**IN THE HIGH COURT OF SOUTH AFRICA**
**GAUTENG DIVISION, PRETORIA**

**CASE NO:**

In the matter between

| | |
|---|---|
| **SOUTH DURBAN COMMUNITY ENVIRONMENTAL ALLIANCE** | Applicant |

and

| | |
|---|---|
| **MINISTER OF ENVIRONMENT, FORESTRY AND FISHERIES** | First Respondent |
| **MINISTER OF MINERAL RESOURCES AND ENERGY** | Second Respondent |
| **DEPUTY DIRECTOR-GENERAL MINING, MINERALS AND ENERGY** | Third Respondent |
| **SOUTH AFRICAN AGENCY FOR THE PROMOTION OF PETROLEUM EXPLORATION AND EXPLOITATION** | Fourth Respondent |
| **ENI SOUTH AFRICA BV** | Fifth Respondent |
| **SASOL LIMITED** | Sixth Respondent |
| **SASOL SOUTH AFRICA LIMITED** | Seventh Respondent |
| **SASOL AFRICA (PTY) LIMITED** | Eighth Respondent |
| **EZEMVELO KWAZULU-NATAL WILDLIFE** | Ninth Respondent |

**ISIMANGALISO WETLAND PARK AUTHORITY** Tenth Respondent

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**FOUNDING AFFIDAVIT**

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I, the undersigned

**DESMOND MATTHEW D'SA**

do hereby make oath and say as follows:

1. I am an adult male, and Coordinator of the applicant. I have held this position for 20 years. I am duly authorised to institute these proceedings, and to depose to this affidavit, on behalf of the applicant.

2. A resolution from the applicant conferring authority upon me, together with a power of attorney in terms of which Cullinan and Associates Incorporated is appointed as the applicant's attorneys of record is annexed marked **DDS1.** and **DDS2.** respectively.

3. Confirmatory affidavits of **JEAN MARY HARRIS**, **MARK NEW**, **SHAYAN BARMAND, ERIK CORDES**, **MICHELLE FOURNET**, **SIMON ELWEN** and **DAVID OGIER** will be filed together with this affidavit. The applicant commissioned reports from these professionals to comment on the scientific and other matters of an expert nature which are described in their respective reports

and I refer to these reports at various stages in this affidavit. Their respective confirmatory affidavits set out their *curricula vitae* reflecting their education and professional experience. I submit therefore that each of these professionals is qualified to express the expert views that they do in their respective reports. I respectfully ask this Court to receive their reports as evidence of an expert nature.

4. The facts set out below are true and correct and, unless the context indicates the contrary, fall within my personal knowledge. I make legal submissions in this affidavit on the basis of advice sought and obtained by the applicant.

## A. INTRODUCTION

5. On 26 August 2019 the third respondent ("the DDG") granted an environmental authorisation to Eni South Africa B.V and "Sasol Africa Limited" authorising exploration drilling within Offshore Block ER236, KwaZulu-Natal, South Africa ("the proposed project"). I refer to this decision as "the Initial Decision".

6. The applicant appealed this decision. However, on 17 December 2020 the first respondent ("the Minister") dismissed this appeal ("the Appeal Decision").

7. The applicant now institutes this application seeking to have both the Initial Decision and the Appeal Decision reviewed and set aside.

8. The legal basis and the relevant facts for each ground of review are set out in the body of this affidavit as follows:

8.1. the parties;

8.2. the proposed project;

8.3. the receiving environment;

8.4. the relevant statutory framework;

8.5. a chronology of relevant events; and

8.6. the applicant's grounds of review:

8.6.1. the role of the Fourth Respondent ("PASA");

8.6.2. procedural unfairness in the EIA process;

8.6.3. Initial Decision and Appeal Decision were materially influenced by errors of law;

8.6.4. inadequate consideration of need and desirability;

8.6.5. failure to consider matters specified in section 63 of the National Environmental Management: Integrated Coastal Management Act;

8.6.6. failure to give adequate consideration to international law;

8.6.7. failure to consider other relevant considerations, including:

- failure to take inadequacy of the oil spill modelling;
- absence of Oil Spill Contingency Plan;
- failure to assess intangible ocean heritage;

- failure to take relevant impacts on CBAs, MPAs and EBSAs into account;
- failure to take relevant impacts of production into account;
- failure to conduct climate change impact assessment;
- failure to adequately consider the no-go option;

8.7. Interim Relief

8.8. Conclusion

**THE PARTIES**

9. The applicant is the **South Durban Community Environmental Alliance** ("SDCEA" or "the applicant"). A non-profit association of persons and a non-governmental organisation, whose principal place of business is 18 Major Calvert Street, Austerville, Durban, KwaZulu Natal.

10. A copy of the applicant's constitution is annexed marked "**DDS3.**" It records that one of the applicant's aims is to create a culture of environmental justice and sustainability.

11. The applicant brings this application in its own interest, in the interests of its members, in the public interest in terms of section 38(1)(d) of the Constitution (and section 32(d) of the National Environmental Management Act No. 107 of 1998 ("NEMA")) and in the interest of protecting the environment in terms of section 32(e) of NEMA, read with section 24 of the Bill of Rights.

12. The first respondent is the **Minister of Forestry, Fisheries and the Environment**, Ms Barbara Dallas Creecy, in her official capacity ("the Minister"). This application will be served on the Minister care of the State Attorney.

13. The second respondent is the **Minister of Mineral Resources and Energy**, Samson Gwede Mantashe, in his official capacity ("the Energy Minister"). The application will be served on the Energy Minister care of the State Attorney.

14. The third respondent is the **Deputy Director-General: Mining, Minerals and Energy**, Ms Ntokozo Ngcwabe, whose address for purposes of service is situated at 71 Trevenna Campus, cnr Meintjies and Francis Baard Streets, Block 2C, Floor 4, Sunnyside, Pretoria.

15. The fourth respondent is the **South African Agency for the Promotion of Petroleum Exploration and Exploitation (Pty) Ltd**, known as the Petroleum Agency of South Africa ("PASA"), an agency designated in terms of section 70 of the Minerals and Petroleum Resources Development Act, Act 28 of 2002 ("MPRDA"), whose address for purposes of service is Tygerpoort Building, 7 Mispel Road, Bellville, Cape Town.

16. A copy of the Companies and Intellectual Property Commission's certificate for PASA is annexed marked "**DDS4.**"

17. The fifth respondent is **Eni South Africa BV** ("Eni"), whose address for purposes of service is situated at 1st Floor, Icon Building, corner of Lower Long Street and Hans Strijdom Road, Foreshore, Cape Town , 8001

18. A copy of the Companies and Intellectual Property Commission's certificate for Eni is annexed marked "**DDS5.**" Eni is a co-applicant for the environmental authorisation for the proposed project.

19. The sixth respondent is **Sasol Limited** which is a public company with registration number 1979/003231/06, with its registered address at Sasol Place, 50 Katherine Street, Sandton, Gauteng, 2146. **Sasol Limited** is cited upon the basis that it is the holding company of two other Sasol companies which may have applied for environmental authorisation, namely **Sasol Africa (Pty) Ltd** and **Sasol South Africa Limited**. Sasol Limited is cited upon the basis that at this point it is uncertain precisely which entity holds the environmental authorisation at issue in this review. In the event that a duly registered entity **Sasol Africa Limited** exists, then it is cited care of Sasol Limited. This is explained further in the section dealing with the point *in limine* which follows later (see section **F** later).

20. A copy of the Companies and Intellectual Property Commission's certificate for **Sasol Limited** is annexed marked **DDS6.**

21. The seventh respondent is **Sasol South Africa Limited**, which is a public company with registration number 1968/013914/06, with its registered address at Sasol Place, Sandton, Gauteng, 2146. **Sasol South Africa Limited** is cited upon the basis that it is one of two other Sasol companies which may have applied for environmental authorisation and upon the basis that at this point it is uncertain precisely which entity holds the environmental authorisation at issue in this review. This is explained further in the section dealing with the point *in limine* which follows later (see section **F** later).

22. A copy of the Companies and Intellectual Property Commission's certificate for **Sasol South Africa Limited** is annexed marked **DDS7.**

23. The eighth respondent is **Sasol Africa (Pty) Limited**, which is a private company with registration number 1997/014694/07, with its registered address at Sasol Place, 50 Katherine Street, Sandton, Gauteng, 2146. **Sasol Africa (Pty) Limited** is cited upon the basis that it is one of two other Sasol companies which may have applied for environmental authorisation and upon the basis that at this point it is uncertain precisely which entity holds the environmental authorisation at issue in this review. This is explained further in the section dealing with the point *in limine* which follows later (see section **F** later).

24. A copy of the Companies and Intellectual Property Commission's certificate for **Sasol Africa (Pty) Limited** is annexed marked **DDS8.**

25. Given the uncertainty as to which Sasol entity is the holder of the environmental authorisation, for the purposes of this affidavit, the relevant entity which is the holder of the authorisation (together with Eni) is referred to as "Sasol".

26. The ninth respondent is **Ezemvelo KwaZulu-Natal Wildlife** ("Ezemvelo") The Board of Ezemvelo is established as a juristic entity in terms of the KwaZulu-Natal Nature Conservation Management Act 9 of 1997 and the KwaZulu-Natal Nature Conservation Service also currently functions in terms of this Act. Ezemvelo's address for service is 1 Peter Brown Drive, Town Bush Valley in Pietermaritzburg.

27. No direct relief is sought against Ezemvelo in this review.

28. Ezemvelo is cited upon the basis that it is the principal organ of state in the KwaZulu-Natal Province responsible for biodiversity protection and conservation. This includes the management of over 120 Protected Areas within the KwaZulu-Natal Province which have been established in terms of the National Environmental Management: Protected Areas Act 57 of 2004 ("NEM:PAA"). Given Ezemvelo's statutory duties in respect of biodiversity protection and conservation in the KwaZulu-Natal Province, it must also operate in accordance with the National Environment Management: Biodiversity Act, 10 of 2004 ("NEM:BA").

29. Accordingly, the applicant submits that Ezemvelo has a direct and substantial interest in this matter, and may wish to participate in this review, given the critical role that it plays in the KwaZulu-Natal Province, with respect to protected areas, biodiversity and conservation, as contemplated in those two specific environmental management Acts, the National Environmental Management Act 107 of 1998 ("NEMA") and in provincial legislation. Further, the proximity of the drilling block and proposed areas of exploratory drilling within that block may impact directly upon Ezemvelo's statutory functions and responsibilities.

30. The tenth respondent is the **iSimangaliso Wetland Park Authority** ("iSimangaliso WPA"), which is established as the management authority of the iSimangaliso World Heritage Site ("iSimangaliso WHS") and is established in terms of the World Heritage Convention Act 49 of 1999 ("WHCA"). The iSimangaliso WHS is South Africa's first established World Heritage Site, in terms of the WHCA. The iSimangaliso WPA operates from, St'Lucia, KwaZulu-Natal.

31. The iSimangaliso Wetland Park (World Heritage Site) includes the country's largest marine protected area. Accordingly, iSimangaliso is the management authority contemplated in NEM:PAA and the WHCA.

32. No direct relief is sought against iSimangaliso in this review. iSimiangaliso is cited upon the basis that it may have a direct and substantial interest in the relief sought in this application, given the close proximity of the marine and terrestrial areas comprising the World Heritage Site, to the offshore drilling block and to the areas of proposed exploratory drilling. This means that the authorisation granted by the Minister and the DDG may have a direct impact on the statutory functions and responsibilities of iSimangaliso WPA. iSimangaliso WPA operates from the Dredger Harbour in St Lucia in the KwaZulu-Natal.

**B. THE PROPOSED PROJECT**

33. Eni and Sasol hold an Exploration Right 12/3/236 (ER 236) in terms of the Minerals and Petroleum Resource Development Act 28 of 2002 ("MPRDA"). The proposed project involves the conducting of exploration drilling by Eni and Sasol in offshore exploration Block ER236 located off the KwaZulu-Natal coastline between East London and St Lucia. The proposed project involves drilling up to three exploration and three appraisal wells, four within the northern area of interest ("AOI") and two within the southern AOI.

34. The northern AOI is 1717.5 square kilometres in extent in water depth ranging between 1500 and 2100 metres. The southern AOI is 2905 square kilometres in extent in water depth ranging between 2600 and 3000 metres. The expected drilling depth would be approximately 3800 metres and 4100 metres from the sea

surface, through the seabed, to the target depth in the northern AOI, and at around 5100 metres in the southern AOI.

35. The specific location of the wells has not yet been determined. The *Final Environmental Impact Assessment Report* dated December 2018 ("Final EIR") submitted by Environmental Resources Management ("ERM"), the environmental assessment practitioner ("EAP") appointed to conduct the environmental impact assessment ("EIA"), on behalf of Eni and Sasol, records that well location will be determined by a number of factors including: further analysis of geological data, the geological target (the hydrocarbon bearing geology into which the well is to be drilled), and the presence of any seafloor obstacles. In addition, the success (if valuable hydrocarbon is discovered) of the first well in each AOI will determine whether or not subsequent wells are drilled (page 1-1, Final EIR). Relevant portions of the Final EIR that I refer to in this affidavit are annexed hereto, marked **DDS9.**

36. The drilling of one well is expected to take up to 71 days to complete. Depending on the findings of drilling the first exploration well in the northern AOI, an appraisal well to establish the quantity and potential flow rate of any hydrocarbon present may be drilled, as well as second exploration well and a second appraisal well. Only one exploration and one appraisal well are proposed to be drilled in the southern AOI, and up to two exploration and two appraisal wells in the northern AOI.

37. The northern AOI is located a minimum of 62 kilometres offshore and the southern AOI a minimum of 65 kilometres offshore (page 3-3, Final EIR).

38. Drilling will be conducted using a deep-water drillship supported by an onshore logistics base (using existing infrastructure) in either Durban Port or Richards Bay Port and platform supply vessels, general purpose vessels designed to carry equipment and cargo to and from the drillship. Helicopters will transport personnel to and from the drillship. The full drilling process is described at page 3-15 of the Final EIR. The drilling process and components are contained at pages 3-7 to 3-25 of the Final EIR.

39. Discharges associated with planned drilling activities include air emissions from the combustion vessel fuel; air emissions generated from hydrocarbon flaring during well testing; drill cuttings from well drilling discarded overboard once treated, cement escaping during the securing of the tophole section, noise emissions from the vessels and helicopters. Once drilling is completed, the exploration (and appraisal) wells will be plugged with cement and abandoned.

40. Discharges from unplanned accidents (loss of well containment or “well blowout”, or a single spill event) include significant hydrocarbon release.

41. These planned and unplanned discharges are described in more detail at pages 3-25 to 3-35 of the Final EIR.

42. Impacts of the planned activities are detailed in Table 3, page xiii and described in section 7 of the Final EIR. Impacts associated with unplanned accidents include *inter alia* oil spills on marine and coastal habitats and species and are detailed in Table 4, page xvii of the Final EIR as well as section 8 of the Final EIR (pages 8-1 to 8-37).

## C. THE RECEIVING ENVIRONMENT

### General

43. Not much is known about the receiving environment, and most of the baseline information is derived from a few studies of nearby areas in shallower waters (<200 m). This appears at page 31 of the Marine and Coastal Ecology Assessment (Annex D1 to the Final EIR, dated December 2018), appended in its entirety as **DDS10.** This "Marine Ecology Assessment" is based on a desktop review of existing literature.

44. The baseline information for the proposed project is summarised in section 4 of the Final EIR.

45. The area potentially affected by the proposed project is divided into the Area of Direct Influence ("ADI") and the Area of Indirect Influence ("AII"). The ADI includes the northern and southern AOIs, and the platform support vessel and helicopter routes between the drillship and either Richards Bay or Durban. The AII includes the entire of Block ER236 and extends down the East Coast to East London.

46. David Ogier, an independent Climate, Risk and GIS Specialist, compiled a map depicting the location of CBAs, MPAs and EBSAs in relation to the northern and southern AOI, as well as the prevailing direction and speeds (averaged in 2019) of the Agulhas current, attached as **DDS11.** hereto ("the Area Map").

47. The Marine Ecology Assessment records that the east coast is dominated by the warm Agulhas Current that flows southwards along the coastal shelf edge (page 25). The Agulhas Current area can be very powerful and hurricane level storms

and other extreme events happen with regularity in this area (Marine Ecology Assessment, pages 27 to 28).

48. There are several important species and ecosystems that lie in the AII. These include:

48.1. shallow water corals (page 4-27, Final EIR);

48.2. submarine canyons (which include habitats of the endangered Coelacanth) (page 4-5, and pages 4-22 to 4-28 of the Final EIR);

48.3. fish species including tunas, swordfish, sharks, with differing threat statuses (page 4-21, Final EIR);

48.4. the area is a migration route for sardine ('the Sardine Run'), an important ecological process on the east coast. The migration typically occurs in the winter months of June to August (page 4-20, Final EIR);

48.5. loggerhead and leatherback turtles nest along the sandy beaches of the northeast coast of KwaZulu-Natal from mid-October to mid-January each year. Loggerheads remain close to the shore (within the boundaries of the iSimangaliso Wetland Park), whereas leatherbacks travel greater distances (more than 300 km) (pages 51 to 55, Marine Ecology Assessment);

48.6. southern right whales migrate to the southern African sub-region to breed and calve. Southern right whales will pass through Block ER236 in July

and August and again on their southward migration in October / November (page 63, Marine Ecology Assessment);

48.7. humpback whales are known to migrate between their Antarctic feeding grounds and their winter breeding grounds in tropical waters. The presence of humpback whales off the east coast peaks in June / July and September corresponding with their northward and southward migration respectively (page 64, Marine Ecology Assessment); and

48.8. sea birds that are likely to be encountered in Block ER236 include the pelagic migrant species such as albatross, petrels and shearwaters (pages 57 to 59, Marine Ecology Report).

49. Although the Marine Ecology Assessment acknowledges that many cetacean species can be found within Block ER236, the EIR relies mostly on outdated historic whaling records in determining baseline conditions.

**Marine Protected Areas, Critical Biodiversity Areas and Ecologically and Biologically Significant Areas**

50. The northern and southern AOIs are located in near proximity to (or in the case of Critical Biodiversity Area ("CBA") Offshore Area 20, overlapping with) areas identified as protection-worthy. These include several Marine Protected Areas ("MPAs"), CBAs and Ecologically and Biologically Significant Areas ("EBSAs"). The location of these areas in relation to the AOIs is depicted in the Area Map (Annexure **DDS11** hereto).

## D. THE RELEVANT STATUTORY FRAMEWORK

### Requirement to obtain an environmental authorisation

51. Section 24(2) of NEMA empowers the Minister to identify activities which may not commence without an environmental authorisation.

52. The process through which an environmental authorisation is obtained is prescribed by the Environmental Impact Assessment Regulations, 2014 ("the EIA Regulations").

53. The activities which require an environmental authorisation are prescribed by Listing Notices 1 to 3 of the EIA Regulations.

54. The proposed project involves conducting a number of activities listed in the Listing Notices. These are listed in Table 2.4, pages 2-4 to 2-5 of the Final EIR

55. As a result, the proposed project was required to undergo a Scoping and Environmental Impact Assessment process as set out by regulations 21 to 24 of the EIA Regulations.

