creecy_emissionstandards_amendmentpromulgated_sulpurdioxide_combustioninstallat ion#:~:text=The%20Minister%20of%20Environment%2C%20Forestry,not%20be%20decommissioned%20by%202030

- 52 The SO₂ expert panel report acknowledged the adverse effects of SO₂. It states: “around the world, SO₂ is known to have major impacts on human health that cannot be ignored. South Africa’s dire inequality and inequity means that the vulnerable and indigent communities are most affected by SO₂.” The SO₂ Report recognises that even in instances when SO₂ levels meet the NAAQS, adverse respiratory health impacts related to SO₂ exposure occur, especially among children.¹²
- 53 In any event, the means of reducing SO₂ emissions are well-known and not controversial. The costs and benefits of compliance are also well-known.
- 54 The Appellant had committed to meeting the revised SO₂ MES by 2025. Contrary to what is stated in Annexure 2 and in the Minister’s statement – set out above – announcing the weakened MES, in its appeal, the Appellant now appears to dispute that it indicated it could comply by 1 April 2025. It states that it believed it could comply with the new limit, with coal beneficiation as a “potential compliance option”. The Appellant indicates that initially it deemed the revised limit as “reasonable” and that it could comply, “albeit with significant effort **and with implementation timelines extending beyond 1 April 2025**” (our emphasis). It now claims that the coal beneficiation implementation schedule would “extend closer to 2030”.
- 55 As appears from Annexure G to the appeal, Sasol’s atmospheric emission licence (AEL) permitted it to comply with a 2000 mg/Nm³ SO₂ MES limit - double the weakened limit - from April 2020 until April 2025. It now seeks further leniency.
- 56 This is so despite the fact that Sasol has had an inordinately long time to prepare for compliance. The List of Activities was first published in 2010, and provided ten years’ notice of new plant/2020 MES compliance. In addition, it afforded facilities an opportunity to extend that by a further 5 years. The Appellant was granted such indulgence. In addition to having 15 years’ lead time to meet new plant MES, the SO₂ MES were made doubly as lenient to accommodate some industry claims that compliance with the original standard was not practically feasible. This despite the significant health impacts, which the Appellant does not appear to dispute. Despite this, the Appellant still does not intend to comply with the new plant SO₂ MES.
- 57 The Appellant apparently took the view, following an assessment after 27 March 2020, that it could no longer adopt coal beneficiation as a viable compliance solution. Its Annexure I includes a timeline of the Appellant’s engagement with DFFE re the MES, including “the challenges faced with the boilers at the steam plants”. It is not explained when the Appellant took the decision that it would not, in fact, comply with the weakened SO₂ MES, but would instead pursue its so-called integrated emission reduction proposal. Nor does it explain when it determined that coal beneficiation “could not be implemented by 2025”. Had the Appellant timeously commenced with the coal washing plant, it would easily have made the 1 April 2025 deadline. It appears that it sought condonation from the Minister to make its 12A application in November 2021.

¹² <https://lifeaftercoal.org.za/wp-content/uploads/2023/03/LAC-Letter-in-response-to-proposed-Kusile-FGD-Stack-Bypass-9-March-2023.pdf>

- 58 The Appellant proposes its “integrated emission reduction solution” (requiring an alternative load-based limit) as an alternative, and “better SO₂ reduction measure” than meeting the MES. It is not clear on what basis the Appellant takes the view: that it can determine the yardstick against which its application is measured; and that this yardstick should be whether its alternative load-based limit is the BPEO. In any event, as addressed in more detail in the next sections, this is not true: the Appellant’s “solution” is most certainly **not** the BPEO.
- 59 The Appellant alleges that it cannot implement “the full integrated emission reduction solution any sooner than 2030”. Instead, it will turn down “the equivalent of one boiler to assist in reducing its SO₂ emissions by 4% by 2025”. By 2032 – some 9 years’ time – it claims that its “load solution will exponentially exceed the concentration-based benefits”. Given the flawed estimates of MES compliant emissions in its Atmospheric Impact Report (AIR) (Annexure T to its appeal), this is strongly disputed. We address this below.
- 60 Full implementation of the Appellant’s “integrated roadmap” requires “multiple projects”, which include “construction of additional gas conversion capacity, a fine coal solution, renewable energy and energy efficiency projects..., which will progressively take place between 2025 and 2030.” The Appellant does not indicate the likelihood of any of these “multiple projects being delayed”, nor the consequences thereof.
- 61 Even if BPEO were the relevant test for granting the Appellant’s application (it is not), its integrated emission reduction solution is not the BPEO. As is explained below, all of Sasol’s future reduced load emissions scenarios result in tonnes per day (t/d) emissions that are about twice those of corresponding MES compliant scenarios.

