"ANNEXURE A"

GROUNDWORK **Appellant**

CHIEF DIRECTOR: INTEGRATED ENVIRONMENTAL AUTHORISATIONS, DEPARTMENT OF ENVIRONMENTAL AFFAIRS **First Respondent**

KUYASA MINING (PTY) LTD **Second Respondent**

APPEAL PURSUANT TO SECTION 43(2) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AGAINST ENVIRONMENTAL AUTHORISATION GRANTED TO KUYASA MINING (PTY) LTD ON BEHALF OF KIPOWER (PTY) LTD ON 21 OCTOBER 2015

INTRODUCTION

1. This is an appeal to the Honourable Minister of Environmental Affairs (the "Appeal" to the "Minister"), directed at the Director: Appeals and Legal Review of the Department of Environmental Affairs ("DEA"), to set aside the decision of the Chief Director: Integrated Environmental Authorisations of the DEA (as "First Respondent") dated 21 October 2015 to grant an integrated environmental authorisation (the "Authorisation") to Kuyasa Mining (Pty) Ltd (the "Second Respondent") on behalf of its subsidiary, KiPower (Pty) Ltd (the "Applicant").

2. The Authorisation is granted in terms of section 24L of the National Environmental Management Act, 1998 ("NEMA") and permits the Second Respondent ("on behalf of" KiPower) to undertake specific activities (the "Authorised Activities"), listed as environmental activities under section 24 of NEMA read with the NEMA Environmental Impact Assessment Regulations,

2010 (the "EIA Regulations 2010") and as waste management activities under section 20 of the National Environmental Management: Waste Act, 2008 ("NEMWA") read with Government Notices 718 of 2010 and 921 of 2013,[1] in connection with the establishment of a 600 megawatt ("MW") independent coal-fired power plant and associated infrastructure near Delmas in Mpumalanga, South Africa (the "Project").[2]

3. As attached marked Annexure **B**, groundWork (the "Appellant") was provided with the Authorisation by email dated 22 October 2015 (the "Notification").

4. The Appellant submits that the Appeal should succeed and the Authorisation granted to the Second Respondent by the First Respondent should be set aside because the First Respondent's decision to authorise the Project is unlawful in that it failed to comply with NEMA, NEMWA and the National Environmental Management: Air Quality Act, 2004 ("NEMAQA") in the manner detailed below. Further, the conditions of the Authorisation are vague and unenforceable with the Authorisation failing to give effect to the constitutional environmental and public participation rights.

5. The Appellant further submits that there are grounds for judicial review under the Promotion of Administrative Justice Act, 2000 ("PAJA") because the Authorisation comprises administrative action that *inter alia*:

   5.1. failed to comply with a mandatory and material procedure or condition prescribed by the empowering provision;[3]

   5.2. was procedurally unfair;[4]

   5.3. is unconstitutional or unlawful;[5]

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[1] Page 9, Final Environmental Impact Report, May 2014 (the "FEIR").
[2] Above.
[3] PAJA section 6(2)(b).
[4] PAJA section 6(2)(c).
[5] PAJA section 6(2)(d), (f)(i) and (i).

5.4. was taken because of the consideration of irrelevant considerations and the failure to consider relevant considerations;[6]

5.5. is not rationally connected to the information before the First Respondent in making the Authorisation or to the reasons provided by the First Respondent for the Authorisation;[7] and

5.6. is so unreasonable that it could have been granted by no reasonable person.[8]

6. The Appeal is lodged on behalf of the Appellant in terms of section 43(1) of NEMA, which provides that "*any person may appeal to the Minister against the decision taken by any person acting under a power delegated by the Minister under* [NEMA] *or a specific environmental management act*", read with chapter 7 of the EIA Regulations 2010 which provides for the submission of a notice of intention to appeal within 20 days of the date of an environmental authorisation and the submission of the appeal within 30 days of such notification.[9] The Appellant is further required to notify the Second Respondent (as representative of the Applicant) of its intention to appeal and indicate the availability of the Appeal for inspection.[10]

7. In line with the above requirements, the Appeal follows the submission of a notice of intention to appeal to Mr Z Hassam, Director: Appeals and Legal Review of the DEA, copying the Second Respondent on behalf of the Appellant on 10 November 2015 as attached marked Annexure **C**. As reflected at Annexure **D**, the DEA confirmed receipt of this notice on the same date and advised that the appeal submissions are due on 10 December 2015. The notice of intention to appeal specifically provides that:

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[6] PAJA section 6(e)(iii).
[7] PAJA section 6(f)(ii)(cc) and (dd).
[8] PAJA section 6(h).
[9] EIA Regulations 2010, Regulation 60(1) and (2).
[10] Above, Regulation 60(3).

"*In relation to the regulation 60(3) requirements of the EIA 2010 Regulations to inform the applicant where and for what period the appeal submission will be available for inspection by the applicant, we will furnish the applicant directly with a copy of* [its] *appeal submissions, thereby rendering it unnecessary to give notice of the time and place for an inspection of the appeal submissions*."

8. Pursuant to NEMA section 43(7), and as set out in the Notification, an appeal under section 43 "*suspends an environmental authorisation, exemption, directive, or any other decision made in terms of* [NEMA] *or any other specific environmental management Act, or any provision or condition attached thereto*."

PARTIES

9. The Appellant is an environmental justice organisation that works with South and Southern African communities on environmental justice and human rights issues focusing on coal, climate and energy justice, waste and environmental health. The Appellant represents a number of community groups (namely: Greater Middelburg Residents' Association; Guqa Environmental Community Service; Highveld Environmental Network; Association for Environmental Defence; Mpumalanga Youth Against Climate Change and Wonderfontein Resettlement Forum) and seeks to improve the quality of life of vulnerable people in South and Southern Africa through assisting civil society to have a greater impact on environmental governance.

10. As such, the Appellant has legal standing to enforce environmental laws (including "*a principle contained in Chapter 1, or of any provision of a specific environmental management Act, or of any other statutory provision concerned with the protection of the environment or the use of natural resources*")[11] in terms of NEMA section 33 in that it *inter alia* acts: "*(c) in the interest of or on behalf of a group or class of persons whose interests are affected; (d) in the public interest; and (e) in the interest of protecting the environment.*"[12] The Appellant is a registered interested and affected party ("I&AP") in respect of the Applicant's application for the

[11] NEMA section 33(1).
[12] NEMA section 33(1)(c)-(d).

Authorisation (the "Application") and has submitted a number of comments as part of this process (as further detailed at paragraph 43 below).

11. The First Respondent is the Chief Director: Integrated Environmental Authorisations, cited in his official capacity as the signatory of the Authorisation.

12. The Second Respondent is the holding company of Delmas Coal (Pty) Ltd ("Delmas Coal") and iKhwezi Colliery (Pty) Ltd ("iKhwezi Colliery") as well as the Applicant.[13] As detailed below, a fundamental premise of the Project is its proximity to Delmas Coal and iKhwezi Colliery because it is intended to function on a low cost basis to use the discard low grade coal of Delmas Coal and to rehabilitate iKhwezi Colliery's open cast Pit H. Indeed, the Final Environmental Impact Assessment Report dated May 2014 (the "FEIR") promotes the Project as a "*mouth-of-mine power plant*".[14] We note that, although it appears that the Applicant is to operate the Project, the Authorisation permits the undertaking of the Authorised Activities by the Second Respondent on behalf of Applicant.

GROUNDS OF APPEAL

13. The Appellant submits that the decision to grant the Authorisation be set aside by the Minister because the First Respondent has failed to comply with the following requirements for the authorisation of environmental and waste management activities under NEMA and NEMWA (in the manner set out at paragraphs 77 to 145 below):

    13.1. The First Respondent has failed to apply the principles upheld by NEMA section 2 (the "NEMA Principles") that *inter alia* serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of NEMA or other laws concerning the protection of the environment. The NEMA Principles contravened by the First Respondent include that the Authorisation:

[13] FEIR page (i).
[14] FEIR page (ii).

13.1.1. does not comprise environmental management that places people and their needs at the forefront of its concern, and serves their physical, psychological, developmental, cultural and social interests equitably;[15]

13.1.2. is not socially, environmentally and economically sustainable- sustainable development requires the consideration of all relevant factors including: the avoidance of pollution, disturbance and degradation or, if not possible, its minimisation and remedy; the responsible and equitable use and exploitation of non-renewable resources; and the adoption of a risk-averse and cautionary approach;[16]

13.1.3. fails to account for the "Polluter Pays Principle" which entails that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment;[17]

13.1.4. does not allow for the integration of environmental management so as to pursue the "*best practicable environmental option*"[18] with the intergovernmental co-ordination and harmonisation of environmentally related policies, legislation and actions;[19]

13.1.5. does not pursue environmental justice so as to prevent unfair discrimination, in particular against vulnerable and disadvantaged people;[20]

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[15] NEMA section 2(2).
[16] NEMA section 2(3) and (4)(a).
[17] NEMA section 2(p).
[18] "Defined under NEMA section 1 as "*the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term*".
[19] NEMA section 2(4)(b).
[20] NEMA section 2(c).

13.1.6. was not reached following the participation of all I&APs[21] in environmental governance with decisions to account for the interests, needs and values of all I&APs[22] and made openly and transparently, and access to information provided in accordance with the law;[23]

13.1.7. does not discharge all environmentally-related global and international responsibilities in the national interest,[24] in particular those relating to climate change;

13.1.8. fails to hold the environment in public trust (with the beneficial use of environmental resources to serve the public interest and the environment protected as the people's common heritage);[25] and

13.1.9. does not afford specific attention to the management and planning procedures of sensitive, vulnerable, highly dynamic or stressed ecosystems (such as wetlands), especially where subject to significant human resource usage and development pressure.[26]

14. The First Respondent has failed to comply with the obligations under NEMA section 24O(1) to "*comply with this Act*"[27] and to account for all relevant factors,[28] in particular those including:

14.1. the pollution, environmental impacts or environmental degradation "*likely to be caused if the application is approved*";[29]

14.2. measures to prevent, control, abate or mitigate any pollution, substantially detrimental environmental impacts or environmental degradation;[30]

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[21] NEMA section 2(f).
[22] NEMA section 2(g).
[23] NEMA section 2((4)k).
[24] NEMA section 2(4)(n).
[25] NEMA section 2(4)(o).
[26] NEMA section 2(4)(r).
[27] NEMA section 24O(1)(a).
[28] NEMA section 24O1(b).
[29] NEMA section 24O1(b)(i).
[30] NEMA section 24O1(b)(ii).

14.3. the Applicant's ability to implement mitigation measures and to comply with any conditions in relation to the Authorisation;[31]

14.4. feasible and reasonable alternatives, modifications or changes to the activity that may minimise environmental harm;[32]

14.5. information contained in the application form, reports, comments, representations and other documents submitted under NEMA to the competent authority regarding the Application;[33] and

14.6. any guidelines, departmental policies, and environmental management instruments and any other information in the possession of the competent authority relevant to the Application.[34]

15. The First Respondent has failed to comply with NEMA section 24(4) in *inter alia* the failure to ensure with regard to the Application:

15.1. "*that the findings and recommendations flowing from an investigation, the general objectives of integrated environmental management laid down in this Act and the principles of environmental management set out in section 2 are taken into account in any decision made by an organ of state in relation to any proposed policy, programme, process, plan or project*";[35]

15.2. "*the investigation of the potential consequences for or impacts on the environment of the activity and assessment of the significance of those potential consequences or impacts;*"[36] and

[31] NEMA section 24O1(b)(iii).
[32] NEMA section 24O1(b)(iv)
[33] NEMA section 24O1(b)(vi).
[34] NEMA section 24O1(b)(viii).
[35] NEMA section 24(4)(a)(ii).
[36] NEMA section 24(4)(a)(iv).

15.3. adequate public information and participation procedures with the reasonable opportunity to participate in such procedures.[37]

16. The First Respondent has failed to comply with regulation 8 of the EIA Regulations, 2010 which requires that, when considering an application, the competent authority has regard to NEMA sections 24O and 24(4) "*as well as the need for and desirability of the activity*", and regulation 34(2) read with regulation 31(2)(l)(i) of the EIA Regulations, 2010 which requires a competent authority to reject an environmental application if it does not - *inter alia* - contain an assessment of each identified potentially significant impact including cumulative impacts.

17. Fundamentally, and pursuant to the contraventions detailed above, the Authorisation falls to be set aside because it comprises an unreasonable and unjustifiable limitation of the constitutional right to an environment not harmful to health or well-being and protected for the benefit of present and future generations through reasonable and other legislative measures,[38] as well as the constitutional right of access to information.[39]

18. Pursuant to the First Respondent's non-compliance, the Appellant submits that the resultant Authorisation is vague and unenforceable and there are grounds for judicial review under the Promotion of Administrative Justice Act, 2000 ("PAJA") because the Authorisation comprises administrative action that *inter alia*:

18.1. failed to comply with a mandatory and material procedure or condition prescribed by the empowering provision;[40]

18.2. was procedurally unfair;[41]

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[37] NEMA section 24(4)(a)(v).
[38] As set out in section 24 of the Constitution of the Republic of South Africa 1996 (the "Constitution"), "*Everyone has the right-(a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution and other ecological degradation; (ii) promote conservation and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*"
[39] Section 32 of the Constitution.
[40] PAJA section 6(2)(b).
[41] PAJA section 6(2)(c).

18.3. is unconstitutional or unlawful;[42]

18.4. was taken because of the consideration of irrelevant considerations and the failure to consider relevant considerations;[43]

18.5. is not rationally connected to the information before the First Respondent in making the Authorisation or to the reasons provided by the First Respondent for the Authorisation;[44] and

18.6. is so unreasonable that it could have been granted by no reasonable person.[45]

THE PROJECT

Description

19. As described in the Authorisation and the FEIR,[46] the infrastructure entailed in the Project is considerable. It includes:

19.1. a 600 MW power plant comprising four circulating fluidised bed ("CFB") technology to burn coal and produce electricity with a footprint of approximately 339 899m^2 to 350 533m^2, and including significant water and waste management infrastructure such as coal and sorbent (limestone) stockpiles, large fuel oil tanks, water separation and collection facilities, water treatment plants and sewage treatment works;

19.2. an ash disposal facility ("ADF") with a footprint of approximately 1 768 588m^2 to store the ash generated from the power plant (and which iKhwezi Colliery's unrehabilitated Pit H is to form part). As with the power plant, the ADF entails significant water and waste management infrastructure, including clean and

[42] PAJA section 6(2)(d), (f)(i) and (i).
[43] PAJA section 6(e)(iii).
[44] PAJA section 6(f)(ii)(cc) and (dd).
[45] PAJA section 6(h).
[46] Pages 9-12 of the Authorisation *et al*.

dirty storm water separation facilities, dams, and platforms for the unloading of ash prior to disposal;

19.3. many transportation routes (and associated service roads) to and from the Project including:

19.3.1. a conveyor of approximately 960m long to transfer ash from the power plant to the ADF;

19.3.2. bridges over the Wilge River to link the power plant (to the west of the river) and the ADF (to the east of the river) and to function as: (i) a conduit for the ash conveyor, water pipelines and other utilities; and (ii) a road bridge;

19.3.3. a conveyor of approximately 1722m long to transfer coal and sorbent from Delmas Coal to the power plant and a sorbent conveyor of approximately 812m long to transfer sorbent from the rail yard to overland coal conveyors;

19.3.4. the extension of the Delmas Coal railway: (i) by approximately 400m to the north; (ii) to the south to allow train redirection; and (iii) for the provision of a sorbent offloading facility;

19.3.5. pipelines between the power plant and the ADF; and

19.3.6. an upgraded access road and additional intersections from the R50.

