environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

**Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002**

# APPEAL RESPONSE REPORT

**PROJECT NAME/TITLE: Eskom Applications for Postponements from the Minimum Emission Standards**

**PROJECT LOCATION: National**

**PROJECT REFERENCE NUMBER: Eskom/postponements**

**DATE OF DECISION: 30 October 2021**

**DATE OF NOTIFICATION OF THE DEPARTMENTS DECISION: 3 November 2021**

| DETAILS OF THE APPELLANT / APPLICANT | DETAILS OF THE RESPONDENT |
|---|---|
| **Name of appellant/applicant: Eskom Holdings SOC Limited** | **Name of respondent:** |
| **Appellant's representative (if applicable): N/A** | **Applicant's representative (if applicable):** |
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| GROUNDS OF APPEAL | RESPONDING STATEMENT BY THE APPLICANT | COMMENTS BY THE DEPARTMENT |
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| **1. Introduction**<br><br>1.1. Eskom Holdings SOC Limited ("**Eskom**") submitted applications for postponement from the Minimum Emission Standards, contained in 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 (as published in GN.983 of 22 November 2013, which was amended by GN.1207 of 18 October 2018 and GN.421 of 27 March 2020) (the "**MES**"), in terms of the National Environmental Management: Air Quality Act 39 of 2004 | | |

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| ("**NEMAQA**") in respect of its coal-fired power stations ("**Postponement Applications**").[1]<br><br>1.2. On 4 November 2021, Eskom received a copy of the decisions of the National Air Quality Officer ("**NAQO**") of the Department of Forestry, Fisheries and the Environment ("**DFFE**") (as per the email from Mr Derrick Makhubele of the DFFE, annexed hereto as "**Annexure A**") in response to Eskom's Postponement Applications. The decisions comprised positive decisions, adverse decisions and partial refusals.<br><br>1.3. *Positive Decisions*<br><br>1.3.1. Eskom's Postponement Applications for Grootvlei, Arnot, | | |

[1] Duvha, Lethabo, Matla, Matimba, Medupi, Tutuka, Kendal, Kriel, Majuba, Grootvlei, Arnot, Hendrina, Camden, Komati, Acacia and Port Rex. These applications and supporting submissions made to DFFE are not attached to this submission as it is believed these are readily available to the Minister, but the documents are considered part of this submission. If required Eskom will resubmit any requested documents. The applications include various requests for postponement, suspension and alternate limits as allowed in terms of the regulations but for simplicity the term "postponement" will be used generally in this document. It is also noted that Eskom has on 10 September 2020 submitted an exemption request for aspects of the MES to the Minister. This request was withdrawn by Eskom on 12 November 2020. The exemption documents are, like the original MES applications extensive and are not attached to this submission as they are believed to be readily available to the Minister. The documents should be considered as part of the record where so required and can be provided if so required.

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| Komati, Camden, Hendrina, Acacia and Port Rex were granted. These power stations will be decommissioned before 31 March 2030, and consequently, positive decisions were granted in respect of these power stations pursuant to regulations 11B and 11C of the MES (the "**Positive Decisions**").<br><br>1.4. *Adverse Decisions*<br><br>1.4.1. Postponement Applications for Matla, Duvha, Matimba, Medupi and Lethabo were all refused by the NAQO in their entirety ("**Adverse Decisions**").<br><br>1.5. *Partial Refusals*<br><br>1.5.1. Postponement Applications for Majuba, Tutuka, Kendal, and Kriel were all partially granted ("**Partial Refusals**"). | | |

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| 1.5.2. In respect of Majuba, Eskom's request for postponements from existing plant standards (1400 mg/Nm$^3$ monthly from 1 April 2020) was partially granted from 1 April 2020 to 31 March 2025 with the emission limit of 1300 mg/Nm$^3$ in respect of $NO_x$. In respect of $SO_2$, postponement from existing plant standards (3500 mg/Nm$^3$ from 1 April 2020 until 31 March 2025) was permitted at a level of 3200 mg/Nm$^3$ in terms of an existing postponement. The postponement from new plant standards from 1 April 2025 until decommissioning was refused.[2]<br><br>1.5.3. In respect of Tutuka, Eskom's request for a postponement from NOx new plant standards (1200 mg/Nm$^3$ from 1 April 2020 until 31 | | |

[2] As noted by the NAQO, Eskom's previous postponement decision in respect of $SO_2$ (3200mg/Nm$^3$ from 1 April 2020 to 31 March 2025) remains in place.

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| March 2026) was partially granted (1100 mg/Nm$^3$ from 1 April 2020 to 31 March 2025). Postponements in respect of PM and $SO_2$ were refused.[3]<br><br>1.5.4. Regarding Kendal, Eskom's request for a postponement from NOx new plant standards (1100 mg/Nm$^3$ from 1 April 2020 until 31 March 2026 and 750 mg/Nm$^3$ monthly thereafter) was partially granted (1100 mg/Nm$^3$ from 1 April 2020 to 31 March 2025). Postponements in respect of PM and $SO_2$ were refused.[4]<br><br>1.5.5. Finally, in respect of Kriel, Eskom's request for postponement from new plant standards (125 mg/Nm$^3$ from 1 April 2020 until 31 March 2025) for PM on the North | | |

[3] Eskom sought a postponement from new plant standards in respect of $SO_2$ of 3000mg/Nm$^3$ from 1 April 2025 until decommissioning. However, this was refused and as stated by the NAQO, Eskom's previous postponement application which was previously granted remains in place (3400mg/Nm$^3$ from 1 April 2020 to 31 March 2025).
[4] Eskom sought a postponement from new plant standards in respect of $SO_2$ of 3000mg/Nm$^3$ from 1 April 2025 until decommissioning. However, this was refused and as stated by the NAQO, Eskom's previous postponement application which was previously granted remains in place (3400mg/Nm$^3$ from 1 April 2020 to 31 March 2025).

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| Stack was rejected. The postponement for NOx at 1600 mg/$Nm^3$ was also rejected. Postponement in terms of $SO_2$ was granted.<br><br>1.6. As a specific environmental management Act (in terms of section 1 of the National Environmental Management 107 of 1998 ("**NEMA**")) where a decision is taken pursuant to delegated legislation in terms of NEMAQA, an appeal lies in terms of section 43 of NEMA and in accordance with the National Appeal Regulations (published in GNR.993 of 8 December 2014) ("**National Appeal Regulations**").<br><br>1.7. The NAQO took the decisions on the Postponement Applications, pursuant to a power that has been delegated to the NAQO by the Minister of the Department of Forestry, Fisheries and | | |

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| | the Environment ("**Minister**") ("**DFFE**") in terms of the MES. This power is contained in a notice that only the Minister is entitled to publish in terms of section 21 of NEMAQA, and only the Minister can provide for transitional mechanisms in the form of postponement applications in the notice. It is clear from purposive and textual readings of NEMA and NEMAQA that the DFFE is the national lead agent for environmental management, and hence air quality management. The DFFE is consequently tasked with the responsibility to provide national norms and standards to ensure coordinated, integrated and cohesive air quality governance. The Minister and the DFFE are ultimately the guardians of NEMA (and NEMAQA), which seeks to give effect to section 24 of the Constitution and the issue of air quality | | |

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| management falls squarely within her responsibilities. The statutory regime clearly envisages the Minister having an oversight role in respect of national environmental affairs, which includes air quality. The appeal authority is the Minister. Furthermore, the Decisions constitute “decisions” as contemplated in section 43(1) of NEMA, as they have been taken pursuant to a notice published by the Minister. The NAQO was therefore implementing delegated legislation and the related decisions are capable of appeal to the Minister.<br><br>1.8. Eskom hereby lodges an appeal against the Adverse Decisions and the Partial Refusals (as defined above) (hereinafter referred to as the "**Decisions**"). The reasons for the Decisions were contained in one covering letter to the Decisions (attached hereto as "**Annexure B**") ("**Reasons for the Decisions**"). For | | |

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| expediency, Eskom has submitted one combined appeal against the Decisions. All of the grounds of appeal below apply to all of the Decisions. The Minister's attention will be drawn to nuances where they apply in respect of specific power stations. | | |
| **2. Eskom's Request for an Extension / Condonation to Submit this Appeal**<br><br>2.1. According to regulation 4(1)(b) of the National Appeal Regulations, an appeal must be lodged within 20 calendar days from the date that the notifications of the Decisions were sent to Eskom (i.e. 23 November 2021 from the date of notification on 3 November 2021).<br><br>2.2. On 19 November 2021, Eskom requested condonation / an extension to submit its appeal by 15 December 2021 in terms of the National Appeal Regulations (see attached letter | | |