THE IMPACTS OF THE APPELLANT’S ALTERNATIVE LOAD-BASED LIMIT

- 62 The Appellant sets out the essence of its proposal in 2.13.1 of its appeal.

*2.13.1. The implementation of the integrated emission reduction solution **depends on Sasol being regulated on an alternative emission load for SO₂, instead of the concentration limit provided for in the special arrangement to Subcategory 1.1(a)(iv) of the MES** [(our emphasis)]. Table 1 below sets out the alternative load limits that were requested in the application to the NAQO:*

Table 1: Alternative load limits that were requested in the application to the NAQO

Source	Emission	Emission load-based limit requested (maximum limit)	Averaging Period	Period
Secunda Operations boilers at the steam plants	SO ₂	503 t/d	Monthly	1 April 2025 to 31 March 2030
		365 t/d		1 April 2030 onwards

- 63 An analysis of the Appellant's proposed alternative emission load-based limit scheme is essential to the clarification of the implications of its proposal. It appears from Annexure M to the appeal that the **NAQO had requested**, in a letter dated 23 February 2023, **that the Appellant align its proposed emission load with the MES.**
- 64 Annexure N, the Appellant's response to the NAQO's queries about its application, while lengthy, **did not reveal a) the current (baseline) emission rates, in t/d, with the plant operating under an AEL daily average SO₂ limit of 2000 mg/Nm³; b) the emission rates, in t/d, if the plant complied with the MES daily SO₂ limit of 1000 mg/Nm³, at the current load and under reduced future loads; or c) compare these MES compliant emission rates with Sasol's load-based values.**
- 65 **In the absence of clear unambiguous responses to these questions, the Appellant's claims as to the relative benefits of its "load-based" approach cannot be properly assessed.** As a result, the Third Respondent has, with expert assistance, commented on the scenarios used by the Appellant and calculated stack concentrations corresponding to each scenario in Tables 1-3 below (also attached hereto as **Annexure 3**). As previously addressed in our Annexure 1 comments, the Appellant has provided misleading estimates and calculations in its AIR (Annexure T to its appeal) with respect to its Scenario 2.

Current SO₂ emission rates at AEL limit of a daily average of 2000 mg/Nm³

- 66 The baseline average concentrations of SO₂ in stacks B1 and B2, based on Table 4-1 and 4-2 AIR data, are 1 782 and 1 397 mg/Nm³ respectively, equivalent to total (B1 and B2) emissions of **459 tSO₂/d**.¹³ Due to the statistical variability of day-to-day emissions, the multi-day (more than 20-30 days or monthly) average is always 20-30% less than the maximum allowed daily emission limit of 2000 mg/Nm³, *if the plant is compliant*. If the plant operates at the maximum allowed SO₂ concentration of 2000 mg/Nm³, the emission rate would be **584 t/d** of SO₂.¹⁴

SO₂ emission rates if the boilers complied with the MES limit of 1000 mg/Nm³ at current loads

- 67 If the boilers operated at a constant 1000 mg/Nm³, the emission rates would be **292 t/d** of SO₂. If the boiler plants complied with the MES SO₂ daily limit of 1000 mg/Nm³, the average emission rates would be about 79% of this value or **229 t/d**.¹⁵
- 68 **Emission rates defined as concentration limits are directly proportional to normalised gas flow rates. Gas flow rates are approximately in proportion to the load (production rates).** Total emission rates would therefore decline as the load on the boiler plants decline. At the load reductions of 4% by 2025 and "30%" by 2030, mooted by the Appellant (as explained below, even the Appellant's flawed calculations show a 25% and not a 30% load reduction), the MES-compliant emission rates would decrease

¹³ Data used in the calculation: Table 4-2, stacks S1 and S2 emission rates of 2766 and 2547 g/s respectively; Table 4-1 stack parameters; barometric pressure of 83,5 kPa.a. Stack actual flow rates calculated and normalised to 0 °C and 1 standard atmosphere of 101,13 kPa. Calculated flow rates are 1 552 and 1 824 Nm³/s for S1 and S2 respectively. Daily emission rates calculated g/s values multiplied by seconds per day.

¹⁴ Ratio of baseline average emissions to daily limit value emissions: 459/583=79%.