20. The underlying premise of the Project is its proximity to Delmas Coal and iKhwezi Colliery. As set out at paragraph 12 above, the Second Respondent is the holding company in respect of Delmas Coal and iKhwezi Colliery as well as the Applicant. It appears to be the Second Respondent's intention that the proposed coal station functions to use the discard low grade coal of Delmas Coal and to rehabilitate iKhwezi Colliery's open cast Pit H for use as part of the ADF. Pit H is threatening to contaminate the surrounding environment with pollutants such as acid mine

drainage due to iKhwezi Colliery's failure to comply with its requirements in terms of the Mineral and Petroleum Resources Development Act, 2002 ("MPRDA") and NEMA.[47]

21. Delmas Coal, iKhwezi Colliery and the intended location of the Project are situated approximately 20km to the south-east of the town of Delmas in the Victor Khanye Municipality within the Nkangala District Municipality of Mpumalanga, South Africa.[48] It is the nature of this location, when considered with the characteristics of the Project, that gives rise to many of the grounds for appeal against the Authorisation. In this regard, the Project falls within the Highveld Priority Area ("HPA"), and an area of critical biodiversity, water shortage and hydrological sensitivity. The sensitive nature of this environment and the environmental implications that arise pursuant to the Project are more comprehensively detailed below.

22. As detailed at paragraphs 45 to 49 below, the environmental impact assessment process entailed in the Application (the "EIA Process") requires the description of all environmental aspects necessary to make a proper assessment regarding the cumulative and integrated impacts on all environmental components and to ensure compliance with the NEMA Principles (including but not limited to that of public participation).

<u>Location: Within HPA</u>

23. Air quality within the HPA is a matter of serious concern, with industrial sources the largest contributor of pollutants and power generation, coal mines and open cast haul roads as primary industrial emitters.[49] Pollutants emitted include significant quantities of sulphur dioxide ("SO_2"), nitrous oxides ("NOx"), particulate matter ("PM") and other harmful pollutants such as carbon dioxide ("$C0_2$") (which is also a greenhouse gas (GHG) that contributes directly to global warming) and mercury.[50]

[47] FEIR pages 17,45, 62, 168 *et al*.
[48] FEIR page i.
[49] HPA Management Plan page x.
[50] HPA Management Plan page xi.

24. The HPA was declared a priority area in 2007 in terms of section 18(1) of the National Environmental Management: Air Quality Act, 2004, ("NEMAQA") due to the concerns of the then Minister for Environmental Affairs that the area's ambient air quality exceeded or might exceed ambient air quality standards (set with the broader objective of protecting human health), or that there was or might be significantly negative impacts on the area's air quality which required rectification by "*specific air quality management action.*"

25. An air quality management plan for the HPA was promulgated in 2012 (the "HPA Management Plan").[51] Once an air quality management plan is implemented, air quality in the defined area should - within agreed timeframes - be brought into sustainable compliance with ambient air quality standards.[52]

26. The requirements of the HPA Management Plan apply to the entire priority area, including that in which the Project is to be - and Delmas Coal and iKhwezi Colliery are - located. These requirements are concerned with the total estimated emissions of the HPA[53], so as to "*achieve and maintain compliance with the ambient air quality standards across the HPA, using the Constitutional principle of progressive realisation of air quality movements.*"[54] Accordingly, the definitions of "ambient air quality" under NEMAQA and the HPA Management Plan are broad, with the former excluding only "*air regulated by the Occupational Health and Safety Act, 1993*"[55] and the latter entailing "*Outdoor air in the troposphere, excluding work places. According [sic] the National Environmental Management Act, (Act No. 39*

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[51] GN 144 of 2 March 2012. In accordance with section 19 of NEMAQA, a priority area air quality management plan must be developed to: co-ordinate air quality management in the area; address air quality issues; and provide for its implementation by a committee representing relevant role-players. The aim of declaring priority areas is to target limited air quality management resources to the areas that require them most (Priority areas under the Air Quality Act" Engineering News Online 3 June 2011, available at http://www.engineeringnews.co.za/print-version/priority-areas-under-the-air-quality-act-2011-06-03).

[52] Deputy Minister of Water and Environmental Affairs launches Waterberg-Bojanala priority area" 20 July 2012, available at http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=29236&tid=77119. NEMAQA section 18(5) provides that the Minister may withdraw the declaration of an area as a priority area if the area is in compliance with ambient air quality standards for a period of at least two years

[53] HPA Management Plan section 3.2, page 19 *et al*.

[54] Executive Summary, page VIII of the HPA Management Plan.

[55] NEMAQA section 1.

of 2004) "ambient air" excludes air regulated by the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)."[56]

27. The challenges set out in the HPA Management Plan recognise the dispersive and regional nature of air pollution. These challenges include the management of "*fugitive and non-point sources*" from industrial sources.[57] Further, the HPA Management Plan specifically recognises a pollutant such as ozone as a regional scale problem and a non-source specific pollutant because it is formed as a result of specific ratios of NOx and volatile organic compounds ("VOC"), both emitted by different sources in the HPA, combined with solar UV radiation.[58]

28. Although the HPA Management Plan identifies specific areas, including Delmas, as "hotspots" in which "*ambient concentrations of PM_{10}, SO_2 or NO_2 exceed, or predicted to exceed, the ambient standards*",[59] as set out above, the provisions of the HPA Management Plan apply to the entire HPA and not only to the identified "hotspots". Piece-meal application of the HPA Management Plan only to these hotspots would be contrary to the diffusive nature of ambient air, the goals of the HPA Management Plan, and the rationale for the geographical delineation of the HPA as an area significantly larger than the respective hotspots. The goal of the HPA Management Plan is clearly not to create additional hotspots outside of the currently delineated hotspot areas.

29. Further, and contrary to the findings of the Applicant and First Respondent, it appears from the Air Quality Assessment Report included with the FEIR (the "AQIA") that the portion of the HPA in which the Project is to be located may in fact experience certain air quality standard exceedances.[60] In relation to current (baseline) coal mining operations at the site, the monitored total suspended particulate (TSP) dust fallout values exceed the highest control level "*for a large portion of the time*"[61] and modelling predicts daily average particulate matter

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[56] HPA Management Plan, Glossary of Terms.
[57] HPA Management Plan section 5.2, page 107.
[58] HPA Management Plan page xiv.
[59] HPA Management Plan pages xiii - xiv.
[60] Appendix L1 page viii *et al* to the FEIR.
[61] Above page 34.

exceedance (PM10 and PM2.5) "*at nearby sensitive receptors due to baseline operations of the mine.*"[62]

30. The development of an additional coal-fired power station in the HPA, with the significant additional harmful atmospheric emissions occasioned, would be in stark contravention of the requirements of the HPA Management Plan, the empowering provisions of NEMAQA and the general environmental principles. Consequently, the First Respondent's reliance on the submission in the FEIR that the KiPower plant "*is located in a portion of the Highveld Priority Area which does not experience exceedances in terms of air quality, since it is outside any of the hotspots*"[63] and "*will use equipment that conforms to Section 21 (NEM:AQA) requirements for "new plant*"[64] is misplaced and comprises a failure to comply *inter alia* with the requirements for the authorisation of environmental and waste management activities under NEMA and NEMWA

31. The effects of the air quality impacts of the proposed coal station are relevant, not only in terms of point source emissions, but also in so far as the cumulative nature of the air quality in the HPA is impacted. The cumulative air quality is particularly pertinent because many of the ambient air quality exceedances in the area are due to the operations of Delmas Coal, a "sister" company of Applicant and a primary motivating factor for the establishment of the Project.[65]

<u>Location: Hydrologically sensitive area</u>

32. The Project is to span the Wilge River (with the power plant to the west and the ADF to the east of the river) in a province of such significant water shortage that it has been declared a drought disaster area.[66] The hydrological sensitivity of the Wilge River is significant, in particular because the primary aquifer in the area is highly susceptible to surface-induced impacts and activities due to its intrinsic

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[62] Above page 36.
[63] Section 2(h) of the "Findings" in Annexure I: Reasons for Decision of the Authorisation.
[64] Above.
[65] See paragraph 12 above.
[66] http://www.news24.com/SouthAfrica/News/5-provinces-declared-drought-disaster-areas-20151113 and included in Government Gazette 2619 of 4 December 2015

unconfined and semi-unconfined piezometric conditions. The FEIR specifically acknowledges that the Department of Water Affairs and Sanitation ("DWS") has made public its intention to declare the Wilge River catchment "*a Class 2 river system in order to seek to protect Mpumalanga's water resources*" meaning that "*no new impacts will be tolerated within this catchment*".[67]

33. The Wilge River forms part of the Olifants Catchment Water Management Area and the largest sub-catchment of the Limpopo Basin (the Wilge River sub-catchment adjacent to the site drains a relatively small area before reaching a confluence with the Olifants River). The Wilge and Olifants Rivers are both stressed catchments, due to the extent of coal mining and industrial development in the region, and have little or no assimilative capacity for additional pollutants.

34. The Project will have significant implications on both the water quantity and quality in the area. The Applicant submits that the proposed coal station is to share the Delmas Coal water supply (the Rand Water supply line)[68] although "*the proponent is pursuing alternative sources of water to supplement the Rand Water*".[69] The source of water supply is submitted despite this adding a demand on already strained water resource of around 3 744m^3/day[70] and with Delmas Coal as a "*water deficit mine*" "*unlike most other coal mines*",[71] because it uses an excess water supply sourced from the Rand Water supply line. Nor is there any explanation of the validity of the authorisation from Rand Water to provide the proposed coal power plant with such a significant water supply in a water deficit area, thereby depriving the public of a scarce resource.

35. Because of the significant hydrological sensitivity of the Wilge River, the Project relies on the constant full functioning of mitigation measures to prevent any pollutants flowing into the river catchments.[72] However the FEIR, read with the

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[67] FEIR page 86.
[68] FEIR section 3.5 pages 75 and 76.
[69] Section 2.1.2.3, page 5, of the Final Addendum to the FEIR.
[70] According to page 7 of Appendix L13 to the FEIR, the Surface water specialist study, the peak design flow associated with the water supply to the proposed KiPower plant was estimated to be 3744 m3/day.
[71] Section 3.5, page 75, of the FEIR.
[72] Section 4.11.1, page 104, of the FEIR.

Final Integrated Water Use Licence Application Report or "IWULA" (as belatedly provided on 12 December 2014), fails to: (i) identify, describe and investigate the potential adverse effects of the mitigation measures proposed; and (ii) consider the potential conflict between the benefits of mitigation measures and their adverse impacts. Further, in the face of the Second Respondent's previous history of non-compliance in respect of Delmas Coal and iKhwezi Colliery, it is extremely doubtful that the Applicant will be able to maintain such fully-functioning mitigation measures.

36. The above notwithstanding, the First Respondent fails to engage with the environmental implications that arise from the significant water shortage and hydrological sensitivity in the region, specifying as a special condition that *"(t)he holder of this authorisation must obtain a Water Use Licence from the Department of Water and Sanitation (DWS) prior to the commencement of the project <u>should the holder impact on any wetland or water resource</u>*" (our emphasis).[73] The First Respondent further concludes that *"(t)he proposed mitigation of impacts identified and assessed adequately curtails the identified potential impacts.*"[74] This is strongly disputed by the Appellant.

<u>Biodiversity Implications</u>

37. The Project is located within the Eastern Highveld Grassland Threatened Ecosystem which is a National Priority Area because of the growth of Moist Grasslands at the site.[75] In accordance with the Mpumalanga Conservation Plan, developments in the area most antagonistic to biodiversity should be discouraged.[76] The National Freshwater Ecosystem Priority Areas ("NEFEPA") Project recognises the pan systems on the southern boundary of the site as "*Wetland Clusters*".[77]

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[73] Condition 35, page 17, of the Authorisation.
[74] Finding 2(d), page 26 of the Authorisation.
[75] Appendix L2, Specialist Biodiversity assessment report, page 131, section 9.2.2 and the National list of ecosystems that are threatened and in need of protection, GN 1002 of 9 December 2011, section 145.
[76] Above at section 9.3.
[77] Above at pages 131 and 142 (fig 2).

38. The water resources in the area are of strategic importance to the region, including the Olifants River system. The FEIR recognises that the "*loss of wetland buffer will also potentially impact on the functioning of the wetland systems*".[78] In terms of provincial guidelines, all wetlands, regardless of the disturbance status, are to be designated as sensitive.[79] The guidelines for wetland clusters state that "*mining in any form should not be permitted in wetland FEPAs, or within 1km of a wetland FEPA buffer*".[80] In accordance with the Gauteng Department of Agriculture and Rural Development Requirements for Biodiversity Assessment, 2012, "(*t)he wetland and a protective buffer zone, beginning from the outer edge of the wetland temporary zone, must be designated as sensitive"* and "(*t)he catchment of all pan wetlands must be designated as sensitive."*[81] Further, wetlands are to be specifically considered in terms of the NEMA Principles. As set out above, the NEMA Principles (at NEMA s2(4)(r)) require specific attention to "*sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems*" in environmental management and planning processes.