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| marked as "**Annexure C**").<br><br>2.3. The DFFE have not yet responded to Eskom's condonation request for delivery of its appeal by 15 December 2021. Consequently, the contents of "Annexure C" and the grounds for condonation set out therein are incorporated into this appeal, by reference for consideration by the Minister. | | |
| **3. Points *in limine (Conciliation)***<br><br>3.1. Section 17(1) of NEMA provides:<br><br>*"17. Reference to conciliation.—(1) Any Minister, MEC or Municipal Council—*<br><br>*(a) where a difference or disagreement arises concerning the exercise of any of its functions which may significantly affect the environment, or*<br><br>*(b) before whom an appeal arising from a difference or disagreement regarding the* | | |

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| *protection of the environment is brought under any law,*<br><br>*may, before reaching a decision, consider the desirability of first referring the matter to conciliation and—*<br><br>*(i) must if he, she or it considers conciliation appropriate either—*<br><br>*(aa) refer the matter to the Director-General for conciliation under this Act; or*<br><br>*(bb) appoint a conciliator on the conditions, including timelimits, that he, she or it may determine; or*<br><br>*(cc) where a conciliation or mediation process is provided for under any other relevant law administered by such Minister, MEC or Municipal Council, refer the matter for mediation or conciliation under such other law;…"*<br><br>3.2. Eskom respectfully submits that the provisions of section 17(1) of NEMA | | |

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| are applicable in the circumstances of this appeal and that it is consequently appropriate for the Minister to refer the matter for conciliation before reaching a decision on this appeal.<br><br>3.3. In the alternative, Eskom submits that section 17(2) of NEMA is applicable and hereby requests the Minister to appoint a facilitator to call and conduct meetings of interested and affected parties (including relevant organs of state) with the purpose of reaching an agreement and to refer the present difference or disagreement (as set out below), to conciliation.[5]<br><br>*<u>The meaning of sustainable development and a just energy transition are in dispute</u>*<br><br>3.4. This appeal ultimately turns on the meaning of sustainable development, | | |

[5] *Long Beach Homeowners Association v MEC: Economic Development, Environmental Affairs and Tourism (Eastern Cape) and Others* 2020 (2) SA 257 (ECG), paragraph 42.

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| the environment and what constitutes a just energy transition in South Africa. A difference or disagreement has arisen with the NAQO in relation to the exercise of the DFFE's functions which may significantly affect the environment, and/or regarding the protection of the environment in the context of the MES Postponement Applications.<br><br>3.5. The Reasons for the Decisions suggest that the NAQO has adopted a strict interpretation of the MES that is allegedly based on the protection of the environment as a sole consideration. The NAQO claims in the Reasons for the Decisions that considerations such as "*insufficient water, gypsum and financial costs of implementing the decisions; closure of seven (7) stations; and associated 19 000MW of supply to the national grid*" fall outside of the DFFE's mandate. It | | |

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| will be motivated in the first ground of appeal below, that non-consideration of the abovementioned factors renders the Decisions irrational and unlawful. But for purposes of section 17(1) of NEMA, what is important to emphasise is that the definition of the "environment" contained in section 1 of NEMA is centered on the relationship between humans and the natural environment. "Environment" means:<br><br>*"the surroundings within which humans exist and that are made up of—*<br><br>*(i) the land, water and atmosphere of the earth;*<br><br>*(ii) micro-organisms, plant and animal life;*<br><br>*(iii) any part or combination of (i) and (ii) and the inter-relationships among and between them; and*<br><br>*(iv) the physical, chemical, aesthetic* | | |

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| *and cultural properties and conditions of the foregoing that influence human health and well-being."*<br><br>3.6. Section 2 of NEMA contains the principles that apply to the actions of all organs of state that may significantly affect the environment. For purposes of this appeal, some of the relevant principles in the sub-paragraphs to section 2 of NEMA include the following:<br><br>*"(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.*<br><br>*(3) Development must be socially, environmentally and economically sustainable."*<br><br>3.7. Those considerations of sustainable development set out in subsection 2(4)(a), especially (ii), are of relevance | | |

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| and provide:<br><br>*"that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;"*<br><br>3.8. And the following principles set out in section 2(4) are also worth highlighting:<br><br>*"(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.*<br><br>*(c) 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.* | | |

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| *(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.*<br><br>*(i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment."*<br><br>3.9. Additionally, NEMAQA itself provides for the concept of sustainable development in the introduction, preamble and section 2 of NEMAQA. In this regard, section 2(a)(iii) of NEMAQA states that one of the objects of the Act is:<br><br>3.10. *"to protect the environment by providing reasonable measures for …* | | |

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| *(iii) securing ecologically sustainable development while promoting justifiable economic and social development…"* It is submitted that the NAQO's Decisions are at odds with the abovementioned environmental principles for a number of reasons, including:<br><br>3.10.1. The principles in section 2(2) and section 2(3) of NEMA contemplate that people and their needs must be at the forefront of environmental management and that development must be socially, environmentally and economically sustainable. The NAQO has failed to place people and their needs at the forefront of environmental management in that, on her own version, she neglected to consider the fact that her Decisions would result in the closure of power stations and an associated 16 000 | | |

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| | to 30 000 MW of supply to the national grid. This lack of capacity cannot practically be provided for and as result Eskom would be required to implement stage 8 load shedding immediately and stage 15 load shedding by 2025. Although there is no express right to energy and/or electricity in the Constitution of the Republic of South Africa, 1996 ("**Constitution**"), it is submitted that such a right is implied. Without electricity, it is virtually impossible to realise many of the other rights contained in the Constitution. For example, without electricity, it is impossible to store certain life-saving medication, including vaccinations, which ultimately infringes the right to healthcare.[6] The right to housing, | | |

[6] https://citizen.co.za/news/south-africa/load-shedding/2416738/eskoms-load-shedding-can-compromise-vaccine-storage/

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| | water, property, life and dignity are some of the other rights that could be infringed by a lack of electricity. This reasoning appears to have underpinned the Constitutional Court's decision in *Joseph and Others v City of Johannesburg and Others* (*Joseph*),[7] where the Constitutional Court held that municipalities had a public law duty to provide electricity to the applicants (as a basic municipal service), sufficient to ground a right, entitling the applicants to procedurally fair administrative justice.[8] Given the centrality of electricity to living a dignified life, it is likely that when presented with an opportunity, a court will extend the application of *Joseph* outside of a purely administrative context. | | |

[7] 2010 (4) SA 55 (CC).
[8] Ibid, 34-42.

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| 3.10.2. Additionally, recognition of access to energy, energy security, efficiency and sustainable development are recognised as objects of the Electricity Regulation Act 4 of 2006 and the National Energy Act 34 of 2008 (and associated regulations).<br><br>3.10.3. South Africa is a developing country. This context must inform what constitute sustainable development and a just energy transition. The NAQO's interpretation of the MES inhibits South Africa's achievement of its developmental goals and aspirations. Without electricity, it is impossible to realise many of the socio-economic rights in the Constitution.<br><br>3.10.4. NEMA defines "sustainable development" as the integration of | | |

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| | social, economic and environmental factors into planning, implementation and decision-making to ensure that development serves present and future generations.[9] Section 2(1) of NEMA requires all organs of state to apply the principles of NEMA to all actions that may significantly affect the environment. Decision-makers are required to consider, assess and evaluate the social, economic and environmental impacts of activities, and decisions must be appropriate in the light of such consideration and assessment.[10] In *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and* | | |

[9] Section 1 of NEMA.
[10] Section 2(4)(i) of NEMA.

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| | *Environment, Mpumalanga Province and Others* 2007 (6) SA 4 (CC) ("***Fuel Retailers***"), the Constitutional Court held that:<br><br>*"The Constitution recognises the interrelationship between the environment and development; indeed it recognises the need for the protection of the environment while at the same time it recognises the need for social and economic development. It contemplates the integration of environmental protection and socio-economic development. It envisages that environmental considerations will be balanced with socio-economic considerations through the ideal of sustainable development. This is apparent from section 24(b)(iii) which provides that the environment* | | |

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| *will be protected by securing "ecologically sustainable development and use of natural resources while promoting justifiable economic and social development". Sustainable development and sustainable use and exploitation of natural resources are at the core of the protection of the environment."* [11]<br><br>3.10.5. The Constitutional Court also held that:<br><br>*"The duty of environmental authorities is to integrate these factors into decision-making and make decisions that are informed by these considerations. This process requires a decision-maker to* | | |

[11] Paragraph 45, *Fuel Retailers.*

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| *consider the impact of the proposed development on the environment and socio-economic conditions."*[12]<br><br>3.10.6. The passages cited above from *Fuel Retailers* clearly demonstrate the relevance of sustainable development to decision-making processes in terms of NEMA.<br><br>3.10.7. According to the DFFE (then Department of Environment and Tourism), sustainable development is about enhancing human well-being and quality of life, particularly for those most impacted by poverty and inequality.[13] Efficient use of resources, intergenerational equity and the interdependence of our economic, social and | | |

[12] Paragraph 79, *Fuel Retailers.*
[13] Department of Environment and Tourism 'People-Plant-Prosperity: A National Framework for Sustainable Development in South Africa', July 2008.