¹⁵ Assuming the same ratio, 79%, as the current load AEL compliant case.

proportionately. MES-compliant average emission rates will decline from **229 t/d** at current loads to **173 t/d** at Sasol’s “30% load reduction” However, when calculating the scenarios in its AIR, the **Appellant erroneously assumes that the MES emissions will remain constant while the load decreases**. As a result, its comparative emission estimates reflect incorrectly-inflated emissions for MES compliance.

69 The Appellant also seeks to be regulated on a **monthly average limit basis**. This would relieve the Appellant from managing and reporting daily spikes in SO₂ emissions, which give rise to short-term excursions in ambient concentrations, with possible adverse health effects that include respiratory mortality and asthma exacerbation. The MES-based regulatory system has an internationally well-established system of measuring and monitoring stack concentrations and flow rates, including lists of approved instruments and methods. In contrast, the **Appellant’s proposal is ill-defined and represents a significant weakening of regulatory control of emissions**.

70 The Appellant, under its load-based SO₂ emissions scheme, proposes a limit of **503 t/d** from 1 April 2025 to 31 March 2030 and **365 t/d** from 1 April 2030 onwards, **based on a monthly averaging period**. Due to the statistical variability of daily-averaged emissions, these monthly average values would be equivalent to *daily average* limit values of **634 and 460 t/d** respectively.¹⁶ The proposed load-based limit values from April 2025 to 31 March 2025 are therefore **8% higher than the corresponding current AEL 2000 mg/Nm³ value**, equivalent to **584 t/d**, and **217% higher** than the MES 1000 mg/Nm³ limit value, equivalent to **292 t/d at 100% load**. Sasol’s proposed **365 t/d** emission rate, at a nominally 30% (actual 25%) reduction in load from 1 April 2030 onwards **is 211% higher than the MES emissions, 173 t/d, at 25% load reduction**.

71 Table 1 below (also attached as Annexure 3) summarises the Appellant’s emissions scenarios, with comments.

Table 1: Comments on Sasol emissions scenarios evaluated in the AIR (Annexure T) and the subsequent health impact study (Annexure U)

Scenario	Scenario, as described in Annexure U to the appeal	Stack	AIR ¹⁷ modelled SO ₂ emission Rates, g/s	Calculated emission rates, ¹⁸ t/d	Comments (Emissions and emission rates refer to SO ₂)
A	Baseline (95th Percentile SO₂): <i>This baseline assessment is based on the 95th percentile mass emission rate, during the defined time period, of current operation for SO₂, to represent the expected higher emission load during normal operations.</i>	B1	3197	276	The 95 th percentile value is not an acceptable estimator of maximum expected value as it implies that this value would be exceeded about 18 times per year. The 99th percentile value, with expected 4 exceedances per year, would better approximate the AIR regulatory requirement to use the maximum expected emission rate. ¹⁹
		B2	2895	250	
		Total:		526	

¹⁶ Calculation: 30-day (monthly) statistics provide good estimates of annual statistics. The value of 79% for the ratio of annual average values to daily limit, calculated using baseline data, was assumed to hold for the monthly average ratio to daily limit value.

¹⁷ Stack emission rates (g/s) as per Table 5-7 of the AIR, Annexure T

¹⁸ Calculated as (g/s)x(seconds per day)x1000000.

¹⁹ The Regulations prescribing the format of the Atmospheric Impact Report, 2013, require evaluation based on “Point Source Maximum Emission Rates during Normal Operating Conditions”. The AIR (Appendix B to Annexure T to the appeal) avers

B	Baseline (Average): The baseline assessment for mass emission rates, has been based on the average normal plant operation for NOx and PM. The time was based on a period during which the plant had stable operations.	B1	2766	239	The baseline average emission rates appear to be consistent with the Annual Emission Report ²⁰ data, Figures 3 and 4.
		B2	2547	220	
		Total:		459	
C	Scenario 1: 95th Percentile SO₂ with 4% emission load reduction: Interim (2025 – 2030) load scenario – This scenario is based on the 95 th percentile SO ₂ baseline including a 4 per cent emission load reduction.	B1	3211	277	See comment in scenario A above.
		B2	2621	226	
		Total:		504	
D	Scenario 2: Compliance with the 2020 new plants standard for steam plant: This is modelled for NOx, SO ₂ and PM to represent current emission load aligned with the prescribed 2020 Minimum emission standards (MES) for new plant concentrations. This reflects a hypothetical scenario where SO ₂ emissions conform to the standard of 1 000 mg/Nm ³ and to continuously operate at the standard. This scenario will be representative of the maximum emission load for SO ₂ that will ensure compliance to MES standard with a 15 per cent emission load reduction from SO ₂ baseline 95 th percentile.	B1	2421	209	These emission rates are incorrect because they result in stack concentrations 50% in excess of the MES limit. An MES-compliant plant operating at current loads would have maximum and average emission rates of 292 t/d and 229 t/d respectively. Refer to Table 2 below for the relevant calculations. At 15% lower loads, the maximum and average emission MES-compliant rates would be 15% lower, 248 t/d and 195 t/d respectively.
		B2	2771	239	
		Total:		449	
E	Scenario 3: Load-based compliance with 30% boiler load emission reduction 2030: Load base compliance scenario is based on a 30% load reduction, with an ambient impact similar Scenario 2. The intent of this scenario is to reflect the impact on ambient air quality should the load-based equivalent emission limit be equal to the promulgated emission standard of 1 000 mg/Nm ³ .	B1	2164	187	The stack gas flow rate (the load), Scenario 3 was reduced by 25% , not 30%. At 25% lower loads, the maximum and average emission MES-compliant rates would be 25% lower, 219 t/d and 173 t/d respectively.
		B2	2053	177	
		Total:		364	