39. The construction of the conveyor lines as well as the power station and ADF associated with the Project will cross a number of natural habitats, including the valley bottom of the wetland and the associated Seasonally Moist Grassland (both rated as having a High Conservation Concern), the Dry Hillside Grassland (rated as a Medium to High Conservation Concern), and the Wilge floodplain and the area of dry exposed bedrock (habitats of High Conservation Concern).[82]

40. It appears that nearly 12% of the wetlands in the area is be lost to the proposed development.[83] In addition to the loss of surface area, the impacts extend to the loss of seepage areas and wetland functionality.[84] The ADF will result in the loss of a large proportion (28.55ha) of the seepage areas within the farmed fields due

[78] Above, page 143, section 11.1.
[79] Above, page 132.
[80] Above, page 40.
[81] Above, page 132.
[82] Above, page 142, section 11.1.
[83] As deduced from page 98 *et al* of the above.
[84] Above at page 142.

to the proposed ash disposal facility[85]. These are areas of Medium to High significance, despite the Applicant's claim that these areas are "Seriously Modified".[86] The location of the proposed coal station will also lead to the loss of a large proportion of seep area that the applicant deems "Largely Modified".[87]

41. Following the Applicant's justification that the encroachment of the proposed surface infrastructure is on valuable ecosystems of "Least Concern", primarily because of the extant development and damage to the relevant ecosystems, the First Respondent concludes that "(*t)he site consists of mainly brownfield or disturbed areas although the activity will impact on wetlands*".[88] This justification negates the value of ecosystems unless they are in a pristine condition, and ignores the additional benefits of these ecosystems following restoration or remediation. Further, this rationale is in contravention of the NEMA "Polluter Pays Principle", as a party responsible for degradation (arguably such as the Second Respondent with respect to the activities of its subsidiaries, Delmas Coal and iKhwezi Colliery) is rewarded by the removal of the obligation to remediate the degraded area.[89]

42. The First Respondent relies on the Applicant's justification of these significant biodiversity impacts by proposing the offset of these impacts with the rehabilitation of wetland areas in alternate locations.[90] This proposal not only entails the remediation of damaged ecosystems in a manner contrary to the Applicant's justification of damage to the ecosystems on the site because of pre-existing damage, but is also incorrect in that *inter alia* it affords no consideration to the particular value of those ecosystems to be destroyed by the proposed coal station and therefore fails to properly assess all relevant factors, in particular the cumulative impact of this destruction. The location of these ecosystems within the Olifants Catchment Water Management Area (the largest sub-catchment of the Limpopo Basin), the finding of rare, vulnerable and sensitive species within these

[85] Above.
[86] Above page 142.
[87] Above.
[88] Finding 2(g), page 26, of the Authorisation.
[89] NEMA section 2(4)(p).
[90] Finding 2(g), page 26 of the Authorisation.

ecosystems, and the value of the ecosystems as ecological corridors indicate the invaluable nature of these ecosystems.

OBJECTIONS SUBMITTED IN RESPECT OF PROJECT

43. The Appellant has submitted a number of comments during the EIA Process in respect of the Authorisation as conducted by the environmental assessment practitioner, Jones & Wagener Engineering and Environmental Consultants (the "EAP"). A summary of this commentary process is set out below, in part because the substance of these comments is pertinent (with only extracts of this commentary included in the body of the Appeal in the interest of brevity), and in part to demonstrate the failure of the EAP and the DEA to account for these comments in any material way as part of the public participation process. Further, this commentary process reflects the lack of rational connection between the comments made by the DEA dated 4 February 2015 and entitled "Rejection of the Environmental Impact Assessment Report: Proposed Construction of the KiPower 600MW Independent Power Plant and Associated Infrastructure near Delmas, Mpumalanga" (the "February 2015 Rejection") and the ultimate findings of the DEA as incorporated in the Authorisation:

43.1. On 18 May 2012, 14 August 2013 and 17 October 2013, the Appellant submitted initial comments in respect of the Project and in respect of which the Appellant received no substantive formal response. A copy of the 18 May 2012 comments is annexed marked Annexure **E**.

43.2. On 7 February 2014, the EAP circulated the draft Environmental Impact Assessment Report; Environmental Management Programme; Waste Management Licence Application Report; and Atmospheric Emission Licence Application in respect of the Project.

43.3. On 4 April 2014, the Centre for Environmental Rights ("CER") on behalf of the Appellant, submitted comments on the draft documents listed at paragraph 2 above, as annexed marked Annexure **F** (the "4 April 2014 comments") .

43.4. On 13 May 2014, the EAP published the FEIR as well as the Environmental Management Programme; Waste Management Licence Application Report; and Atmospheric Emission Licence Application in final form. These documents failed to address the majority of the 4 April 2014 comments- either adequately or at all.

43.5. On 3 June 2014 the CER, on behalf of the Appellant, submitted comments on the documents listed at paragraph above as Annexure **G** hereto (the "3 June 2014 comments")

43.6. On 16 July 2014, the EAP called for comments in respect of the Project's draft Integrated Water Use Licence Application Report ("IWULA"). The EAP did not avail Annexure B to the IWULA, which annexure apparently comprises the water use licence application forms that reflect the nature of the authorisations subject to the IWULA. Further, the IWULA contained no Integrated Water and Waste Management Plans ("IWWMP") action plan.

43.7. On 2 September 2014 the CER, on behalf of the Appellant, submitted comments on the draft IWULA as annexed marked Annexure **H.**

43.8. On 12 December 2014, the EAP published the final IWULA for comment, but failed to notify the CER, which had commented on the draft IWULA, that it was available for comment. Moreover, the IWWMP had once again been left out and was included belatedly, as were the related water use licence application forms. Consequently, the CER sought an extension for the submission of comments to 24 March 2015. Correspondence relating to this is annexed as Annexure **I**.

43.9. On 4 February 2015, the DEA issued to the EAP the February 2015 Rejection as signed by the Director: Integrated Environmental Authorisations on behalf of the First Respondent and annexed marked Annexure **J**. The February 2015 Rejection raised a number of concerns with the FEIR and requested the submission of additional information in relation to:

43.9.1. the cumulative impact of the power line connection, including the approximate connection length from the proposed power plant to the existing Eskom lines, an environmental sensitivity screening of the potential corridor area, a description of the expected impacts and an opinion as to their adequate mitigation;

43.9.2. the agreement with Eskom regarding its application and construction of the power line connection;

43.9.3. the consideration of alternatives, in particular the "no-go option" and the environmental impacts of the alternative cooling systems. According to the DEA, "(*t)he option of not implementing the activity does not seem to have been assessed*";[91] and

43.9.4. the specification of the relevant sub-activities for the listed activities relevant to the Project.

43.10. On 24 March 2015 the CER, on behalf of the Appellant, submitted comments on the final IWULA as annexed marked Annexure **K** (the "March 2015 IWULA comments").

43.11. On 27 March 2015 the EAP circulated a draft addendum to the FEIR, ostensibly in response to the DEA Rejection (the "Draft Addendum").

43.12. On 30 April 2015 the CER, on behalf of the Appellant, submitted comments on the Draft Addendum as annexed marked Annexure **L** (the "30 April 2015 comments"). The 30 April 2015 comments pointed out that the majority of the 4 April and 3 June 2014 comments had not been addressed in the Draft Addendum - either adequately or at all.

43.13. On 6 May 2015 the EAP published the final addendum to the FEIR (the "Final Addendum").

[91] Page 2, section (c) of the February 2015 Rejection.

43.14. On 20 May 2015 the CER, on behalf of the Appellant, submitted comments on the Draft Addendum as annexed marked Annexure **M** (the "20 May 2015 comments"). In line with the previous comments, the 20 May 2015 comments pointed out that the majority of the 4 April and 3 June 2014 comments had not been addressed in the Final Addendum- either adequately or at all. Further, the 20 May 2015 comments submitted that the Final Addendum did not adequately address the DEA's queries and concerns as raised in the February 2015 Rejection.

43.15. On 21 October 2015 the Authorisation was issued despite *inter alia* the failure of the EIA Process to respond to the concerns raised by the DEA in and which gave rise to the February 2015 Rejection. Indeed, the Authorisation makes no reference to and appears to reflect little rational connection with these concerns.

LEGISLATIVE FRAMEWORK

Environmental Authorisations

44. The Authorisation permits the undertaking of environmental activities listed under the EIA Regulations, 2010 as well as waste management activities listed under GN 718. This is despite the commencement of the Environmental Impact Assessment Regulations, 2014 in GNR 982 of 4 December 2014 ("the EIA Regulations, 2014") because the transitional provisions to these regulations stipulate that an application pending under the EIA Regulations, 2010 is dispensed with in terms of such previous EIA Regulations as if there were no repeal.[92]

[92] EIA Regulations, 2014, chapter 8 regulation 53(1). Regulation 53(3) provides that where components of the activity subject to the pending application were not identified under the repealed regulations, but is now identified as a listed activity under the EIA Regulations, 2014 "*the competent authority must dispense of such application in terms of the previous NEMA regulations and may authorise the activity identified in terms of section 24(2) as if it was applied for, on condition that all impacts of the newly identified activity and requirements of these Regulations have also been considered and adequately assessed*".

45. Similarly, the appeal process follows that in terms of chapter 7 of the EIA Regulations, 2010 in accordance with the transitional provisions to the National Appeal Regulations, 2014 which stipulate *inter alia* that an appeal lodged after 8 December 2014 against a decision taken in terms of the EIA Regulations, 2010, must, despite the repeal of those regulations, be dispensed with in terms of the EIA Regulations, 2010 as if they had not been repealed.[93]

46. The activities authorised pertain to both environmental and waste management activities pursuant to section 24L(1) of NEMA which makes provision for the issuing of an integrated environmental authorisation, and section 24L(2) of NEMA which stipulates that an integrated environmental authorisation may only be issued if "*the relevant provisions of …* [NEMA] *and the other law or specific environmental management Act have been complied with*".

47. Section 24 falls within chapter 5 of NEMA which provides for an integrated environmental management system to *inter alia* streamline the authorisation process and promote the integration of the NEMA Principles in making all decisions which may have a significant effect on the environment.[94] Similarly, section 44(1) of NEMWA regulates co-operative governance in waste management licence applications and provides for the issuing of an integrated licence in this regard.[95]

48. The activities that form part of the Project will have impacts which are regulated by specific environmental legislation in addition to NEMA and NEMWA, specifically NEMAQA and the National Water Act, 1998 ("NWA"). It is therefore necessary that the provisions and licensing processes provided for in this legislation be fully complied with, in addition to the processes prescribed by NEMA and NEMWA. Whilst such compliance may not fall directly within the ambit of the Authorisation, the EIA Process requires the description of all aspects necessary to make a proper

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[93] Regulation 10(2) of the National Appeal Regulations, 2014, Government Notice R993, 8 December 2014 as amended by the National Appeal Amendment Regulations, 2015, Government Notice R205, 12 March 2015.
[94] Section 23(2)(a) NEMA.
[95] Section 44(1) provides that "*for the purposes of issuing a licence for a waste management activity, the licensing authority must as far as practicable in the circumstances co-ordinate or consolidate the application and decision-making processes contemplated in this Chapter with the decision-making process in Chapter 5 of* [NEMA] *and other legislation administered by other organs of state, without whose authorisation or approval or consent the activity may not commence, or be undertaken or conducted*."

assessment regarding the cumulative and integrated impacts on all environmental components and to ensure compliance with the NEMA Principles (including but limited to that of public participation).

49. In line with the above, the EIA Regulations, 2010 require that scoping reports include a description of the environment that may be affected and the manner of such effects,[96] and "*a description of environmental issues and potential impacts, including cumulative impacts that have been identified*".[97] The EIA report is required to include "*a description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.*"[98]

Further Authorisations Required

50. Licences and approvals required for the legitimate operation of the Project over and above those permitted by the Authorisation include:

    50.1. further environmental authorisations in respect of: (i) the construction and connection of Eskom power lines and a switching yard to the Project; and (ii) water supply pipelines from the Rand Water connection and "*other sources*";[99]

    50.2. an atmospheric emission licence ("AEL") under NEMAQA based on minimum emission and ambient air quality standards, to be issued by the Mpumalanga Department of Economic Development Environment and Tourism ("MDEDET");

    50.3. an environmental management programme report ("EMPr") amendment and closure licence for Pit H at Ikhwezi Colliery (which is to be used as part of the ADF), to be issued by the Department of Mineral Resources ("DMR");

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[96] Regulation 28(1)(e).
[97] Regulations 28(1)(g)
[98] Regulation 31(2)(d).
[99] Paragraph 2.7.1.3 of the draft IWULA and section 2.2.2.1 of the final IWULA read with the FEIR, page 2.

50.4. the submission of the transfer of liability from iKhwezi Colliery to the Applicant to be submitted to the DMR;

50.5. an integrated water use licence ("WUL") to be issued by the DWS;

50.6. a licence from the National Energy Regulator of South Africa ("NERSA") for the generation and distribution of electricity by the Applicant as an independent power producer (as part of the "IPP" process);

50.7. the approval of rezoning in respect of the land proposed for the ADF and proposed coal station (that for the ADF has been approved by the Victor Khanye Local Municipality, whilst that for the power station is to be submitted pending the transfer of this land from BHP Billiton to the Second Respondent).[100] After the authorisations and licences have been obtained for the Power Plant and ADF, rezoning and land acquisition for the pipeline servitudes should commence;[101] and

50.8. various additional licences, including those to be issued by the South African Heritage Resource Agency, the South African National Roads Agency Limited and Transnet.[102]

51. The statuses of the WUL, AEL and IPP processes, which authorisations pertain in particular to the general environmental impacts arising from and sustainability of the Project, are dealt with in further detail below.

<u>The Integrated Water Use Licence</u>

52. The WUL, according to the EAP and in accordance with the correspondence annexed marked Annexure **N**, will only be made available by the end of December 2015.

[100] FEIR, page ii.
[101] FEIR, page 255.
[102] FEIR, page 16.

53. The March 2015 IWULA comments in respect of this process (as at Annexure K) are primarily concerned with the failure of the IWULA to give proper consideration to the NWA section 27, which requires the competent authority to take into account all relevant factors when issuing a licence, including the socio-economic impact of the water use under application,[103] the "*efficient and beneficial use of water in the public interest*"[104] and the "*likely effect*" of the water use on the water resource and other water user.[105] Further, the IWULA relies heavily on the information contained in the EIA and EMPr and, in many respects, does not summarise the relevant information in the IWULA, instead referring to the EIA and EMPr, despite the major flaws in these documents. Other significant concerns include that the IWULA does not: (i) identify, describe and investigate the potential adverse effects of mitigation measures; (ii) consider the potential for conflict between the benefits of mitigating measures and their adverse impacts; or (iii) discuss alternatives for mitigation.

54. Given South Africa's drought-stricken environment, and, in particular, the water shortages and hydrological sensitivity in the region of the Project (as highlighted *inter alia* at paragraphs 32 to 36), granting a WUL pursuant to the Project's IWULA would be contrary to the NWA objectives of ensuring that the nation's water resources are protected, used, developed conserved, managed and controlled in a way that meets the basic human needs of present and future generations, promotes equitable access to water and efficient, sustainable and beneficial use of water in the public interest.[106]

<u>The Atmospheric Emission Licence</u>

55. Although the EAP maintains that the AEL application was made available, this was included in the EIR as an annexure, and it was not made available as an application in its own right during the public review of the FEIR. Despite the Appellant's status as an I&AP and the obligation on the Second Respondent in terms of s37(3)(a) of NEMAQA to "*take appropriate steps to bring the application to the attention of relevant organs of state, interested persons and the public*", the

[103] NWA section 27(1)(d)(i).
[104] NWA section 27(1)(c).
[105] NWA section 27(1)f).
[106] NWA, section 2(a),(b) and (d).

Appellant's attention was not specifically drawn to the AEL application during the public review process for the integrated authorisation.

56. Following the CER's correspondence with the EAP in order to ascertain the AEL status in respect of the Project, CER was notified that the AEL application was a part of the FEIR made available for public review and comment from 13 May 2014 – 3 June 2014. The AEL application included in the FEIR was allegedly submitted to the MDEDET with the FEIR. The CER's correspondence with the EAP in this regard (as well as that referred to in paragraphs 57and 58 below) is annexed marked Annexure **O**.