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| | environmental systems are critical components. In this way, there is an interdependence between people, the planet and prosperity on an ongoing basis. Consequently, the proper balancing, reconciliation and integration of the three pillars of sustainable development enables and enhances justice.[14]The majority of Eskom's fleet of coal-fired power plants were constructed during a time where fossil fuels dominated as the primary energy for electricity generation in South Africa. In South Africa, fossil fuels have been tied to a 'Minerals-Energy Complex'.[15] With the exception of two of Eskom's coal-fired power plants (i.e. Medupi and Kusile), | | |

[14] O Langhelle 'Sustainable Development and Social Justice: Expanding the Rawlsian Framework for Global Justice' *Environmental Values* 9 3, 295.
[15] The Minerals-Energy Complex refers to a system of capital accumulation centred on mineral extraction and processing. See B Fine and Z Rustomjee 'Debating the South African minerals-energy complex: a response to Bell and Farrell' (1998) 15 *Development Southern Africa* 690. D McDonald 'Electric Capitalism: Conceptualising Electricity and Capital Accumulation in (South) Africa' in D McDonald (ed) *Electric Capitalism: Recolonising Africa on the Power Grid* (2008), 8.

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| Eskom's entire fleet of coal-fired power stations, which make up 90% of the electricity generated by Eskom, predate the introduction of the MES, and even these stations (i.e. Medupi and Kusile) received initial environmental authorisations and commenced construction prior to the introduction of the MES (2007 and 2008 respectively).<br><br>3.10.8. Prior to the introduction of NEMAQA, the approach to air pollution control in South Africa was informed and driven by the Atmospheric Pollution Prevention Act 45 of 1965 ("**APPA**"). The APPA did not set targets or standards with respect to pollutants or atmospheric emissions that have or may have a significant detrimental effect on the environment. The introduction of the MES in NEMAQA was | | |

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| | therefore novel and entailed a paradigm shift to realise the environmental right contained in the Constitution. The MES were introduced as a measure to regulate activities that produce atmospheric emissions in South Africa.[16] One activity that causes atmospheric emissions is solid fuel combustion installations that are primarily used for electricity generation. This activity results in the release of certain controlled pollutants, namely, particulate matter (**PM**), sulphur dioxide (**$SO_2$**) and oxides of nitrogen (**NOx**). Furthermore, the combustion of fossil fuels also results in the release of Greenhouse Gas Emissions ("**GHGs**") carbon dioxide (**$CO_2$**) specifically, which contributes to climate change. The | | |

[16] Section 21(1)(a) of NEMAQA.

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| | MES regulate certain pollutants that have been flagged by the World Health Organisation ("**WHO**") as detrimental to air pollution, health and the environment.[17] The National Greenhouse Gas Emission Reporting Regulations (published in GN.275 of 3 April 2017), Declaration of Greenhouse Gases as priority air pollutants (published in GN.710 of 21 July 2017), Carbon Tax Act 15 of 2019 (and associated regulations) ("**Carbon Tax Act**"), as well as the Climate Change Bill, which was passed by the South African cabinet in September 2021 ("**Climate Change Bill**") seek to regulate the emission of $CO_2$ and other GHGs, pursuant to South Africa's | | |

[17] See WHO global air quality guidelines: Particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide, republished in 2021 ("**WHO Guidelines**"). See also Sixty-Eighth World Health Assembly Resolution on Health and the environment: addressing the health impact of air pollution, which recognizes the importance of sustainable development.

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| commitments in terms of the Paris Agreement.<br><br>3.10.9. The issues of air pollution, health and climate change are linked.[18] The common goal of all of the abovementioned legislation and regulations (including the MES) is to realise the environmental right contained in section 24 of the Constitution, and to do so through the concept of sustainable development. In order to implement this goal, coordinated planning and integrated environmental management is required. Legislative and regulatory measures must speak to one another, otherwise they run the risk of compromising the common goal. | | |

[18] See World Health Assembly resolution on climate change and health of 24 May 2008..

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| 3.10.10. There is a conversation taking place globally regarding the need to move away from fossil fuels towards low-carbon and sustainable energy systems. Calls for a just energy transition ("**JET**") have also emerged in South Africa, which should inform the timeframes specified in the MES. The concept of a 'Just Transition' originated from trade unions in the United States of America in the 1980s and 1990s, as a response to increased environmental protection and investment in promotion of clean technology, which disproportionately affected minority and low-income workers and communities. The concept of a JET has developed substantially beyond its original context. The Climate Change Bill, defines "just transition" to mean a shift towards | | |

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| | a low carbon, climate-resilient economy and society and ecologically sustainable economies and societies that contribute toward the creation of decent work for all, social inclusion and the eradication of poverty. The Climate Change Bill states that one of the objects of the Act is to ensure a just transition towards a low carbon economy and society considering national circumstances. The Climate Change Bill is one legislative measure (amongst others, stipulated above) that seeks to contribute towards a just transition that will ultimately involve a low carbon, climate-resilient and ecologically sustainable economy and society, which contributes to the creation of decent work for all, social inclusion and the | | |



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| eradication of poverty. “Justice” is a fundamental component of the JET as well as sustainable development. South Africa’s legal and historical context must inform the concept of “justice”. Sustainable development, which is a constitutional imperative, must influence the pace and manner of the JET.<br><br>3.10.11. Since the inception of the MES, the ability for existing plants to apply for postponement from compliance with the MES has always existed. According to the National Air Quality Frameworks (both 2017 and 2013), the ability to apply for postponements was provided to specific industries given the “*potential economic implications of emission standards, and mindful that emission standard setting in South* | | |

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| *Africa was not based on comprehensive sector-based CBA [**cost-benefit analysis**]*".[19] It is submitted that the ability to apply for postponement from the MES was therefore established as a transitional mechanism to allow for compliance with the new regime for industry players such as Eskom that were not subject to a CBA.<br><br>3.10.12. A CBA on the health l and financial cost and benefits of the Eskom Highveld emission reduction plan has been shared with DFFE previously in the Eskom MES application. A similar Eskom study on the cost and benefits of $SO_2$ reduction in the Waterberg will be completed soon and also shared with DFFE. Both | | |

[19] Amendment to the 2007 National Framework for Air Quality Management in the Republic of South Africa (GN.919 of 29 November 2013), page 67 and The 2017 National Framework for Air Quality Management in the Republic of South Africa (GN.1144 of 26 October 2018), pages 60-61.

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| | studies indicate the financially unfavourable nature of flue-gas desulphurisation ("**FGD**") from a cost-benefit perspective. We understand that the DFFE has completed its own cost-benefit analysis on aspects of the MES. Whilst we have not seen the outcomes of this study, and hereby request that the CBA conducted by the DFFE is made available to Eskom, we understand that it also shows that some of the MES related pollution interventions, especially in respect of $SO_2$ reduction, are financially and environmentally unsustainable. (We will return to this issue in greater detail in subsequent paragraphs.) The National Air Quality Framework of 2017 notes that the listing of activities must be informed by | | |

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| | appropriate analysis, such as CBA.[20] To the extent that a CBA has not been conducted or has been conducted, but not been made available to Eskom, notwithstanding the fact that the MES have been in existence now for over a decade, the effective eradication of postponement applications from the MES beyond 2025 and 2030 (in respect of those power stations that will be decommissioned before 2030) without undertaking or publishing the CBA is not transparent and unlawful and has significant implications for Eskom's rights to just administrative action. This MES transitional mechanism is critical to the achievement of sustainable development and a JET. On the NAQO's own version, | | |

[20] Paragraph 5.4.3.3 of the Framework (2017).