²⁰“There is no information available regarding the maximum rates, because these are not measured, and are impractical to measure; therefore, only emissions rates during normal operating conditions are available”. However, the highest value in a set of data is clearly available. The top 1% (the 99th percentile) of values is clearly a better estimate of the maximum value. The 95th percentile value is an underestimate.

²⁰ Annexure 2 of Annexure V.

72 Table 2 below (also included in Annexure 3) summarises the calculations of stack concentrations for each of Sasol's scenarios.

Table 2: Calculation²¹ of stack SO₂ concentrations for Sasol AIR scenarios

Sasol AIR scenarios	Stack	Temperature (°C)	Stack tip diameter, m	Exit velocity, m/s	Volumetric flow rate, Am ³ /s	Volumetric flow rate, Nm ³ /s	SO ₂ emissions (g/s)	SO ₂ emissions, t/d	Stack concentrations, mg/Nm ³	SO ₂ emissions relative to Baseline- average
Baseline-95th percentile	B1 (MSW)	168	13,6	20,9	3036	1550	3197	276	2063	
	B2 (MSE)	176	14,4	22,3	3632	1821	2895	250	1590	
	TOTALS-->						3370	6092	526	1808
Baseline-average	B1 (MSW)	168	13,6	20,9	3036	1550	2766	239	1785	
	B2 (MSE)	176	14,4	22,3	3632	1821	2547	220	1399	
	TOTALS-->						3370	5313	459	1576
Scenario 1: Interim load, 4% reduced load, 95th percentile	B1 (MSW)	168	13,6	20,9	3036	1550	3211	277	2072	
	B2 (MSE)	176	14,4	22,3	3632	1821	2621	226	1440	
	TOTALS-->						3370	5832	504	1731
Scenario 2: "Compliance with MES, at 1000 mg/Nm ³ , 15% reduced"	B1 (MSW)	168	13,6	20,9	3036	1550	2421	209	1562	
	B2 (MSE)	176	14,4	22,3	3632	1821	2771	239	1522	
	TOTALS-->						3370	5192	449	1541
Scenario 3: Load based, 30% load reduction	B1 (MSW)	162	13,6	14,6	2121	1097	2164	187	1972	
	B2 (MSE)	170	14,4	17,4	2834	1440	2053	177	1426	
	TOTALS-->						2537	4218	364	1662

(Site barometric pressure: 83,5 kPa.a)

73 The stack concentrations for the Appellant's "Compliance with MES" scenario, corresponding to an emission rate of 449 t/d, are more than 1500 mg/Nm³, **clearly not compliant with a 1000 mg/Nm³ limit value.**

74 Table 3 below (also included in Annexure 3) summarises the calculation of stack SO₂ concentrations for AEL and MES-compliant scenarios.

²¹ Actual volumetric flow rate (Am³/s) = (stack area x exit velocity); normalised volumetric flow rate (Nm³/s) = (Am³/s)x(273,15/(273,15+exit temperature, °C)x(101,3/barometric pressure).
Stack concentrations = emission rate (g/s)/(Nm³/s)

Table 3: Calculation of stack SO₂ concentrations for AEL and MES- compliant scenarios