57. On 21 May 2015, the CER asked the MDEDET whether there was still an opportunity to provide comment on the AEL application in terms of NEMAQA and whether the CER would be notified following the granting of the provisional AEL. As yet, the CER has received no response in this regard.

58. The EAP has confirmed that a provisional AEL will only be issued following the granting of the Authorisation. (Although the EAP noted that the provisional AEL will be made available for comment upon the grant of the Authorisation, the CER, on behalf of the Appellant, has not yet received a copy of the AEL.)

59. NEMAQA section 40(3) provides that:

> "*(i)f the decision on the relevant application for an environmental authorisation has been made in terms of section 24 of the National Environmental Management Act, the licensing authority must decide the application within 60 days of the date on which the decision on the application for the environmental authorisation has been made*."

60. The above notwithstanding, and pursuant to NEMA section 43(7), which provides that an appeal under section 43 "*suspends an environmental authorisation, exemption, directive, or any other decision made in terms of* [NEMA] *or any other specific environmental management Act, or any provision or condition attached*

thereto", the Appellant submits that no AEL can be granted whilst an appeal in respect of the Authorisation is pending.

61. In any event, the Appellant reserves its right to challenge any AEL granted in respect of the Project, in particular in light of the location of the Project within the HPA and the limited public participation process in respect of the AEL application (as detailed above).

Integrated Resource Plan for Electricity

62. The Applicant relies on the Integrated Resource Plan for Electricity 2010-2030[107] ("IRP") of the Department of Energy ("DoE") as a fundamental basis of its argument for the need and desirability and general sustainability of the Project. The First Respondent refers to the IRP in its finding that:

> "*The need and desirability of the activity has been demonstrated. The Integrated Resource Planning Document dated 25 March 2011 (Revision 2), from the Department of Energy, forecasts energy and electricity needs to 2030, which includes electricity generation from coal.*"[108]

63. This fundamental reliance is notwithstanding that, because the IRP does not comprise an application for environmental authorisation and therefore has not been subject to an EIA process under NEMA, the existence of the IRP cannot be relied upon as proof of the Application's compliance with the EIA requirements. In particular, the test for need and desirability is that as set out under NEMA read with *inter alia* the DEA's Need and Desirability Guideline,[109] regardless of the submissions in the IRP.

64. In any event, the Applicant confuses the demand for electricity with the imperative that this electricity be coal-based. The increase of large coal-fired electricity generation facilities is part of a development paradigm that has failed to address

[107] GN 400 of 6 May 2011 Government Gazette no 34263.
[108] Finding 2(b), Annexure I: Reasons for Decision to the Authorisation.
[109] GN 891 of 20 October 2014.

energy access adequately – perpetuating this paradigm could well be exacerbating shortcomings in addressing energy access, as is argued in "Smart Electricity Planning".[110] Increasing the contribution of coal to electricity generation is not consistent with the National Strategy for Sustainable Development as it involves a progressively increasing risk of stranded assets in the electricity supply industry, as detailed in "*Unburnable Carbon: budgeting carbon in South Africa*",[111] entrenches national dependence on finite resources, and has significantly detrimental implications in respect of health and climate change (as detailed from paragraph 84 below).

65. Further, the Applicant's references to the requirements in the Integrated Resource Plan 2010 dated March 2011 ("IRP 2010") are misleading and outdated. The Applicant claims "*(t)he document concludes that coal based electricity generation will continue to grow in South Africa for the foreseeable future while other forms of electricity are developed.*"[112] Unless one takes a very limited view of what constitutes the "foreseeable future", the accurate account of the document's conclusion appears further down in the same paragraph:

> "*The Department of Energy IRP indicates that it wishes to reduce dependence on coal, but in terms of security of supply, coal-based electricity will continue to dominate South Africa's energy sources until other sources are considered reliable and cost effective and can effectively replace coal.*"[113]

66. The DoE's wish to reduce coal dependence, amidst its admission of the dominance of coal-based electricity, renders any increase in coal-based electricity above the threshold of necessity undesirable.

67. The Applicant refers to the IRP 2010 requiring 6.3 gigawatts (GW) of new coal-based electricity with the proposed coal station expected to generate 523.6 MW in

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[110] Dr Y Abrahams, R Fischer, B Martin, I McDaid *Smart Electricity Planning - Fast-tracking our transition to a healthy, modern, affordable electricity supply for all (*March 2013) a publication of the Electricity Governance Initiative.
[111]Sinco, Trucost, WWF South Africa and WWF UK *Unburnable Carbon: budgeting carbon in South Africa* (November 2012) Carbon Tracker - jleaton@carbontracker.org.
[112] FEIR, page 61, section 2.10.3.
[113]Above.

an apparent move toward fulfilling this demand.[114] This demand is outdated, as relayed by the IRP 2010-2030 Update Report released in 2013 (the "IRP Update Report"). Although IRP 2010 remains the official government plan for new generation capacity until it is replaced in full, the IRP Update Report relays critical changes relevant to key decisions and indicates the direction that will be taken in the next official version of the integrated resource plan.[115] As specified by IRP 2010, "*(t)he Integrated Resource Plan (IRP) is a living plan that is expected to be continuously revised and updated as necessitated by changing circumstances.*"[116]

68. In the IRP Update Report, the DoE significantly decreased the requirement for new coal-based electricity to 2,45 GW.[117] This decrease was due to factors including: (i) the drop in actual electricity demand; (ii) the extended life of existing coal plants; (ii) the increase in projected gas capacity; and (iv) the increased reliance on certain renewable sources and shift away from energy-intensive industries. The reference in the IRP Update Report to regional coal power (where pricing is competitive) because of "*emissions not accruing to South Africa*" implies that the preference is for such new coal-based electricity to be produced outside South Africa.[118] The IRP Update Report refers to the importation of 1,2 GW of electricity from a proposed new coal-fired power station in Botswana.[119]

69. The new coal-fired power generation outlined in the IRP Update Report for 2020 to 2025 is likely to be less than 1 GW, with the preference for a regional coal project "*above all other coal options because it is expected that the emissions from the generation will not count to the South African total in a future global emission targeting regime.*"[120]

70. It follows that scrutiny of the IRP 2010, read with the IRP Update Report, brings into question the need for new coal capacity, particularly when this need is held to prevail over prioritised environmental considerations and to cloud the consideration

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[114] Above.
[115] IRP Update Report pages 8-9 and page 10, para 2.3.
[116] IRP 2010, page 7, para 1.1.
[117] IRP Update Report page 20.
[118] IRP Update Report, page 8.
[119] IRP Update Report, page 32, par 7.3.
[120] IRP Update Report, page 44, par 12.7.

of sustainability and the determination of the best practicable environmental option as required by the EIA Process. According to the Socio Economic Report ("SER") at Annex L11 to the FEIR, Eskom is already envisaging a new 5 GW coal fired power station for 2020, with two other IPPs planning close to 1 GW of coal power.[121] Whether or not this is correct the Appellant disputes the need for the proposed coal station pursuant to the consideration of such plans in the SER, together with the arguable reduction in projected energy demand, the decreased costs of renewable energy (see further at paragraph 134 below) and the pending commissioning of Eskom's Medupi and Kusile plants.

71. Flowing from the IRP, but prior to the IRP Update Report, in December 2012, the Minister of Energy announced determinations regarding the expansion of electricity generation capacity by IPPs. The first part of the determination was for additional renewable energy generation capacity following on from a determination of August 2011, while the second part of the determination was for additional base-load generation capacity of 7 761MW, comprising 2 500 MW of energy from coal for connection to the grid between 2014 and 2024, with the remainder coming from gas power and imported hydropower. [122]

72. The electricity produced was to be procured through one or more IPP procurement programmes[123] and the electricity purchased from the IPPs by Eskom.[124] The Coal Baseload Independent Power Producer Programme ("CBIPP") was one of the initiatives developed by Government, which argued that the CBIPP would alleviate the constraints in electricity supply within the country. The CBIPP will comprise separate bid windows. According to the 15 December 2014 request for qualifications and proposals (the "First CBIPP RFP"): the first bid submission date is 8 June 2015; projects submitted in this first bid phase must be capable of beginning commercial operation by December 2021; and each project must have

[121] Appendix L11, page 68.
[122] Part B, Government Notice 1075, Government Gazette no 36005 of 19 December 2012. Paragraph 1 states that baseload energy generation capacity is needed to contribute towards energy security, including 2500MW to be generated from coal, which is in accordance with the capacity to be allocated to coal under the heading "new build" for the years 2014 to 2024 in table 3 of the IRP for electricity 2010-2013.
[123] Paragraph 4, Part B, Determination under section 34(1) of the Electricity Regulations Act 4 of 2006, Government Notice 1075, Government Gazette no 36005 of 19 December 2012.
[124] Paragraphs 10 and 11, Part B, Determination under section 34(1) of the Electricity Regulations Act 4 of 2006.

a contracted capacity of not more than 600MW. As reflected in the correspondence annexed as Annexure **P**, the CER has since been informed by the EAP by email dated 26 November 2015 that the Applicant will only be submitting its bid on 8 March 2016.

73. In accordance with the general requirements to this RFP:

> "*1 000 (one thousand) MW have been allocated to Bidders for Projects that are located in South Africa (including Multiple Buyer Projects) and 600 (six hundred) MW are separately allocated to Bidders for Cross Border Projects, in respect of the First Bid Submission Phase.*"[125]

74. The First CBIPP RFP notes the government's cognisance of "*the contribution of such power plants to global warming as a result of their greenhouse gas emissions*" and the pending introduction of carbon tax "*as one of the range of mechanisms intended to support South Africa's international commitment to reducing greenhouse gas emissions.*"[126]

75. Following such determinations and policies it is far from certain that any call for bid submissions as part of the CBIPP provides clear evidence of the need and desirability of the Project. This is, *inter alia*, because:

    75.1. The power allocation in the First CBIPP RFP is limited.

    75.2. The government has acknowledged the high environmental cost of coal-fired power in *inter alia* its reference in the First CBIPP RFP to the contribution of coal-fired power plants to global warming. This accords with the understanding that, ultimately the DoE's wish to reduce coal dependence.

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[125] Part A, section 6.1.1.4, page 49 of the RFP. However, as reflected at http://www.nortonrosefulbright.com/knowledge/publications/129464/10-things-to-know-about-the-coal-baseload-programme (accessed 5 December 2015), it appears that *"(d)ue to the complexities involved…(t)he first bid submission phase for the sub allocation of 600 MW to cross border projects referred to in the RFP has fallen away*" (point 5) and, further, that *"(t)he DoE has confirmed that it may, taking all relevant considerations and factors into account, elect to appoint any additional bidders as preferred bidders even if such appointment will result in the procurement of MWs above those allocated in the RFP, but within the limit of the allocation by the Minister in accordance with the Determination*" (point 2).

[126] Part A, sections 4.3 to 4.5, page 45 of the RFP.

75.3. Tenders are awarded following a competitive process comprising many "stand-alone" requirements which include detailed financial and legislative components. For example, neither the IRP nor the First CBIPP RFP is subject to the EIA Process. As such, the existence of the First CBIPP RFP is not tantamount to the need and desirability of all projects that bid for the award of a power allocation.

75.4. The above notwithstanding, the Applicant fails to grapple with this competitive process by over-emphasising the competitive edge of:

75.4.1. the benefits of circulating fluidised bed ("CFB") technology above that which is to become a standard requirement for all new coal-based power generation (and in disregard of the need for carbon capture and storage mechanisms to control climatic impacts);

75.4.2. the use of low grade coal discard in disregard of: (i) any assessment of the specific source of this coal; (ii) the actual technical and economic viability of using the discard coal;[127] (iii) the abundance of South African coal, the (iv) First Respondent's/ Delmas Coal's obligations to manage its coal discard (regardless of the establishment of the Project); (v) the prerogative of new coal-based power generation to use CFB technology so as to use lower grade coal, and the national policy and obligations to diversify energy supply sources and control climate change; and

75.4.3. the creation of downstream opportunities.

76. The Applicant fails to provide any material evidence of the financial feasibility of the Project in substantiation of its economic desirability. Such financial feasibility is called into question pursuant to reports that *inter alia* suggest that the Applicant

[127] The Applicant fails to provide any assessment of the technical factors of using this source, such as the residual heating value of the coal, or of economic factors such as the costs of recovering the discard coal and transporting it to the Delmas site.

has not yet secured adequate financial support.[128] According to a media article dated 14 May 2015, the response from the Public Investment Corporation's Chief Financial Officer, Daniel Matjila, is that *""(t)he Public Investment Corporation has seen the KiPower project proposal along with a number of other project proposals" and all will be subjected to an internal investment process.*"[129]

FACTORS GIVING RISE TO GROUNDS OF APPEAL

77. The grounds of the Appeal, as set out at paragraphs 13 to 18 above, arise because the First Respondent's decision to grant the Authorisation contravenes:

77.1. the NEMA Principles;

77.2. the obligations under NEMA section 24O(1) to "*comply with this Act*" and to account for all relevant factors; [130]

77.3. NEMA section 24(4) in, *inter alia*, the failure to ensure with regard to the Application that: (i) the NEMA Principles and the objectives of integrated environmental management are taken into account, (ii) the activity's potential environmental impacts are properly assessed; and (ii) there are adequate public information and participation procedures;

77.4. the requirements under the EIA Regulations, 2010 that the competent authority has regard to *inter alia* the need and desirability and cumulative impacts of the Authorised Activities;[131]

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[128] See http://www.fin24.com/Companies/Mining/SA-mine-gets-backing-for-17bn-power-plant-20150430; http://www.miningweekly.com/print-version/ipp-prepares-final-coal-tender-bid-2015-07-31 & http://www.biznews.com/transformation/2015/05/14/ayanda-bam-s-10-years-of-struggle-more-action-less-talk-on-govt-support-for-black-entrepreneurs/

[129] http://www.biznews.com/transformation/2015/05/14/ayanda-bam-s-10-years-of-struggle-more-action-less-talk-on-govt-support-for-black-entrepreneurs/ (accessed 5 December 2015). See also http://www.iol.co.za/business/international/government-indecision-hinders-black-owned-firm-s-power-plant-project-1.1858746#.VmLkiPl97IU (accessed 5 December 2015).

[130] NEMA section 24O(1)(a) and (b).

[131] EIA Regulations, 2010, regulations 8, 31(2)(l)(i) and 34(2).

77.5. the constitutional rights to an environment not harmful to health or well-being, to have the environment protected, and to access to information - as enshrined in sections 24 and 32 of the Bill of Rights.

78. The contravention of such requirements arises from a number of overlapping factors, as set out in further detail below. The consequent unlawfulness of the Authorisation also entails its incorporation of conditions that are vague and unenforceable, as well as it being subject to review under PAJA.

First Ground of Appeal: The First Respondent's Failure to Apply the NEMA Principles

I. Environmental Management and Sustainable Development

79. Section 2(2) NEMA stipulates that "*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*". NEMA section 2(3) requires that development is socially, environmentally and economically sustainable with section 2(4) providing that sustainable development requires the consideration of all relevant factors including: the avoidance of pollution, disturbance and degradation or, if not possible, its minimisation and remedy; the responsible and equitable use and exploitation of non-renewable resources; and the adoption of a risk-averse and cautionary approach.[132]

80. Despite these requirements, the EIA Process has been conducted without due consideration for the significant environmental impacts of the Project and any material substantiation of the Project's economic sustainability, and in disregard of the detrimental social impacts of coal fired power stations.