### Environmental authorisations for coastal activities

56. Section 63(1) of the National Environmental Management: Integrated Coastal Management Act 24 of 2008 ("NEM:ICMA") requires a competent authority to take account of specific factors when deciding whether or not to grant an environmental authorisation under NEMA for "coastal activities" (as defined in NEM:ICMA). I discuss this requirement in more detail below.

**The broader framework of environmental law**

57. The obligation to obtain an environmental authorisation is the implementation of the broader principles of environmental law. The most relevant of these are set out below.

58. Section 24 of the Constitution provides that:

> *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 means that –*
>
> *(i) prevent pollution and ecological degradation;*
>
> *(ii) promote conservation; and*
>
> *(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

125. NEMA was enacted to give effect to this constitutional right. Section 2 of NEMA contains a set of principles which serve as a general framework for environmental management and guide the interpretation and implementation of the Act.

126. The most relevant of these principles are:

126.1. Environmental management must place people and their needs at the forefront of its concern, and serve the physical, psychological, developmental, cultural and social interests equitably.

126.2. Development must be socially, environmentally and economically sustainable.

126.3. Pollution and degradation of the environment must be avoided or, where this cannot be done altogether, be minimised and remedied.

126.4. The exploitation of non-renewable resources must be responsible, equitable and take into account the depletion of that resource.

126.5. That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied

126.6. That the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised.

126.7. That a risk-averse and cautious approach should be applied which takes into account the limits of current knowledge about the consequences of decisions and actions.

126.8. Negative impacts on the environment and on people's environmental rights must be anticipated and prevented and where they cannot be altogether prevented the must be minimised and remedied.

126.9. The environment is held in the public trust for the people and the beneficial use of the environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

126.10. The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.

126.11. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures.

127. Section 23 of NEMA sets out the objectives of the environmental authorisation framework. These include ensuring that the effects of activities receive adequate consideration before actions are taken in connection with them.

**The requirements for an environmental impact assessment**

128. Section 24 of NEMA provides that the potential environmental impact assessment of a listed activity must be assessed. In terms of section 24F of NEMA, no commencement of a listed activity may occur without the competent authority granting an environmental authorisation for such activity.

129. Section 24(4) provides that this must be done through a procedure which:

129.1. ensures the investigation of the potential impacts of the activity on the environment and the significance of those potential impacts;

129.2. includes an investigation of the potential impacts of the alternatives to the activity on the environment and the significance of those impacts;

129.3. includes an investigation of the mitigation measures to keep adverse consequences or impact to a minimum.

130. In terms of section 24O, when considering an application for an environmental authorisation the competent authority must take into account:

130.1. any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused;

130.2. measures which may protect the environment from harm or prevent or mitigate any environmental impact;

130.3. the ability of the applicant to implement mitigation measures;

130.4. the ability of the applicant to comply with the prescribed financial provision;

130.5. any information and maps compiled in terms of section 24 (3), including any prescribed environmental management frameworks, to the extent that such information, maps and frameworks are relevant to the application;

130.6. information contained in the application form, reports, comments, representations and other documents submitted in terms of this Act to the Minister, Minister responsible for mineral resources, MEC or competent authority in connection with the application;

130.7. where appropriate, any feasible and reasonable alternatives to the activity, including feasible and reasonable modifications to the activity.

131. The Appendix 3 of the EIA Regulations provides that:

131.1. the environmental impacts of a proposed project must be set out in the environmental impact assessment report which must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include the information specified in section 3 of Appendix 3;

131.2. one of the objectives of an environmental impact assessment process is to determine the nature, significance, extent, duration and probability of the impacts occurring to inform the identified preferred alternatives.

131.3. another objective of an environmental impact assessment process is to describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report; and

131.4. a further objective of an environmental impact assessment process is to determine the nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives, and the degree to which these impacts can be reversed, may cause irreplaceable loss of resources, and can be avoided, managed or mitigated.

## E. CHRONOLOGY OF RELEVANT EVENTS

132. Eni and Sasol appointed ERM to undertake the EIA process in respect of the proposed project. Application for environmental authorisation was first made to PASA on 23 January 2018.

133. A scoping report was subsequently prepared (on which the applicant commented), submitted to PASA on 8 March 2018 and accepted by PASA on 16 April 2018.

134. Eni and Sasol however failed to submit the environmental impact report and EMPr within the 106-day timeframe prescribed in Regulation 23(1) of the EIA Regulations, 2014 and as a result, the application lapsed.

135. On behalf of Eni and Sasol, ERM submitted a new application over the same area on 24 August 2018, and by virtue of the operation of Regulation 21(2)(a) of the EIA Regulations, did not have to resubmit a scoping report.

136. The environmental impact report was open for comment during October and November 2018, and the applicant submitted comments on 8 November 2018.

137. The Final EIR was published in December 2018 and submitted to PASA on 14 December 2018.

138. On 26 August 2019, the DDG issued an environmental authorisation for the proposed project ("the Initial Decision"). A copy of this environmental authorisation is annexed marked **DDS12.**

139. The applicant appealed the Initial Decision on 21 October 2019. A copy of the applicant's appeal (together with relevant annexures) is annexed marked **DDS 13.**

140. On 17 December 2020 the Minister dismissed the applicant's appeal and confirmed the Initial Decision, subject to additional conditions set out therein. A copy of the Minister's Appeal Decision is annexed marked **DDS14.**

## F. POINT *IN LIMINE* – ENVIRONMENTAL AUTHORISATION ISSUED TO NON-EXISTENT ENTITY

141. The environmental authorisation granted by the DDG for the exploratory drilling, was granted to Eni South Africa BV and Sasol Africa Limited.

142. This environmental authorisation was confirmed on appeal to the Minister. That appeal decision confirms the environmental authorisation but lists the applicants (for the environmental authorisation) as Eni South Africa BV and Sasol South Africa Limited.

143. An earlier Background Information Document, generated prior to the scoping report and the environmental impact assessment report, reflected that Eni South Africa BV and Sasol Africa Limited "hold an exploration right" with respect to Block ER 236 (12/3/236).

144. The final Scoping Report and Final EIR submitted by the environmental assessment practitioner, referred to Eni South Africa BV and Sasol Africa Limited.

145. This then accounts for why the DDG granted environmental authorisation to Eni South Africa BV and Sasol Africa Limited.

146. However, Sasol Africa Limited does not exist.

147. However, the entity referred to by the Minister on appeal, that is, Sasol South Africa Limited, does exist, but it is not the same entity which received environmental authorisation from the DDG.

148. The applicant's attorneys have determined that the Exploration Right was granted originally to Sasol Petroleum International (Pty) Ltd, which changed its name to Sasol Africa (Pty) Ltd during or about 20 July 2015.

149. This accords with an ERM letter relating to an environmental compliance audit (for 2D seismic surveys in ER236) dated 23 April 2020 (annexed marked DDS 14.1.), in which ERM (the environmental assessment practitioner) recorded the history as follows:

> *"*Sasol Africa (Pty) Ltd *… was granted an Exploration Right related to 2D seismic surveys in Exploration Right Block 236 (ER236) … on 13 November 2013, as per the exploration right 12/3/236. In 2014 Eni South Africa B.V. … and Sasol reached an agreement in which Eni acquired a 40% participating interest and operatorship of Exploration Right 12/3/236."*

150. The applicant's attorneys have conducted a Companies and Intellectual Properties Commission company search into the "Sasol" entities registered as companies in South Africa, and no results returned for a public company called

"Sasol Africa". However, public companies "Sasol" and "Sasol South Africa" are registered, as well as private company called "Sasol Africa". The Companies and Intellectual Properties Commission searches for the public companies "Sasol" and "Sasol South Africa" are annexed hereto as DDS6 and DDS7, and DDS8 is the relevant company extract for the private company "Sasol Africa".

151. On the face of it therefore, the environmental authorisation granted by the DDG to Sasol Africa Limited is null and void because it has been granted to a non-existent juristic entity. There can be no dispute about this because it appears that that ERM referred to this very entity in the EIA process including the final EIR submitted to the competent authority.

152. Further, the Minister on appeal appears to have confirmed this authorisation, to a non-existent entity, but effectively "granted" authorisation to another entity entirely, that is to another registered public company, namely, Sasol South Africa Limited.

153. That is not the entity which applied for authorisation in terms of the Final EIR, nor is it the entity which received environmental authorisation from the DDG.

154. I submit therefore, that the authorisation confirmed on appeal, is equally null and void for two reasons: first, the Minister confirmed authorisation to an entity distinct from the entity to which the DDG had granted environmental authorisation; and, second, the Minister appears to have granted authorisation to a public company which is not the holder of the exploration right.

155. I should point out, for completeness, that the notification of the environmental authorisation dated 9 September 2019 as well as the compliance letter dated 23 April 2020, from ERM, indicate that the environmental authorisation (from the DDG) and the Exploration Right were granted to Sasol Africa (Pty) Ltd.

156. All of this appears to be a muddle. Nevertheless, I am advised that the environmental authorisation granted by the DDG and confirmed by the Minister, have the force of law and are considered to be legal authorisations in terms of NEMA. I submit therefore that if such authorisations have been granted to non-existent or to the wrong entity, then the environmental authorisation is null and void and is unenforceable.

157. I therefore raise this as a preliminary issue, *in limine*, which I respectfully submit ought to be determined at the outset of the hearing. It may be that there is some lawful explanation for this, but if the applicant is correct in this submission, then this argument may well curtail the entire review proceedings.

158. For these reasons, the applicant has been constrained to cite Sasol Limited, as the parent company, as well as the other two Sasol companies referred to above, respectively, as the 6th, 7th and 8th respondents in this review.

## G. ARTIFICIAL DISTINCTION BETWEEN OIL EXPLORATION AND PRODUCTION

159. Eni and Sasol wish to explore for oil and/or gas for the sole purpose of discovering deposits that they can then exploit. In other words, despite the fact that exploration activities and production activities are listed separately for purposes

of the EIA Regulations, in reality they are steps in a single process, and it is artificial to exclude consideration of the impacts of the production process, or of the need for, and desirability of, producing oil and gas, when deciding whether or not to authorise exploration activities.

160. If the exploitation of oil and gas in the areas proposed is not necessary or is not desirable, then exploring for that oil and gas cannot be necessary or desirable, particularly given the ecological risks associated with the proposed exploration. In other words, any assessment of the need and desirability of exploration activities, inevitably requires an assessment of the need and desirability of undertaking long-term hydrocarbon production in those areas.

161. Impacts related to production activities are reasonably foreseeable impacts eventuating from exploration. If the impacts and risks associated with production are unacceptable, then any and all risks and impacts associated with exploration activities are unnecessary, undesirable and completely avoidable.

162. The fact that a further EIA would be necessary in order to obtain an environmental authorisation to commence production of oil and gas, and that more information would be available at that stage than is now available (e.g. about the location of the production wells and the anticipated duration of the production operations) does not obviate the need to assess these impacts on the basis of available information, at the exploration stage. The information which such an assessment would yield is clearly relevant to the decision as to whether or not the exploration should be authorised.

163. Companies such as Eni and Sasol apply for exploration rights and are willing to invest very significant amounts of money and effort into oil and/or gas exploration on the basis that they will be authorised to exploit any deposits that they may discover. If no assessment of the anticipated impacts of production are made before initiating a process that is intended to lead to production, the project will acquire a momentum (by virtue of the investment of large amounts of money and effort by both the applicants and the regulators). If the full adverse environmental impacts of production only become known once exploitable oil and/or gas deposits have been discovered (at great cost), the applicants will suffer significant losses if they abandon the project and the prospects of a regulator or the court stopping the production is significantly lower.

164. In the applicant's appeal (para. 22), SDCEA referred the Minister to a number of examples of international best practice of undertaking strategic environmental assessments which consider the impacts of both exploration and production. No similar approach is followed in South Africa.

## H. 1ST REVIEW GROUND: THE ROLE OF PASA

165. Historically the environmental aspects of the mining and oil and gas sectors have not been regulated under NEMA and other specific environmental management Acts ("SEMAs") as other activities are. This changed with effect from 8 December 2014 when the so-called "one environmental system" was implemented.

166. The MPRDA is the principal Act regulating mining and the exploitation of oil and gas. Prior to 8 December 2014, the MPRDA regulated the environmental management of mining and related activities.

167. As a consequence of a series of amendments to NEMA, the MPRDA and regulations made under them, since 8 December 2014 the environmental aspects of mining and oil and gas exploitation, like other activities, are regulated under NEMA and the National Environmental Management: Waste Act 59 of 2008 (NEM:WA). However unlike with other activities, the Energy Minister is responsible for administering these environmental laws instead of the Minister.

**Role of Energy Minister under the One Environmental System**

168. The Energy Minister is:

168.4. responsible for implementing NEMA to the extent that it relates to prospecting, exploration, extraction and primary processing of a mineral or petroleum resource or to directly related activities;

168.5. the competent authority responsible for deciding applications for environmental authorisations under NEMA if the activities relate to prospecting, exploration, extraction and primary processing if it's a mineral or petroleum resource (section 24C(2A) of NEMA); and

168.6. the licensing authority responsible for deciding applications for waste management licences under NEM:WA if the activities relate to prospecting, exploration, mining or operations (section 43(1A) and (1B) of NEM:WA).

**Role of the Minister under the One Environmental System**

169. The Minister retains exclusive jurisdiction in respect of the following areas:

169.1. the enactment of regulations relating to the environment and management of the environment (section 24(5) of NEMA);

169.2. prescribing environmental standards and norms, and monitoring and reporting requirements (section 24(10) of NEMA);

169.3. identifying activities for which environmental authorisation is required (section 24(2) of NEMA); and

169.4. hearing appeals against decisions relating to environmental authorisations and environmental management programmes, including decisions made by the Energy Minister under NEMA (section 43(1A) of NEMA).

**The role of PASA in the EIA process**

170. On 18 June 2004 the then Minister of Minerals and Energy published Government Notice 733 which designated PASA to perform the functions set out in Chapter 6 of the Minerals & Petroleum Resources Development Act, Act 28 of 2002 ("MPRDA").

171. PASA's mandatory statutory functions under the MPRDA include to promote onshore and offshore exploration for and production of petroleum, as well as to review and make recommendations to the Minister with regard to the acceptance of environmental reports and the conditions of the environmental authorisations and amendments thereto. It therefore cannot be viewed as an objective role-player.

172. I respectfully submit that PASA is performing functions and making decisions in the environmental impact assessment process that are *ultra vires* the empowering statute (NEMA). I submit further that performance of these powers and functions is taking place in the absence of any lawful delegation. The reasons for these submissions are set forth below.

173. Section 71 of the MPRDA, as set out in paragraph 2.105 of the Appeal Decision (which is attached as DDS14), sets out the functions of the designated agency, which include (among other things) that the designated agency must:

> *"(a) promote onshore and offshore exploration for, and production of, petroleum; and*
>
> *(i) review and make recommendations to the [Minerals] Minister with regard to the acceptance of environmental reports and the conditions of the environmental authorisations and amendments thereto*."

174. These functions do not empower PASA to make decisions regarding EIA processes, including EIA processes in terms of NEMA (such as the acceptance of scoping reports, or applications for environmental authorisation), only to review and make recommendations to the Energy Minister in this regard.

175. In terms of the EIA Regulations Listing, Notice 2 of 2014, the Energy Minister is identified as the competent authority where the listed activity is, or is directly related to, (among other things) exploration of a petroleum resource. It is therefore clear that the Energy Minister, not PASA, is the competent authority charged with evaluating (including recommendations made pursuant to PASA's review of an application), granting or refusing an environmental authorisation in terms of NEMA.

176. Section 42B of NEMA provides that the Energy Minister may in writing delegate a function entrusted to him/her in terms of the Act to: (a) the Director-General of the Department of Minerals and Energy ("DMRE"); or (b) any officer in the department of Minerals and Energy. It is relevant to note that s42B does not make reference to state-owned agencies or companies, such as PASA. Unlike s42(2)(d) of NEMA, it also does not include a power to subdelegate. Consequently, the Energy Minister does not have the power to delegate to PASA the power to evaluate, grant or refuse an environmental authorization.

177. However, I submit that PASA has performed certain functions in relation to the EIA process that fall outside the scope of section 71 of the MPRDA, and should have been performed by the Energy Minister or a person to whom the Energy Minister had validly delegated the power in accordance with section 42B of NEMA. It appears that the DMRE and PASA did not appreciate that the role of PASA had changed. For example, PASA performed the role of the competent authority in accepting and approving the Final Scoping Report ("FSR"), in accepting the application for environmental authorisation; and in accepting ERM's submission of the Supplementary Comments and Responses Report ("SCRR") as part of the Final EIR outside of the time period prescribed by law.

177.1. On 16 April 2018, PASA wrote to ERM advising that:

> *"The Petroleum Agency SA (hereafter referred to as the 'Agency') has evaluated the submitted FSR [Final Scoping Report] and Plan of Study for Environmental Impact Assessment and is satisfied that the documents comply with the minimum requirements of… [NEMA and the EIA Regulations, 2014]… <u>The FSR is hereby accepted in terms of Regulation 22(a) of the EIA Regulations, 2014. You may therefore</u>*

*proceed with the environmental impact assessment*…" (my underlining). (Final EIR Annexure C, Part 1 at page 4, annexed hereto as **DDS15.**).

177.2. After the EIA lapsed due to ERM not submitting its draft EIA report within the time period prescribed in regulation 23(1)(a) of the NEMA EIA Regulations (paragraphs 132 to 140 above), PASA accepted ERM's new application. This appears from ERM's letter to stakeholders dated 25 September 2018 (Annex **DDS16.**), which stated (among other things) that:

> "*A new EIA process has commenced, which was approved by PASA on 29 August 2018, successive to the approval of the Scoping Report on 16 April 2018*." (my underlining)

177.3. PASA accepted ERM's submission of the SCRR as part of the Final EIR outside of the time period prescribed in Regulation 23(1)(a) of the EIA Regulations and purported to grant an extension without ERM having formally applied for an extension of the relevant time period in terms of Regulation 3(7) of the EIA Regulations, and without the authority to do so.

177.3.1. On 14 December 2018, ERM released a Comments and Response Report ("CRR") to the public and submitted it to PASA as part of the Final EIR submission. The comprehensive comments of certain appellants, including Wildoceans and GroundWork, were not included in the Final EIR. Adrian Pole and Kirsten Youens, erstwhile attorneys for Wildoceans, wrote to ERM on 30 January 2019 bringing this

omission to their attention. This correspondence is annexed as **DDS17.**.

177.3.2. ERM's Vicky Stevens responded that same day by email to Wildoceans' attorneys advising that ERM was liaising with the authorities to determine the next steps regarding the omission. This correspondence is annexed as **DDS18.**.