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| | the NAQO neglected to consider all of the social, economic and environmental impacts of the Decisions, and it is therefore both factually and legally impossible for the NAQO to have adequately balanced the three pillars of sustainable development that were confirmed in the *Fuel Retailers* case cited above, in reaching the Decisions. The NAQO failed to give due consideration to what is required by the JET. To interpret the MES in a strict manner that disregards these fundamentals of the sustainability enquiry is unlawful. To the extent that the Minister finds that the NAQO's strict interpretation was correct, Eskom reserves its rights to challenge the MES themselves, should it become necessary to do so. | | |

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| 3.10.13. The Reasons for the Decisions are incorrect insofar as they assert that the MES "*were first published in 2010 and Eskom has made minimal effort to fully comply with the standards*." This is factually incorrect, as is illustrated in Eskom's MES applications themselves, in quarterly updates on MES commitment progress which Eskom provides to DFFE and in the recent JET and COP26 discussions which Eskom and DFFE have been involved in.<br><br>3.10.14. Eskom has committed in its MES application to an emission reduction plan which takes a phased and prioritised approach to compliance to the MES and emission reduction. The plan involves the focused implementation of emission reduction technologies at stations | | |

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| and the shutting down of older, more polluting stations to reduce the pollution load associated with Eskom's operations.<br><br>3.10.15. The reduction of PM emissions has been prioritised, as PM is considered to be the ambient pollutant of greatest concern in South Africa. Eskom will continue with PM reduction projects at Duvha, Kendal, Kriel, Lethabo, Matla, and Tutuka power stations.<br><br>3.10.16. In the MES application, Eskom also indicated $NO_x$ projects would be undertaken at Majuba, Tutuka, Matla and Lethabo. (If the present decision is unaltered and based on recent work undertaken as part of the JET and COP26 discussions Eskom will revise its commitments to several of the | | |

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| previously planned projects. For example, Eskom's JET strategy proposes the shutdown of Tutuka by 2030, and as such, Eskom would request suspension of the new plant limits for Tutuka until decommissioning rather than planning to implement additional $NO_x$, PM and $SO_2$ projects to obtain compliance with new plant standards.<br><br>3.10.17. In 2017, Grootvlei's abatement technology retrofit was successfully completed, and Grootvlei, which used to count as one of Eskom's highest emitting PM emitters, now easily complies with the new plant PM standard of 50 mg/Nm$^3$. (Unfortunately after spending some R600 million on this project 3 units at the station were shutdown soon after based on plant issues and capacity | | |

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| planning. This extensive capital expenditure followed soon after but unit shutdown could reoccur if Eskom is forced to comply with the present decision). Additional emission reduction work has successfully been completed on Duvha and Camden to reduce PM and NOx emissions, respectively. Indeed, Eskom's relative emissions (the kilograms of ash emitted from the stacks of stations per MW of energy sent out) has improved by more than 80% between 1982 and 2021 with the implementation of emission reduction technology and the move to cleaner generating capacity.<br><br>3.10.18. Eskom has also piloted its required air quality offset plan and is progressively implementing | | |

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| it.<br><br>3.10.19. In respect of $SO_2$, Kusile (Eskom's newest station) is being constructed with "FGD to ensure compliance with the MES standards from initial operations. Eskom has also committed to retrofit FGD at its new Medupi station, and work for this is underway.<br><br>3.10.20. However, in respect of the remainder of the coal-fired power plant fleet that was developed prior to the MES, which will be decommissioned within the next 25 years, or as soon as other energy sources can replace the baseload capacity that coal currently provides, Eskom submits that installing FGD is impracticable, unsustainable and will severely affect the country's | | |

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| fiscus. Details of this impact are described below but include increasing tariffs, increasing debt burden on the country, and given the present status of Eskom's funds, increasing debt burden on the country that is not viable.<br><br>3.10.21. Implementing the present Decision will require the installation of costly retrofits for FGD and $NO_x$ and PM on 8 power stations leading to a cost of at least R 300 billion and a tariff increase of 10% for this infrastructure. Furthermore, and as noted in Eskom's comments on the proposed 2018 amendments to the MES, dated 22 June 2017, and attached hereto as "**Annexure D**", FGD will require an additional 67 million cubic metres of water per annum from the already strained Vaal River | | |

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| catchment and will result in an increase of over one million additional tons of $CO_2$ emissions (for wet FGD) which compromises South Africa's climate change commitments and will have financial costs for Eskom (and the country). As a result of increased CO2 emissions Eskom will be exposed to additional tax in terms of the Carbon Tax Act. To the extent that it exceeds its carbon budget set in terms of the Climate Change Bill, the tax rate increases and it will be subject to what will be a punitive tax rate (based on present draft wording in the Bill with amendments to the Carbon Tax Act to come to allow for this).<br><br>3.10.22. To "invest" R300 billion on infrastructure which does not add capacity to the strained national grid and that risks | | |

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| becoming stranded as an asset is a luxury that most developing countries, including South Africa, cannot afford. Eskom's broad position would be that it is more appropriate to invest this level of funding in new clean generation capacity rather than invest at an end of pipe solution at a coal plant with a poor NPV and limited cost-benefit return. The decision of where such funds are invested will ultimately be decided in consultation with the National Treasury, which points to the alignment of all organs of state with respect to macroeconomic policy.<br><br>1.1.1. The statement of "minimal effort" must also be considered in the context of the financially constrained position within which Eskom has continually found itself. | | |

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| | Since 2006 Eskom has been engaging with NERSA in an effort to obtain cost-reflective tariffs. Notwithstanding multiple engagements, several legal challenges, injection of funds by the National Treasury and extended borrowing programmes Eskom remains critically underfunded and without a cost-reflective tariff. Notwithstanding the significant financial constraints within which Eskom has been required to operate within, funding for emission projects has been prioritised as delivery of the project, and the present planning illustrates. Eskom has previously attempted to secure specific allocations for the emission reduction projects through the NERSA process, but the final NERSA determinations were not | | |

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| sufficient to cover the emission projects and Eskom's other requirements. The lack of a cost-reflective tariff has forced ongoing capital restrictions and prioritisation, resulting in cuts to the scope of critical outages in the coal fleet, an aspect that impacts the present plant performance we see today. Indeed the funding of emission projects has arguably been done at the expense of other critical areas such as some outage requirements and the transmission infrastructure development (an aspect which may now constrain the JET programme).<br><br>3.10.23. The statement also suggests that the MES have remained stagnant since they were originally published in 2010, which is factually incorrect. In this | | |

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| regard, GN.1207 of 18 October 2018 amended the MES and introduced more stringent requirements in relation to applications for postponements from the MES. This has effectively sought to force a hard stop transition at Eskom in a period of approximately three years since these amendments were made to the MES.<br><br>3.10.24. It should be noted that Eskom made substantive comments to DFFE on the draft 2018 amendments to the MES indicating the implications of the changes and proposed alternative wording. In this regard, we refer you to **"Annexure E1 and E2"**. It is unfortunate that the impacts Eskom predicted then have come to realisation through the present Decision. Eskom has also | | |

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| participated in several parliamentary portfolio sessions which the DFFE attended, where the implications of the MES have also been raised. Yet Eskom's concerns have consistently been ignored.<br><br>3.10.25. A notable measure that Eskom has taken recently to ensure a reduction in its total environmental impact and in alignment with the international drive to reduce greenhouse gasses, is the adoption of Eskom's JET strategy. In this regard, we attach an overview of the Eskom JET strategies, marked as "**Annexure F**".<br><br>3.10.26. In accordance with the JET strategy, Eskom is driving a process that will reduce $CO_2$ and other emissions, move towards | | |

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| clean energy generation, create jobs, reduce water use and attract foreign investment. The implementation of the JET strategy will see an accelerated closure of existing coal-fired stations, with 22 Gigawatts to be closed between 2022 and 2035. This will reduce $CO_2$ emission by 50% by 2035 and PM, $NO_x$ and $SO_2$ by 58%, 46% and 66%, respectively. The managed closure and repurposing of several of these stations will see an increase in the national demand for "green energy" of some 50 Gigawatts.<br><br>3.10.27. Energy modelling suggests that South Africa will need to build >20GW of Gas by 2030 if the DFFE MES decision is implemented. The large amount of Gas required to accommodate the | | |

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| DFFE's decision on MES compliance does not only pose a risk to the clean energy transition associated with JET as discussed above but would also drive up electricity tariffs. Eskom's current coal fleet generates energy at ~R900/MWh, while the new Gas plant is estimated to cost ~R4000/MWh (340% more expensive). This indicates that if Gas is used to replace 50% of the coal fleet in the short term, it will drive up electricity tariffs by ~170%. With gas prices increasing further if Gas must be sourced from the international markets.<br><br>3.10.28. As is well known, one of the most significant outcomes of the COP 26 programme was the South African government securing R130 billion to further the | | |