81. Notwithstanding the significant environmental impacts of the Project, as detailed throughout this Appeal, the Applicant does not submit any financial statements for the Project. This is particularly pertinent because, if a 2 000 MW plant is ultimately the premise of crucial aspects of the project development, it suggests that this large

[132] NEMA section 2(3) and (4)(a).

scale is inherent to the value proposition of the project. The Applicant's inclusion of a comparative economic assessment for the Project with the submission of its Draft Addendum (the "Comparative Economic Assessment") does little to clarify this financial position – the report makes various assumptions which appear not to have been thoroughly investigated.

82. The social implications of the Project include those set out below.[133]

83. <u>The global external costs associated with the social cost of the Project's CO_2 emissions</u>

83.1. The global external costs associated with the social cost of the Project's CO_2 emissions include the Applicant's failure to acknowledge the dependence of the operations of the proposed coal power station on CFB technology and the high internal energy consumption of the Project (of the 600MW generated, only 524MW will be transmitted for wider consumption with the Plant using 76MW (12.5%) of the energy generated internally).[134]

83.2. Whilst power generation using coal as the source of energy will emit large quantities of CO_2 irrespective of the technology used, the Project's high internal energy consumption means that the CO_2 emissions per unit of energy sent out are correspondingly higher. This notwithstanding the Applicant fails to disclose the design CO_2 emission rates.[135] Further, the Applicant fails to provide any analysis in related to the apparently projected expansion of the Plant's production to 2 000MW, which expansion is likely to entail three fold increases of PM, SO_2 and NO_x

[133] For example: Business Enterprises University of Pretoria. 29 September 2001, "The external cost of coal-fired power generation: The case of Kusile", at: http://www.greenpeace.org/africa/Global/africa/publications/coal/FULL%20SCIENTIFIC%20PAPER%20139%20pages.pdf; Swanson, H. 2008, "Literature review on atmospheric emissions and associated environmental effects from conventional thermal electricity generation", at: http://www.hme.ca/reports/Coal-fired_electricity_emissions_literature_review.pdf; Cropper, M et al. 2012, "The Health Effects of Coal Electricity Generation in India" Resources for the Future June 2012, at: http://www.hks.harvard.edu/m-rcbg/rpp/RFF-DP-12-25.pdf; Penney, S et al. 2009 "Estimating the Health Impacts of Coal-Fired Power Plants Receiving International Financing" Environmental Defense Fund, at: http://www.edf.org/sites/default/files/9553_coal-plants-health-impacts.pdf; Pacyna, J et al. 2010, "An assessment of costs and benefits associated with mercury emission reductions from major anthropogenic sources". J Air Waste Manag Assoc 60 (3): 302-315.

[134] FEIR page 27 table 2-2.

[135] Above.

emissions and further exacerbate air pollution levels, whilst increasing air quality standard exceedances.

83.3. The Applicant's admission of inexperience in areas relating to the proposed coal power station and the past non-compliances of iKwhezi Colliery and Delmas Coal inspires no confidence in the Applicant's ability to ensure the proper operations of the CFB technology upon which it justifies much of its ability to control pollutants.[136]

83.4. Despite the Applicant's seemingly unsubstantiated references to the point-source pollutant control abilities of the CFB technology and the proposed ADF, it does admit certain point-source impacts of the proposed coal station on the atmosphere such as CO_2, SO_2 and NO_x and dust impacts.[137] However, the Applicant fails to realise and address the nature of these effects. In any event, the Appellant submits that the emissions of CO_2 per unit of energy sent out by the Plant are in fact likely to be similar to, if not higher than, those of a comparable pulverised fuel plant.

83.5. The specialist biodiversity assessment (appendix L2 to the FEIR) quotes two conflicting SO_2 emission rates: 400mg/m^3 [138] and 500mg/m^3.[139] Moreover, the mitigation measure provided for SO_2 emissions are unsatisfactory, one being merely that the proposed coal station must comply with South Africa's standards for SO_2 emissions of 500mg/m^3.[140] The specialist biodiversity assessment makes no mention of dioxins, mercury and other persistent organic pollutants which can enter the food chain and affect faunal health.

83.6. It is crucial for a proper assessment of sustainability in compliance with NEMA that the EIA Process quantitatively estimates the 'social cost' of the

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[136] In Annexure E, page 15 (Licensing Information), the Applicant is open about its inexperience in pollutant control and mitigation of the proposed coal power station in its admission that, as the ADF is a new venture, it does not yet know how it will ensure and maintain its technical competency.
[137] FEIR, pages 157 and 158.
[138] Or "Nm3" (ostensibly normal cubic metre) as referred to in this assessment - Appendix L2, page 154.
[139] Appendix L2, page 156.
[140] Appendix L2, specialist biodiversity assessment, page 156.

project's CO_2 emissions (e.g. "*a comprehensive estimate of climate change damages and includes changes in net agricultural productivity, human health, property damages from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning*)"[141].

83.7. In the Comparative Economic Assessment conducted in February 2015, the Second Respondent estimates the social cost of the project's CO_2 emissions and concludes that the global costs of the project exceed its estimated benefits.[142] This report states that:

> "*Considering the total economic costs and benefits of the Power plant over a 50 year period, the conclusion is that the Project will potentially incur net economic costs. This is due to the high external costs from greenhouse gas (specifically CO2) emissions related to the Project. Since CO2 is not limited to the country where it is emitted, the full incidence of the cost will not be national but also global."*[143]

The results of the economic cost benefit analyses of the power plant over a 50 year period from the different perspectives are illustrated in the table below:

Perspective	Economic cost: benefit ratio (BCR)	Net present value (NPV) (Benefits minus Costs) R 'm
Global	0.83	-1 981
National	1.03	275
Local	16.30	2 311

[144]

83.8. According to the tabulated economic cost benefit analysis provided in the Comparative Economic Assessment (as above), the nationalised economic benefits of the Project are very close to the nationalised economic costs of the Project, with a cost-benefit ratio of 1:03. It is only on a localised basis that the Project makes any economic sense.

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[141] See:http://www3.epa.gov/climatechange/EPAactivities/economics/scc.html
[142] An Kritzinger, Comparative Economic Assessment of Kipower's Proposed Power Generation Plant in the Delmas Area and a No-Project Option February 2015 http://www.jaws.co.za/C182%20EIR%20Addendum/D485%20Flexilube%20DEIR/D382%20Environmental%20Authorisation/KiPower%20Final%20Addendum/C182_DraftAddendum_AppendixB1.pdf
[143] Above at page 9
[144] Above at page 8

83.9. The Appellant submits that the First Respondent's decision to grant the Authorisation, despite knowing that the environmental costs will exceed the economic benefits (and that the economic benefits may only exceed the localised costs), is in breach of the NEMA Principles and in contravention of the First Respondent's obligations *inter alia* to account for all relevant factors as required by NEMA section 24O(1)(b)[145] and of the constitutional right to an environment not harmful to health or well-being and to have the environment protected.

84. Health impacts of coal-fired power stations

84.1. A recent report on the health impacts and social costs of coal-fired power stations concluded that atmospheric emissions from coal-fired power stations:

"*are currently causing* an *estimated 2,200 premature deaths per year, due to exposure to fine particulate matter (PM2.5). This includes approximately 200 deaths of young children. The economic cost to the society is estimated at 30 billion rand per year, including premature deaths from PM2.5 exposure and costs from the neurotoxic effects of mercury on children."*[146]

84.2. This report further evidences that, in addition to the detrimental health impacts of the Project (and which constitute a violation of section 24 of the Constitution), additional expenses are incurred by people living in close proximity to power stations. These are generally low-income settlements, and this will give rise to further impacts upon their physical, psychological, developmental, cultural and social interests.

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[145] Relevant factors include the long term effects of global warming and national costs to South Africa, which are becoming more readily apparent and amenable to more certain estimates. See http://media.csag.uct.ac.za/faq/qa_3impacts.html & the DEA Long-Term Adaptation Scenarios Flagship Research Programme (LTAS) for South Africa. Climate Change Implications for Human Health in South Africa. Pretoria, South Africa, 2013

[146] Bellanger, M et al. 2013, "Economic benefits of methylmercury exposure control in Europe: Monetary value of neurotoxicity prevention" Environ Health. 2013; 12:3. available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3599906 .

84.3. Consequently, the Authorisation further contravenes section 2(4)(c) of the NEMA Principles which requires the pursuit of environmental justice so as to prevent unfair discrimination, in particular against vulnerable and disadvantaged people,[147] and section 2(4)(o) of the NEMA Principles which requires that the environment is held in public trust, with the beneficial use of environmental resources to serve the public interest and the environment protected as the people's common heritage.

84.4. Various other reports about the health effects of coal - particularly in Mpumalanga in the HPA - all depict that the residents experience a disproportional burden of negative health impacts, due to coal-related air pollution.[148]

85. The Project's "positive effects" as identified in the FEIR and Addendum documents are:

85.1. increased employment opportunities;

85.2. supply chain opportunities for businesses;

85.3. decreased costs and environmental impacts associated with existing discard in the vicinity of the proposed plant;

85.4. improving the negative externalities associated with the coal from Delmas Coal by utilising better technology for power generation;

85.5. decreased poverty for unskilled and semi-skilled local labour; and

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[147] NEMA section 2(4)(c) provides that "*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*".

[148] See http://www.groundwork.org.za/specialreports/groundWork%20The%20Health%20Impact%20of%20Coal%20final%2020%20May%202014.pdf;

85.6. the generation of social funds which could be directed locally and into other sectors.[149]

86. Further, the Final Addendum provides that the Project will inject about R800-billion into the region's economy, that South Africa requires to double its power generation potential by 2030 and that dependence on coal-derived energy is required from a national economic sustainability point-of-view. [150]

87. However, as is detailed below, many such "positive effects" rarely materialise. The establishment of another coal-fired power station is not a feasible solution to South Africa's current and even immediate energy needs, which would be much better addressed through securing renewable energy as a healthier and long-term, more cost-effective source of energy that can come online much more quickly than a coal-fired power station.

88. It is submitted that the proposed activity is not socially, environmentally or economically sustainable as it would:

88.1. negatively impact the health of communities living in the vicinity;

88.2. exacerbate the atmospheric emissions of pollutants such as PM10, SO_2 and mercury in the HPA, a region identified as high priority under NEMAQA;

88.3. result in additional medical and other expenses being incurred by affected communities and the state;

88.4. irreparably impact upon the limited and scarce water resources in the area (impacts which are predicted to worsen as a result of the impacts of climate change);

88.5. irreparably impact upon heritage resources and biodiversity existing on the proposed site;

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[149] FEIR page 133
[150] Final Addendum at iv

88.6. result in relatively few employment opportunities during the operational phase of the Project for only a limited period of time (namely the limited life-time of the power station); and

88.7. negatively impact the economy in the medium to long-term, given the global trend towards divestment in coal and other fossil-fuels and towards investment in renewable energy sources. [151]

II. Integrated Environmental Management

89. NEMA section 2(4)(b) of NEMA requires that:

> "*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*".[152]

90. This requirement is in line with NEMA chapter 5, in particular, section 24(4)(a)(ii) of chapter 5 which provides that:

> "*the findings and recommendations flowing from an investigation, the general objectives of integrated environmental management laid down in this Act and the principles of environmental management set out in section 2 are taken into account in any decision made by an organ of state in relation to any proposed policy, programme, process, plan or project*".

91. As set out in paragraphs 48 and 49 above, the EIA Process requires the description of all aspects necessary to make a proper assessment regarding the cumulative

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[151] http://blueandgreentomorrow.com/2015/03/17/un-backing-fossil-fuel-divestment-campaign.
[152] The best practicable environmental option being defined under NEMA section 1(1) as that "*option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term*".

and integrated impacts on all environmental components and to ensure compliance with the NEMA Principles (and in particular that of public participation).[153]

92. The First Respondent failed to account for a number of relevant considerations as part of an integrated environmental assessment; including: the Project's contravention of NEMAQA due to its operation with the HPA, those considerations set out under paragraph 120 below, and the environmental impacts of further environmental authorisations in respect of: (i) the construction and connection of Eskom power lines and a switching yard to the Project; and (ii) water supply pipelines from the Rand Water connection and "*other sources".*[154]

93. A proper consideration of all relevant considerations as part of an integrated environmental assessment can only conclude that, in light of the particularly polluting nature of coal-fired power stations and the significant air quality, hydrological and biodiversity sensitivity of the location for the Project, the Project falls far short of being the best practicable environmental option.

III. Polluter Pays Principle

94. Section 2(4)(p) of NEMA (the "Polluter Pays Principle") requires that:

> "*the cost of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid by those responsible for harming the environment*."[155]

95. The Polluter Pays Principle is relevant both because:

95.1. the cost of remedying pollution and other adverse effects at Delmas Coal and iKhwezi Colliery, failing a valid transfer of this legal liability, remains the

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[153] See also regulations 28(1)(e) and 28(1)(g) of the EIA Regulations, 2010.
[154] See paragraph 34 above.
[155] Similarly, NEMA section 24(e) provides that "*Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycl*e".

responsibility of these entities/ the First Respondent, regardless of any further development in respect of the Project; and

95.2. the conditions in respect of the Authorisation fail to account for the adverse effects which will inevitably result pursuant to the undertaking of the Authorised Activities.

96. Non-Compliance of Delmas Coal and iKhwezi Colliery

96.1. The pollutants at Delmas Coal and IKhwezi Colliery remain the responsibility of the First Respondent/ these entities. These are factors that should be viewed separately from - and cannot be offset against - the impacts of the proposed coal station.

96.2. However, the Project is packaged as the only viable option purely because it is a "solution" to the previously failed rehabilitation of iKhwezi Colliery's Pit H and to the surplus coal discard from Delmas Coal. In line with this reliance, the First Respondent includes in its findings that "*(t)he site consists of mostly brownfield or disturbed areas*", but does not provide any further for the responsibility arising from such disturbance.[156]

96.3. Despite underpinning the motivation for the Project with these factors, the Applicant makes no attempt to provide any insight as to the historical and existing activities on the site, how development has taken place with time and the ownership changes regarding impacts of and liability for existing and historical rehabilitation.[157] This raises questions as to the previous owner of Delmas Coal and iKhwezi Colliery and the entity responsible for such non-compliances.

[156] Finding 2(g), Appendix I: Reasons for Decision of the Authorisation.
[157] FEIR, page 45.

97. Conditions in respect of the Authorisation

97.1. It is common cause that coal-fired power stations impact significantly upon the health of those living in close proximity to them, and that these health impacts inevitably give rise to additional cost burdens, borne by those affected, and ultimately, the state.