177.3.3. On 6 February 2019, Mr. Pole responded advising that ERM's failure to include Wildoceans' submission and Eni / ERM's response thereto in the Final EIR submitted to PASA within the 106-day timeframe prescribed in Regulation 23(1)(a) resulted in the application for environmental authorisation lapsing in terms of Regulation 45. No application for an extension in terms of Regulation 3(7) had been applied by ERM. This correspondence is annexed as **DDS19.**

177.3.4. On 26 February 2019, ERM responded advising that ERM had incorporated the appellant's 'most recent comments' into a SCRR which was submitted to PASA and circulated to stakeholders on 22 February 2019 (which in fact occurred) and disagreeing that the application had lapsed. This correspondence is annexed as **DDS20.**

177.3.5. On 15 March 2019, Mr. Pole wrote again to ERM, noting that at the time of finalising and submitting the Final EIR to PASA on 14 December 2018, ERM had failed to take into account

or apply its mind to Wildoceans' submissions as required by Regulation 23(1)(a). Circulating the SCRR and submitting it to PASA on 22 February 2019 were done outside the timeframe prescribed in Regulation 23(1)(a). Accordingly, the application had lapsed. This correspondence is annexed as **DDS21.**

177.3.6. Notwithstanding the lapsing of the application, and the absence of a formal application for an extension as required by Regulation 3(7), PASA purported to grant an extension, and accepted the SCRR. This appears from correspondence from PASA to EMR on 13 February 2019, annexed hereto as **DDS21.1.** This correspondence records that "*your request to submit supplementary comments to the Final Environmental Impact Report, following omission of the comments submitted by WildTrust is granted. You are therefore required to submit an addendum comments and responses report on or before* ***22 February 2019****."*

178. The Minister stated in the Appeal Decision that no "*EIA process for adjudication*" has been delegated to PASA.

179. The appeal to the Minister by Wildoceans (whose appeal will presumably form part of the Rule 53 Record in due course) argued that PASA had acted *ultra vires* in performing the function referred to above during the EIA application process. In her reasons for the Appeal Decision, the Minister concludes (in paragraphs 2.100 to 2.107 of the Appeal Decision attached as DDS14) that:

> *"The Applicant* [Eni and Sasol] *contends that the Appellants' ground of appeal is based on the incorrect assumption that PASA is the CA charged with evaluating, granting or refusing an EA in respect of exploration activities…*
>
> *Further, in relation to the Appellants' allegation that the Minister of the DMRE was mistaken in delegating any EIA process for adjudication by PASA, the Applicant submits that the DMRE, in accordance with NEMA, is the designated CA charged with evaluating, granting or refusing an EA in respect of exploration activities, not PASA. Furthermore, the Applicant submits that the Minister of the DMRE has not delegated any EIA process for adjudication by PASA. The Applicant emphasises that the decision to grant an EA was made by DMRE and not PASA.*
>
> *PASA states that they are only acting in an advisory role* [making recommendations to the DMRE in respect of EA applications] *and that the EA was issued by the DMRE on 26 August 2019… I do not believe that PASA acted outside the provisions of section 71 and that the DMRE ultimately issued and signed the EA."*

180. It is therefore common cause that the only role that PASA was entitled to play in the EIA process was to review the application and to make recommendations to the competent authority (i.e. to play an advisory role). As I have explained above, in fact PASA purported to exercise the powers of the competent authority on several occasions, and it did so in a manner that had material impacts on the EIA process. The Minster does not disclose any factual basis for her belief that PASA did not act outside the provisions of section 71 (i.e. did not act *ultra vires*). I submit that this conclusion is irrational and not connected to the facts that were before the Minister.

181. I therefore submit that the Appeal Decision and Initial Decision fall to be reviewed and set aside on the basis of sections 6(2)(a)(i) and / or 6(2)(a)(i), 6(2)(d), 6(2)(f)(i) and 6(2)(i) of the Promotion of Administrative Justice Act, Act 3 of 2000 ("PAJA").

## I. 2ND REVIEW GROUND: PROCEDURAL UNFAIRNESS IN THE EIA PROCESS

**Breach of section 3 of PAJA and review in terms of section 6(2)(c) of PAJA**

182. I now focus on the applicant's arguments on procedural unfairness. The applicant submits that that the DDG and the Minister failed to follow a procedurally fair process in accordance with section 3 of PAJA. Accordingly, the ground of review relied upon by the applicant is section 6(2)(c) of PAJA.

183. Section 3(1)(a) of PAJA requires that administrative decisions must be taken through a procedurally fair process. This includes a reasonable opportunity to make representations about the subject matter being considered (section 3(2)(b)(ii)).

184. In turn this means that all information, relevant to the decision being made, ought to have been disclosed to the applicant and to other interested and affected parties. This is essential if the "reasonable opportunity" to make representations is to be achieved.

185. I am advised that this opportunity to make representations, over administrative decisions being considered, is in turn linked to the model of participatory and representative democracy in this country. In the administrative law context, the opportunity to be heard and to make representations therefore means that the

applicant and other parties in this matter ought to have been given all relevant information to enable them to influence the decisions made in this matter.

186. I submit that this process was procedurally unfair because the applicant was not provided with the review of the Oil Spill Modelling Report (Annex D4 to the Final EIR, and dated December 2018) ("the OSM Report"), which was separately undertaken by the Oceans and Coast Department of the national department of Environmental Affairs ("Oceans and Coast"). This was information which was relevant and germane to the decisions.

187. I say so because this is referred to as part of the information considered by the DDG (in the reasons for the Initial Decision) in the form of "supplementary comments" requested by PASA from Oceans and Coasts and a "response report" from ERM dated 10 May 2019.

188. This review by Oceans and Coast was not disclosed to interested and affected parties. The applicant was not aware that such a document existed, and its existence was only accidentally discovered by Wildoceans' attorneys when they received emailed responses from the appeal authority (the Minister) after having requested an extension of time within which to file the appeal.

189. The review is referred to in emailed responses dated 27 September 2019 from the Minister's appeal staff which included attachments. Those attachments included minutes of a meeting held on 3 May 2019 between officials from PASA, Oceans and Coast and ERM's independent reviewer Mr Stephen Lutger. In these attachments, reference is made to a "Peer Review of the Oil Spill Modelling

Report." That would appear to be the review conducted by Oceans and Coast of the OSM Report submitted in the Final EIR.

190. The minutes of the meeting of 3 May 2019 reflect that PASA commissioned this independent peer review, by Oceans and Coast, of the OSMR, and that ERM in turn responded to this peer review. The minutes are attached as **DDS22.**

191. Given that PASA thought it sufficiently important to obtain an "independent peer review" of the OSMR, it is difficult to understand why this was not disclosed to interested and affected parties.

192. Clearly, this independent peer review was important enough for the meeting of 3 May 2019 to be held, and for ERM to respond to the findings of the Oceans and Coast's peer review, as part of the environmental authorisation process (and prior to the DDG granting the environmental authorisation).

193. I submit therefore that such information was material, relevant and germane to the decision of the DDG and ought to have been disclosed to the interested and affected parties, but it was not.

194. The OSM Report was a controversial aspect of the impact assessment process. The applicant pointed to various flaws with the OSM Report as part of its opposition to authorisation both before the DDG and the Minister. Yet, material information on this controversial aspect was withheld from the applicant.

195. It is unclear on what basis this independent review was commissioned by PASA, when it was itself registered as an interested and affected party.

196. Furthermore, it is unclear why the meeting of 3 May 2019 was held, and ostensibly facilitated by PASA. The contents of the independent peer review by Oceans and Coast were obviously important enough to warrant a meeting amongst ERM, Oceans and Coast and PASA, to debate the contents of the independent peer review.

197. Further, the contents of the independent peer review, by Oceans and Coast, must have been weighty, given that ERM was permitted to file a response to that peer review.

198. Yet none of these matters were disclosed to the applicant or to other parties. This violates the sections of PAJA which I have referred to earlier and also contravenes the very purpose of "audi" in this context, which is to be given a genuine opportunity to influence the ultimate decision. That cannot be done when important information is withheld from interested and affected parties.

199. I point out further that section 2(4)(k) of NEMA imposes a statutory obligation on administrative decision-makers, particularly in this context, to take decisions "in an open and transparent manner, and access to information must be provided in accordance with law." I submit that this core environmental principle was also breached by the non-disclosure of the independent peer review and subsequent comments thereon.

200. Accordingly, I submit that this course of conduct, and withholding of relevant, germane and important information, in the environmental impact assessment process, breached the right to procedurally fair administrative action which is codified in section 3 of PAJA.

201. On this basis alone, I submit that the decisions at issue in this review, fall to be reviewed and set aside on the basis of section 6(2)(c) of PAJA.

202. These matters will be dealt with further in my supplementary founding affidavit, when the DDG and the Minister file the Rule 53 Record of their decisions, which must include the independent peer review conducted by Oceans and Coast and ERM's written responses thereto.

203. This argument will also be dealt with further in legal argument at the hearing of this application.

**Minister's failure to provide reasons for her Appeal Decision and the presumption in section 5 (3) of PAJA**

204. As is evident from paragraph 3.7 of the Minister's Appeal Decision, the Minister concedes that she has not dealt with all of the arguments before her on appeal, and she contends that her failure to "provide any response should not be interpreted to mean that I agree with or abide by the statement made."

205. This is a curious statement, because the Minister did not deal with several grounds of appeal put before her by the appellants, including the applicant. One of these important grounds of appeal was that the Minister did not deal at all with the deficiencies in the OSM Report.

206. This is apart from the other grounds raised by the applicant but not dealt with by the Minister which included:

206.1. failure to consider the no-go alternative (paragraphs 89 to 93 of the applicant's appeal);

206.2. failure to adequately assess the heritage impacts (at paragraphs 131 to 145 of the applicant's appeal);

206.3. that the proponent is not fit and proper to hold an environmental authorisation (paragraphs 146 to 151 of the applicant's appeal); and

206.4. inadequate public participation (paragraphs 174 to 186 of the applicant's appeal).

207. Accordingly, the applicant instructed its attorneys to write to the Minister to confirm that the reasons for her decision are those as set out in her appeal decision and to enquire what other reasons the Minister relied on for her decision. A copy of this letter dated 11 May 2021 is attached marked **DDS23.** I respectfully incorporate the contents of that letter by reference.

208. The Minister's department emailed a response to this letter on 31 May 2021, a copy of which is attached marked **DDS24.** As is evident from this response, the Minister has confirmed that the reasons for her decision on appeal are those contained in the appeal decision. The Minister has therefore conceded that there are no other reasons for her decision, contrary to what is contained in paragraph 3.7 of the appeal decision.

209. I am advised and submit that in the absence of providing the further reasons referred to in paragraph 3.7 of the appeal decision, the law presumes that the

Minister had no good reason for dismissing the other grounds of appeal, which she did not deal with, as recorded in paragraph 3.7 of her decision.

210. This presumption flows from an application of the provisions of section 5(3) of PAJA. This section provides that if an administrator fails to furnish adequate reasons in writing for her decision, then (with certain exceptions) it must be "presumed in any proceedings for judicial review that the administrative action was taken without good reason."

211. I am advised and submit therefore that it must be presumed in this review that the matters referred to in paragraph 3.7 of the appeal decision were dismissed "without good reason".

212. These matters will be dealt with further in legal argument at the hearing of this application.

## J. 3RD INITIAL DECISION AND APPEAL DECISION WERE MATERIALLY INFLUENCED BY ERRORS OF LAW

213. I respectfully submit that the Initial Decision and Appeal Decision have been influenced by two material errors of law. These are dealt with below.

**First Material Error of Law: The provisions of three specific environmental management Acts were not considered or were inadequately considered**

214. The applicant submits that the DDG and the Minister made material errors of law, contemplated in section 6(2)(d) of PAJA by failing to consider, or properly considering the importance of three specific environmental management Acts.

215. A starting point must be that oceans are dynamic environments. Unlike activities on land therefore, it is not possible in a dynamic coastal environment, to pinpoint cadastral descriptions or delineate areas as the only areas which will be impacted upon from a listed activity in those delineated coordinates. An oil spill on land is very different to an oil spill in coastal waters with currents, wave and tidal movements. Similarly, biological species in a marine environment, with some exceptions, are not sedentary but live within dynamic marine ecosystems.

216. The applicant submits that an analysis of three specific environmental management Acts demonstrates that there is an overriding purpose and objective in these laws, to protect, preserve and conserve marine areas such as this, and the ecosystems therein.

217. Stated simply, the DDG and the Minister failed properly to consider three key national laws in this matter, which are NEM:PAA, NEM:BA and NEM:ICMA, each of which are defined as “specific environmental management Acts” in NEMA.

218. The applicant argues that the DDG and the Minister failed to understand the nature of the legislative enquiries they were required to undertake, with the result that they failed to exercise their discretions lawfully and consistently with these laws. Each of these specific management acts is to be applied in addition to NEMA and, like NEMA, they have been promulgated to give effect to environmental rights in section 24 of the Bill of Rights.

219. I demonstrate now that the Final EIR failed to analyse and consider these important laws. The result of this is that the DDG and the Minister consequently failed to consider the important provisions of these laws, failed to appreciate the

discretions that they were called upon to exercise and consequently made material errors of law. (This is apart from the argument advanced by the applicant in section **N** hereof that the decision makers failed to take relevant considerations into account.)

220. Section 4 of the Final EIR deals with an "baseline conditions" and section 4-3 deals with the "environmental baseline." Section 4.3.4 deals with MPAs. I deal with the impacts on these areas in section **N** below.

221. This section records that Offshore Block ER236 falls within three MPAs but states that these MPAs do not fall within the northern and southern AOIs (drilling coordinates).

222. The Final EIR also records other "declared MPAs in the Area of Indirect Influence" and "other offshore Protection Areas in the Area of Indirect Influence" including the iSimangaliso World Heritage Site, Hope Spots and Estuaries at pages 4-38 to4-41.

223. Apart from this, section 4.3.3 deals with the "biological environment" (in about 16 pages) and deals with the limited information about deep water habitats and the water body as the reason for referring to baseline information about habitats in relatively shallower waters.[1]

224. There is otherwise no other direct reference the impact of the exploration drilling on these areas or biodiversity areas, except for a summary of key sensitivities (page vi) where it is emphasised that these MPAs and other sensitive

[1] Final EIR, section 4.3.3 "Biological Environment", page 4.16.

environmental or ecological areas fall outside the coordinates for exploratory drilling.

225. More detail is provided in the Marine Ecology Assessment. At pages 71-73 thereof, there is a recognition that Offshore Block E236 "overlaps with three CBAs". The Marine Ecology Assessment also locates the northern and southern coordinates for exploratory drilling as being away from these areas, save for Offshore area 20, recognised to be an area of "irreplaceable" importance, which overlaps with the southern coordinates for drilling.[2] There is no indication of how far away these CBAs are with respect to the drilling coordinates.

226. Nevertheless, the Marine Ecological Assessment, like the Final EIR, provided no further detail on the importance of the legislative protections provided to these areas, such as in the three specific environmental management acts which I deal with below.

227. There are only tangential references to the three specific environmental management acts, primarily in section 2.4.1 at page 2-8, where they are listed as "national legislation potentially relevant for the project". Otherwise, the Final EIR contains only oblique references to NEM:PAA, NEM:BA and NEM:ICMA. There is no reference to section 63 of NEM:ICMA.

228. Accordingly, it would seem that although the Final EIR and the Marine Ecology Assessment contained some discussion and drew attention to the importance of

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[2] The Marine Ecology Study also records that the iSimangaliso Wetland Park Extension is an area of "irreplaceable" importance and Offshore Area 21 is an area of "optimal" importance, both of which are CBAs which fall within Block ER236 (at page 73).

MPAs, CBAs and other such areas of environmental importance, the legislative status of these areas and the importance of the protection of these areas were minimised upon the basis that these fell outside the northern and southern drilling coordinates. The exception is Offshore Area 20, where the perspective of analysis there is that the impacts could be minimised by, for example, scanning the seabed prior to drilling.

229. The net effect of this is that the Final EIR was presented to the decision makers from the perspective that although these were important and sensitive areas, and worthy of conservation, these areas would not be directly impacted because they did not fall within the drilling coordinates. Any potential impacts from the actual exploratory drilling were therefore discussed and approached from the perspective that these areas would not be directly impacted and that any potential indirect impacts could be mitigated, save for Offshore Area 20 where it is said that only a small area overlapped with the drilling coordinates.

230. The applicant submits that the result of this limited analysis in the Final EIR is that the competent authorities likewise did not consider the legislative importance and the national protection given to the MPAs, the CBAs and EBSAs which are located within the Offshore Block ER 236.

231. Similarly, Offshore Area 20, an area of “irreplaceable” importance and which falls within the southern area of interest, which will be directly impacted by the exploratory drilling, was only considered from the perspective of mitigation, but not from the perspective of its legislative protection and importance.

232. As a consequence of this, when it came to exercising their discretions, both the DDG and the Minister had no more than passing regard to the overriding legislative importance of the three specific environmental management Acts, if they considered such matters at all.

233. What is concerning is that the Final EIR contained no indication of how far away the northern and southern areas of interest are to the MPAs, CBAs and EBSAs within Offshore Block ER236. Nor is there any indication of the precise extent to which the southern area of interest overlaps with the CBA in Offshore Area 20, save for stating that the overlapping area is "small" compared to the full extent of that CBA.

234. Our attorneys have engaged experts to plot those distances, as depicted in the Area Map, annexed as DDS11. The Area Map also depicts the movements of the Agulhas current and provides some indication of the inshore tidal movements closer to the coast. The arrows on the map clearly demonstrates the main course of the Agulhas current being southwards and coming closer to the coast as it travels south.

235. From this it would appear that the northern and southern areas of interest <u>appear to be in the region of between 20km to 50 km away</u> from these environmentally protected areas. On any basis this distance cannot be said to be "situated fairly far" as the Minister recorded in her reasons for dismissing the appeal.[3]

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[3] The Appeal Decision records at paragraph 2.124 (with respect to "Impact on Marine Protected Areas//Critical Biodiversity Areas):

236. As I demonstrate in the legislative analysis below, coastal processes and habitats are inherently dynamic and inter-related and the legislative focus is on protecting such ecosystems as a whole. I submit that this makes distance an unreliable, sole measure of impacts. This is why, for example, NEM:ICMA provides that one of the purposes of establishing coastal public property is to secure the natural functioning of dynamic coastal systems and to protect sensitive coastal ecosystems (section 7A(c) and (b)). It is therefore not clear how any impact assessment could have been done adequately if the starting point was to minimise impacts based solely on unknown distances, in a dynamic coastal

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> "It also appears that the proposed exploratory drilling areas do not overlap with any proclaimed MPAs, and are in fact situated fairly far from these areas. Furthermore, the OSM report suggests that in the event of a blowout leading to a large oil spill it is unlikely that oil will impinge on the MPAs. The southern exploratory drilling area does, however, overlap with CAA (Offshore Area) 20 identified in the KwaZulu-Natal Coastal and Marine Biodiversity Plan. The key drivers for identifying this area are: offshore habitat, biozones, offshore processes, sea surface temperature and chlorophyll-a fronts, fish, shark and mammal species."