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| country's JET. Eskom will play a critical role in facilitating this. This funding will also be used to facilitate the managed repurposing of some of Eskom's coal-fired power stations due to decommissioning in the next 15 years.<br><br>3.10.29. Based on the above discussion, it is submitted that the statement that Eskom has had made "minimal efforts" in emission reduction efforts is inaccurate and incorrect.<br><br>3.10.30. The NAQO favours the environment above social and economic considerations in the sustainable development enquiry instead of balancing the three pillars of the sustainability enquiry, which is what is required to inform environmental management in | | |

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| terms of the principles of NEMA, NEMAQA and the Constitution.[21]<br><br>3.10.31. Regarding air quality, upon which the NAQO appears to have focused on in making her Decision, the factors affecting air quality in the priority areas are complex. In the Highveld and Vaal Triangle priority areas, monitoring confirms that PM is in general non-compliance to the National Ambient Air Quality Standards (NAAQS). There is, however, general compliance to the NOx standard and whilst $SO_2$ levels are high, much of the region is in compliance with the $SO_2$ standard "**Annexure G"**. [22]<br><br>3.10.32. It is clear from the analysis that the occurrences of | | |

[21] *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others* 2007 (6) SA 4 (CC).
[22] See also the Eskom MES and exemption applications and supporting atmospheric impact reports.

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| NAAQS non-compliance in the Highveld and Vaal Priority areas are not a result of Eskom alone, but that the power stations are significant contributors to the emissions across the Highveld. Dispersion modelling and ambient monitoring illustrate that while there are elevated pollution levels in the Highveld, there is generally "material" compliance with the standards. Furthermore, Eskom is but one contributor to the emission levels, and to reduce them, a holistic approach addressing all identified and potential sources is required.<br><br>3.10.33. Full compliance with the MES is not the panacea for ensuring NAAQS compliance, even with the improvements in air quality evident under a MES compliant emissions scenario. | | |

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| Focusing on eliminating Eskom's power station emissions alone will not result in acceptable ambient air quality levels that are not harmful to human health and the environment. Eskom's air quality implementation plan, as proposed in its MES application, is seen as a practical approach in addressing this complex issue. A decision on the MES must therefore consider the full suite of sustainable development issues, not purely one aspect relating to one part of the environment.<br><br>3.10.34. In the Waterberg Bojanala Priority Area ("**WBPA"**) the analysis of historically monitored data has illustrated that PM levels in the area are occasionally exceeded, but this is probably due to local low-level sources such as roads, burning | | |

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| and mining rather than Eskom's stack emissions. Both Medupi and Matimba will comply with the new plant MES for PM, and dispersion modelling does not predict any exceedances of the PM standards as a result of power station emissions. This is to be expected as Eskom will comply with the new plant MES limit for PM.<br><br>3.10.35. No exceedances of the NAAQS standard in respect of $NO_2$ were recorded historically or are predicted as a result of future power station emissions at offsite receptors. This is also expected as Eskom will comply with the new plant MES limit for $NO_2$.<br><br>3.10.36. In respect of $SO_{2,}$ monitoring has not shown exceedance of any of the NAAQS standards for any averaging | | |

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| | periods between 2016 and 2020. Dispersion modelling for baseline emissions, which should align with the monitoring data, does, however, predict exceedances of the NAAQS for hourly and daily results, illustrating the trend for modelling to over predict short-term concentrations as highlighted above. The over prediction of short-term simulations may extend to the other scenarios. It is, however, not appropriate to say that no exceedances of the standard can be anticipated at sensitive receptors based on the hourly and daily modelling. The simulated annual average emissions for $SO_2$, a more reliable data set, does predict compliance to the NAAQS for all the scenarios at all sensitive receptors with the exception of the Medupi AQMS | | |



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| (adjacent to the station). Given this, the significant impact of installing FGD (water, waste, and financial as explained in the MES application) at both Medupi and Matimba must also be critically considered in decision making.<br><br>3.10.37. Given the complexity associated with the air quality discussion above, any decision on the MES in the WBPA must, as in the Highveld and Vaal Priority areas, consider the full suite of sustainable development issues, not purely one aspect as the NAQO appears to have done.[23]<br><br>3.11. In summary, the NAQO has misconstrued the DFFE's mandate. The DFFE is required to take into account sustainable development in environmental management and when | | |

[23] Extracted from Eskom MES applications, exemption and supporting Atmospheric Impact Reports

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| taking the Decisions. Furthermore, the NAQO failed to place people at the forefront of environmental management in reaching the Decisions.[24] There is, therefore, a disagreement concerning the exercise of the NAQO, DFFE and Minister's functions which may significantly affect the environment. Alternatively, there is disagreement regarding the protection of the environment in an appeal before the Minister. Eskom submits that the disagreement is worthy of the Minister appointing a facilitator to call and conduct meetings of interested and affected parties and hereby requests the Minister to do so in accordance with section 17(2) of NEMA, should the Minister find section 17(1) of NEMA to be inapplicable.<br><br>*Inter-governmental co-ordination and co-* | | |

[24] See paragraph 60 of *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others* 2007 (6) SA 4 (CC) regarding the importance of this principle stipulated in section 2(2) of NEMA.

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| *ordination between organs of states*<br><br>3.12. Principles 2(4)(l) and (m) of NEMA provide:<br><br>*"(l) There must be inter-governmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.*<br><br>*(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures."*<br><br>3.13. Responding to the complex and interlinked challenges that adapting to and mitigating against climate change result in, raises unique challenges to effective governance. This complexity and the need to move away from operating within traditional silos is eloquently captured in the preamble to the Climate Change Bill which provides that "*responding to climate change raises unique challenges to effective* | | |

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| *governance as its impact transcends and challenges traditionally sectoral governance approaches, which require a nationally driven, coordinated and cooperative legal and administrative response that acknowledges the significant role of the provincial and municipal spheres taking into account the Intergovernmental Relations Framework Act, 2005 (Act No. 13 of 2005)*".<br><br>3.14. Eskom submits that the Decisions do not result in the coordination and harmonisation of policies, legislation and actions relating to the environment. In this regard, the Decisions, if upheld, would jeopardise sustainable development and the JET. The Decisions must align with government policies on these topics, including South Africa's First Nationally Determined Contribution under the Paris Agreement' updated in 2021, the | | |

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| Department of Environment and Tourism' People-Plant-Prosperity: A National Framework for Sustainable Development in South Africa', July 2008, the National Climate Change Adaptation Strategy, the Climate Change Bill, the Roadmap for Eskom in a Reformed Electricity Supply Industry, the National Planning Commission's 2050 Vision and Pathways for a Just Transition to a Low Carbon, Climate Resilient Economy and Society, the National Development Plan, and the Integrated Resources Plan, 2019.<br><br>3.15. But even confining oneself to only environmental policy and legislation, it is submitted that there is a lack of coordination and harmonisation between such environmental policies that aim to protect the environment and air pollution. Wet FGD requires increased | | |

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| water supply. But water scarcity and drought are expected to be severe effects of climate change. Additionally, while FGD may improve $SO_2$ or $NO_x$, it will increase $CO_2$ emissions. Contradicting policies and legislation on sustainable development and the JET have the potential to undermine the objectives of environmental management, with irreversible consequences. The JET must be planned, coordinated and harmonised.<br><br>3.16. The issues that arise in this appeal raise actual or potential conflicts of interest between various organs of state, including, but not limited to, the DFFE, the Department of Mineral Resources and Energy, National Treasury, the Department of Water and Sanitation, the Department of Public Enterprises and Eskom.<br><br>3.17. In *Eskom Holdings SOC Ltd v* | | |

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| *Resilient Properties (Pty) Ltd and Others; Eskom Holdings SOC Ltd v Sabie Chamber of Commerce and Tourism and Others; Chweu Local Municipality and Others v Sabie Chamber of Commerce and Tourism and Others* 2021 (3) SA 47 (SCA), the Supreme Court of Appeal held that Eskom is an organ of state as contemplated in section 239 of the Constitution, with the government as its sole shareholder.[25] Therefore, in accordance with section 2(4)(m) of NEMA, actual or potential conflicts of interest between Eskom and the DFFE ought to be resolved through conflict resolution procedures, which Eskom submits, are applicable and appropriate with respect to the issues and disagreements that arise in this appeal. | | |

[25] Paragraph 11.