97.2. Furthermore, and in line with paragraphs 32 to 35 above, it is noted that "*water demand in the Delmas region is above water supply capacity*".[158] Not only is this predicted to worsen as a result of the current drought and the impacts of climate change, but this will also impact negatively upon the health and well-being of communities located in the area as their access to already scarce water resources becomes further restricted. The FEIR records that the Rand Water bulk supply pipeline will be the secure water supply for immediate development and that the Applicant is pursuing "*alternative sources*" of water to supplement the Rand Water source over time. It fails, however, to identify these alternative sources, or to assess the impact on these sources and their current users.[159]

97.3. The First Respondent has contravened the Polluter Pays Principle (amongst others) in granting the Authorisation without adequate provision made for or consideration being given to *inter alia* the significant water shortage in the area, the inevitable health impacts on those living in proximity to the Project and the resultant expenses that these people will incur as a result of the anticipated impacts upon their health and well-being.

IV. Precautionary Principle

98. The Appellant submits that the First Respondent has failed to apply the risk averse and cautious approach (the "Precautionary Principle") required by the NEMA Principles in that it granted the Authorisation without a proper assessment of the consequences. This means that the Authorisation was granted without *inter alia*

[158] FEIR, page 204
[159] FEIR, pages 75-76.

adequate information about the full implications of the Project for health and for its contribution to climate change and adaptation to a changed climate.

99. The First Respondent should, at the very least, have required:

99.1. the environmental assessment of the environmental authorisations in respect of: (i) the construction and connection of the Eskom power lines and a switching yard to the Project; and (ii) water supply pipelines from the Rand Water connection and "*other sources*" so as to enable a more complete assessment of the cumulative environmental impacts and the feasibility of the Project;

99.2. a proper investigation of the water sources to be used for the Project, beyond the inadequate description contained in the IWULA;

99.3. detailed health impact studies to be conducted in respect of the impacts on communities living within close proximity to the Project with regard to air quality and water resources; and

99.4. detailed climate impact studies to be conducted to assess the impacts of climate change on, in particular, the water resources apparently available for the Project, as well as the impacts of the Project on GHG emissions and in respect of adaptation to a changed climate.

V. Public Participation

100. The NEMA Principles, in line with other NEMA requirements and in furtherance of the constitutional right of access to information,[160] provide that a decision such as the Authorisation must be reached following the participation and account being taken of the interests, needs and values of all I&APs.[161] Such an environmental management decision must be made openly and transparently, and access to information must be provided in accordance with the law.[162]

[160] Section 32 of the Constitution of the Republic of South Africa, 1996.
[161] NEMA section 2(f) and 2(g).
[162] NEMA section 2((4)k).

101. The commentary process set out at paragraph 43 above demonstrates the failure of the EAP and the DEA to account for the comments submitted by the Appellant as part of the EIA Process in any material way as part of the public participation process.

102. Further, it became apparent during the EIA Process that the information circulated by the Applicant to I&APs was neither transparent nor accountable.[163] As such, I&APs have not been afforded proper opportunity to comment in any meaningful way in the EIA Process. The belated provision of the IWULA to the Appellant and the failure of the EAP to provide the Appellant with the AEL application, as well as the separation of related applications concerning power lines to be connected to and the water supply pipelines in respect of the Project further evidence the lack of meaningful public participation in the EIA Process.

VI. The discharge of global and international responsibilities in relation to the environment in the national interest

103. It is proven that climate change impacts upon, and will continue to impact on, *inter alia:*

103.1. water resources due to changes in rainfall and evaporation rates, which will consequently impact upon agriculture, forestry and industry due to an increased irrigation and water supply demand;[164]

103.2. air quality, through the impacts upon weather patterns which will negatively influence criteria pollutants such as PM, SO_2, NO_2, ozone, carbon monoxide, benzene, lead;[165]

[163] Page 11 of the 4 April 2014 comments as annexed as Annexure F.
[164] Pages 6 – 9, Long Term Adaptation Scenarios: Summary for Policy Makers available at http://www.sanbi.org/sites/default/files/documents/documents/ltassummary-policy-makers2013high-res.pdf.
[165] Page 11, Long Term Adaptation Scenarios: Summary for Policy Makers.

103.3. human health, through bringing about an increase in, for instance, vector-borne diseases, heat stress, increased natural disasters;[166]

103.4. biodiversity due to, for instance, loss of habitat resulting from increased temperatures and desertification;[167] and

103.5. marine fisheries, due to changes in water flows and ocean temperatures.[168]

104. South Africa is a signatory to the United Nations Framework Convention on Climate Change and the Kyoto Protocol, international agreements which seek to address climate change and set internationally binding emission reduction targets.

105. Although South Africa does not, at this stage, have any set emission reduction obligations under the Kyoto Protocol, it has undertaken to make commitments for national contributions towards GHG emission reductions for the period 2020-2030, has expressed an intention to participate in a legally binding universal agreement on climate change to be entered into at COP21 in Paris in December 2015, and it acknowledges that "*the science is clear that action to address the causes and impacts of climate change by a single country or small group of countries will not be successful. This is a global problem requiring a global solution through the concerted and cooperative efforts of all countries*".[169] It is incumbent on the state to ensure that its actions, laws and decision-making coincide with its evident intentions to address climate change and take into account the high probability of internationally-binding climate change obligations in the near future.

106. South Africa is already one of the world's largest contributors to global climate change, having produced around 547Mt of carbon dioxide equivalent (CO_2-eq) in 2010 (around 231.9 Mt is produced by the electricity sector alone). The South

[166] Page 11, Long Term Adaptation Scenarios: Summary for Policy Makers.
[167] Page 15, Long Term Adaptation Scenarios: Summary for Policy Makers.
[168] Page 13, Long Term Adaptation Scenarios: Summary for Policy Makers.
[169] Pages 8 and 9, Introduction, National Climate Change Response White Paper.

African government has recognised the need for climate action and has set 398Mt CO_2-eq per year as the target limit for CO_2 by 2025. However, the Medupi and Kusile power stations will likely add a further 70Mt of CO_2-eq a year. The project, which is the subject of this Appeal, is merely one of further coal-fired power plants envisaged to be commissioned in future, that will contribute to CO_2 emissions.

107. National legislation recognises the need to curb GHG emissions and address climate change in that NEMAQA requires that an AEL must specify GHG emission measurements and reporting requirements,[170] and the 2012 Framework for Air Quality Management acknowledges that "*in view of this, specialist air quality impact assessments must consider greenhouse gas emissions as well*."[171] In addition, public comment has been invited on draft GHG emission reporting regulations.

108. The South African Government has acknowledged the risks of climate change by adopting the White Paper which is addressed further from paragraph 136 below. It confirms that "*the policy outlined in this White Paper embodies South Africa's commitment to a fair contribution to stabilising global GHG concentrations in the atmosphere and to protecting the country and its people from the impacts of inevitable climate change."*[172] The White Paper includes a National Climate Change Response Strategy ("the climate change response strategy"), which has listed, as one of its strategic priorities, the need to "*prioritise the mainstreaming of climate change considerations and responses into all relevant sector, national, provincial and local planning regimes such as, but not limited to, the Industrial Policy Action Plan, Integrated Resource Plan for Electricity Generation, Provincial Growth and Development Plans, and Integrated Development Plans."*[173] This White Paper, as a national policy document, speaks to and should direct decision-making in respect of authorisations for any developments.

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[170] Section 43(1)(l) NEMAQA.
[171] Paragraph 5.5.3.7, page 80, 2012 National Framework for Air Quality Management.
[172] Page 10, Introduction, National Climate Change Response White Paper.
[173] Page 15, National Climate Change Response Strategy, National Climate Change Response White Paper.

109. It can be concluded that, as part of the integrated environmental authorisation process envisaged by the NEMA Principles read with chapter 5 of NEMA and requirement in section 24O(1)(b)(viii) of NEMA to consider relevant policy and other relevant information in deciding whether or not to grant an authorisation, the GHG emissions and climate change impacts of the project should have been taken into account in deciding whether or not to grant the authorisation. They were not considered by the First Respondent in making the Authorisation – either adequately or at all.

110. The above serves to indicate a clear intention on the part of government to address climate change, and record a national stance to take steps to reduce GHG emissions. Therefore all decisions, including the current Authorisation, should give effect to and be aligned with the above.

111. Furthermore, it is noted that the EIA Chief Directorate within DEA was instructed by the DEA to develop a process for the inclusion of assessments of climate change impacts into EIA authorisations before the end of the financial year 2013/2014. The outcome of this process is, to date, unknown, other than that such assessment is not yet included as a requirement within EIA processes. Nevertheless, it is submitted that the EIA process should include climate change considerations in full as part of the assessment process, otherwise referred to as 'climate change screening'. Such screening must include both mitigation - potential contribution to further GHG emissions - as well as adaptation measures. In other words, every development decision must be based on its contribution to both mitigation and adaptation. In this regard, it is submitted that the assessment and proposals of all developments should provide for, *inter alia*:

    111.1. maximising reduction in direct and indirect GHG emissions;

    111.2. maximising potential for further mitigation, including 'sequestration offsets', ideally seeking a negative GHG balance;

    111.3. optimising adaptation to impacts over the full life of the development, using best available knowledge and modelling projections of future impacts, which will become more extreme over time;

111.4. ensuring that such adaptations are not misdirected 'maladaptations', which will fail and/or exacerbate impacts/increase vulnerability over time; and

111.5. contributing to restoration of ecological infrastructures to better enable ecosystem-based adaptation, namely building improved resilience in people, infrastructure and ecosystems.

112. It is submitted that water availability, amongst other things, is a severe climate change concern for South Africa, in particular in times of drought such as those currently experienced. The White Paper confirms that "*based on current projections South Africa will exceed the limits of economically viable land-based water resources by 2050. The adequate supply of water for many areas can be sustained only if immediate actions are taken to stave off imminent shortages*."[174]

113. The Long Term Adaptation Scenarios ("LTAS")[175] aim to respond to the White Paper by developing national and sub-national adaptation scenarios for South Africa under plausible future climate conditions and development pathways. The LTAS reports acknowledge that impacts on South Africa are likely to be felt primarily via effects on water resources.[176] The LTAS report on implications for the water sector states that "*(a)t present, specific provisions for climate change adaptation have been made in very few of the water resources planning tools. There are some early attempts that have simulated simple scenarios of changed surface water supply in reconciliation studies*"[177]

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[174] Page 17, section 5.2: Water, National Climate Change Response White Paper.

[175] Long Term Adaptation Strategies: Summary for Policy-Makers. Available at http://www.sanbi.org/sites/default/files/documents/documents/ltassummary-policy-makers2013high-res.pdf https://www.environment.gov.za/sites/default/files/docs/ltasphase2report7_longterm_adaptationscenarios.pdf and https://www.environment.gov.za/sites/default/files/docs/implications_waterbookV4.pdf.

[176] Page 6, Long Term Adaptation Strategies: Summary for Policy-Makers. Available at http://www.sanbi.org/sites/default/files/documents/documents/ltassummary-policy-makers2013high-res.pdf

[177] Page 6, Long Term Adaptation Strategies: Summary for Policy-Makers. Available at http://www.sanbi.org/sites/default/files/documents/documents/ltassummary-policy-makers2013high-res.pdf

114. The LTAS records that "*development aspirations in South Africa will likely be influenced by opportunities and constraints that arise from climate change impacts on the water sector. Key decisions would benefit from considering the implications of a range of possible climate-water futures facing South Africa*."[178]

115. The LTAS acknowledges that "*under a drier future scenario, significant trade-offs are likely to occur between developmental aspirations, particularly in terms of the allocation between agricultural and urban industrial water use, linked to the marginal costs of enhancing water supply. These constraints are most likely to be experienced in central, northern and south-western parts of South Africa, with significant social, economic and ecological consequences through restricting the range of viable national development pathways*." [179]

116. As detailed at paragraphs 23 to 42 above, the Project will have significant implications on both the water quantity and quality in the area. The Applicant submits that the Project is to share the Delmas Coal water supply (the Rand Water supply line)[180] although "*the proponent is pursuing alternative sources of water to supplement the Rand Water*".[181] The source of water supply is submitted despite this adding a demand on already-strained water resource of around 3 744m3/day[182] and with Delmas Coal as a "*water deficit mine*" "*unlike most other coal mines*"[183] - because it uses an excess water supply sourced from the Rand Water supply line. Nor, as indicated above, is there any explanation of the validity of the authorisation from Rand Water to provide the proposed coal power plant with such a significant water supply in a water deficit area, thereby depriving the public of a scarce resource.

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[178] Page 6, Long Term Adaptation Scenarios: Summary for Policy Makers. Available at http://www.sanbi.org/sites/default/files/documents/documents/ltassummary-policy-makers2013high-res.pdf

[179] Page 6, Long Terms Adaptation Scenarios: Summary for Policy Makers, October 2013.

[180] FEIR section 3.5 pages 75 and 76. According to page 7 of Appendix L13 to the FEIR, the Surface water specialist study, the peak design flow associated with the water supply to the proposed KiPower plant was estimated to be 3744 m3/day.

[181] Section 2.1.2.3, page 5, of the Final Addendum to the FEIR.

[182] Section 2(h) of the "Findings" in Annexure I: Reasons for Decision of the Authorisation.

[183] Section 3.5, page 75, of the FEIR.

117. Further, and as detailed at paragraphs 23 to 31 above, the Project is located in the HPA, a priority area under NEMAQA due to its excessively detrimental ambient air quality, as well as in an area of significant biodiversity sensitivity.

118. The failure to consider climate change implications shows a lack of policy coherence with the national climate change response policy and a disregard for the provisions of NEMAQA and NEMA which require consideration of international obligations and GHG emissions as set out above. Furthermore, this shows a failure to consider the anticipated and fast-approaching impacts of climate change including diminishing of water resources, which will, no doubt, have a significant impact on this Project, as well as other projects and people living within the area and the surrounding environment.

Second Ground of Appeal: The First Respondent's Failure to Comply with NEMA section 24O(1)

119. NEMA section 24O(1) requires that a competent authority "*comply with this Act*"[184], account for all relevant factors when considering an environmental authorisation including *inter alia*: (i) measures to prevent, control, abate or mitigate any pollution, substantially detrimental environmental impacts or environmental degradation;[185] (ii) the Applicant's ability to implement mitigation measures and to comply with any conditions in relation to the Authorisation;[186] (iii) feasible and reasonable alternatives, modifications or changes to the activity that may minimise environmental harm;[187] and (iv) any guidelines, departmental policies, and environmental management instruments and any other information in the possession of the competent authority relevant to the application.[188]

120. It is clear from this Appeal that the First Respondent failed to account for a number of significant factors in respect of the Project when granting the

[184] NEMA section 24O(1)(a).
[185] NEMA section 24O1(b)(ii).
[186] NEMA section 24O1(b)(iii).
[187] NEMA section 24O1(b)(iv)
[188] NEMA section 24O1(b)(viii).

Authorisation. In addition to that set out in the balance of the Appeal, the Appellant submits that the First Respondent failed to consider:

120.1. the Project's exacerbation of existing levels of particulate matter that exceed ambient air quality standards;

120.2. any health impact assessment of the Project's effect on air quality;

120.3. the Applicant's ability to comply with mitigation measures;

120.4. feasible and reasonable alternatives; and

120.5. any adopted guidelines, departmental policies and environmental management instruments.