The Minister goes on to state:

> "2.125. However, the impact assessment did consider MPAs and CBAs, and assesses various risks to the areas as being of Minor significance. The significance here is related to CCBA (Offshore Area) 20, which overlaps with the southern exploratory drilling area and was designated as such an area partly to protect marine mammals, which are sensitive to noise. Despite the above, I deem it important to clarify that under Listing Notice 3 … of the 2014 EIA Regulations, the legal precedent exists for activities to be allowed in CBAs provided they are assessed property and authorised by the relevant CA subject to compliance with set conditions.
>
> 2.126. Furthermore, the actual footprint on the seabed from planned exploration drilling is predicted to be very small within the context of Offshore Area 20, which extends along approximately 120 km of the southern KZN coast and up to approximately 200 km offshore, covering an area of approximately 24 000 km. In addition, there are already existing activities in the CBAs, such as coastal water discharges, fishing and shipping.
>
> 2.127 It is thus clear under Listing Notice 3, that oil and gas exploration activities in general are considered possible in a marine CBA (subject to conditions), and that for this specific exploration proposal in Block ER236, the impacts and risks have been addressed adequately via the conditions in the EA. In this regard I deem it appropriate to dismiss this ground of appeal."

environment, nor how these impacts could reliably have been assessed to be of minor significance.

237. The applicant makes this argument because our analysis of these three specific environmental management Acts suggests that two overriding objectives of these Acts are to protect and conserve declared MPAs and biodiversity areas. The applicant submits that this is the 'default position' in these three Acts, in so far as this marine environment is concerned.

238. I set out now only the salient features of each of these specific environmental management Acts next, to demonstrate our view.

*National Environmental Management: Integrated Coastal Management Act*

239. The environmental authorisation that is the subject of this review application, authorises Sasol and Eni to conduct exploration drilling within Offshore Block ER236, KZN, South Africa. Block ER236 is situated within South Africa's territorial waters and/or exclusive economic zone ("EEZ"). This means that for the purposes of NEM:ICMA:

239.1. Block ER236 is situated within "coastal waters"[4], which are "coastal public property"[5] and fall with the "coastal zone"[6]; and

239.2. the activities authorised by the environmental authorisation are "coastal activities"[7] and consequently that the Minister and the DDG were required to take into account section 63(1) of NEM:ICMA when rendering the Initial Decision and the Appeal Decision.

240. The Final EIR only mentioned NEM:ICMA in one instance, namely in relation to Section 69 of the NEMICMA which deals with the prohibition of the discharge of effluent that originates from a source on land into coastal waters (except in terms of a permit). It does not, however, contain any reference to the specific considerations that the decision-maker must consider by virtue of section 63. In this regard section 2.3 of the Final EIR (attached as DDS9) #) discusses the legislation and guidelines that have informed the preparation of that report.

241. Section 7 of NEM:ICMA provides the purposes of establishing coastal public property, which includes to protect sensitive coastal ecosystems and to secure the natural functioning of dynamic coastal processes. "Dynamic coastal

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[4] "**coastal waters**" means—
(a) the internal waters, territorial waters, exclusive economic zone and continental shelf of the Republic referred to in sections 3, 4, 7 and 8 of the Maritime Zones Act, 1994 (Act No.15 of 1994), respectively; and
(b)an estuary;

[5] "**7 Composition of coastal public property**.—(1) Coastal public property consists of—
(a) coastal waters;
(b) land submerged by coastal waters, including—
(i) land flooded by coastal waters which subsequently becomes part of the bed of coastal waters; and
(ii) the substrata beneath such land;"

[6] "**coastal zone**" means the area comprising coastal public property, the coastal protection zone, coastal access land, coastal protected areas, the seashore and coastal waters, and includes any aspect of the environment on, in, under and above such area;

[7] "coastal activities" means activities listed or specified in terms of Chapter 5 of the National Environmental Management Act which take place—
(a) in the coastal zone; or
(b) outside the coastal zone but have or are likely to have a direct impact on the coastal zone;

processes" are those defined as "all natural processes continually reshaping the shoreline and near shore seabed and includes" wind action, wave action, currents, tidal action and river flows.

242. "Estuaries" are defined generally as bodies of water permanently or periodically open to the sea in which water levels are influenced by tidal movements and in which salinity gradients occur "as a result of the influence of the sea".[8] Again, the dynamic nature of the ocean is legislatively recognised.

243. Given these purposes and objects, as well as the duties placed on the State, section 63 of NEM:ICMA imposes additional factors that must be considered with respect to environmental authorisations for coastal activities.

244. This is an important section because of its repeated reference to the purpose of establishing coastal public property (including coastal waters) and the emphasis on protecting and conserving. [9]

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[8] Significantly, the Final EIR recorded 188 estuaries between East London and Durban and acknowledged that they could potentially be impacted upon in the event of an accidental event (page 4-39). But no consideration is given to other important estuaries further north of Durban such as the St. Lucia Estuary, which forms "the core of the iSimangaliso Wetland Park". *See* paragraph 2 and generally *Umfolozi Sugar Planters Ltd v Isimangaliso Wetland Park Authority* [2018] ZASCA 144, as to the importance of this estuary for the functioning of that World Heritage Site.

[9] "**63 Environmental authorisations for coastal activities**

(1) Where an environmental authorisation in terms of Chapter 5 of the National Environmental Management Act is required for coastal activities, the competent authority must take into account all relevant factors, including-

(a) the representations made by the applicant and by interested and affected parties;

(b) the extent to which the applicant has in the past complied with similar authorisations;

(c) whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development or activity is consistent with the purpose for establishing and protecting those areas;

(d) the estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area;

(e) the socio-economic impact if the activity-

(i) is authorised;

(ii) is not authorised;

(f) .....

(g) the likely impact of coastal environmental processes on the proposed activity;

(h) whether the development or activity-

(i) is situated within coastal public property and is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations;

(ii) is situated within the coastal protection zone and is inconsistent with the purpose for which a coastal protection zone is established as set out in section 17;

(iii) is situated within coastal access land and is inconsistent with the purpose for which coastal access land is designated as set out in section 18;

(iv) is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated;

(v) is likely to be significantly damaged or prejudiced by dynamic coastal processes;

(vi) would substantially prejudice the achievement of any coastal management objective; or

(vii) would be contrary to the interests of the whole community;

(i) whether the very nature of the proposed activity or development requires it to be located within coastal public property, the coastal protection zone or coastal access land;

(j) whether the proposed activity or development will provide important services to the public when using coastal public property, the coastal protection zone, coastal access land or a coastal protected area; and

(k) the objects of this Act, where applicable."

(2) to (4) inclusive .....

245. Section 63 of ICMA is therefore an additional legislative overlay to environmental authorisations granted in terms of NEMA, as it relates specifically to listed activities in coastal public property, such as in this instance, in coastal waters. Of significance, is that this compels an enquiry into whether the proposed activities will be consistent with the purpose of establishing and protecting these areas.

246. What is clear is that one of the objects of NEM:ICMA is, indisputably, to preserve and protect coastal public property for the present and future generations.

247. The fact that the Final EIR failed to identify that the NEM:ICMA applied and the consequences of that for the decision-making process, contributed to the DDG and the Minister making an error of law (i.e. ignoring the provisions of NEM:ICMA). This had a number of profound consequences for the decision-making process.

247.1. The decision-makers failed to appreciate that instead of simply complying with the NEMA requirements that apply to competent authorities when deciding whether or not to grant an environmental authorization or decide an appeal, they were required to make these decisions as trustees responsible for safeguarding coastal public property owned not by the State, but by all South Africa citizens, and to ensure that coastal public property is used, managed, protected, conserved and enhanced in the

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(5) The competent authority must ensure that the terms and conditions of any environmental authorisation are consistent with any applicable coastal management programmes and promote the attainment of coastal management objectives in the area concerned.
(6) Where an environmental authorisation is not required for coastal activities, the Minister may, by notice in the Gazette list such activities requiring a permit or licence."

interests of the whole community; and for the benefit of present and future generations.

247.2. The decision-makers failed to appreciate that the unique legal status of coastal public property, and coastal waters in particular, meant that: (a) the areas affected by the proposed project must be afforded a particularly high standard of protection, and (b) that they must take account of applicable international law. (I discuss the status of coastal public property below in the section headed **Unique legal status of coastal public property, including coastal waters** and applicable international law in the section headed **Failure to give adequate consideration to international law**).

247.3. The decision-makers failed to appreciate that in taking their decisions they were required to take account of specific considerations specified in section 63 of NEM:ICMA in addition to the usual considerations required under NEMA in relation to decisions on environmental authorisations. (I discuss this failure below in the section headed **Failure to consider matters specified in section 63 of NEM:ICMA**.)

247.4. The decision-makers failed to appreciate that in taking their decisions they were required to consider whether or not the proposed project "would be contrary to the interests of the whole community", and that this involved an eco-centric consideration of the impacts of the proposed project. (I discuss this failure below in the section headed **Failure to consider the interests of the whole community**).

Unique legal status of coastal public property, including coastal waters

248. This exploration drilling will take place in coastal waters (which forms part of coastal public property) yet it appears that no serious consideration was given in the Final EIR, or by the competent authorities, to the provisions NEM:ICMA, some of which have been summarised above. This means that the DDG and the Minister misconstrued the nature of their discretions, from the perspective of NEM:ICMA and failed to act in accordance with this law.

249. "Coastal public property" has a unique legal status which is intended to ensure that coastal and marine environments receive a particularly high degree of protection; are used, managed, protected, conserved and enhanced in the interest of the whole community; and are safeguarded by the State as trustee on behalf of all South Africans, including future generations.

249.1. One of the objects of NEM:ICMA is ""to preserve, protect, extend and enhance the status of coastal public property as being held in trust by the State on behalf of all South Africans, including future generations;" (section 2(c)).

249.2. The purposes for which coastal public property is established include: "to protect sensitive coastal ecosystems" (section 7A(1)(b)) and "to facilitate the achieve of any of the objects of this Act" (section 7A(1)(e)).

249.3. Coastal public property is owned by the citizens of South Africa and cannot be alienated (section 11).[10]

249.4. Coastal public property is held in trust by the State on behalf of the citizens of South Africa (section 11(1)) and as public trustee, the State:

249.4.1. must ensure that coastal public property is used, managed,[11] protected, conserved and enhanced in the interests of the whole community (section 12(a)); and

249.4.2. must take whatever reasonable legislative and other measures it considers necessary to conserve and protect coastal public property for the benefit of present and future generations (section 12(b)).

250. The DDG and the Minister made the Initial Decision and the Appeal Decision respectively in the same way as they would have made a decision in relation to the granting of an environmental authorization under NEMA for a proposed activity on land (i.e. that would take place outside the coastal zone) without

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[10] **11. Ownership of coastal public property**.— (1) The ownership of coastal public property vests in the citizens of the Republic and coastal public property must be held in trust by the State on behalf of the citizens of the Republic.
(2) Coastal public property is inalienable and cannot be sold, attached or acquired by prescription and rights over it cannot be acquired by prescription.
**12. State public trustee of coastal public property**.—The State, in its capacity as the public trustee of all coastal public property, must—
(a) ensure that coastal public property is used, managed, protected, conserved and enhanced in the interests of the whole community; and
(b) take whatever reasonable legislative and other measures it considers necessary to conserve and protect coastal public property for the benefit of present and future generations.

[11] "**coastal management**" includes—
(a) the regulation, management, protection, conservation and rehabilitation of the coastal environment;
(b) the regulation and management of the use and development of the coastal zone and coastal resources;
(c) monitoring and enforcing compliance with laws and policies that regulate human activities within the coastal zone; and
(d) planning in connection with the activities referred to in paragraphs (a), (b) and (c);

appreciating that they were required to approach the authorization of a coastal activity within coastal waters in a fundamentally different manner. In particular they were required to act as public trustees of an asset owned by the citizens of South Africa and which is subject to a particular high standard of environmental protection, to consider additional factors specified in section 63 of NEM:ICMA, and to take an eco-centric approach, as explained more fully below.

251. There is no reference to section 63 of the Integrated Coastal Management Act, in the decisions of the DDG and the Minister, much less is it pertinently raised or described in the Final EIR.[12]

*National Environmental Management: Protected Areas Act*

252. Broadly, NEM:PAA was passed to establish and declare a system of land and marine protected areas. One of the objects of this Act is to "manage and conserve" the country's biodiversity (section 2). As with NEM:ICMA, the State acts as trustee of the people to implement this law, in partnership with people, to achieve the progressive realisation of environmental rights in section 24 of the Bill of Rights (section 3).

253. The purpose of protected areas[13] is contained in section 17:

> "17 Purpose of protected areas

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12 Aside from two paragraphs in section 2.3.5 at page 2-7, which do not refer to section 63 of the Integrated Coastal Management Act and in paragraph 2.4.8 at page 2-8 which simply provides a list of "potentially relevant" legislation.

13 Which, for our purposes, includes World Heritage Sites, such as the iSimangaliso World Heritage Site and Marine Protected Areas identified in the Marine Ecological Study.

The purposes of the declaration of areas as protected areas are-

(a) to protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in a system of protected areas;

(b) to preserve the ecological integrity of those areas;

(c) to conserve biodiversity in those areas;

(d) to protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa;

(e) to protect South Africa's threatened or rare species;

(f) to protect an area which is vulnerable or ecologically sensitive;

(g) to assist in ensuring the sustained supply of environmental goods and services;

(h) to provide for the sustainable use of natural and biological resources;

(i) to create or augment destinations for nature-based tourism;

(j) to manage the interrelationship between natural environmental biodiversity, human settlement and economic development;

(k) generally, to contribute to human, social, cultural, spiritual and economic development; or

(l) to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species."

254. NEM:PAA is therefore similar to NEM:ICMA in its emphasis on conserving and protecting areas declared as protected areas in terms of the Act. At its simplest, the system of protected areas declared in terms of this Act, flows from a national

legislative commitment to set aside such areas as worthy of protection and conservation, while managing development from this focus (or, as the applicant contends, from this 'default position').

255. The Final EIR identifies NEM:PAA as a national law "potentially relevant" to the authorisation (page 2-8, section 2.4.1) and then deals with it only in passing with respect to three MPAs from the perspective that these do not fall within the drilling coordinates. MPAs are dealt with at pages 4-35 to 4-38 of the Final EIR, again from the perspective that they do not fall within the drilling coordinates (besides an acknowledgment that three MPAs fall within block ER236).

256. Beyond that the Final EIR contains no meaningful analysis of what the provisions of NEM:PAA mean with regard to the scope of impact assessment nor for the assessment of the application for environmental authorisation. There does not appear to have been any consultation with the management authorities of these MPAs nor any consideration of the management plans applicable in these areas as contemplated in Chapter 4 of NEM:PAA .

257. Significantly, section 22A of NEM:PAA provides emphasis on protection and conservation once more with respect to dynamic coastal systems:

> "22A Declaration of marine protected areas
> (1) The Minister may, by notice in the Gazette-
> (a) declare an area specified in the notice-
> (i) as a marine protected area; or
> (ii) as part of an existing marine protected area; and
> (b) assign a name to the marine protected area.
> (2) A declaration under subsection (1) (a) may only be issued-
> (a) to conserve and protect marine and coastal ecosystems;

(b) to conserve and protect marine and coastal biodiversity;

(c) to conserve and protect a particular marine or coastal species, or specific population and its habitat;

(d) if the area contains scenic areas or to protect cultural heritage;

(e) to facilitate marine and coastal species management by protecting migratory routes and breeding, nursery or feeding areas, thus allowing species recovery and to enhance species abundance in adjacent areas;

(f) to protect and provide an appropriate environment for research and monitoring in order to achieve the objectives of this Act; or

(g) to restrict or prohibit activities which is likely to have an adverse effect on the environment.

(3) A notice under subsection (1) (a) may only be issued after consultation with the Cabinet member responsible for fisheries."

258. In the appeal decision, the Minister simply noted that the drilling coordinates "do not overlap with any proclaimed MPAs, and are in fact situated fairly far from these areas…".

259. The result of this (and the DDGs decision) is that there was in fact no inquiry as required by section 63 of NEM:ICMA, including an assessment of whether coastal public property, the coastal protection zone or coastal access land would be affected "and if so" "the extent to which the proposed development or activity is consistent with the purpose for establishing and protecting those areas" (section 63(c)).

260. Nor does there appear to have been any consideration of "estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area…" (section 63(1)(c).

261. Evidently, this is because the Final EIR and Marine Ecology Assessment presented the impact analysis from the perspective that although the MPAs do fall within Offshore Block ER236, these MPAs do not fall within the northern and southern drilling areas, so no further consideration had to be given to these matters or the impact of exploratory drilling on adjacent MPAs.

262. As I have noted there is no explanation as to how far away the northern and southern areas of interest are from these MPAs, CBAs and EBSAs and the Minister simply accepted in her decision that the MPAs are some distance away. I have demonstrated why this is inaccurate by reference to the Area Map.

*National Environmental Management: Biodiversity Act*

263. Broadly, NEM:BA was enacted to manage, conserve and protect South Africa's biodiversity, in line with South Africa's commitments in terms of international biodiversity agreements (section 2 – "Objectives of the Act").

264. As with NEM:ICMA and NEM:PAA, the State must act as trustee of the country's biodiversity and is under mandatory legislative duties in this regard to achieve the progressive realisation of section 24 rights (section 3).

265. It is clear from the definition of "biological diversity" in the Act that what is included is "the variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part and also includes diversity within species, between species, and of ecosystems."

266. The Marine Ecology Assessment records that there are three CBAs in Block ER236 but states only one (Block 20) falls within the southern coordinates for drilling. Although the Marine Ecology Assessment records that this CBA (Block 20) is of "irreplaceable" importance (pages 72-73), it nevertheless presents the direct and potential impacts as being capable of being mitigated (pages 73-75). Although impacts on MPAs and EBSAs are considered inter alia at page 153, there is no impact assessment in respect of the three CBAs which fall within ER236. I deal with this further on. Nor is it possible to discern any specific impact assessment on Offshore Area 20 which overlaps with the southern drilling coordinates.

267. Nevertheless, at page 140, the Marine Ecology Assessment acknowledges the inherent impact of spills associated with the operational aspects of the activity:

> "Being highly toxic, oil from a 'blow out' a riser disconnection or marine diesel released during an operational spill would negatively affect any marine fauna it comes into contact with. The drilling activities would be located in the offshore marine environment, -100km offshore, and removed from most sensitive coast receptors (e.g. bird colonies, coral reefs) or MPAs. However, due to the proposed well(s) being situated within the influence of the strong Agulhas Current, spilled hydrocarbons would be rapidly transported considerable distances, both within the water column and on the surface, with visible surface slicks potentially reaching the shore to the southwest of the proposed well locations. Depending on the nature of the spill, sensitive coastal receptors and MPAs could thus likely be affected to a greater or lesser degree by surface oil."

268. This is to be contrasted with the analysis at pages 146-147 which deals with the direct impacts of a "major spill" where it is acknowledged that such "could have devastating effects on the marine environment" but which are nevertheless framed as being of low probability and capable of mitigation.

269. What is more, is that the Marine Ecology Assessment also notes in various places, and emphasises in the conclusion (page 199) that:

> "Studies investigating benthic communities, habitats or ecosystems in the offshore environments of southern Africa's East Coast are lacking and no knowledge exists of seabed communities at the depths of the proposed wells…".