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| *Conclusion on point in limine*<br><br>3.18. This appeal clearly raises issues of disagreement or difference regarding matters that will significantly affect the environment. Additionally, the Decisions that are the subject of this appeal have the potential to undermine fundamental NEMA principles, including those of sustainable development and inter-governmental coordination.<br><br>3.19. In the circumstances, Eskom therefore respectfully submits that this is a matter that would be appropriate and necessary for the Minister to refer to conciliation prior to making a decision on the appeal. The referral to conciliation should be done in terms of section 17(1)(b)(i)(bb) or (cc)[26] of NEMA. | | |

[26] If the provisions of the Intergovernmental Relations Framework Act 13 of 2005 are deemed appropriate.

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| 3.20. Eskom submits that given the complexity of the matter, a failure to exercise the Minister's discretion in favour of referring the matter to conciliation as the Minister is entitled to do in terms of section 17(1) of NEMA, would render the appeal decision reviewable and liable to be set aside.<br><br>3.21. In the alternative, Eskom submits that section 17(2) of NEMA is applicable and hereby requests the Minister to appoint a facilitator to call and conduct meetings of interested and affected parties (including those organs of state) with the purpose of reaching an agreement to refer a difference or disagreement (as set out below), to conciliation.[27]<br><br>3.22. Should the Minister decide against making use of the conciliation | | |

[27] *Long Beach Homeowners Association v MEC: Economic Development, Environmental Affairs and Tourism (Eastern Cape) and Others* 2020 (2) SA 257 (ECG), paragraph 42.

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| provisions of section 17 of NEMA, we set out below Eskom's grounds of appeal against the Decision. | | |
| **4. First Ground of Appeal: Decisions unlawful, irrational and unreasonable – relevant considerations were not considered**<br><br>4.1. In the Reasons for the Decisions, the NAQO stated that "*Eskom is advised to make a request to the Ministers of the Departments they listed in a letter to the NAQO dated 30 March 2021, for consideration of all the other factors that are outside the Department of Forestry, Fisheries and the Environment (DFFE) mandate, such as insufficient water, gypsum and financial costs of implementing the decisions; closure of seven (7) stations; and associated 19 000MW of supply to the national grid*."<br><br>4.2. This statement by the NAQO suggests | | |

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| that the NAQO did not take any of the abovementioned factors into consideration when making the Decisions. For the reasons discussed in paragraphs 3 above and below, the Decisions are unlawful and fall to be set aside. In particular, the considerations ignored all go to the sustainable development enquiry, which is required when exercising any decision-making powers in terms of NEMA and/or NEMAQA (as a specific environmental management Act – "**SEMA**" / delegated legislation).<br><br>4.3. Multiple units at the coal-fired stations will not be able to operate in compliance with the limits imposed in the Decision. Based on performance trends, an initial assessment of the impact of the Decision, in terms of generating capacity that will become unavailable is provided in "**Annexure H**". As mentioned above, the extent of | | |

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| the impact is estimated to be 16 000 MW (37% of the presently installed coal station capacity) immediately as stations are unable to meet the immediate limits in respect of PM and NOx. By 2025 when existing $SO_2$ postponements lapse and multiple stations are expected to comply with the new plant $SO_2$ limit, this increases to 30 000 MW (69% of Eskom's total installed coal station capacity).<br><br>4.4. It is further estimated that since it will not be practical for Eskom to replace this capacity in the short to medium term (and arguably in the longer term), South Africa will experience ~Stage 8 load-shedding for every hour that the units are down and 30GW shutdown by 2025, resulting in ~Stage 15 load-shedding. To address this, South Africa would need to build more than 20 Gigawatts of additional Gas by 2030, a highly impractical proposition | | |

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| and with cost implications as discussed above.<br><br>4.5. Even if funds are available to conduct retrofits, the Eskom fleet would only return to Eskom's planned capacity by 2034 with extended load shedding as described above during this time.<br><br>4.6. The Decision will force the practical closure of six (6) stations in Mpumalanga (between 8 and 24 years ahead of scheduled). This would have a 33% negative impact on the GDP of Mpumalanga due to the lack of output/revenue from the stations.<br><br>4.7. In Limpopo, two (2) stations would be practically closed (Matimba 18 years ahead of schedule. Medupi would be closed until the planned FGD is completed by 2027) with an 18% negative impact on the GDP of that province. | | |

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| 4.8. The immediate reduction in coal demand would also have knock on effects in the already stressed mining industry, limiting future opportunities for a just energy transition.<br><br>4.9. A minimum of 5 500 direct jobs would be lost by 2025 as a result of the decision. With an estimated 93 000 indirect jobs being lost.<br><br>4.10. A further impact of the reduced operations of stations would be a decrease in revenue recovery by Eskom. This would in turn affect the ability of the company to cover its debt repayments with significant repercussions for the company and the national fiscus which has underwritten Eskom's debt. Indeed, this may result in a debt default.<br><br>4.11. Whilst it can be argued that the above impacts would be minimised if Eskom completes the required retrofits | | |

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| and returns the units to service the financial viability of Eskom, ever completing the FGD retrofits at any station beyond Medupi is questionable, as highlighted elsewhere in this appeal submission.<br><br>4.12. The estimated cost of this unserved energy (the economic cost of load shedding) to the economy would be R1.7 trillion. An amount equal to South Africa's social grant payments for 5 years.<br><br>4.13. Furthermore, although there is a dedicated SEMA that relates to water, the availability of water resources or lack thereof was also relevant to the Decisions. Water is part of the definition of "environment" (item (i)) in section 1 of NEMA and consequently cannot be said to fall outside of the DFFE's mandate entirely. Water resources and availability features in | | |

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| the environmental impact assessment ("**EIA**") studies, even where an integrated environmental authorisation is not pursued by an applicant. The EIA falls squarely within the jurisdiction of the DFFE, and therefore, it is nonsensical to claim that insufficient water for the installation of FGD would be an irrelevant consideration to the Postponement Applications.<br><br>4.14. South Africa is a water-scarce country.[28] Water security, which is defined as "*the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving* | | |

[28] Department of Water and Sanitation "National Water and Sanitation Master Plan" Volume 1: Call to Action, Version 10.1, Ready for the Future and Ahead of the Curve, published in 2019, page 1-1.

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| *ecosystems in a climate of peace and political stability*" is a major challenge confronting South Africa, especially in the light of climate change.[29] The responsibility for many of the "Key Action" items to improve water security are noted in the Department of Water and Sanitation's National Water and Sanitation Master Plan Volume 1, Call To Action, Version 10.1 "Ready for the Future and Ahead of the Curve" in 2019 ("**Master Plan**"). This responsibility is shared between the DFFE and the Department of Water Sanitation ("**DWS**"). This highlights the point that the issue of water scarcity is a joint responsibility and concern for the DFFE and the DWS.<br><br>4.15. The environmental consequences of the Decisions would require the immediate installation of | | |

[29] Ibid.

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| retrofit infrastructure at multiple coal fired power stations. By complying with the MES, the required water consumption for Eskom's fleet of Combustion Installations would increase between 15%-30% should it be required to operate with retrofit technologies to allow for the MES to be met. In this regard, the use of FGD technologies to remove $SO_2$ from the exhaust flue gases of the Combustion Installations would require up to an additional 43 million cubic meters/annum and an additional total volume of 711 million cubic meters above the present planning scenario to 2050.<br><br>4.16. South Africa receives an annual rainfall of 465 millimetres, whereas the rest of the earth receives 985 | | |

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| | millimetres. This is nearly half the earth's average.[30] South Africa is recognised as the 29th driest country out of 193 countries and has less water per person than Namibia and Botswana.[31] Further, the Department has confirmed that in most catchments in South Africa, there is little unallocated water still available.[32] During the course of the last few years, multiple provinces were declared drought disaster areas, with the only exception being Gauteng, which receives the bulk of its water from Lesotho. The reality is that South Africa is a fundamentally water constrained country, and it is not self-evident that there is water available to allow for the upgrades and retrofits that would allow Eskom to comply with the | | |

[30] Page 9 of the Master Plan.

[31] Muller, M. et al. 2009. Water security in South Africa. Development Planning Division. Working Paper Series No.12, DBSA: Midrand

[32] Page 150 of the Master Plan.