I. Failure of the First Respondent to consider the Project's exacerbation of existing levels of particulate matter that exceed ambient air quality standards

121. The air quality impact analysis in the FEIR ("AQIA") [189] includes the admission that expected emissions of particulate matter from the Project would further exacerbate the situation where air quality does not comply with ambient air quality standards:

"*Particulate Matter (PM10)*

The daily NAAQS is predicted to be exceeded at a number of sensitive receptors, whereas the annual average NAAQS is not exceeded at any of the sensitive receptors. The affected area includes a portion of the R50 road to the north of the site, but this is not significantly longer than under baseline conditions –see Figure 7-4."[190]

[189] Appendix L.1 - Air Quality Impact Assessment of the Proposed Kipower project, Mpumalanga
[190] FEIR page 127,

"Particulate Matter (PM2.5)

Only daily exceedances are predicted at the locations of sensitive receptors as indicated in Figure 7-5."[191]

122. Nevertheless, the First Respondent does not appear to have taken any such admissions into account in granting the Authorisation.

II. Failure of the First Respondent to consider a health impact assessment of the Project's impact on air quality

123. As set out above, neither the FEIR nor the AQIA contains any information about the health impact of the project *vis a vis* higher ambient air levels of pollutants. This is despite the CER's specific mention and request for such an assessment as reflected in various submissions on the EIA process.[192]

124. This failure to conduct a health impact assessment for the Project reveals a disregard for Project's externalities, in particular because the Project is located within the sensitive HPA. Moreover, several of the specialist studies indicate that the potential health impacts and economic burden associated with the Project would be higher in relation to the economic value created.[193] Scorgie (2012) estimated that external health related costs associated with coal across her study sites was about R3.5 billion with power generation responsible for only 6% of external costs overall[194], whereas Myllyvirta (2014) estimated that the cost to society is R230 billion including premature deaths from exposure to pollutants such as PM2.5 and mercury.[195] In contrast, limited – if any - benefit of power generation is experienced by those that suffer from the pollution emitted from the

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[191] FEIR page 128.
[192] See CER KiPower EIAR Addendum submissions 30 April 2015; CER final reports submissions on KiPower 3 June 2014; CER EIA submissions_final 4 April 2014;
[193] See Liziwe McDaid "The Health Impact of Coal: The responsibility that coal-fired power stations bear for ambient air quality associated health impacts" 20 May 2014 http://www.groundwork.org.za/specialreports/groundWork%20The%20Health%20Impact%20of%20Coal%20final%2020%20May%202014.pdf
[194] Above at p23
[195] See http://www.greenpeace.org/africa/Global/africa/publications/Health%20impacts%20of%20Eskom%20applications%202014%20_final.pdf

coal-fired power stations and who are left to bear all the impacts and costs of the pollution.

125. The failure to conduct the health impact study is not because consultants lacked the tools to do it - as is evidenced by studies conducted by consultants for other projects. For example, the Airports Company of South Africa was able to employ several studies to quantitatively assess the health impact of increased air pollution from re-aligning the existing primary runaway at the Cape Town International Airport.[196]

126. For the short, and long-term health effects, the coefficients specified by the Committee on the Medical Effects of Air Pollutants ("COMEAP") were used in a project for the Air Port Company South Africa.[197] COMEAP is an expert Committee that provides advice to the UK Department of Health's Chief Medical Officer, on all matters concerning the effects of air pollutants on health. The recommended coefficients for quantifying short-term exposure to PM_{10}, SO_2 and NO_2, utilised in the present study are outlined below (COMEAP, 1998).

Table 2-7. Estimates of Coefficients to Quantify Short-term Exposure to Pollutant

Health Endpoint	PM10 [a]	SO_2 [a]	NO_2 [b]
Deaths (all causes)	0.75%	0.60%	-
Respiratory hospital admissions	0.80%	0.50%	2.50%
Cardiovascular hospital admissions	0.80%	-	-
a Per 10 µg/m³ 1-hr mean of PM_{10} or SO_2 b Per 50 µg/m³ 1-hr mean of NO_2			

127. In various international studies, it has been indicated that there is insufficient evidence to quantify the health effects of long-term exposure to SO_2, NO_2 and O_3.[198] However, the evidence regarding the effects of long-term exposure to particulate matter has increased in recent years. Based on new evidence and

[196] http://www.srk.co.za/files/File/South-Africa/publicDocuments/CTIA/March_2015/Appendices/445354_App6B_Draft_Air_Quality_Specialist_Study_Part1.pdf

[197] Draft Air Quality impact assessment for the proposed Runway re-alignment at the Cape Town International Airport; Health Effects Quantification at pages 2-9 http://www.srk.co.za/files/File/South-Africa/publicDocuments/CTIA/March_2015/Appendices/445354_App6B_Draft_Air_Quality_Specialist_Study_Part1.pdf

[198] Long-Term Exposure to Air Pollution: Effect on Mortality A report by the Committee on the Medical Effects of Air Pollutants 2009

quantitative estimates of the impact of the long-term effects of particulate pollution on mortality, COMEAP has published coefficients linking mortality to long-term exposure to PM2.5. These are summarised and demonstrated in Table 2- 8 below:[199]

Table 2-8. Estimates of Coefficients to Quantify Long-term Exposure to $PM_{2.5}$

Health Endpoint	Coefficient	Note
All-cause mortality	1.06 with 95% confidence interval 1.02-1.11, (i.e. 6% per 10 µg/m3 increase in PM2.5)	For impact assessment of all-cause mortality and assessing policy interventions designed to reduce levels of air pollutants, use the full distribution of probabilities.
	1.01 and1.12 as the 12.5th and 87.5th percentiles of the probability distribution	For sensitivity analysis
	1.00 and 1.15	For reports on quantification of risks from long-term exposure to particulate air pollution represented by $PM_{2.5}$
Cardiopulmonary mortality	1.09 with 95% confidence interval 1.03-1.16	-
Lung cancer mortality	1.08 with 95% confidence interval 1.01-1.16	-

Note: All coefficients expressed in terms of relative risk per 10 µg/m^3 increase in $PM_{2.5}$ annual average concentration.

III. Failure of the First Respondent to Consider the Applicant's Ability to Comply with Mitigation Measures

128. The Authorisation and FEIR contains a number of mitigation measures apparently in order to protect the environment from the harm arising as a result of the Authorised Activities. However, and in contrast with the First Respondent's finding that *"(t)he proposed mitigation of impacts identified and assessed adequately curtails the identified potential impacts*",[200] the ability of the Applicant to comply with such mitigation measures is doubtful due to the following:

[199] http://www.srk.co.za/files/File/South-Africa/publicDocuments/CTIA/March_2015/Appendices/445354_App6B_Draft_Air_Quality_Specialist_Study_Part1.pdf

[200] Finding 2(d), Annexure I: Reasons for Decision of the Authorisation.

128.1. The conditions intended as mitigation measures in the Authorisation are vague and reliant to a large extent on the discretion of the First Respondent. For example, condition 69 requires that "(t)*he holder of the authorisation must ensure that surface water monitoring points are established and approved by the Chief Director: Integrated Environmental Authorisation*".

128.2. Certain mitigation measures in the Authorisation are inappropriate and inapplicable in the circumstances - the requirement to comply with the quality requirements specified in the General and Special Effluent Standard,[201] does not apply to the discharge of stormwater but to the discharge of industrial effluent,[202] and only if such discharge of industrial effluent is an "Existing Lawful Water Use" as defined under sections 34 and 35 of the NWA (which implies that it should have been undertaken between 1 October 1996 and 30 September 1998).

128.3. The mitigation measures proposed by the Applicant in the FEIR are often deficient and insufficiently detailed (for example the mitigation measures fail to address existing hydrological impacts which means that reduction of the cumulative impact of development is not feasible).

128.4. The Applicant is open about its inexperience in pollutant control and mitigation of the proposed coal power station in its admission that, as the ADF is a new venture, it does not yet know how it will ensure and maintain its technical competency.[203] This admission is even more striking in light of the non-compliances of iKhwezi Colliery and Delmas Coal.

129. In the Applicant's meeting with the DMR on 25 February 2013, the DMR came to the general conclusion that the Applicant would need to prove environmental management experience if it is to undertake the liability for IKhwezi Colliery's environmental transgressions.[204] This conclusion emphasises the Applicant's inexperience in environmental management, as well as the function of the

[201] GN 991 of 18 May 1984
[202] Condition 48.5, page 20 of the Authorisation.
[203] Appendix E, Licensing Information, to the FEIR page 15.
[204] Appendix K, Public participation report, to the FEIR page 135.

proposed coal power solution as a “solution” to iKhwezi Colliery’s environmental transgressions

IV. The First Respondent’s Failure to Account for Feasible and Reasonable Alternatives

130. The proper investigation of alternatives is an integral component of environmental impact assessment. Section 23 of NEMA, which entails the general objectives of integrated environmental management, provides that one of these general objectives is to:

> *“identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2* [the NEM Principles]*”.*

131. The Western Cape EIA Guideline to Alternatives, 2011 (the “Guideline to Alternatives”) is of interpretive value when unpacking the methodology required for the true assessment of alternatives as required by NEMA and the EIA Regulations, 2010. According to the Guideline to Alternatives, the “no-go” option, that is the option of no development, whilst acting in compliance with and maintaining environmental norms and standards, must be assessed at the same level of detail as the other feasible and reasonable alternatives. This is in line with the definition of “alternatives” under regulation 1 of the EIA Regulations, 2010, as “*different means of meeting the general purpose and requirements of the activity, which may include alternatives to— …(f) the option of not implementing the activity*”.

132. The FEIR includes no proper consideration of alternatives nor any adequate assessment of the no-go option, due to the basis of the Project on the use of coal discard at Delmas Coal and the mopping up of the pollution incurred at iKhwezi Colliery, as well as the invalidated assumption that proximity to Delmas Coal and

IKhwezi Colliery are constants not to be assessed as alternatives.[205] Consequently, the starting point seems to be the generation of income for a mine that is no longer viable and the low cost rehabilitation of impacts incurred by the Second Respondent, instead of the independent assessment of the most sustainable methods of power generation.

133. <u>The No-Go Option</u>

133.1. In the February 2015 Rejection, the DEA requests the consideration of the "no-go option" and points out that "*(t)he option of not implementing the activity does not seem to have been assessed*".[206] In the Draft and Final Addenda, which were submitted in response to the queries raised in the February 2015 Rejection, the Applicant's attempts to elevate the Project above the "no go option" are materially flawed.

133.2. The Applicant proposes that *"(c)oal being supplied to existing Delmas coal clients would continue to be used for the purpose that it is being used for now*".[207] However, whilst it is likely that the Delmas coal will continue to be used for power generation, the production rate would have to increase by 50% to supply coal to the Project at full production rates.

133.3. The Applicant further proposes that:

> "*power that would be supplied by KiPower using equipment that conforms to the section 21(AQA) requirements for "new plant" could then very well be supplied (at least until 2020, but in terms of the postponement application already submitted by Eskom, well beyond that date) from "existing plant" with significantly higher emissions per MWh, thus resulting in deteriorating ambient air quality…*".[208]

[205] FEIR page 65 section 3.4.
[206] Page 2, section (c) of the February 2015 Rejection.
[207] Draft Addendum, Appendix B2 C182
[208] Above

133.4. However, by 2020, Eskom's plants will be partly compliant with the 2020 MES, and by 2025 they should be fully compliant or in the process of decommissioning. In any event, the Applicant may not rely on the non-compliance of others to justify its own impacts. Further, the Project should be seen in the context of the renewable energy procurement process (as detailed further below) and not confined to a narrow "business as usual" paradigm.

133.5. The above notwithstanding, the First Respondent makes no reference to the assessment of the "no go option" in the Authorisation.

134. Renewable Energy as an Alternative

134.1. The FEIR dismisses the option of achieving the purpose of the Project through renewable energy in the following two paragraphs which contain a one-page discussion explaining their consideration of renewable alternatives for electricity generation. These paragraphs make various statements arguing against the viability of renewable energy in South Africa and state *inter alia* that:

"*Although internationally, development of renewable technologies such as wind and solar energy for the generation of electricity is increasing, costs remain high and additional support technology (such as supplemental natural gas power or energy storage) is needed to use renewable sources as a reliable base-load electric power source. Additionally, the planned scale of the KiPower project (600 MW) is significantly larger that* [sic] *the size of typical wind or solar facilities being developed globally.*

Additionally, affordability of the electricity is an important consideration. Coal power plants continue to serve as a cost-effective source of electricity, both in consideration of capital cost and operations/maintenance cost. The

CFB approach for this Project is suggested to be a least cost option after full consideration of alternatives."[209]

134.2. The Appellant disagrees with the above statements and by comparing studies of the costs of renewable energy to fossil-fuel based energy, and whether wind and solar can meet baseload energy requirements, submits the following:

134.2.1. On a ZAR/Kw-h basis, the cost of energy from wind and solar are starting to approach, if not fall below the cost of energy from coal. This is primarily because of implementation of technological advances that lower the costs of energy from wind and solar.[210] By comparison, because coal-fired power plants are mature technologies, no comparable reduction in the cost of energy from this source is expected.

134.2.2. Developers of renewable energy projects are solving the 'intermittency' problem by use of emerging technology for the storage and distribution of energy from solar and wind to the extent that solar and wind energy systems can meet baseload energy requirements.