270. If that is so, and, given the relatively close proximity of at least three CBAs, with one of "irreplaceable" importance directly overlapping the southern drilling area, it is not clear how any conclusion could be reached that the CBAs established in terms of NEM:BA, would not be affected at all or that any impact would only be negligible and capable of mitigation.

271. To return to the provisions of NEM:BA, the applicant presumes that the Coastal and Marine Biodiversity Plan for KZN (SeaPLAN Technical Report, 2012) formed the basis of the analysis with respect to the three CBAs in the Marine Ecology Assessment (pages 72-75). Although the "key drivers" for these areas are set out in the Marine Ecology Assessment, there appears to be no analysis of impacts on these three CBAs, save in respect of Offshore Area 20, where again the impact analysis is presented from the perspective of mitigation.

272. Indeed, the Minister adopted this analysis by accepting the conclusion in the impact analysis that the impacts are of "Minor significance".

273. This conclusion flowed from the Minister's reason that "the primary purpose of mapping CBAs is to guide decision-making about where best to locate development. It informs land use planning (or marine use in this case),

environmental assessment and authorisations, and natural resource management by a range of sectors whose policies and decisions impact on biodiversity" (para 2.122).

274. It is not immediately clear to the applicant where this reasoning originates in law. It may be that the Minister referred to the National Biodiversity Framework, published in terms of NEM:BA. That National Biodiversity Framework suggests that the expansion of protected areas and the recognition of CBAs in the marine environment (within and adjacent to Block ER 236) is to identify areas for protection and conservation so as to provide a blueprint about where developments may safely be located.

275. For example, a stated purpose of the National Biodiversity Framework (section 1.1) is as follows:

> "The NBF provides a framework for conservation and development. Too often in South Africa conservation and development are seen as opposing or irreconcilable goals. As our economy moves towards 6% economic growth, we need to ensure that the way we achieve this growth allows for the continued functioning of ecosystems and the persistence of the natural resource base. This is possible, if care is taken over the location of development, the type of development, and the consumption of natural resources in the development process. Sustainable development depends on *where* and *how* development takes place.
>
> Development is not sustainable if it results in:
>
> - loss and degradation of habitat in threatened ecosystems and critical biodiversity areas
> - further introduction or spread of invasive alien species

- over-abstraction of water beyond the limits of the ecological reserve
- over-harvesting of species
- further contributions to climate change

There are many opportunities for development that is consistent with building on and maintaining our extraordinary natural resource base, so that the socio-economic options of future generations are not compromised."

276. The applicant submits that the Minister and DDG overlooked the critical importance of NEM:BA from the perspective of protecting and conserving the three identified CBAs within Block ER236, in the capacity of the State as trustee of these areas. At the very least there ought to have been a consideration of the value of these areas and the extent of potential negative impacts of the exploratory activities on these areas.

**Second Material Error of Law: Minister's Misapplication of Listing Notice 3**

277. The Minister relied on activities in Listing Notice 3 to suggest that "legal precedent exists for activities to be allowed in CBAs provided they are assessed properly and authorised by the relevant CA subject to compliance with set conditions" and that "under Listing Notice 3, that oil and gas exploration activities in general are considered possible in a marine CBA (subject to conditions)" (paras 2.125 and 2.127).

278. A comparison of Listing Notices 2 and 3 demonstrates the contrary. The applicant submit that the Minister made a critical legal error.

279. Listing Notice 2 deals with developments that require a mining right and an exploration right issued in terms of the Minerals and Petroleum Resources Development Act 22 of 2002. Listing Notice 2 also deals with developments on, below or along the seabed.

280. Listing Notice 3 does not deal with these matters and is largely confined to developments of smaller scales and which are on land, relate to aquaculture or otherwise within 1km or 100m of the high water mark of the sea. Listing Notice 3 does not deal with activities which require a mining right or an exploration right in terms of the Minerals and Petroleum Resources Development Act, nor with developments on, below or along the seabed.

281. As the Final EIR demonstrates, two of three of the CBAs are said to be of "irreplaceable" importance (iSimangaliso Wetland Park Extension and Offshore Area 20), which means that there are no alternative sites available to achieve those biodiversity targets. Further, the other CBA (Offshore Area 21) is of "optimal" importance which means that it is the best location of many to meet biodiversity targets while avoiding high-cost areas.

282. Given this, and the import of NEM:BA, and the duties placed on the State as trustee to manage, preserve and protect these areas, the applicant submits that the Minister (and DDG) failed to appreciate the important duties placed on them

in terms of NEM:BA. This is equally so from the perspective of binding international biodiversity laws.[14]

***Conclusion on the two material errors of law***

283. Based on what I have said in this section, I submit that the legislatively sanctioned protection and conservation objectives in these three specific environmental management Acts were not adequately assessed, considered or presented in the Final EIR and in the Marine Ecology Assessment. It follows therefore that the decision makers did not fully understand these legislative objectives and the duties placed upon them by these Acts, with specific reference to the marine environment under examination. They accordingly made material errors of law contrary to section 6(2)(d) of PAJA and misconstrued the nature of the discretions that they were called upon to exercise.

284. The consequence is that the decision makers did not properly apply NEMA principles, such as those listed *inter alia* in section 2 of NEMA, subsection (4),

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[14] Section 5 states that the Biodiversity Act is to give effect to binding international agreements. One such ratified international law is the Convention on Biodiversity but we are less clear about whether there have been section 52 and section 56 listings in the three implicated CBAs or MPAs that give effect to that or any other binding international agreements on biodiversity. This is partly because the maps contained in the Final EIR and in the Marine Ecology Report of a small scale, are dense and are not easily understandable.

The Marine Ecology Assessment does refer to the Convention on Biological Diversity on page 76 and the species and habitats listed by South Africa in this regard on the east coast, but what is not clear is how and to what extent these are to be found in the three implicated CBAs. All that the analysis on page 76 records is: "Three Ecologically or Biologically Significant Areas (EBSA) have been proposed and inscribed for the East Coast under the Convention of Biological Diversity (CBD) (CBD 2013), namely Protea Banks and the Sardine Route, the Natal Bight and the Delagoa Shelf Edge."

which list relevant factors to be considered in the context of sustainable development, and which include:

(a) "that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;"

(b) "that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised or remedied;"

(c) "that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions"; and

(d) "that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and, where they cannot be altogether prevented, are minimised and remedied."

285. In this regard, NEMA principle 2(4)(o) acquires particular significance in the context of the three specific environmental management Acts (as analysed above), when it records that "the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage."

286. The same is true of NEMA principle 2(4)(r) which is to the effect that "sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores,

estuaries, wetlands and similar systems require specific attention in management and planning procedures…".

287. All these principles are echoed in section 24(4) of NEMA which stipulates the parameters for environmental impact assessments.

288. I consequently submit that the DDG and Minister committed material errors of law as described herein.

289. These matters will be dealt with further in my supplementary founding affidavit and in argument at the hearing of this review.

## K. 4TH REVIEW GROUND: INADEQUATE CONSIDERATION OF NEED AND DESIRABILITY

290. The applicant raised concerns about the failure to adequately assess the need for and desirability of the proposed exploration activities in its appeal to the Minister. These arguments are contained in paragraphs 94 to 107 of SDCEA's appeal, attached as DDS13, and incorporated by reference in this affidavit.

291. I further set out below the legal basis on which the DDG and the Minister were required to consider need and desirability, and why it is material that a number of factors relevant to a determination of need and desirability were not considered.

**Legal requirements applicable to consideration of need and desirability**

292. Regulation 18 of the EIA Regulations requires that when considering an application for environmental authorisation, the competent authority must take

into account all of the factors set out in 24O of NEMA, including the need and desirability for the proposed project, any guideline published in terms of section 24J and any minimum information requirements for the application. This includes the 2017 *Guideline on Need and Desirability, Department of Environmental Affairs* (DEA), Pretoria, South Africa ("the Guideline"). Relevant extracts from the Guideline are annexed marked "**DDS25.**."

293. Chapter 4 of the Guideline states that the "*need for and desirability of a proposed activity should specifically and explicitly be addressed throughout the EIA process when dealing with individual impacts and specifically in the overall impact summary by taking into account the answers to inter alia the following questions*." Detailed questions are then set out.

294. The Guideline also states that the assessment of "need and desirability" must include considerations of how the "*geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity*" (p.9 of the Guideline).

295. Furthermore, as explained above in paragraphs 239 to 251, section 63 of NEM:ICMA requires decision-makers that are responsible for making decisions regarding environmental authorisations for coastal activities to take account of specific issues, some of which are relevant to the determination of need as desirability, such as:

295.1. the extent to which the proposed project is consistent with the purpose for establishing and protecting coastal public property (as required by NEM:ICMA section 63(1)(c));

295.2. the socio-economic impact if the activity is authorised and if it is not authorised (as required by section 63(1)(e));

295.3. whether the proposed project is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations (as required by section 63(1)(h)(i)); and

295.4. whether the proposed project would be contrary to the interests of the whole community (as required by section 63(1)(h)(vii)).

**Overview of deficiencies in assessment of need and desirability**

296. The Final EIR includes a description of need and desirability of the proposed exploration activities (page 3-2). See extracts attached in DDS9. However, this description is devoid of a detailed assessment as contemplated by NEMA and in the Guideline.

297. In particular, this description of need and desirability is deficient in at least the following respects:

297.1. first, it presumes that the oil and gas exploration activities are needed and desirable based on selected policy prescripts, but does not assess and evaluate the need and desirability of the proposed project in context;

297.2. second, it justified the need and desirability of the proposed project with reference to the anticipated benefits of exploiting the oil and gas that is discovered but fails to assess or take account of the negative impacts

associated with the long-term exploitation of oil and gas in the area in question;

297.3. third, it does not take into account climate change considerations;

297.4. fourth, it fails to consider alternatives, including the no development option; and

297.5. fifth, it fails to consider the need and desirability of the activity in the context of the preferred location.

298. Each of these deficiencies are explained in more detail below.

**Presumption of need and desirability based on selected policy prescripts**

299. The Final EIR impermissibly assumes that the proposed project is necessary or desirable on the basis of prior Government policy statements that are general in nature, were formulated without any consideration of the proposed project, and were formulated by other organs of state for purposes unrelated to the project-specific assessment of need and desirability.

300. As stated above, the Final EIA Report addressed the question of need and desirability in section 3-2.

301. The policy statements referred to in section 3-2 of the Final EIA Report may be relevant considerations. However, I submit that fulfilling the duty to consider the need and desirability of a specific proposed project requires more than merely referring to general policy statements.

302. The DDG and the Minister were required to base their consideration of the need and desirability of the proposed project on a proper assessment that took account of all relevant circumstances and implications, including: the place where the proposed project would occur, the fact that the exploration is intended to lead to oil and/or gas exploitation, and the climate change implications of the proposed project.

*Biased selection of policies*

303. The description of need and desirability, as contained in section 3-2 of the Final EIR, impermissibly relies only on selected policies which promote the extraction and use of fossil fuels to justify the exploration activities, instead of considering all relevant policies. Consequently, it excludes consideration of other relevant policies to inform the assessment, and biases the consideration of need and desirability in favour of exploration activities, and continued exploitation of oil and gas resources.

304. I am advised that the Guideline explains (at page 8) that when considering need and desirability in the EIA process, "the content of the IDPs, SDFs, EMFs and other relevant plans, frameworks and strategies" (my emphasis) must be taken into account.

305. The need and desirability section of the Final EIR refers only to the policy statements (page 3-2):

305.1. in the White Paper on the Energy Policy (1998) that fossil fuels, including oil and gas, play an important role in the socio-economic development of South Africa, and is a host for foreign investment in the energy sector,

and that the successful exploitation of the country's natural oil and gas resources will contribute to the growth of the economy and "relieve pressure on the balance of payments";

305.2. in the National Development Plan and draft Integrated Energy Plan that the projected demand for crude oil will continue to increase in the medium and long term if current policies, politics and levels of access continue;

305.3. in the 2018 draft Integrated Resource Plan that the importance of the development of gas supply options in South Africa (including from local production) as an alternative fuel for power generation activities is emphasised; and

305.4. in Operation Phakisa that the proposed exploration drilling provides an opportunity to fulfil Operation Phakisa's aim to unlock the oceans' economy by providing opportunity for oil and gas exploration in South African waters.

See attached extracts of the Final EIR in DDS9.

306. I submit that other relevant policies which should have been included in the assessment of need and desirability include those relating to, *inter alia*, climate change, and the broader community's needs and interests arising through the EIA process (see page 3 of the Guideline). The Final EIR includes no assessment of need and desirability in relation to any of these aspects.

307. In taking the Initial Decision, the DDG appears to rely on the policy prescripts of Operation Phakisa to justify the need and desirability of exploration:

> "*In terms of need and desirability of the project, where proposed exploration drilling become successful, the project may provide the opportunity to fulfil Operation Phakisa's aim to unlock the ocean's economy* [sic]." (paragraph 4.1 of Appendix 1 of the EA)

308. Similarly in the Appeal Decision, the Minister considered only a very limited aspect of the appeal grounds relating to need and desirability in a section she titles "an in principle objection to the use of oil and gas (if discovered) due to climate change impacts". By relying only on references to the above policies, she dismisses this ground of appeal as follows:

> "… *section 3.2 of the final EIAr does provide information on the energy planning context, and includes information on the Integrated Resources Plan, NDO, and South African White Paper on the Energy Policy (1998). In this regard, I am of the view that the responses provided to the Appellants by the Applicant and PASA are adequate. This ground of appeal is accordingly dismissed*." (para 2.73 of the Appeal Decision)

309. Consequently, no comprehensive assessment of need and desirability informed the decisions of the DDG or the Minister. It was not assessed whether oil or gas is actually needed in the context in which it is proposed.

310. For example, neither the DDG, the Minister nor the Final EIR considered whether the offshore gas wells are necessary to supply the gas required for the country's future energy mix as detailed in the IRP. The 2019 Integrated Resource Plan ("2019 IRP") was finalised and published by the time the Minister made the Appeal Decision but she does not appear to have considered it in relation to determining the need and desirability of the proposed project, despite the fact

that the 2019 IRP was clearly relevant. I attach relevant extracts from the 2019 IRP marked "**DDS26.**". Had the Minister considered the 2019 IRP, she would have noted that:

310.1. the plan calls for 3000 MW of gas in South Africa's future energy mix, and specifically, "*1000 MW in 2023 and 2000 MW in 2027, at a 12% average load factor*" after having taken into account "locational issues like ports, environment, transmission etc"; (p. 47 of the 2019 Integrated Resource Plan) and

310.2. "[t]*his represents low gas utilization, which will not likely justify the development of new gas infrastructure and power plants predicated on such sub-optimal volumes of gas*." (p. 47 of the 2019 Integrated Resource Plan.)

311. In taking the Appeal Decision, the Minister did not have before her any assessment as to whether the proposed gas wells are needed to supply 1000 MW by 2023, or 2000 MW by 2027, or whether this gas will be needed in light of increasing renewable energy options, such as solar and wind plus storage, that may delay or erase the need for new gas. I submit that it is conceivable, if not likely, that had she done so she may well have come to the conclusion that the proposed project is neither necessary nor desirable at this time.

312. I respectfully submit that neither the DDG nor the Minister were entitled to presume as a foregone conclusion that the proposed exploration is needed and desirable based on policies or plans made by other organs of state without further assessment.

**Failure to consider negative impacts associated with exploration or production**

*Reliance on benefits of production to justify need and desirability of exploration*

313. The description in the Final EIR of the need and desirability of the proposed project relies on ostensible benefits associated with full scale production activities. For example section 3-2 of the Final EIR (page 3-1 to 3-3):

313.1. refers to extracts in the South African White Paper on Energy Policy relating to the exploitation and development of the country's oil and gas resources, and concludes that "t]*he successful exploitation of these natural resources would contribute to the growth of the economy and relieve pressure on the balance of payments*";

313.2. refers to the objectives of the Draft Integrated Energy Plan to secure and diversify sources of energy, and that "the plan indicates that projected demand for crude oil will continue to increase in the medium to long term if current policies, politics and levels of access continue" (page 3-2 of the Final EIR), which relies on a successful find and commercially exploitable resources.

313.3. relies on the statement in the 2018 IRP that "emphasizes the importance of developing gas supply options in South Africa (including from local production) as an alternative fuel for power generation activities", to assume that a commercially exploitable gas find will be beneficial as it will contribute to the gas supply for power generation activities;

313.4. states that "[p]*roducing* more oil and gas within South Africa is expected to contribute towards more stable prices, create new jobs and industries*

*in the upstream and downstream oil and gas industry supply chain and sectors and counter volatility related to instabilities in major oil producing regions*" (my underlining); and

313.5. states that "*exploration success would result in long-term benefits for South Africa consisting of improved security of supply, in-country investments in a development project (including job creation), increased government revenues, contribution to economic growth and reduced dependence on the importation of hydrocarbons*".

314. The Final EIR therefore justifies exploration activities on the basis that oil and gas production is needed and desirable.

*Failure to consider negative impacts of production*

315. As I have explained in section **G** above, it is artificial to consider the need for, and desirability of, undertaking exploration activities without considering those factors in relation to the production activities that exploration is intended to result in. I submit that a proper consideration of need and desirability requires considering both the positive and the negative impacts of both exploration activities and the long-term production activities that the exploration is intended to enable.

316. Dr. Simon Elwen, a marine ecologist and research associate in the Department of Zoology and Biology at Stellenbosch University, as well as Director at Sea Search (Pty) Ltd and Sea Search NPO, was commissioned to comment on the marine ecology of the east coast in relation to the findings of the Marine Ecology Assessment. His report is dated June 2021 and is annexed hereto as **DDS27.** ("the Elwen Report"). In the Elwen Report, Dr Elwen states that:

316.1. "*Neither the MER nor the OSR take into account significant changes in commercial shipping routes which will likely occur during production phases (likely concentration of existing routes to avoid production locales) which has implications on all forms of pollution from noise to spills especially in related to existing protected areas*" (page 3);

316.2. "*Neither the MER nor the OSR sufficiently take into account the implications of habitat loss or spill damage during extraction/production phases relating to the storage and transport of extracted hydrocarbons. Whether stored at the drill site before transportation, or piped directly to shore, the potential start points of spills/accidents can be far removed from potential extraction sites and importantly, much closer to shore and/or protected and key biodiversity areas*" (page3);

316.3. "*Although exploration is relatively short, production will continue for decades, resulting in increased shipping and noise between shore and the rigs (and its associated sound), as well as result in adjusted shipping routes for other vessels (see above) which will have significant impact on the noise levels over a wide area of the KZN coastline (including in protected areas)*" (page 10); and

316.4. "*During production, potential locations of oil spills would not be limited to around the drill site, which substantially changes the implications of spills for any protected areas*" (page 12).

317. However the Final EIR fails to consider the negative impacts of long-term oil and gas production.

318. In describing need and desirability, it does not even go as far as to take into account the negative impacts associated with exploration.

319. Further it does not consider how the exploration or production activities will not bring any benefit to coastal communities (including those who rely on the ocean for their livelihoods), but only risk.