AEL compliant scenario	Stack	Temperature (°C)	Stack tip diameter, m	Exit velocity, m/s	Volumetric flow rate, Am ³ /s	Volumetric flow rate, Nm ³ /s	SO ₂ emissions (g/s)	SO ₂ emissions, t/d	Stack concentrations, mg/Nm ³	SO ₂ emissions relative to Baseline- average
At AEL limit of 2000 mg/Nm ³ , current load	B1 (MSW)	168	13,6	20,9	3036	1550	3099	268	2000	
	2000 B2 (MSE)	176	14,4	22,3	3632	1821	3641	315	2000	
									2000	
				TOTALS-->		3370	6740	582	2000	
MES compliant scenarios	Stack	Temperature (°C)	Stack tip diameter, m	Exit velocity, m/s	Volumetric flow rate, Am ³ /s	Volumetric flow rate, Nm ³ /s	SO ₂ emissions (g/s)	SO ₂ emissions, t/d	Stack concentrations, mg/Nm ³	SO ₂ emissions relative to Baseline- average
MES, 1000 mg/Nm ³ limit, current load	B1 (MSW)	168	13,6	20,9	3036	1550	1550	134	1000	56%
1000	B2 (MSE)	176	14,4	22,3	3632	1821	1821	157	1000	71%
									1000	63%
				TOTALS-->		3370	3370	291	1000	
MES compliant, average concentrations, current load	B1 (MSW)	168	13,6	20,9	3036	1550	1218	105	786	44%
1000	B2 (MSE)	176	14,4	22,3	3632	1821	1431	124	786	56%
									786	50%
				TOTALS-->		3370	2649	229	786	
MES compliant @1000 mg/Nm ³ limit, 75% load, average emissions	B1 (MSW)	162	13,6	14,6	2121	1097	863	75	786	31%
1000	B2 (MSE)	170	14,4	17,4	2834	1440	1132	98	786	44%
									786	38%
				TOTALS-->		2537	1994	172	786	

75 This analysis makes clear that the **Appellant’s claims that its proposed load-based regulatory scheme would somehow result in a long-term net reduction in SO₂ emissions compared to MES compliance is not correct. All of the Appellant’s future reduced load emissions scenarios result in t/d emissions that are about twice those of corresponding MES-compliant scenarios.**

76 The assertion that the Appellant is offering a better SO₂ emission reduction measure compared with MES compliance, at any time in the future, is strongly disputed.

77 Next, we address the grounds of appeal.

OPPOSITION TO GROUNDS OF APPEAL

Ground 1: Not the BPEO

78 The Third Respondent reiterates that no applications that will result in MES non-compliance beyond 31 March are legally permissible.

79 Without explanation, the Appellant chooses BPEO as the NEMA principle for the Minister “to have particular regard to... in interpreting the meaning and scope of Clause 12A”. For example, it does not refer to: the “precautionary principle”, the “preventive principle”, or the “polluter pays principle”, the application of any of which would militate against granting the Appellant’s proposed alternative load-based limit – when such application is properly represented and understood.

80 The Appellant claims that its integrated emission reduction plan, which requires alternative load-based SO₂ limits, is the BPEO, and that it will, “by 2030, meet the objective of the concentration-based limits in the MES, while being more beneficial to the environment as a whole and aligning with the national objective of decarbonisation” (our emphasis). In other words, it seeks to be in non-compliance with the MES well after the 31 March 2025 deadline. For the reasons set out above, we dispute that this is lawful.

81 The Appellant alleges in its appeal that:

4.20. The implementation of the integrated emission reduction roadmap involves the turning down of boilers and thus the capacity of steam plants, and reducing the consumption of coal. This will see the overall mass of SO₂ and other pollutants emitted, per day and per final product, reduced. In this manner, the Appellant anticipates achieving double the reduction in the load of SO₂ emitted (30% reduction to 365 t/d) when compared to the concentration equivalent load which equates to only 15% load reduction (449 t/d equivalent). From the atmospheric impact report (Annexure "T") it is evident that the effective reduction of SO₂ on the ambient concentrations is similar, within the localised airshed, to, and even greater away from the localised airshed, with what would be achieved under the applicable concentration limit equivalent load set in the MES. The benefit of the requested emission load becomes even more pronounced further away from the Secunda facility.

4.21 The mass of PM emissions and NO_x emissions from the boilers is also reduced as a direct result of boilers turndown. This is a notable secondary benefit of the integrated emission reduction solution....

82 The MES sets the lowest common denominator for emissions from particular listed activities, seeking to limit emissions which have a “significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage”.