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| MES.<br><br>4.17. The Master Plan summarises the current water requirements at Eskom's existing power stations and the additional water requirements at each power station should the Minimum Emission Standards technology be implemented. The Master Plan provides that this would increase Eskom's water demand by between 15% and 30% for existing power stations, depending on the type of technology implemented. The Master Plan confirms that this has the potential to worsen the already existing water security challenge in South Africa and proposes that further urgent studies be undertaken to quantify the impact, including a cost-benefit analysis. The Master Plan cautions that South Africa is a water-scarce country and that the additional required water for Eskom may be used more | | |

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| beneficially to address transformation requirements and to increase assurance of supply for domestic use. It would be an economic tragedy for Eskom to incur the cost of adopting the required retrofit technologies only for that infrastructure to lie idle due to an inability to have the DWS grant the required water use licence for the required additional allocation of water.[33]<br><br>4.18. Requiring Eskom to increase its water use by approximately 20% within a period of 10 years may have a net positive benefit as regards South Africa's air quality but is likely to have a net negative result on its available | | |

[33] The total water demands in the Integrated Vaal River Catchment presently exceed the water availability in the catchment until Phase 2A of the Lesotho Highlands Water Project is implemented. The projected completion date of Phase 2A of this project is now beyond 2026. Eskom has a combined water licence of 360 million m³ per annum from the Vaal River Eastern Subsystem to generate electricity, which is licensed until October 2025 when it will be reviewed. Some of Eskom's oldest power stations are expected to be decommissioned within the next 5 to 10 years but that does not significantly contribute to reducing the shortages in the Vaal River System as the declining demand for Eskom's water use is already take into account in the annual operating analysis. Eskom will not be able to re-allocate its water allocation to itself as a surrender of Eskom's licensed volume goes back to the Department of Water and Sanitation to determine who would be the best user for the water that is available. Beyond 2026, when Phase 2A of the Lesotho Highlands Project is operational, it may be possible for water to be available for retrofits to the current fleet supplied by the Vaal System. Similarly the power stations in the Limpopo area are not able to retrofit FGD until further water becomes available through an inter-basin transfer system. The local water resources cannot supply more than its current allocation of water. The DWS have considered a project to bring additional water into the area but the project has been on hold while Government confirms the capacity of the required infrastructure. The expected date is also beyond 2025.

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| water supply. Water, like electricity, is an economic enabler, but it is also an enabler that allows for the fulfilment of multiple human rights and enhances the ability to achieve multiple sustainable development goals. Such a transition to water-intensive technologies needs to be managed over a reasonable period of time such that all associated impacts to other media of the environment, such as water, are fully understood (as was explained in the original MES applications).<br><br>4.19. Requiring FGD across the generating fleet to meet full compliance of the MES would require 5.2 million tonnes of sorbent (limestone or lime) per annum, with no additional sorbent required beyond Kusile's needs in terms of Eskom's 2020 plan. The main source of the sorbent is in the Northern Cape, so | | |

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| any required sorbent would need to be transported over hundreds of kilometres, preferably by rail or otherwise by road. The transport of the sorbent would result in environmental impacts, notably greenhouse gas emissions and fugitive dust emissions. An increase in truck traffic would also increase driver mortalities, as has been observed in association with coal transport in Mpumalanga. New mines would also be needed to supply sorbent to all Eskom's power stations, and this would also have significant environmental impacts, including a potential deterioration in water quality and an increase in fugitive dust emissions in those areas.[34]<br><br>4.20. It is estimated that approximately 9.7 million tonnes of by- | | |

[34] Assuming that wet FGD is installed on the 5 newest stations excluding Kusile, and semi-dry FGD is installed on the rest of the coal-fired fleet, excluding station decommissioned by 2030. The October amendment of the MES for $SO_2$ new plant to 1000 mg/$Nm^3$ will required a revision of technology choices as it may be possible to meet the limit using semi-dry FGD at the 5 newest stations.

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| products will be produced per annum from FGD units across the fleet under the Decision. If a high-quality limestone is used, high-quality gypsum can be produced by wet FGD, and this could be taken up by the market for wallboard production, for example. Lower-grade gypsum can also be created for agricultural purposes. However, indications are that there is only enough demand from the market to take up at most two power stations worth of by-products. Furthermore, there are limited supplies of high-quality sorbent in South Africa, so it is likely that most gypsum or by-product would need to be disposed of, in which case it would need to be managed carefully to ensure that there are no impacts on groundwater or air quality (from fugitive dust emissions).<br><br>4.21. It should be also be noted that, as highlighted in Eskom's | | |

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| postponement application, the wet FGD process directly produces $CO_2$ as a by-product through the reaction:<br><br>$SO2 + CaCO3 \rightarrow CaSO4 + CO2$<br><br>4.22. If wet FGD is installed on all power stations, an additional approximate 3 million tons per annum of $CO_2$ would be produced. Semi-dry FGD, which typically uses lime as a sorbent, does not produce $CO_2$ directly in the FGD process, but the $CO_2$ is produced instead through the processing of lime from limestone.<br><br>4.23. In addition, the auxiliary power requirements of the Decision are some 2 500 GWh/year. This reduction in the efficiency of the power stations would also result in a further increase in Eskom's relative $CO_2$ emissions.<br><br>4.24. The foregoing paragraphs suggest that the installation of FGD will | | |

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| result in the emission of $CO_2$. Increased emission of $CO_2$ will place Eskom and South Africa in breach of the country's international climate change commitments and will subject Eskom (and the country) to increased tax in terms of the Carbon Tax Act. This was a relevant consideration that ought to have been considered by the NAQO. Failure to consider these relevant considerations and consequences of the Decisions renders the Decisions unlawful.<br><br>4.25. The fact that the NAQO did not consider if the decisions are reasonably implementable is a further example of the irrationality of the Decision. Eskom has consistently indicated to the NAQO that installing FGD is a ten year plus process given design, governance and construction processes. It is simply not possible to construct FGD for Eskom's fleet of | | |

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| facilities by 2025. If FGD is required, as the Decision indicates, an optimistic plan which attempts to consider capacity issues would have FGD installation starting at only 3 stations prior to 2030. With FGD at Medupi (Eskom's most advanced FGD planning project) only completed by 2027. Indeed several other stations will close before installation is complete or will shut down early and not return. Others will decommission only a year or two after the project is completed, which is not financially prudent for Eskom or the country.<br><br>4.26. As a state-owned entity operating in a financially constrained environment, Eskom must consider the appropriateness of any investment decision it makes from a range of factors, as the DFFE in its decision making process is also required to do. Noting the national imperative to | | |

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| ensure affordable electricity and the need for a transition to a cleaner energy mix, Eskom has undertaken studies to look at the financial appropriateness of investments in mitigation technologies. These studies build on work undertaken for the Eskom JET programme and are being conducted as part of an integrated process to develop an Eskom 2035 plan. The Eskom 2035 plan is still being developed and is subject to engagement and confirmation with stakeholders. Many of the aspects discussed in Eskom's MES applications and in this appeal have been considered in the development of the plan. The plan, it is submitted, ought to play a role in a conciliation or mediation process.<br><br>4.27. As part of the planning process, the MES, emission reduction and climate change issues have been | | |

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| | considered. Various MES policy position scenarios were explored ranging from no legal indulgence granted by DFFE requiring immediate compliance or shutdown of plant (the present decision), to full indulgence allowing the $NO_x$ & PM retrofits to be done with plant remaining on load prior to the retrofits being implemented and $SO_2$ suspensions until the end of plant life (a MES exemption option). The scenarios factor in the early closure of several stations in line with the JET plan. The options being considered do not revolve around whether there is emissions compliance or not – they revolve around the timing of the achievement of a reduction in various levels of emissions. Immediate emission compliance would result in catastrophic economic destruction due to loss of up to 37% of electricity production for a number of years and a | | |

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| significant load shedding impact (as discussed above), which it is submitted the government should not allow to proceed.<br><br>4.28. Technically possible scenarios involve obtaining MES suspensions/exemptions with high levels of indulgence in respect of meeting the MES limits by 2035 or by the end of station life. Regarding the scenarios which are technically possible to achieve these require, an appropriate balance to be struck between the dates and timelines of compliance to air quality legislation and cost and customer affordability and risk to the security of supply. Further engagement with the DFFE and other stakeholders will be required to meaningfully achieve this balance.<br><br>4.29. "**Annexure I**" provides a summary of this analysis, and further | | |

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| information will be forthcoming as part of this analysis.<br><br>4.30. Principle 2(4)(b) of NEMA requires that environmental management be integrated, which acknowledges that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.<br><br>4.31. The factors that, according to the NAQO (and the considerations above), fall outside of the DFFE's mandate are all critical factors that inform what constitutes the best practicable environmental option in the circumstances. (Factors which Eskom had also articulated in its original applications.) | | |