320. I am advised that this is contrary to NEMA and the Guideline, in that the assessment of "need and desirability" must include considerations of how the "geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity" (p.9 of the Guideline). Therefore, this would include various environmental impacts, such as methane gas emissions.

*Unsubstantiated claims of benefits from production*

321. Furthermore, the description of the ostensible benefits of oil and gas production lacks any detail as to how it is rationally connected to achieving its economic benefits.

322. For example, there is no explanation in the Final EIR, to explain how production from these wells could "contribute to more stable prices" as claimed (page 3-3 of the Final EIR). As the Final EIR itself acknowledges, oil and gas prices are determined by global forces that South Africa alone cannot influence: "*the country is not and will not be in a position to influence the price of crude oil (which is largely influenced by global dynamics due to South Africa being a net importer of crude oil*)" (page 7-48).

323. Nothing in the Final EIR suggests that the oil discovered by the proposed oil and gas exploration wells would be sufficient to stabilize oil prices or encourage higher levels of economic development.

*Reliance of decision-makers on flawed assessment of need and desirability*

324. As I have explained above, the information regarding need and desirability is presented the Final EIR in a biased and unsubstantiated manner to the decision makers. Furthermore it is clear the DDG and Minister were influenced by this biased information when reaching their decisions.

325. It is clear from paragraph 4.1 of the DDG's reasons for granting the EA that she was persuaded that successful exploration would result in long-term benefits including job creation, increased government revenues, economic growth and reduced dependence on the importation of hydrocarbons. Accordingly, she relied on perceived benefits of commercial exploitation of the resource (i.e., production) to justify the decision to grant authorisation, but did not have the full scope of impacts before her. The DDG therefore lacked the relevant facts on which basis he could arrive at the conclusion that the planned activities would result in net positive impacts.

326. In the Appeal Decision, the Minister considered an appeal ground that she titled "Impact assessment of potential downstream production associated activities not provided" (para 2.51 to 2.63 of the Appeal Decision). However, she limited her evaluation to the differentiation of the activities in the NEMA Listing Notices. Respectfully, there is no evidence to suggest that she considered that the Final EIR set out the ostensible positive impacts associated with production to justify

need and desirability. There is also no evidence to suggest that the Minister considered SDCEA's appeal submission that:

> "*It is clear from paragraph 4.1 of the DMR's reasons for granting the EA that the DMR was persuaded that successful exploration would result in long-term benefits including job creation, increased government revenues, economic growth and reduced dependence on the importation of hydrocarbons. In our view, this is an erroneous because the EIAR failed to place before the competent authority any assessment of the costs of either the negative impacts of the exploration activities or the long-term costs of oil and gas exploration and associated production activities. The DMR therefore lacked the relevant facts on which basis it could arrive at the conclusion that the planned activities would result in net positive impacts*." (paragraph 104 of SDCEA's appeal).

**Failure to consider climate change in assessing need and desirability**

<u>The significance of climate change</u>

327. There is no longer any doubt that climate change is caused by human activities and that global average warming above 1.5°C above pre-industrial levels will have profoundly harmful effects on humanity and the planet.

328. This is accepted by the United Nations, by the Intergovernmental Panel on Climate Change ("IPCC") (which is the international body for assessing the science related to climate change) and by the South African government.

329. In 2018 the IPCC prepared a Special Report on the impacts of global warming of 1.5°C above pre-industrial levels. The Summary for Policy Makers published alongside that report recorded that human activities are causing an increase in the Earth's temperature and this poses a risk to health, livelihood, food security and water supply. The relevant paragraphs read:

> *Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.*
>
> and
>
> *Climate-related risk to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.*

330. There is wide consensus that urgent action is necessary in the next decade to limit global warming to 1.5°C. In 2018, the IPCC found that to limit warming to 1.5°C, countries must reduce CO2 emissions by 45% within the next decade and achieve net zero emissions around 2050 (executive summary, p. 12). Unfortunately, to date, the global community has fallen short of reaching this goal.

331. For this reason, it is not anticipated that any of the respondents will take issue with:

331.1. the existence of climate change;

331.2. that climate change is caused by human activity, principally through the emission of greenhouse gases (which includes both methane and carbon dioxide);

331.3. that this will cause harm to humanity and the planet; and

331.4. that urgent action is necessary to reduce emissions of greenhouse gases.

332. Accordingly, the Applicant will not include substantive expert evidence on these points in this affidavit.

333. For context, however, I set out below the key climate change commitments South Africa has made.

<u>The requirement to consider climate change in assessing need and desirability</u>

334. As noted above, NEMA requires that development be sustainable and requires the competent authority to "take into account all relevant factors." (Section 2(3), 24O(1)(b) of NEMA). The EIA Regulations prescribe that a need and desirability analysis that must consider "the context of the development footprint on the approved site" and assess "how the proposed activity complies with and responds to the policy and legislative context" of the proposed activity..(item 2(b) of Appendix 3 of the EIA Regulations).

335. The Guideline requires need and desirability assessments to address the impact of planned activities on global and international responsibilities relating to the

environment, including climate change. (Paragraph 1.1.8, page 11, of the Guideline).

336. I therefore turn to briefly setting out South Africa's international obligations and local policy context in relation to climate change. This will be expanded on in argument.

South Africa's international commitments

337. The most pertinent global agreement which aims to reduce global greenhouse gas emissions is the United Nations Framework Convention on Climate Change ("UNFCCC"), to which South Africa is a party.

338. South Africa is also a party to the Paris Agreement on climate change. This agreement:

338.1. recognises the need for an effective and progressive response to the urgent threat of climate change;

338.2. recognises the fundamental priority of safeguarding food security and ending hunger and the particular vulnerabilities of food production systems to the adverse impacts of climate change; and

338.3. aims to hold global average temperatures well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

339. As a party to the UNFCCC and the Paris Agreement, South Africa has agreed:

339.1. to collaborate with the other Parties to limit the increase in the global average temperature to well below 2°C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels;

339.2. to develop and present Nationally Determined Contributions ("NDCs") which set out the part that South Africa will play in the global effort to reach global peaking of greenhouse gas emissions as soon as possible (Paris Agreement, article 4); and

339.3. to formulate and communicate long-term low greenhouse gas emission development strategies.

340. In the same year that the Paris Agreement was signed, the 2030 Agenda for Sustainable Development was adopted by South Africa and 192 other countries, along with a set of 17 Sustainable Development Goals ("SDGs"), many of which are linked to climate change. In particular, SDG 13 is "Take urgent action to combat climate change and its impacts".

341. In compliance with its obligations under the Paris Agreement, South Africa has submitted its first long-term low greenhouse gas emission development strategy to the UNFCCC. The strategy is dated February 2020 and is titled South Africa's Low Emission Development Strategy 2020 ("SA-LEDS"). Among other matters SA-LEDS:

341.1. acknowledges the considerable threat that climate change poses to the country and its socio-economic development, particularly to impoverished communities, stating for example:

> *In unmitigated greenhouse gas (GHG) emissions scenarios, warming of up to 5 to 8°C is projected over the interior of the country by the end of this century. Under a range of warming scenarios, drier conditions will be experienced in the west and south of the country and wetter conditions in the east. Rainfall patterns will become more variable and unpredictable.*
>
> *… The South African government thus regards climate change as a considerable threat to the country and its socio-economic development. At the same time, if climate change is to be limited through limiting the growth in global GHG emissions, with South Africa contributing its fair share to emission reductions, there will be other implications for the country. As one of the top 20 global emitters, with a high dependency on fossil fuels, substantial emission cuts will be required. The rapid transition that will be required presents a potential risk to economic growth and sustainable development if not managed properly. (Executive Summary, p vii)*

341.2. articulates the following vision –

> *South Africa follows a low-carbon growth trajectory while making a fair contribution to the global effort to limit the average temperature increase, while ensuring a just transition and building of the country's resilience to climate change.*

341.3. records that gas plays a relatively minor role in electricity generation and its future role will largely be defined by the Gas Utilisation Master Plan that is still under development;

341.4. records that the energy sector is by far the biggest contributor to GHG emissions in South Africa (for example on page 12 it records that the energy sector accounted for 79.5% of the total gross emissions for South Africa in 2015 and that the percentage contribution of this sector to overall emissions grew by 25% between 2000 and 2015);

341.5. commits South Africa to a goal of net zero carbon emissions by 2050, stating for example:

> *While it is agreed that developed countries must take the lead in reducing emissions, in is also imperative that global totals not be exceeded, because developing countries will suffer most from the negative impacts of such a collective failure to limit global emissions. These challenges which the IPCC Special Report has presented so clearly to the international community will play a key role in setting our national goals. We thus commit to ultimately moving towards a goal of net zero carbon emissions by 2050, which will require various interventions to reduce greenhouse gas emissions. (p. 21);* and

341.6. accepts that South Africa must find a way of ensuring that GHG emissions decrease rapidly in order to reach the goal of carbon neutrality by 2050, stating for example:

> *It is clear that Parties must find a way to ensure that emissions over time decrease rapidly as part of a sustainable development pathway, consistent with the goal of carbon neutrality in the second half of this century (p. 43).*

342. South Africa's current NDC commits that national GHG emissions will peak from 2020-2025 in the range between 398 and 614 Mt CO2e, and thereafter plateau and then decline from 2035.

343. The NDC acknowledges the necessity of keeping temperature increases well below 2°C or even below 1.5°C "in light of emerging science, noting that a global average temperature increase of 2°C translates to up to 4°C for South Africa by the end of the century" (p. 1, South Africa's Nationally Determined Contribution). The NDC also recognises that near zero GHG emissions are required by 2050.

344. State Parties must submit a new NDC every 5 years. The next contribution must be a "progression beyond" of the current NDC (Paris Agreement, article 4.3). Being a signatory entails progression, not regression, in relation to climate mitigation and adaptation. Thus, South Africa's commitments under the Paris Agreement will only become stricter.

345. An updated draft NDC was approved by Cabinet for public consultation on 24 March 2021. The NDC commits South Africa to a low-emissions and a climate resilient future. The updated NDC will be deposited with the UNFCCC ahead of the 26th Conference of Parties in Glasgow, Scotland, in November 2021.

346. In their report (attached as **DDS28.**), Dr New and Mr Barmand summarise the commitments in the 2021 draft NDC as follows:

> *"Within the current draft of the 2021 NDC, RSA commits to emissions reductions informed by the best available science, and puts forward its "highest possible level of ambition, based on science and equity, in light of our national circumstances". It says that the "mitigation*

*NDC target is also informed by the Talanoa Dialogue and the IPCC special report on 1.5° C". In essence, the country has committed - subject to international financial and technical support - to emissions reductions that will deliver RSA's fair share to achieve the 1.5° C goal."*

South Africa's climate change policy

347. In domestic policy, the South African government has accepted that climate change presents a serious and imminent threat to all South Africans.

348. On 19 October 2011, the South African government published its National Climate Change Response White Paper ("the White Paper"), 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."

349. In the White Paper, the following is acknowledged:

*"[I]t is also recognised that South Africa is a relatively significant contributor to global climate change with significant GHG emission levels from its energy intensive, fossil-fuel powered economy." (p. 8)*

*"We therefore regard mitigation as a national priority." (p. 25)*

*"Currently available analyses indicate that, unchecked by climate mitigation action, South Africa's emissions could grow rapidly by as much as fourfold by 2050. The majority of South Africa's emissions arise from energy supply (electricity and liquid fuels) and use (mining, industry and transport), and mitigation actions with the largest emission reduction potential focus on these areas." (p. 26)*

*"Policy decisions on new infrastructure investments must consider climate change impacts to avoid the lock-in of emissions-intensive technologies into the future. However, in the short-term, due to the stock and stage in the economic lifecycle of existing infrastructure and plant, the most promising mitigation options are primarily energy efficiency and demand side management, coupled with increasing investment in a renewable energy programme in the electricity sector."*

350. Despite this, the Final EIR fails to address climate change considerations in terms of need and desirability.

351. This is material for a number of reasons.

351.1. The exploratory activities are intended to lead to future production of oil and/ or gas which would serve to exacerbate fossil fuel dependency, and increase South Africa's vulnerability to climate change impacts due to increased greenhouse gas emissions, with devastating adverse climate change impacts.

351.2. South Africa has committed to stay on a pathway to keep global average temperature increases below 1.5 degrees Celsius, which global experts agree can only be achieved if no new oil and gas reserves should be exploited. For example, the recent report by the International Energy Agency ("IEA") "*Net Zero by 2050: A Roadmap for the Global Energy Sector*" states that reaching net zero by 2050 and limiting the increase in average global temperature to 1.5 °C above pre-industrial levels "requires nothing short of a total transformation of the energy systems" that underpin the economies of the world (Foreword, p.3) and that the climate goal of limiting global warming to 1.5 °C can be achieved only if

there are “no new oil and gas fields approved for development”. The pathway mapped by the IEA report requires (among other things):

351.2.1. an “immediate and massive deployment of all available clean and efficient energy technologies”;

351.2.2. a 75% drop in methane emissions from fossil fuels over the next ten years; and

351.2.3. that with immediate effect, no approvals are granted for the development of new oil and gas fields, new coal mines or mine extensions.[15]

351.3. An increasing number of countries have already concluded that further exploration for oil and gas is undesirable on climate change grounds and have banned it.

351.3.1. In May 2021, the Spanish Parliament enacted a climate change and energy transition law which immediately bans new oil and gas concessions, prohibits the sale of fossil-fuel vehicles by 2040, and makes it illegal to produce fossil fuels in the country from the start of 2043.

351.3.2. In December 2019 Denmark announced that it will end oil and gas exploration and production from the North Sea by

[15] Executive summary of Chapter 2 “Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development” in: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

2050 as part of the country's efforts to become "climate neutral".

351.3.3. In November 2018 the New Zealand Parliament passed the Crown Minerals Amendment Bill, putting an end to new offshore oil and gas exploration;

351.3.4. In February 2018, Ireland outlawed new onshore and offshore oil and gas exploration;

351.3.5. In 2017 France committed to phase out fossil-fuel production by 2040.

351.4. See attached as **DDS29.** a media article which describes these bans.

352. In their expert report, Dr New and Mr Barmand consider available carbon dioxide budgets in relation to Paris Agreement temperature targets (“New and Barmand Report”). They set out the following:

*“1. South Africa has committed in its Nationally Determined Contribution to emissions reductions that are consistent with its fair share of the global reductions needed to meet the global warming limits in the Paris agreement of well below 2.0° C, ideally below 1.5° C.*

*2. While the net emissions that are consistent with the Paris targets have considerable uncertainties due to biogeochemical and geophysical uncertainties about the earth system, net emissions from today need to be below 400 Gt $CO_2$ to have a 50% likelihood of keeping below 1.5° C, and 800 Gt to keep “well below” 2.0° C.*

*3. Emissions from fossil fuels greater than 400 and 800 Gt will require substantial carbon dioxide removal (CDR) to meet the Paris temperature targets. Questions remain as to the viability of large scale CDR, especially up to 2050 when net zero emissions are required.*

*4. The $CO_2$ budgets for oil and gas within any overall emissions budget vary depending on assumptions on the future mix of coal, oil and gas. The least-precautionary estimates of budgets for oil and gas consistent with 1.5° C are 248 and 121 Gt CO2, respectively.*

*5. $CO_2$ budgets that are consistent with keeping well below 2.0° C are 396 and 194 Gt $CO_2$ for oil and gas, respectively.*

*6. Proven reserves of oil and gas, if burned, would produce at least 543 and 350 Gt $CO_2$, respectively.*

*7. The emissions from burning already proven oil and gas will substantially exceed the budget available to meet the 1.5° C target.*

*8. Emissions of $CO_2$ from burning proven oil reserves will also substantially exceed the "well below 2.0° C" oil and gas emissions budgets."*

353. Further, they point out that there is already sufficient proven oil to supply over double the emissions consistent with 1.5°C, while for gas, proven reserves are nearly three times the 1.5° C $CO_2$ budget.

354. Dr Harris, a marine scientist and Executive Director of Wildoceans, finds in her expert report attached as **DDS30.** ("the Harris Report") that:

*"Apart from the risk of degradation of the coastal ecosystems and the impacts on the species that depend on them, the extraction and consequent burning of fossil fuels will contribute to global temperature rises and result*

*in further damage to the environment that future generations will inherit. This activity would also not be in the interests of South Africans as a whole because we are in the middle of a climate emergency and any extraction and burning of fossil fuels is highly contra-indicated and would speed global warming to tipping points that are predicted to make the planet uninhabitable. Any additional burning of fossil fuels should be avoided wherever possible, as even small temperature rises will exacerbate coastal damage due to storms and extreme weather phenomenon that cause droughts and fires."* (pages 7 to 8).

355. It is therefore material that need and desirability was not assessed from a climate change perspective, given that, as set out in the New and Barmand Report, most of the discovered reserves cannot be burnt if we are to stay on the pathway to keep global average temperature increases below 1.5 degrees Celsius.

356. Authorising new oil and gas exploration, with its goal of finding exploitable oil and/or gas reserves and consequently leading to production, contravenes South Africa's international climate change commitments.

357. Had the Final EIR included a proper assessment of the need and desirability of exploring for oil and gas that took account of the realities of the measures that are required to address climate change, the decision makers ought to have concluded that the proposed exploration is neither needed nor desirable. However these relevant considerations were not before the decision-makers and were not considered by them in making the Decisions.

**Failure to assess site specific need and desirability**

358. The Final EIR indicates that the motivation for the need and desirability for the proposed development in the context of the preferred location is set out in Chapter 3 thereof. (page 1-13 and 1-16)

359. Whilst Chapter 3 sets out why the sites have been chosen (based on the interpretation of the seismic information) (page 3-36), the need and desirability of the activities in this location has not been assessed. I am advised that this contravenes item 2(b) of Appendix 3 to the EIA Regulations.

**Failure to consider alternatives**

360. The Guideline requires that:

> "*the consideration of "need and desirability" during an application process … must consist of a preliminary description of the relevant considerations … in relation to the feasible and reasonable alternatives. During the actual assessment stages of an EIA process the need and desirability must be specifically assessed and evaluated, including specialist input/studies as required*." (page 9).

361. I am advised that reasonable and feasible alternatives include the option of not implementing the activity. This option has not been assessed at all in terms of need and desirability.

362. I have set out how this is so in paragraphs 580 to 590 relating to the failure to consider the no-go option.

**Conclusions in relation to need and desirability**

363. Consequently, the Final EIR did not adequately assess the need and desirability of the proposed project. Therefore, the results of such an assessment were not available to the DDG or the Minister when they took their decisions. Accordingly, both the Initial Decision and the Appeal Decision:

363.1. were taken because mandatory or material procedures or conditions prescribed by NEMA (and the EIA Regulations) were not complied with;

363.2. are premised on a material error of law;

363.3. were taken because relevant considerations were not taken into account.

363.4. were taken arbitrarily and capriciously;

363.5. were not rationally connected to the purpose for which they were taken;

363.6. were not rationally connected to the purpose of NEMA and the EIA Regulations;

363.7. were not rationally connected to the information before the Chief Director and the Minister;

363.8. were not rationally connected to the reasons provided by the Chief Director or the Minister;

363.9. were so unreasonable that no reasonable administrator could have taken them.