83 The Appellant’s argument that its load-based limit proposal would result in a greater reduction in SO₂ emissions compared with MES compliance if not by 2030, then beyond 2030, with an aggregate reduction of a greater reduction in the long-run is entirely refuted in the section above. The Appellant’s assumption that MES-compliant plants will initially experience a step reduction in emissions when abatement measures are implemented, but that these emissions will remain constant - even as plant loads reduce - is flawed. **Emissions from MES-compliant plant emissions will continue to decrease as plant loads decrease, because the normalised stack gas flow rate is proportional to load. SO₂ emissions from a plant operating under the Appellant’s proposed load-based scheme are more than double those from a plant compliant with the MES, and will remain more than double as the load is decreased.**

84 It is therefore denied that the Appellant will achieve “double the reduction in the load of SO₂ emitted (30% reduction to 365 t/d) when compared to the concentration equivalent load which equates to only 15% load reduction (449 t/d equivalent).”

85 Modelling based on flawed emissions scenarios for an MES-compliant plant will clearly produce flawed results and conclusions. In reality, **emission rates for all of the Appellant’s base case and load-based reduced emissions scenarios result in far**

higher emission rates compared with MES-compliant cases. Environmental impacts (ambient concentrations) and consequent health impacts would be much higher, not lower, than for an MES-compliant plant.

- 86 Contrary to the Appellant's assumption, particulate matter (PM) and oxides of nitrogen (NOx) emissions of an MES-compliant plant will also reduce with load, not remain constant.
- 87 As set out above, the Appellant's request to use monthly averaging disguises daily spikes in SO₂ emissions, which give rise to short-term excursions in ambient concentrations, with possible adverse health effects that include respiratory mortality and asthma exacerbation. In addition, the Appellant's load-based limit scheme is ill-defined: it does not, for example, propose a specific ratio of SO₂ emissions relative to "load", but instead seeks that the regulatory authorities accept that its SO₂ emissions will only decrease as it decreases the "load" on its plants. In other words, it will not undertake any specific SO₂ abatement. Thirdly, the scheme will allow the Appellant to make its AEL conditions more lax.
- 88 **The Appellant's load-based limit scheme will clearly not meet the objective of the MES's concentration-based limits – on the contrary, it will result in emissions about double those of the MES limit.**
- 89 Even on the Appellant's own version – using its flawed estimates - the health benefits from MES compliance by 1 April 2025 materially outweigh those from the Appellant's "reduced load" by 2025. It does not address how the more severe health impacts that will, on its own version, be caused by the alternative emission limits between 2025 and 2030 can possibly amount to the "option that provides the most benefit or causes the least damage... in the short term". That is clearly why the Appellant makes the claim that its alternative load-based limit scheme "provides the best **long-term** health benefits for the surrounding communities" (our emphasis). In any event, the negative health impacts from the Appellant's alternative limit would be significantly greater than suggested in its flawed AIR, and would exceed the impacts from MES-compliance.

Coal beneficiation

- 90 The Appellant claims that:

2.4.10. Two material deficiencies with coal beneficiation informed the Applicants view that it was not a viable compliance solution. Firstly, as stated, it could not be implemented by 2025. Secondly, and more importantly, coal beneficiation has significant negative "cross media" environmental impacts, including increased water, waste and electricity consumption, and increased GHG emissions.....

- 91 The Appellant accepts that coal beneficiation would enable it to comply with the MES, but argues that the coal washing (coal beneficiation) process has unacceptable cross-media environmental impacts, and that its load-based limit is the BPEO. This argument is flawed because it does not consider the weight of the benefits of the 50% reduction in SO₂ emissions to air that compliance with the MES would produce, with a corresponding reduction in human health impacts.

- 92 The air pollution from Sasol's tall stacks has a very large footprint, impacting thousands of square kilometres, and impacting thousands of people. While increased consumption of water and increased solid waste are significant environmental considerations, they do not entail the direct human health impacts that occur through air pollution. Of course the electricity consumption required by a washing plant does not have to result in increased GHG emissions if the electricity is sourced from renewables.
- 93 The use of bag filters or electrostatic filters for PM abatement also entail increased electricity consumption and increased solid waste disposal requirements. But these factors are similarly balanced against the benefits of the abatement of PM air emissions, and the health impacts of these emissions.
- 94 The Appellant already operates a coal washing plant at its Twistdraai mine, benefiting coal to meet export market quality specifications. In this instance, the "cross-media" environmental impacts appear to be acceptable to the Appellant if required to achieve its commercial objectives.
- 95 In any event, even if BPEO were the relevant test to determine whether or not the Appellant should be granted its application (it is not), it is not up to the Appellant to determine whether a measure or process is the BPEO. It is the regulating authorities that must consider and balance cross-media impacts against other benefits, such as air pollution and human health impacts, and to decide if a measure or process is BPEO, not the Appellant.
- 96 In any event, and as set out above, the Appellant's claim that its "Integrated Solution Is The Best Practicable Environmental Option" is entirely spurious – far from bringing environmental benefits (SO₂ emissions reductions) that are comparable to compliance with the MES, its scheme would result in more than double the emissions.