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| 4.32. By neglecting to consider the consequences or implications of the Decisions (including megawatt losses to the grid, which will have other consequences, including job losses and significant impacts to South Africa's economy), the Decisions are rendered irrational and/or unreasonable. Without having due regard to the consequences of the Decisions (including environmental consequences, such as insufficient water and increased $CO_2$ emissions) as well as those to people and South Africa as a whole, the NAQO could not adequately explore and select the best practicable environmental option. In order for a decision to be rational, the means must be rationally connected to the ends. But if the ends (which includes the consequences / effects of a decision and the mischief that the legislation tries to achieve, which is | | |



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| sustainable development and environmental protection) were not considered by the NAQO, the Decisions could never have been rational.<br><br>4.33. The significant addition of new capacity associated with the JET strategy (as discussed in the previous section) and the timing when the new capacity can be expected to be added to South Africa's electrical grid should have been a relevant consideration taken into account by the NAQO. The timing of the MES must align with the timing of the JET in order to be rational and to realise the environmental and economic benefits associated with JET (and to the country as a whole).<br><br>4.34. The NAQO justifies her approach as being consistent with the MES. It is submitted that given the purpose of the MES, its recognition of | | |

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| transitional measures, the imperative of the JET and the sustainable development enquiry mandated in NEMA, the NAQO's interpretation of the MES, which essentially elevates the environment as a sole criterion for decision making, would give rise to absurdities in both law and in fact.<br><br>4.35. In paragraph 30.2.4 of the Minister's answering affidavit in the matter between *The Trustees for the Time Being of Groundwork Trust and Others v The Minister of Environmental Affairs and Others* [Case no.: 39724/2019], the Minister states that the MES *"do not entail a risk-free standard because factors of cost and technical feasibility also have to be taken into account. The overriding consideration is that of an acceptable margin of safety."* It is therefore clear that even on the Minister / DFFE's own version, cost and technical feasibility | | |

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| play a role in relation to the MES. The NAQO's approach is consequently inconsistent with the Minister's approach as set out in the abovementioned case.<br><br>4.36. Furthermore, and as will be discussed in greater detail in the second ground of appeal below, the Reasons for the Decisions neglected to consider the acceptable margin of safety, which the NAQO is required to consider.<br><br>4.37. Given the overlap of this ground of appeal with Eskom's request for conciliation, we hereby incorporate the contents of paragraphs 3.1 by reference.<br><br>4.38. For all of the abovementioned reasons, the Decisions are unlawful and fall to be set aside. | | |
| 5. **Second Ground of Appeal: Decisions** | | |

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| **unlawful, irrational and unreasonable – failure to give adequate consideration to the Atmospheric Impact Report, fact that ambient air quality generally complies with the applicable National Ambient Air Quality Standards and acceptable margin of safety**<br><br>5.1. As described in the MES application, the supporting Atmospheric Impact Reports applications, and, as summarised in paragraph 3 above, Eskom is but one of many air quality impacting sources. Compliance with the ambient air quality standards in the Highveld and Vaal priority areas with respect to $NO_2$ and $SO_2$ are variable and, in general, there is compliance with the NAAQS. In the WBPA, there is compliance to the NAQS for PM, $NO_x$ and $SO_2$.<br><br>5.2. Further, it should be recognised that Eskom's emission reduction plan and | | |

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| the JET programme will see the progressive reduction in PM, NOx, $SO_2$ and $CO_2$ over time. Implementing the emission reduction plan and installing more efficient emission control technology will reduce Eskom's emissions. The decommissioning of the older stations and increased use of the newer, less emitting Medupi and Kusile will also result in a substantial decrease in Eskom's emissions over time. For example, it is projected that compared to a 2020 baseline that by 2035 Eskom's relative PM emissions will reduce by 58%, $SO_2$ by 66% and NOx by 46%.<br><br>5.3. Implementing the Eskom JET programme will see a reduction of some 50% of Eskom's $CO_2$ emissions by 2035.<br><br>5.4. The NAQO, in the present Decision, fails to consider the variability in | | |

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| emissions and the complexity of the air quality aspects as described. Indeed, the Decision actually serves to frustrate Eskom's ambition to significantly and meaningfully reduce its emissions and impact on local communities.<br><br>5.5. With the load shedding anticipated as a result of the Decision, there will likely be a need for increased use of coal and biomass in low-income communities as electricity will not be available. This will, in all likelihood, result in an increase in household pollution levels with a negative impact on household health. | | |
| **6. Third Ground of Appeal: Decisions unlawful – conditions imposed are irrational**<br><br>6.1. The Decisions, although partial or negative, nevertheless impose conditions requiring offset programmes | | |

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| to be implemented and reporting requirements. These conditions appear to be copied and pasted from previous postponement decisions and/or the Positive Decisions.<br><br>6.2. In circumstances where the Postponement Applications were refused, it is inappropriate and unlawful to attach binding conditions to adverse decisions. This is clear from regulation 13(b) of the MES, which provides that the NAQO may refuse the application with written reasons. The regulation does not empower the NAQO to impose conditions in a negative decision.<br><br>6.3. In the decision for Medupi and Matimba, Eskom is required to provide $SO_2$ offset plans within 90 days of the decision. Eskom has engaged with the Limpopo licencing authority and DFFE for several years on the issue of | | |

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| offsets, generally in respect of PM. Several studies were undertaken, and engagements over the years have clarified that opportunities for offsets are essentially limited to education and awareness initiatives.<br><br>6.4. DFFE is well aware that Eskom, as a state entity, is bound by the Public Finance Management Act (PFMA). Further development of any meaningful offset plan would require public consultation. As such, expecting that such a plan be developed within 90 days, given PFMA and public participation process, is impractical.<br><br>6.5. Noting the above requirements for $SO_2$ offsets plans within 90 days is clearly irrational technically and administratively. | | |
| **7. Conclusion and Relief Sought**<br><br>7.1. In the abovementioned circumstances, | | |

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| Eskom respectfully requests the Minister to positively exercise the discretion granted to her in terms of section 17(1) of NEMA, and to refer the matter for conciliation prior to making a decision on this appeal. This appeal involves a disagreement in relation to the DFFE's mandate, the meaning of sustainable development and a JET, which have implications for the environment. NEMA requires the alignment of organs of state in relation to decision-making in the context of the environment. The costs (environmental, financial and on the people of South Africa) of faltering on these issues is too high, and consequently, inter-governmental coordination is necessary, in addition to alignment between organs of state.<br><br>7.2. In the alternative, Eskom submits that section 17(2) of NEMA is applicable and hereby requests the Minister to | | |

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| appoint a facilitator to call and conduct meetings of interested and affected parties (including relevant organs of state) with the purpose of reaching an agreement to refer a difference or disagreement (as set out below), to conciliation.[35]<br><br>7.3. Should the Minister accede to Eskom's request for conciliation, subsequent to such proceedings, but prior to a decision on this appeal, Eskom requests an opportunity to supplement its grounds of appeal, should the need arise. Eskom is involved with stakeholders in developing an Eskom 2035 vision which builds on the positive commitments in the original MES application emission reduction plan and the Eskom JET strategy and seeks to meaningfully and proactively | | |

[35] *Long Beach Homeowners Association v MEC: Economic Development, Environmental Affairs and Tourism (Eastern Cape) and Others* 2020 (2) SA 257 (ECG), paragraph 42.

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| balance some of the competing demands it and the country face in terms of emissions issues, climate change, a just energy transition and the provision of adequate, affordable electricity for sustainable growth in the country. These discussions, outcomes and agreements reached may influence the detail of Eskom's MES applications.<br><br>7.4. Should the Minister reject Eskom's request for the matter to be referred to conciliation, we respectfully request the Minister to set aside the negative and partial Decisions and substitute them with positive decisions that grant the Postponement Applications for all of the reasons and on the grounds of appeal set out above. | | |

**List of Annexures**

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| Annexure A | Email notification of MES decision to Eskom (4 November 2021) |
| Annexure B | DFFE MES decision (30 October 2021) |
| Annexure C | Eskom request for condonation for late submission (19 November 2021) |
| Annexure D | Eskom comments on proposed MES amendments (22 June 2017) |
| Annexure E 1& 2 | Eskom comments on proposed MES amendments (22 June 2017 and 25 June 2018 respectively) |
| Annexure F | Eskom and JET discussion document (August 2021) |
| Annexure G | Historical analysis of ambient air quality (August 2020) |
| Annexure H | Impact of MES decision per station (December 2021) |
| Annexure I | Initial Financial Analysis of MES policy options (December 2021) |

**ARR comments by Case Officer**

Name & Surname:

Date:

Signature:

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**Approved by Supervisor**

Name & Surname:

Date:

Signature:

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