364. Therefore both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b), 6(2)(d), 6(2)(e)(iii), 6(2)(e)(vi), 6(2)(f)(ii)(aa), 6(2)(f)(ii)(bb), 6(2)(f)(ii)(cc), 6(2)(f)(ii)(dd), and 6(2)(h) of PAJA.

## L. 5TH REVIEW GROUND: FAILURE TO CONSIDER MATTERS SPECIFIED IN SECTION 63 OF NEM:ICMA

365. NEM:ICMA specifies that an organ of state that is legally responsible for controlling or managing any activity on or in coastal waters must control and manage that activity:

365.1. in the interests of the whole community (section 21(b)); and

365.2. in accordance with the Republic's obligations under international law (section 21(b)).

366. When making decisions regarding activities within the coastal zone ("coastal activities") for which an environmental authorisation in terms of Chapter 5 of the NEMA is required, the competent authority must take into account the relevant factors specified in section 63(1).

366.1. The definition of "coastal activities" in section 1 of NEM:ICMA reads as follows:

> *"coastal activities" means activities listed or specified in terms of Chapter 5 of the National Environmental Management Act which take place—*
>
> *(a) in the coastal zone; or*
>
> *(b) outside the coastal zone but have or are likely to have a direct impact on the coastal zone;*

367. The relevant factors that the competent authority must take into account when deciding whether or not to grant an environmental authorisation for coastal activities by virtue of section 63(1) include:

367.1. the extent to which the applicant has in the past complied with similar authorisations (section 63(1)(b);

367.2. whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development or activity is consistent with the purpose for establishing and protecting those areas (section 63(1)(c));

367.3. the socioeconomic impact if the activity is authorised and if it is not authorised; (section 63(1)(e));

367.4. the likely impact of coastal environmental processes on the proposed activity; (section 63(1)(g));

367.5. whether the development or activity—

367.5.1. is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated;

367.5.2. is likely to be significantly damaged or prejudiced by dynamic coastal processes;

367.5.3. would substantially prejudice the achievement of any coastal management objective; or

367.5.4. would be contrary to the interests of the whole community; (section 63(1)(h)); and

367.5.5. the objects of NEM:ICMA, where applicable (section 63(1)(k)).

368. The competent authority must also ensure that if an environmental authorisation is granted for coastal activities, the terms and conditions of the environmental authorisation are consistent with any applicable coastal management programmes and promote the attainment of coastal management objectives in the area concerned (NEM:ICMA section 63(2)).

369. Both the Initial Decision and the Appeal Decision concerned an environmental authorisation in terms of Chapter 5 of the National Environmental Management Act for coastal activities, and consequently the DDG and the Minister were each required to take into account all the relevant factors listed in section 63(1) of NEM:ICMA.

370. It is apparent that neither the DDG nor the Minister applied their minds to the considerations specific in section 63(1) of NEM:ICMA, because:

370.1. the Final EIR does not contain any reference to the specific considerations contained in section 63 of NEM:ICMA;

370.2. as I explain below, the information included in the Final EIR was insufficient to enable them to take account many of these considerations, either adequately or at all; and

370.3. neither the Initial Decision nor the Appeal Decision specifically address, these considerations

371. I explain below how the DDG and the Minister both failed to take account of these consideration.

**Failure to consider interests of the whole community**

372. When making the Initial Decision and the Appeal Decision the decision-makers failed to consider whether or not the Project "would be contrary to the interests of the whole community" as section 63(1)(h)(vii) of NEM:ICMA required them to do. As I explain below, this occurred because the Final EIR did not consider or assess this question and it is apparent from both these Decisions that neither the Minister nor the DDG were conscious that this was a relevant consideration that they were required by law to take into account.

373. Section 1. Definitions of NEM:ICMA states that:

> *"**interests of the whole community**" means the collective interests of the community determined by—*
>
> > *(a) prioritising the collective interests in coastal public property of all persons living in the Republic over the interests of a particular group or sector of society;*
> >
> > *(b) adopting a long-term perspective that takes into account the interests of future generations in inheriting coastal public property and a coastal environment characterised by healthy and productive ecosystems and economic activities that are ecologically and socially sustainable; and*

*(c) taking into account the interests of other living organisms that are dependent on the coastal environment;".*

374. I submit that it is important to appreciate that the process of taking into account the interests of other living organisms that are dependent on the coastal environment requires the decision-makers to consider what is in the best interests of the whole community of life, including humans, rather than only looking at human interests in isolation. This can be characterised as an "eco-centric approach" to decision-making as opposed to an "anthropocentric approach" which only considers the interests of humans independently of the ecosystems within which they exist and that are essential to human life.

375. The applicant has been advised and I submit that the importance of shifting from an anthropocentric to an eco-centric approach is increasingly recognised by courts around the world. For example, the judgment of the Supreme Court of India in T.N. Godavarman Thirumulpad vs Union Of India & Ors (2012) stated

"*14. Environmental justice could be achieved only if we drift away from the principle of anthropocentric to eco-centric. Many of our principles like sustainable development, polluter-pays principle, inter-generational equity have their roots in anthropocentric principles. Anthropocentrism is always human interest focussed and non-human has only instrumental value to humans. In other words, humans take precedence and human responsibilities to non- human based benefits to humans. Ecocentrism is nature centred where humans are part of nature and non-human has intrinsic value. In other words, human interest do not take automatic precedence and humans have obligations to non-humans independently of human interest. Ecocentrism is therefore life- centred, nature-centred where nature include both human and non- humans."*

*"Above [intrinsic value] principle had its roots in India, much before it was thought of in the Western world. Isha-Upanishads (as early as 1500 - 600 B.C) taught us the following truth:-*

*"The universe along with its creatures belongs to the Lord. No creature is superior to any other. Human beings should not be above nature. Let no one species encroach over the rights and privileges of other species."*

*Father of the Nation Mahatma Gandhi has also taught us the same principle""*

*"The intrinsic value of the environment … also finds a place in various international conventions, ….* [The Convention on Biological Diversity] *in its preamble states as follows:-*

*"The Contracting Parties, Conscious of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components.*

*Conscious also of the importance of biological diversity for evolution and for maintaining life sustaining systems of the biosphere.*

*affirming that the conservation of biological diversity is a common concern of humankind."*

376. I submit therefore that adopting this eco-centric approach to coastal management in relation to coastal public property, and to coastal waters in particular is important for a number of reasons.

376.1. The fluid and boundary-less nature of the marine environment and the many complex interrelationships in marine aquatic systems make predicting the impacts of a human activity on specific kinds or living organisms, and the cumulative impacts on marine ecosystems, particularly difficult. The degree of difficulty is exacerbated by the very

limited knowledge of the marine environment. This makes it difficult for scientists to reach firm conclusions.

376.2. For example, as I explain above in section **N** below, the “baseline” data that is available in relation to the potentially affected areas of the marine environment are wholly inadequate, and the “assessments” that were undertaken during the EIA process were in reality just desk-top reviews of available literature and did not involve any actual assessments, or research in the areas in question. Consequently, the assessment by the EAP who conducted the EIA of the anticipated impacts on marine species was determined by the available literature, very limited in scope and unable to identify the likely impacts on particular species with any degree of precision, leading to the conclusion that the impact are likely to be minor.

376.3. However, if the eco-centric approach required by NEM:ICMA is adopted, the marine ecology experts can confidently conclude (even on the basis of the limited information available) that implementing the proposed project would be contrary to the interests of other living organisms that are dependent on the coastal environment. (In this regard see the section below titled **Expert evidence supports value of taking into account interests of whole community**).

376.4. I submit further that considering the interests of other organisms (i.e. the eco-centric approach) is consistent with the more holistic integrated coastal management approach that has been developed to respond to

particular challenges of managing human activities within coastal and marine environments.

376.4.1. Integrated coastal management is widely accepted throughout the world as the best way of managing human activities within coastal zones and NEM:ICMA was enacted specifically to ensure the application of ICM in South Africa.

376.4.2. The need for an innovative legal approach that takes account of the functioning of the coastal zone as a whole, is emphasized in the preamble to NEM:ICMA which records that:

> *"AND WHEREAS integrated management of the coastal zone as a system is essential to achieve the constitutional commitment to improving the quality of life of all citizens, while protecting the natural environment for the benefit of present and future generations;" …*
>
> *"AND WHEREAS the coastal zone is a unique part of the environment in which biophysical, economic, social and institutional considerations interconnect in a manner that requires a dedicated and integrated management approach"*
>
> *"AND WHEREAS the conservation and sustainable use of the coastal zone requires the establishment of an innovative legal and institutional framework that clearly defines the status of coastal land and waters and the respective roles of the public, the State and other users of the coastal zone and that facilitates a new cooperative and participatory approach to managing the coast;"*

*AND WHEREAS integrated coastal management should be an evolving process that learns from past experiences, that takes account of the functioning of the coastal zone as a whole and that seeks to coordinate and regulate the various human activities that take place in the coastal zone in order to achieve its conservation and sustainable use*," (my underlining).

376.5. The applicant submits that conserving the health and functioning of marine ecological communities is in the interest of humankind, and consequently NEM:ICMA requires decision-makers to consider the interests of humans that are dependent on coastal ecosystem (such as small-scale fishers)_ and the interests of the other living organisms that dependent on the same coastal ecosystems, collectively.

376.6. The applicant submits therefore that it is an important consideration in this review application that courts around the world are recognising and facilitating the shift from an anthropocentric to an eco-centric approach. This in turn requires the rights claimed by humans and juristic persons to be considered within the context of the rights of other-than-human beings to play their roles which are essential to maintaining the integrity, health, and functioning of ecological communities that support all life on earth. (I am advised that this will be addressed further in legal argument.)

**Expert evidence supports value of taking into account interests of whole community**

377. The expert evidence of the marine ecology expert Dr Harris, and Dr Fournet, demonstrate the value of taking into account the interests of non-human species that are dependent on the marine environment

378. Dr. Harris is unequivocal that implementing the proposed project would be contrary to the interests of both humans and other living organisms that are dependent on coastal environments. In her expert report, she states that:

> "*It is my opinion that the drilling of the 6 exploratory sites, and subsequent establishment of extractive wells, would certainly not be in the "interests of the whole community*".(page 7, paragraph 2) and
>
> *"There is certainly no benefit for these living organisms from the drilling activity, yet we know that an oil spill anywhere in the Agulhas current will have negative impacts on at least some of them to variable extents. It is also not only the risk of pollution or an oil spill that they will bear, but also the impacts of other associated activities, such as seismic surveys and increased shipping activities in the area*." (pages 8 and 9)
>
> *"In summary, considering (a), (b) and (c) above, it is my opinion that the drilling of these 6 oil wells is not in the interests either of the people living along the coast in question (both rural and urban communities), those who rely on the ocean for their livelihoods or of the "other living organisms" that live in the ocean where the drilling is to occur, nor those that live in the coastal inshore areas in the path of the Agulhas current downstream of the drilling sites. For both the coastal people and the other living organisms the prospect of this activity brings only risk and no benefit." (page 9. Paragraph 2)*

379. Dr Harris explains in detail the reasons why she has arrived at these conclusions (at pages 7 to 9 of her report) and gives examples of the likely negative impacts on specific species. For example:

> *"In the case of the living organisms that inhabit the area of influence of the drilling sites (in the vicinity of the sites and in the coastal environment that is at risk from it as described above), those that are likely to be negatively impacted include:*
>
> 1) *Marine mammals, notably humpback whales that migrate up the east coast of South Africa from their feeding grounds in Antarctica and offshore and coastal dolphins that frequent these waters.*
> 2) *Ocean species like sharks and rays, seabirds, and turtles that use the Agulhas current as transport highways and the offshore eddies as productive feeding areas*
> 3) *Many fish species, including both pelagic and benthic fish reef, reef associated fish and many that rely on the oceanographic processes dominated by the Agulhas current for spawning success and transport of their larvae along and onto the continental shelf*
> 4) *Sardines that move up the east coast in huge numbers each year from the Eastern cape moving up as far north as Durban, that attract top predators such as sharks, seabirds, and dolphins (van der Lingen et al 2010)*
> 5) *Species dependent on inshore ecosystems, such as coelacanths living in deeper canyon habitats, sharks and rays that aggregate at the reefs along the coast, species that inhabit the reefs off our coast, and organisms in estuarine habitats including mangroves."* (page 8, paragraph 4)

379.1. Dr Harris explains also explains that there are also likely to be negative impacts on human communities that depend on coastal ecosystem. For example she states

> *The frequent low-level serial pollution likely to occur just from operational activities at the drilling sites could alone cause long-lasting adverse effects for the coastal inshore and offshore environment (Adzigbli et al 2018, Brussard et al 2016, Cordes et al 2016, Fisher etc al 2014, McClain et al 2019, Roberts et al 2017). The adverse effects will include degradation of coastal ecosystems (by recurrent small oil events and other pollution) and impacting on biota who use both the productive oceanic eddies intersected by the drill sites for feeding (sea birds, oceanic sharks) and the Agulhas current for transport (turtles, hump-back whales). The effect of a major oil spill due to a blow-out that reaches the coast would in my opinion cause long-lasting adverse effects for both people in coastal communities as well as to the non-human organisms that are part of the whole community as defined by NEM:ICM. …. Damage to fish and crustacean species that are important in local fisheries will have a long-lasting impact on livelihoods and food security, especially for small scale fishers living in rural settings. It would also damage the recreational and tourist industry, reliant on clean beaches and healthy reefs for fishing and for diving (especially shark and coral reef diving), which is a core economic driver along the south coast of KwaZulu-Natal. Many of the fish species resident on reefs are slow-growing and long-lived and their recovery will be slow if large diebacks of these species or damage to their habitats occurs.* (page 9, paragraph 4).

380. Dr. Fournet is a postdoctoral research associate at the Cornell University K. Lisa Yang Center for Conservation Bioacoustics where she uses bioacoustics to study human impacts on marine organisms. Her report ("the Fournet Report") is attached hereto as annexure **DDS31.**

381. Dr Fournet points out that:

381.1. the ocean is "*a boundary-less medium...* [that] *does not provide structure preventing the entrance or exit of organisms from impacted areas*";

381.2. "*in the absence of human activities - many if not most marine species evolved to rely on sound as their principal sensory modality*";

381.3. there are multiple ways in which noise caused by human activities ("anthropogenic noise") can have adverse impacts on marine species, for example "*anthropogenic noise has been documented to limit acoustic communication, elicit changes in foraging behaviour, alter predator-prey dynamics, induce physiological stress, and/or result in physical damage or death*."

382. Dr Fournet also emphasizes the importance of taking an ecosystem approach in the section of her report headed INTERRELATEDNESS OF NON-HUMAN ORGANISMS WITHIN AN ECOSYSTEM AND HUMAN USERS WHO RELY UPON THEM (page 13). In that section she states the following:

> *"To best understand and mitigate the potential adverse effects of vessel noise on marine organisms requires a collaborative and integrated effort on the part of stakeholders, industry professionals, and scientists. Such efforts, known as an ecocentric approach, or an ecosystem-based approach, should seek to address environmental concerns in context to and in connection with both the ecological and social needs of targeted ecosystems. The applicant failed to do this throughout the study by instead isolating species and taxa with no reference to their interrelatedness. This is most obvious in the case of noise impacts on fish, which are both a prey species and commercially important, and invertebrate, which make up the base of the food web in some cases and are ecosystem engineers in others.*

*A primary tenet of an eco-centric approach is that the scope of mitigation and prevention. Should address ecosystems in their entirety- including the role of humans. This includes the acknowledgment that human well-being is intrinsically connected through the delivery of ecosystem services across a range of scales to ecosystems themselves. In this regard the threat of pervasive anthropogenic noise in the region of interest is not only a hazard for marine organisms, but also a potential threat to the human stakeholders associated with the coastal ecosystem in which these marine organisms reside. There is ample need for continued investigation on the impact of anthropogenic noise associated with the proposed project in the eco-centric context. The resilience of the marine organisms in this region has not yet been quantified, and the potential ecological and social trade-offs of damaging or displacing organisms from this ecosystem are great.*

*OPINION: It is my opinion that the findings on the impacts of anthropogenic noise in the Annex D1 Marine Ecology Report have not been adequately assessed. In my opinion, the study did notinclude the relevant information needed to determine the impact of noise resulting from the proposed activities are 'minor."*

**Failure to consider interest of humans and other organisms dependent on coastal environment**

383. It is clear that neither the EAP, the DDG nor the Minister were conscious of the need to consider the "interests of the whole community" and this consideration is not addressed in the Final EIR, the Initial Decision or the Appeal Decision.

384. In particular, the decision-makers:

384.1. did not prioritise the collective interests in coastal public property of all persons living in the Republic over the interests of Eni and Sasol;

384.2. did not take into account the interests of either humans or other living organisms that are dependent on the coastal environment;

384.3. did not adopt a long-term perspective that takes into account the interests of future generations in inheriting coastal public property and a coastal environment characterised by healthy and productive ecosystems and economic activities that are ecologically and socially sustainable.

385. I submit that the failure of the DDG and the Minister to apply their minds to these relevant consideration as required by law, means that both decisions are reviewable on the grounds specified in section 6(2)(c), and 6(2)(e)(iii) of PAJA, and must be set aside.

**Compliance by Eni and Sasol with similar authorisations**

386. The Final EIR does not contain any information about whether or not Eni and Sasol have complied with any environmental authorisations granted to them in the past, and consequently neither the DDG not the Minister were in a position to take account of this relevant consideration as required by section 63(1)(b) of NEM:ICMA, and they did not do so.

387. There is reason to believe that had this information been considered it may well have been material to the Impugned Decisions. For example, information in the public domain reveals that Eni, or its associated entities, has a poor record in relation to oil spills and that allegations of corruption that have been laid against it in several countries including Nigeria, Iraq, Kazakhstan, Algeria and Congo. I attach various press reports in this regard marked **DDS32.**, many of which SDCEA also referred to in its appeal.

388. I refer to the applicant's appeal, DDS13, in which Eni's previous transgressions have been set out in paragraphs 146 to 151.

389. I submit that Eni's pollution track record elsewhere is relevant to:

389.1. assessing Eni's competence and ability to prevent oil pollution events occurring and to implement effective mitigation measures;

389.2. the likelihood of Eni complying with permit conditions; and

389.3. the conditions to be imposed in any environmental authorization that may be granted.

**Consistency with purpose of establishing coastal public property**

390. The purpose of coastal public property is set out in section 7A of NEM:ICMA. which must be read and interpreted in conjunction with the purpose of NEM:ICMA expressed in the long title of the Act and the objects of NEM:ICMA as set out in section 2. These provisions make it is clear that coastal public property has been defined as means of ensuring that coastal public property benefits from a high level of protection and must be managed (primarily by the State in its capacity as a public trustee) in an integrated way for the long-term, collective benefit of the whole community, including future generations.