Ground 2: 12 A(a) not met

- 97 The Third Respondent reiterates that no applications that will result in MES non-compliance beyond 31 March are legally permissible.
- 98 The NAQO was correct that the Appellant is not in compliance with the new plant MES. The Appellant claims that it is only required to comply with the PM and NO_x emission standards in its AEL and that it does so. It is, however, significantly non-compliant even with its AEL limits, as set out below.
- 99 The points of compliance for the measurement of pollutant concentrations are the individual flues in each of the stacks, B1 and B2. As appears from the Appellant's annual emission report (Annexure 2 to Annexure V of the appeal), and, where data are not available, as supplemented using a predictive model for emissions:²²
- 99.1 **PM** (Figures 1 and 2 in Annexure 2): West Main Stack, B1. Flue 3 is significantly non-compliant with the AEL limit value, with about 6% exceedances.

²² The CEMS (continuous emissions monitoring system(s)) were not operational during a significant period of the reporting period July 2021-June 2022 and a predictive model was used to estimate emissions concentrations during this period.

All four flues exceed the 50 mg/Nm³ limit a significant proportion of the time (more than 30%) and would be substantially non-compliant with the MES.

East Main Stack, B2 (largely modelled values): Flues 1 and 2 are substantially non-compliant with the AEL limit, exceeding the AEL limit value more than 10-15% of the time.

All three flues would be significantly non-compliant with the MES limit value of 50 mg/Nm³, exceeding the limit more than 50% of the time.

99.2 **SO₂ (Figures 3 and 4)**: Flue 1 of the West Main Stack is marginally compliant, with about 1% exceedances. Flue 1 of the East Main Stack is marginally non-compliant, with about 4% exceedances. The other flues in both stacks were compliant with the AEL limit.

Emissions from both stacks would be non-compliant with the MES.

99.3 **NO_x (NO₂)** (Figures 5 and 6), WMS (B1): Flues 1 and 2 are significantly non-compliant with the AEL limit of 1000 mg/Nm³, exceeding the limit more than 50% of the time.

East Main Stack (B2): Flue 2 is significantly non-compliant with the AEL limit, exceeding the limit more than 10% of the time.

Both West and East stacks would be non-compliant with the NO_x MES limit of 700 mg/Nm³.

100 In summary, the Appellant's claim of 98% compliance with AEL limits for the three pollutants is questionable. However, as the NAQO points out, paragraph 12A(a) refers to "other emission standards", not the current AEL limits. Both PM and NO_x emissions would clearly be non-compliant with their respective 2020 MES standards.

101 The Appellant asserts that it is "on track to meet the new plant standards for PM and NO_x emissions by the time the postponement expires [on 31 March 2025]." But the graph of PM data (Figure 4 in the appeal) that it has submitted does not support this assertion. In addition, Figure 3 of the Appellant's appeal includes a timeline for the installation of low-NO_x burners, but the Appellant does not provide stack data showing NO_x emissions reductions *after* the installation of the low-NO_x burners.

102 We strongly dispute that the Appellant is "diligently seeking the dispensation well in advance of the date it is required". The history of Sasol's engagement with the MES has been summarised above.

Ground 3: 12A confined to 31 March 2025

103 For the reasons set out in detail above, the Third Respondent firmly agrees with the NAQO that no applications in terms of paragraph 12A are permissible beyond 31 March 2025. In fact, no applications for non-compliance with the MES post 31 March are permissible in terms of any provision in the List of Activities.

104 As set out above, we dispute that paragraph 12A provides a standalone, independent provision that entitles facilities to seek leniency beyond 31 March 2025. Instead, it governs the alternative emission limits that apply during the period of a postponement. To hold otherwise would render the whole postponement scheme redundant, not to mention the many years of work to set MES. It would mean any plant, at any time, could apply for any leniency, for as long as it chooses – including until the plant is decommissioned.

105 We again reiterate that any application seeking non-compliance with MES beyond 31 March 2025 is unlawful. Were such applications timeously brought, these would, as set out above, have to meet the requirements of paragraph 12, 12A and the Framework para 5.4.3.4.

106 The Third Respondent disputes that the NAQO's interpretation of paragraph 12A "render[s] it redundant". As explained above, paragraph 12A governs the alternative emission limits that apply during the period of postponement.

Ground 4: 12A(b) not met

107 The Third Respondent reiterates that no applications that will result in MES non-compliance beyond 31 March are legally permissible.