[209] KiPower FEIR at 63
[210] U.S. Energy Information Administration Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2015 http://www.eia.gov/forecasts/aeo/electricity_generation.cfm at 5

Table 1. Estimated levelized cost of electricity (LCOE) for new generation resources, 2020[211]

	U.S. Average Levelized Costs (2013 $/MWh) for Plants Entering Service in 2020[1]							
Plant Type	Capacity Factor (%)	Levelized Capital Cost	Fixed O&M	Variable O&M (including fuel)	Transmission Investment	Total System LCOE	Subsidy[2]	Total LCOE including Subsidy
Dispatchable Technologies								
Conventional Coal	85	60.4	4.2	29.4	1.2	95.1		
Advanced Coal	85	76.9	6.9	30.7	1.2	115.7		
Advanced Coal with CCS	85	97.3	9.8	36.1	1.2	144.4		
Natural Gas-fired								
Conventional Combined Cycle	87	14.4	1.7	57.8	1.2	75.2		
Advanced Combined Cycle	87	15.9	2.0	53.6	1.2	72.6		
Advanced CC with CCS	87	30.1	4.2	64.7	1.2	100.2		
Conventional Combustion Turbine	30	40.7	2.8	94.6	3.5	141.5		
Advanced Combustion Turbine	30	27.8	2.7	79.6	3.5	113.5		
Advanced Nuclear	90	70.1	11.8	12.2	1.1	95.2		
Geothermal	92	34.1	12.3	0.0	1.4	47.8	-3.4	44.4
Biomass	83	47.1	14.5	37.6	1.2	100.5		
Non-Dispatchable Technologies								
Wind	36	57.7	12.8	0.0	3.1	73.6		
Wind – Offshore	38	168.6	22.5	0.0	5.8	196.9		
Solar PV[3]	25	109.8	11.4	0.0	4.1	125.3	-11.0	114.3
Solar Thermal	20	191.6	42.1	0.0	6.0	239.7	-19.2	220.6
Hydroelectric[4]	54	70.7	3.9	7.0	2.0	83.5		

134.2.3. Various other reports have been published that show that in some markets, the costs of producing electricity from renewable energy is cheaper than coal or natural gas.[212]

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[211] Ibid

[212] See: New York Times (November 23, 2014) "*Solar and Wind Energy Start to Win on Price vs. Conventional Fuels*." http://www.nytimes.com/2014/11/24/business/energy-environment/solar-and-wind-energy-start-to-win-on-price-vs-conventional-fuels.html; [212] Devabhaktuni, V., Alam, M., Depuru, S. S. S. R., Green, R. C., Nims, D., & Near, C. (2013). *Solar energy: Trends and enabling technologies. Renewable and Sustainable Energy Reviews*, 19, 555-564. http://techno.su.lt/~bielskis/straipsniai%20ir%20knygos/Solar%20energy%20Trends%20and%20enabling%20technologies.pdf ; Mason, J. E., & Archer, C. L. (2012). Baseload electricity from wind via compressed air energy storage (CAES). Renewable and Sustainable Energy Reviews, 16(2)- 1099-1109 https://www.researchgate.net/profile/James_Mason12/publication/228451679_Baseload_electricity_from_wind_via_compressed_air_energy_storage_%28CAES%29/links/542f37110cf277d58e91ef3a.pdf at 1100 – 1105.

"*While progress has been slow but steady over the last two decades, the current efforts of industry leaders and researchers have greatly reduced costs and improved efficiencies, thus increasing the demand for SESs. As the price of solar continues to drop amidst the rising cost of fossil fuels, the next decade is sure to see solar power as a primary, integrated, and cost-effective power source that reduces environmental impacts and increases energy security."*[213]

134.3. In line with the reducing costs of producing electricity from renewable energy, bid prices for renewable energy (that is the price paid by Eskom to the renewable energy producer per kWh) has decreased significantly since the beginning of the renewable energy independent power producer procurement process. In the DoE's "*State of Renewable Energy in South Africa 2015*" it is submitted that:

"*Bid prices have fallen markedly from round to round. The average per kWh tariff for the portfolio, in April 2014 terms, has declined by 68% when compared with the first bid window ….. The tariffs bid into the programme demonstrated the effectiveness with which the competitive bidding process leveraged technology advancements and international price trends as well as the increasing competitiveness of RE as a generation supply option.*"[214]

134.4. The Applicant submits that the Second Respondent provides a false justification for excluding renewable energy alternatives and the First Respondent should therefore not have approved the FEIR without a proper consideration and analysis of such alternatives.

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[213] Devabhaktuni, V., Alam, M., Depuru, S. S. S. R., Green, R. C., Nims, D., & Near, C. (2013). *Solar energy: Trends and enabling technologies. Renewable and Sustainable Energy Reviews*, 19, 555-564. http://techno.su.lt/~bielskis/straipsniai%20ir%20knygos/Solar%20energy%20Trends%20and%20enabling%20technologies.pdf

[214] Page 76

V. Failure of the First Respondent to Consider Applicable Policies Relevant to the Application

135. It is submitted that the First Respondent, in granting the Authorisation, failed to account for the National Climate Change Response White Paper (the "White Paper")[215] which "*presents the South African government's vision for an effective climate change response and the long-term, just transition to a climate-resilient and lower carbon economy and society.*"[216]

136. The White Paper acknowledges, *inter alia*, that:

> *"although there will be costs associated with South Africa's adaptation and GHG emission reduction efforts, there will also be significant short and long-term social and economic benefits … Furthermore various economic studies have shown that the costs of early action will be far less than the costs of delay and inaction".*[217]

137. In its objectives, the White Paper records that it will:

> "*effectively manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity [and] make a fair contribution to the global effort to stabilise GHG concentrations in the atmosphere*."[218]

138. This White Paper confirms, among other things, that "*South Africa is a water scarce country with a highly variable climate and has one of the lowest run-offs in the world – a situation that is likely to be significantly exacerbated by the effects of climate change*."[219]

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[215] Available at http://www.sanbi.org/sites/default/files/documents/documents/national-climate-change-response-white-paper.pdf
[216] Page 5, Executive Summary, National Climate Change Response White Paper.
[217] Page 11, National Climate Change Response Objective, National Climate Change Response White Paper.
[218] Page 11, National Climate Change Response Objective, National Climate Change Response White Paper.
[219] Page 17, Section 5.2: Water, National Climate Change Response White Paper.

139. The White Paper clearly indicates the intention of the government to take positive steps to address issues of air quality and climate change in South Africa. In light of this intention, a focus on further emissions-intensive and energy inefficient power generation is counter-intuitive and inappropriate. Long-term policy decisions concerning infrastructure investments must consider climate change impacts so as to avoid locking in emission intensive technology, whilst short-term mitigation is primarily energy efficiency and "*demand side management*", together with increasing renewable energy investment.[220]

140. In granting the Authorisation, and given the significant GHG emissions of coal-fired power stations, the First Respondent has directly contradicted the intentions of the White Paper and consequently contravened section 24O(1)(b)(viii) NEMA.

Third Ground of Appeal: The First Respondent's Failure to Comply with NEMA section 24(4)

141. NEMA section 24(4) requires *inter alia* that in considering the application for the Authorisation the First Respondent: (i) account for the NEMA Principles and the objectives of integrated environmental management, (ii) properly assess the activity's potential environmental impacts; and (ii) ensure there are adequate public information and participation procedures.

142. These requirements overlap with those under the NEMA Principles and under NEMA section 24O. As such, the First Respondent's failure to comply with such requirements is explained above.

[220] For example Anamika Singh et al (2013) "*Demand Side Management: Augmenting Tool in Energy Security And Climate Change*." International Journal of Advances in Engineering Science and Technology, Volume 2, Number 2 http://www.sestindia.org/wp-content/uploads/2013/10/Volume-2Number-2PP-287-292x.pdf

Fourth Ground of Appeal: The First Respondent's Failure to Comply with the NEMA Regulations, 2010

143. Assessment of Need and Desirability

143.1. Regulation 8 of the EIA Regulations, 2010 requires that the competent authority has regard for sections 24O and 24(4) of NEMA as well as "*the need and desirability of the activity*". This requirement is supported by the DEA's Guideline on Need and Desirability[221] which *inter alia* illustrates the relationship amongst the financial viability, sustainability and need and desirability of a proposed activity:

"Financial viability must be considered within the context of justifiable economic development, measured against the broader societal short-term and long-term needs. While the financial viability considerations of the private developer might indicate if a development is "do-able", the "need and desirability" will be determined by considering the broader community's needs and interests as reflected in an IDP, SDF and EMF for the area, and as determined by the EIA. While the importance of job creation and economic growth for South Africa cannot be denied, the Constitution calls for justifiable economic development. The specific needs of the broader community must therefore be considered together with the opportunity costs and distributional consequences in order to determine whether or not the development will result in the securing of ecological sustainable development and the promotion of justifiable social and economic development - in other words to ensure that the development will be socially, economically and environmentally sustainable."[222]

143.2. In line with the requirement to assess the need and desirability of a proposed activity, regulation 31(2)(d) of the EIA Regulations, 2010

[221] GN 891 of 20 October 2014.
[222] 2014 Need and Desirability Guideline at p11

requires that an environmental impact assessment report include "*a description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.*"

143.3. As set out at paragraphs 62 *et seq* above, the Applicant relies on the IRP of the DoE as a fundamental basis of its argument for the need and desirability and general sustainability of the Project. The First Respondent refers to the IRP in its finding that:

"*The need and desirability of the activity has been demonstrated. The Integrated Resource Planning Document dated 25 March 2011 (Revision 2), from the Department of Energy, forecasts energy and electricity needs to 2030, which includes electricity generation from coal.*"[223]

143.4. However, and as set out at paragraphs 62 to 76 above, the requirements of the IRP are not tantamount to the need and desirability of the Authorised Activities. This is, *inter alia*, because:

143.4.1. The power allocation in the First CBIPP RFP is limited.

143.4.2. The government has acknowledged the high environmental cost of coal-fired power in *inter alia* its reference in the First CBIPP RFP to the contribution of coal-fired power plants to global warming.

143.4.3. Tenders are awarded following a competitive process comprising many requirements which include detailed financial and legislative components. This notwithstanding the Applicant fails to grapple with this competitive process by over-emphasising the competitive edge of the benefits of CFB technology, the use of low grade coal discard and the creation of downstream opportunities.

[223] Finding 2(b), Annexure I: Reasons for Decision to the Authorisation.

143.4.4. The Applicant fails to provide any material evidence of the financial feasibility of the Project in substantiation of its economic desirability and despite such financial feasibility being called into question.

144. Assessment of all Cumulative Impacts

144.1. The EIA Regulations, 2010 define cumulative impacts as "*in relation to an activity … the impact of an activity that in itself may not be significant, but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area*".[224]

144.2. Regulation 31(2)(l)(i) of the EIA Regulations, 2010, requires an EIA to contain an assessment of each identified potentially significant impact including, *inter alia*, cumulative impacts.

144.3. In terms of regulation 34(2),[225] the competent authority is obliged to reject the FEIR if it does not substantially comply with regulation 31(2).

144.4. The EIA Process does not include the assessment of a number of potentially significant impacts, despite the First Respondent's finding that *"(the) identification and assessment of impacts…and sufficient assessment of the key identified issues and impacts has been completed*"[226] and that *"(t)he procedure followed for impact assessment is adequate for the decision-making process.*"[227] These potentially significant impacts include:

144.4.1. the cumulative effect of the air emissions from the Project in the HPA, an area declared a priority area under NEMAQA (as detailed at paragraphs 23 to 31 and 120.1 *et al* above), not least the health

[224] Regulation 1(1) NEMA EIA Regulations, 2010.
[225] NEMA EIA regulations, 2010.
[226] Finding 2(a) of Annexure I: Reasons for Decision to the Authorisation.
[227] Finding 2(c) of Annexure I: Reasons for Decision to the Authorisation.

and global external costs associated with the social cost of the Project's CO_2 emissions (see paragraphs 83 and 84 above);

144.4.2. the cumulative effect of detrimental water quantity and quality in an area of significant water shortage and hydrological sensitivity (see paragraphs 32 to 36 above);

144.4.3. the cumulative effect of the loss of wetlands as an important holistic hydrological system as at paragraphs 37 to 42 above which affords no consideration to the particularly invaluable nature of those ecosystems to be destroyed by the proposed coal station (the First Respondent submitting that "*(t)he site consists of mainly brownfield or disturbed areas although the activity will impact on wetlands"*[228]*).*

144.4.4. The impacts associated with the further environmental authorisations in respect of: (i) the construction and connection of Eskom power lines and a switching yard to the Project; and (ii) water supply pipelines from the Rand Water connection and "*other sources*";[229] which are allegedly to be considered as part of separate processes despite this contravening the basic integrated environmental management processes under NEMA. In the February 2015 Rejection, the DEA specifically asked for the agreement that Eskom will be responsible for the application and construction of the power line connection and a description of the cumulative impact of this connection. In response, the Applicant indicated the agreement was not yet available as Eskom was still investigating various options and that cumulative impacts are difficult to quantify because of the lack of: (i) baseline information; (ii) certainty regarding future developments in the area; and (iii) regionally and nationally coordinated environmental information.[230] Despite the DEA receiving no adequate answer from the Applicant

[228] Finding 2(g), page 26, of the Authorisation.
[229] Paragraph 2.7.1.3 of the draft IWULA and section 2.2.2.1 of the final IWULA read with the FEIR, page 2.
[230] Draft Addendum, paragraph 2.1.2, page 4.

in this regard, the First Respondent's finding in the Application is that:

> *"The power lines and switching yard will be applied for in a separate application since there are a number of connection options still being considered by Eskom. The cumulative impacts of the power lines have been considered at a qualitative level. Therefore, to allow for the potential impacts of the power line to be understood and assessed in detail, and to prevent a situation where Eskom or the proponent is unable to obtain authorization to construct the power line for an already constructed power station, the environmental authorization contains a condition to the effect that the construction of the activity may not commence, unless environmental authorization has been obtained for the power line."*[231]

144.5. In light of the above, it is submitted that the FEIR fails to adequately assess cumulative impacts of the project and therefore does not comply with regulation 31(2). Accordingly, the First Respondent was under an obligation to refuse the application.

144.6. In instances where the risks of cumulative impacts are recognised as being high, such as in the case of the air quality and water impacts (and in particularly in times of drought such as those currently experienced), it is submitted that the First Respondent failed to attach sufficient weight to the severity of the impacts and should have refused the Authorisation on this basis alone, or, at the very least (and in application of the Precautionary Principle), should have required that further, more detailed, investigation into the impacts be conducted.

[231] Condition 2(i) of Annexure I: Reasons for Decision to the Authorisation.

Fifth Ground of Appeal: The First Respondent's Breach of Constitutional Requirements

145. In failing to undertake a proper consideration of all environmental impacts and to require proper public participation in the EIA Process prior to granting the Authorisation (and as detailed above), the First Respondent has failed to ensure an environment not harmful to health and well-being and to protect that environment in the manner set out in the Constitution section 24, and it has failed to give effect to the right to access to information as required by the Constitution section 32.

CONCLUSION

146. The First Respondent's decision to authorise the Project is unlawful, in that it failed to comply with NEMA, NEMAQA and NEMWA. Further, the conditions of the Authorisation are vague and unenforceable with the Authorisation failing to give effect to the constitutional environmental and public participation rights.

147. For all of these reasons, the Appellant submits that the appeal should succeed and that the Authorisation granted to the Second Respondent by the First Respondent should be set aside.

148. The Appellant further submits that, pursuant to the First Respondent's unlawful conduct as set out above, there are grounds for judicial review under PAJA because the Authorisation comprises administrative action that *inter alia*:

148.1. failed to comply with a mandatory and material procedure or condition prescribed by the empowering provision;[232]

148.2. was procedurally unfair;[233]

148.3. is unconstitutional or unlawful;[234]

[232] PAJA section 6(2)(b).
[233] PAJA section 6(2)(c).
[234] PAJA section 6(2)(d), (f)(i) and (i).

148.4. was taken because of the consideration of irrelevant considerations and the failure to consider relevant considerations;[235]

148.5. is not rationally connected to the information before the First Respondent in making the Authorisation or to the reasons provided by the First Respondent for the Authorisation;[236] and

148.6. is so unreasonable that it could have been granted by no reasonable person.[237]

DATED at **CAPE TOWN** on this the **10th** day of **DECEMBER 2015**

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[235] PAJA section 6(e)(iii).
[236] PAJA section 6(f)(ii)(cc) and (dd).
[237] PAJA section 6(h).

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