108 The Appellant appears to concede that it could not, in fact, demonstrate a previous reduction in SO₂ emissions, measures and direct investments implemented towards compliance with the SO₂ new plant MES at the steam plants themselves.

109 In Annexure N, the Appellant states, at page 14:

*To date, Sasol has spent **R246 million (2023 present value)** and dedicated almost **200 resources** on measures towards enabling compliance with the new plant standard for SO₂ emissions from boilers. Sasol conducted numerous technical studies over a period of 17 years, with the primary objective of enabling the reduction of SO₂ emissions from our pulverized coal fired boilers in question.*

110 The Appellant has not demonstrated that it has made any direct investments in implementing SO₂ abatement measures. At best it has spent some capital on studies into various options to do so, but without implementing any.

111 As the Appellant mentions in Annexure N, the air quality offsets were actually a *condition* of its first successful postponement application.

Ground 5: 12A(c) not met

112 The Third Respondent reiterates that no applications that will result in MES non-compliance beyond 31 March are legally permissible.

113 The Framework makes clear that no application for postponement should be permitted unless "ambient air quality in the area is in compliance with the applicable [NAAQS]" (para 5.4.3.4). Despite this provision, and the binding nature of the Framework, many such

applications, including in the priority areas, have regularly been brought, considered and most have succeeded.

114 Paragraph 14 of the List of Activities provides:

(14) The National Air Quality Officer, with the concurrence of the Licensing Authority, may—

*(a) from time to time review any postponement granted in terms of paragraph (13) **should ambient air quality conditions in the affected area of the plant not conform to ambient air quality standards; and***

*(b) on good grounds, **withdraw any postponement** following—*

(i) representations from the affected plant; and

(ii) representations from the affected communities. (our emphasis).

115 In other words, non-compliance with NAAQS is a ground for withdrawing a postponement.

116 At paragraph 51.6 of the October 2014 answering affidavit in Sasol's now-withdrawn court application to set aside the MES, the then NAQO, speaking also for the then Minister, stated:

*The ambient air quality conditions in the affected area of the existing plant will be of particular relevance in considering such an application for postponement. **If the ambient air quality conditions in the affected area do not conform to ambient air quality standards, it is unlikely that such an application will be granted, and even if granted, this provides a ground upon which any postponement may be withdrawn** (our emphasis).*

117 The NAQO is, of course, correct that there are frequent exceedances of AAQS in the HPA.

118 Even if the Appellant is correct that there is material compliance with SO₂ AAQS in the HPA (which is disputed), there is a substantial body of data showing non-compliance with ambient PM standards. This is relevant because **SO₂ is a significant contributor to secondary PM_{2.5} ambient concentrations.**

Ground 6: a load-based limit that results in non-compliance with the MES is not permitted

119 The Third Respondent reiterates that no applications that will result in MES non-compliance beyond 31 March are legally permissible.

120 Whilst it is so that paragraph 12A refers to an alternative emission load, and that a concentration-based limit could also be expressed as a load-based limit, the Appellant's alternative emission load is not correlated with the MES limit. As explained and demonstrated above, its alternative emission load will result in double the SO₂ emissions that compliance with the prescribed concentration-based SO₂ MES limit would. We dispute that this is lawful.

Ground 7: the load-based limit will not achieve MES compliance

121 The Third Respondent disputes that the NAQO has confused alternative emission limits and once-off postponement applications. As has been explained in detail above, paragraph 12A is part of and must be read together with the postponement requirements. It governs the emission limits that will apply during the postponement. We understand paragraph 11A to refer to the timeframe of the postponement (which cannot be longer than 31 March 2025), and paragraph 12A to refer to the emission limits that will be applied during this postponement period. Timeframes for the postponement and emission limits applicable during that timeframe cannot exist independently of one another.

122 The Third Respondent disputes that paragraph 12A “may be granted repeatedly and both before and after 2025”. To allow this would render the 2018 amendments to the List of Activities, which limited postponements to 31 March 2025, redundant. It would be regressive in relation to air quality management and the environmental right.

123 We also strongly dispute, for the reasons set out above, that the Appellant’s “solution” will “achieve at least the equivalent to, but probably better, than the MES concentration limit for SO₂ for its steam plants”. Its approach will result in double the SO₂ emissions when compared with the MES. It will also not result in additional PM and NO_x emissions reductions when compared with the MES.

CONCLUSION

124 For the reasons set out above, the Third Respondent submits that the Decision should be upheld, and the appeal dismissed.

DATED AT CAPE TOWN THIS 17TH DAY OF AUGUST 2023



JUST SHARE

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