390.1. Section 7A reads as follows:

> ***Purpose of coastal public property****.—(1) Coastal public property is established for the following purposes:*
>
> *(a) to improve public access to the seashore;*

*(b) to protect sensitive coastal ecosystems;*

*(c) to secure the natural functioning of dynamic coastal processes;*

*(d) to protect people, property and economic activities from risks arising from dynamic coastal processes, including the risk of sea-level rise; or*

*(e) to facilitate the achievement of any of the objects of this Act. (my underlining*

390.2. The long title of NEM:ICMA reads:

*To establish a system of integrated coastal and estuarine management in the Republic, including norms, standards and policies, in order to promote the conservation of the coastal environment, and maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable; to define rights and duties in relation to coastal areas; to determine the responsibilities of organs of state in relation to coastal areas; to prohibit incineration at sea; to control dumping at sea, pollution in the coastal zone, inappropriate development of the coastal environment and other adverse effects on the coastal environment; to give effect to South Africa's international obligations in relation to coastal matters; and to provide for matters connected therewith*." (my underlining)

390.3. Section 2 reads as follows":

***2. Objects of Act**.—The objects of this Act are—*

*(a) to determine the coastal zone of the Republic;*

> *(b) to provide, within the framework of the National Environmental Management Act, for the co-ordinated and integrated management of the coastal zone by all spheres of government in accordance with the principles of co-operative governance;*
>
> *(c) to secure equitable access to the opportunities and benefits of coastal public property;*
>
> *(dA) to provide for the establishment, use and management of the coastal protection zone; and*
>
> *(d) to give effect to the Republic's obligations in terms of international law regarding coastal management and the marine environment*.
>
> (my underlining).

391. This means that the DDG and the Minister were required to consider whether or not the proposed project was consistent, among other matters with:

391.1. protecting sensitive coastal ecosystems;

391.2. securing the natural functioning of dynamic coastal processes; and

391.3. facilitating the achievement of objects of NEM:ICMA

392. As I point out in paragraphs 503 to 528 below, the Final EIR did not contain adequate information to enable the decision-makers to appreciate the extent of the threat that the proposed project (and any subsequent oil production) posed for sensitive coastal ecosystems.

393. It clear from the Final EIR, the Initial Decision and the Appeal Decision that the EAP, ENI, Sasol, the DDG and the Minister all failed to appreciate that NEM:ICMA, and section 63 in particular, applied to the EIA process in respect of the proposed project.

**Irreversible or long-lasting adverse effects**

394. The decision-makers were required by NEM:ICMA to take into account whether the proposed development or activity "is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated" (section 63(1)(h)(iv)). The decision-makers did not take this into account, presumably because they were not aware of the need to comply with section 63 of NEM:ICMA.

395. According to the expert evidence of Dr Harris both frequent low-level serial pollution from operational activities and a major oil spill would cause long-lasting adverse effects (page 9, paragraph 4) that cannot be adequately mitigated (page 10, paragraph 2).

**Impact of dynamic coastal processes on proposed project**

396. The decision-makers were required by NEM:ICMA to take into account "the likely impact of coastal environmental processes on the proposed activity" (section 63(1)(g) and whether the development or activity "is likely to be significantly damaged or prejudiced by dynamic coastal processes" (section 63(1)(h)(v)).The decision-makers did not take this into account, presumably because they were not aware of the need to comply with section 63 of NEM:ICMA.

397. According to the expert evidence of Dr Harris:

> "*These drilling sites are thus being pursued in an area of extremely dynamic coastal processes, where wind, swell and currents collide, and this increases the risk of damage to the installations and consequently the risk*

*of a major oil spill. The nature of the dynamic processes would also make it exceedingly difficult for authorities to respond quickly to a major oil spill if it were caused by such a weather event. These concerns were also raised by expert oceanographers Professors Paris and Bracco in their independent reviews of the ERM OSM. Professor Paris notes that "exploration and exploitation in 'ultra-deep' ocean happens in more extreme environments, which are new frontiers for the oil and gas industry since the 2010's, and thus blowout frequency is expected to increase as we move into deeper waters (Murowski et al 2019)." As I mention above this scenario is exacerbated in the case of the 6 drill sites in that not only are they deep well sites, but they are also located in the fast-flowing Agulhas current in an area where anomalous huge waves occur.*" (pages 9 to 10) …

"*In my opinion, the expected adverse impacts and risks associated with the proposed activity in relation to the two factors discussed above (consideration of long-lasting adverse effects should a blow-out occur and the potential for dynamic coastal processes to damage the activity) cannot be adequately mitigated and under these circumstances it would be reasonable to conclude that in terms of the provisions of NEM:ICM the authorisation of the exploratory drilling of these 6 wells should not have been granted.*" (page 10, paragraph 2).

398. In summary, the DDG and the Minister failed to take into account:

398.1. the extent to which ENI and Sasol (as applicants) have in the past complied with similar authorisations (as required by section 63(1)(b));

398.2. the extent to which the proposed project is consistent with the purpose for establishing and protecting coastal public property (as required by section 63(1)(c));

398.3. whether the proposed project is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations (as required by section 63(1)(h)(i));

398.4. whether the proposed project is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated" (as required by section 63(1)(h)(iv));

398.5. the likely impact of coastal environmental processes on the proposed activity (as required by section 63(1)(g)) and whether the proposed activity is likely to be significantly damaged or prejudiced by dynamic coastal processes" (as required by section 63(1)(h)(v)).and

398.6. whether the proposed project would be contrary to the interests of the whole community (as required by section 63(1)(h)(vii)).

## M. 6TH REVIEW GROUND: FAILURE TO GIVE ADEQUATE CONSIDERATION TO INTERNATIONAL LAW

399. The decision-makers were required to take account of international law when making their decisions, by virtue of section 21(b) of NEM:ICMA which states:

***21. Control and management of coastal waters****.—An organ of state that is legally responsible for controlling or managing any activity on or in coastal waters, must control and manage that activity—*

*(a) in the interests of the whole community; and*

*(b) in accordance with the Republic's obligations under international law.*

400. In addition, section 2(4)(n) of NEMA, which must be taken into account when rendering decisions affecting the environment, requires that "*global and international responsibilities relating to the environment must be discharged in the national interest.*"

401. Similarly, section 24O(1)(b) of NEMA requires that the competent authority must take into account all relevant factors when rendering its decision, which I submit includes a consideration of international obligations.

402. I am advised and submit that this is a standard and mandatory feature of decision-making in our democracy. This arises from the provisions of section 39 (1) of the Bill of Rights and sections 231 and 233 of the Constitution.

403. The laws described above clearly require the Minister and DDG to have considered international obligations in rendering their decisions. The Final EIR upon which their decisions relied largely failed to assess species-specific impacts for species and ecosystems protected by international law in terms of South Africa's international obligations in this regard. Both authorities consequently failed in their duty to meaningfully take into account these obligations.

404. The relevant portions of the Final EIR that deal with international law namely: section 2.4.2 on pages 2-9 to 2-10, which discusses the legislation that informed the preparation of that report. Section 2.4.2 simply lists certain international laws

of relevance to the proposed project, the Final EIR fails to engage with the application of those laws and South Africa's obligations in terms thereof.

405. I deal with the relevant international laws below.

**Convention on Migratory Species**

406. The Convention on the Conservation of Migratory Species of Wild Animals ("Convention on Migratory Species") strives to protect migratory species' populations, ranges, and habitat. Range States for certain species conclude agreements under the Convention to protect migratory species.

407. South Africa became a party to Convention on Migratory Species in 1991 and is a Range State to more than 50 marine and coastal species.

*Obligations in relation to albatrosses and petrels*

408. South Africa is a party to the Agreement on Albatrosses and Petrels, a legally binding instrument under the Convention on Migratory Species developed to coordinate international action on the conservation and management of albatrosses and petrels. Albatrosses and petrels are located in the AII.

409. Article II of the Agreement on Albatrosses and Petrels states its objective: "*to achieve and maintain a favourable conservation status for albatrosses and petrels.*" As part of this effort, the Action Plan annexed to the Agreement (Section 2.3.1) requires Parties to, *inter alia*, "*ensure the sustainability of marine living resources that provide food for albatrosses and petrels*" and "*avoid pollution that may harm albatrosses and petrels*."

410. Under Article III, Parties must also "*develop and implement measures to prevent, remove, minimize or mitigate the adverse effects of activities that may influence the conservation status of albatrosses and petrels*."

411. The Agreement on Albatrosses and Petrels' Action Plan (Section 4.3.1) specifically requires parties to "*assess the potential impact on albatrosses and petrels of policies, plans, programmes and projects which they consider likely to affect the conservation of albatrosses and petrels before any decision on whether to adopt such policies, plans, programmes or projects, and shall make the results of these assessments publicly available*."

412. Despite acknowledging albatrosses and petrels are found in the AII, the above Agreement is not mentioned at all in the Final EIR, and the impacts in relation to South Africa's international obligations in this regard have not been assessed. Consequently, this has not been taken into account in the Initial Decision or the Appeal Decision.

*Obligations on other species threatened with extinction*

413. South Africa is a Range State to several migratory species protected by the Convention on Migratory Species, including fin whales, sei whales, humpback whales, south Atlantic right whales, loggerhead turtles, and leatherback turtles, among others (Convention on Migratory Species, Appendix 1).

414. Article II, Section 4(b)) of the Convention on Migratory Species requires South Africa to "*prevent, remove, compensate for or minimize*" impediments to listed species' movements.

415. The Final EIR acknowledges that several of these species migrate through the project area, including whales, turtles and sharks (see paragraph 48 above). However, the Final EIR: (a) fails to identify the potential impacts of the proposed project as threats to these routes, (b) does not assess the extent to which proposed project activities may seriously impede or prevent the migration of these species, and (c) does not alert the decision-makers to the duty to endeavour to prevent, remove, compensate for, and/or minimise the adverse effects of those activities on the migration of these species.

416. For example, the Final EIR dismisses the threats posed by the proposed project to humpback whales, stating "*the area of drilling interest lies further offshore from this migratory route*" (page 4-48, Final EIR). This conclusion ignores that sound and increased shipping traffic crossing the migratory pathways could adversely affect whale migration routes even if the drilling site is located faraway. Michelle Fournet, an expert in marine noise from Cornell University, has found for example that the proposed project could impact whales during times of migration. She notes further in this regard that:

> "[The Final EIR] *Failed to adequately consider the timing of migration of protected species. This is significant because both humpback and right whales will be migrating during time periods that overlap with planned drilling operations. Noise can have significant impacts such as separating calves from mothers. This is particularly relevant given the recent decline in Southern right whale abundance and inter-calf-intervals and given that humpback cow-calf pairs are often among the last the migrate southward, and thus likely to be in the cohort that would be disturbed by noise in the month of November."* (Fournet Report, page 3).

417. The Final EIR entirely failed to assess how sound travelling away from the project site could interfere with whale or other species migration. The Fournet Report, for example, explains that:

> "*Sound paths from a source near the surface (like vessels or drill ships) can come together, creating regions of higher sound pressure at about the same depth as the source <u>at 50-60 km intervals away from the source</u>*."
>
> "*Given the amplitude of the sources and location of proposed activities, one also must consider the possibility of sound travelling great distances within the SOFAR (Sound Fixing and Ranging) channel. The SOFAR channel is a horizontal layer of water found in the ocean at which depth the speed of sound is at its minimum. Sound that enters this naturally occurring channel has the <u>potential to travel for hundreds of kilometers</u>*" (Fournet Report, page 9) (my emphasis).
>
> "*The Applicant should commitment* [sic] *to reducing or ceasing drilling activities in the presence of sound sensitive species, and during summer months when marine mammal, fish, and turtle migration is likely to be impacted*."(Page 13).

418. Lastly, the Final EIR lists as its key mitigation measures to the disturbance of marine fauna from planned activities as "*having the vessels undergo regular maintenance*." (Final EIR, page 7-31). There is no explanation as to how this measure will mitigate the impact of noise on the migration of whales or other species. Notably, neither the Initial Decision nor the Appeal Decision attempt to mitigate these harms by, for example, prohibiting activity in the months of November to December when whales migration will be occurring, or requiring ship routes to avoid migration and foraging areas.

419. These failures to consider impacts on migratory routes protected by the Convention on Migratory Species renders the Initial Decision and Appeal Decision deficient for failure to consider South Africa's international obligations in relation to species protected by such obligations.

**Convention on Biological Diversity**

420. The CBD mandates state parties to "*Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use*" (Article 8(c)) and to *"[p]romote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas.*" (Article 8(e)).

421. I discuss in more detailed in paragraphs 503 to 528 below how the Final EIR fails to consider impacts on CBAs, MPAs and EBSAs. The Final EIR has consequently failed to properly assess impacts on protected areas as required by the CBD, and this has not been taken into account in the Initial Decision or Appeal Decision.

**Convention for the Protection, Management, and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention).**

422. The Convention for the Protection, Management, and Development of the Marine and Coastal Environment of the Eastern African Region ("Nairobi Convention") provides "*a regional legal framework and coordinates the efforts of the member states to plan and develop programmes that strengthen their capacity to protect,*

*manage and develop their coastal and marine environment*." South Africa became a party to the Nairobi Convention in 2003.

423. The Nairobi Convention is supported by three protocols, all of which South Africa has ratified. Two of these protocols are applicable to Eni/Sasol's proposed oil and gas:

423.1. the Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region; and

423.2. the Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region.

424. The Final Environmental Impact Assessment fails to acknowledge the existence of the Nairobi Convention or its protocols much less analyze the obligations thereunder. The following relevant considerations were not placed before the decision-makers.

*General Obligations*

425. Article 4(1) the Nairobi Convention requires contracting parties to take "*all appropriate measures . . . to prevent, reduce and combat pollution . . . and to ensure sound environment management of natural resources*" in the convention area, namely the "*riparian, marine and coastal environment*" of the western Indian Ocean. Article 8 further requires contracting parties to take "*all appropriate measures to prevent, reduce and combat pollution"* resulting both *"directly or indirectly from exploration and exploitation of the seabed and its subsoil*."

426. The emissions from planned activities and unplanned accidents are dealt with at paragraphs 38 to 39 respectively and the Final EIR has not demonstrated how this will be dealt with in terms of international obligations under the Nairobi Convention.

427. Article 11 of the Nairobi Convention requires contracting parties to "*take appropriate measures to conserve biological diversity*," including threatened and endangered species. This requirement extends beyond species themselves to rare or fragile ecosystems, requiring contracting parties to establish marine protected areas, and more importantly "*prohibit any activity likely to have adverse effects on the species, ecosystems or biological processes that such areas are established to protect*." The Nairobi Convention does not distinguish between activities that take place within versus outside of the protected area, but rather the effects of the activity on the protected area and the species for which they are designed to protect.

428. I discuss in more detailed in paragraphs 503 to 528 below how the Final EIR fails to consider impacts on CBAs, MPAs and EBSAs. I submit that impacts on species, ecosystems and biological processes which these areas have been designated to protect have not been adequately assessed.

429. Article 14 of the Nairobi Convention requires the use of environmental impact assessments in order "*to assist in the planning of [ ] major development projects in such a way as to prevent or minimize harmful impacts on the Convention area*" or the Western Indian ocean. The environmental impact assessments should "*prevent or minimise harmful impacts*" in the western Indian Ocean.

430. I reiterate that the impact assessment for the proposed project has been deficient.

431. Further, the Final EIR and the mitigation measures proposed depend on plans, including Oil Spill Contingency Plan and Emergency Response Plan, which are not yet developed and which will only be developed 30 days prior of commencement of operations that may impact the western Indian Ocean. These plans should have formed part of the Final EIR and the information informing both the Initial Decision and the Appeal Decision.

432. The general obligations under the Nairobi Convention have consequently neither been taken into account, nor satisfied by the EIA conducted by ERM, and consequently the DDG and Minister have failed to discharge their obligations in terms of international law in rendering the Initial Decision and the Appeal Decision respectively.

*The Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region*

433. The Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region ("Protected Areas and Species Protocol") requires contracting parties to take action in relation to protecting specific species listed in its Annex II as well as establishing protected areas in order to protect those species.

434. Article 4 of The Protected Areas and Species Protocol addresses "*species requiring special protection*" and requires that countries take "*all appropriate measures to ensure the strictest protection of the endangered wild fauna species*"

that are listed in its Annex II. This includes the requirements that South Africa "*shall strictly regulate and, where required, prohibit activities having adverse effects on the habitats of such species*." Article 4 specifically addresses that certain "*activities shall, where required, be prohibited with regard to such species*," including: "*all forms of capture, keeping or killing"; "damage to, or destruction of, critical habitats"; and disturbance generally and "particularly during the period of breeding, rearing and hibernation*."

435. I submit that the Proposed Project will have impacts that undermine the abovementioned obligations. I say this for the following reasons:

435.1. In relation to anthropogenic noise and its impact on critical habitats, the Marine Ecology Assessment:

> "*Failed to adequately model/measure sound propagation in this region. This is significant because sound propagation may impact MPAs, CBAs, and EBSAs. This is particularly pertinent for example in the Protea Banks and Sardine Route , the first of which contains a cold-water coral system and the second of which is a major fish migration corridor*." (Fournet Report, page 2).

435.2. In relation to vulnerable marine ecosystems in the ADI and AII, which are only "briefly mentioned" in the Marine Ecology Assessment, and further impact assessment dismissed on the basis that the ADI does not overlap with any marine canyons:

> *"[these] ecosystems, including deep-sea coral and sponge habitats and possibly chemosynthetic cold-seep ecosystems, are likely to be present in or near the proposed areas of interest (page 11)…These are all slow growing and long-lived species, with some individual*

> *antipatharian (black coral) colonies reaching thousands of years in age, and large cold-water coral mounds accumulating over hundreds of thousands of years. These are among the most prominent examples of VMEs in the context of offshore drilling EIAs and have been the focus of conservation efforts worldwide.*" (page 6, Cordes Review).

436. Annex II includes mammals that were listed in the Final EIR, including, but not limited to humpback whale, blue whale, leatherback turtle, loggerhead turtle and olive ridley turtle. The Final EIR does not, I submit, achieve strict regulation of activities having adverse effects on these species. For example, Fournet notes (page 12) that the proposed timeline for drilling overlaps temporally with the migration and nesting of loggerhead and leatherback sea turtles that come ashore to nest between mid-October and mid-January each year. This migration was not adequately considered.

437. Fournet notes further that "*The Applicant proposed – but did not appear to commit – to conduct exploration and drilling activities between November and March; however according to the EIA team's report, both humpback whales and right whales will be present in summer months and again in the months of October and November."* (page 11 to 12).

438. Article 8 of the Protected Areas and Species Protocol provides for the establishment of protected areas "*with a view to safeguarding the natural resources of the Eastern Africa region and shall take all appropriate measures to protect those areas.*" I discuss in more detailed in paragraphs 503 to 528 below how the Final EIR fails to consider impacts on CBAs, MPAs and EBSAs.

439. Consequently, the EIA has failed to assess impacts in relation to South Africa's obligations under the Nairobi Convention and Protocols to which it is a party. As a consequence, the DDG and Minister misconstrued South Africa's obligations in terms of international law in rendering the Initial Decision and the Appeal Decision respectively. Their decisions were consequently informed by an error of law, as well as a failure to consider relevant considerations, and fall to be set aside on this basis.

**Convention Concerning the Protection of the World Cultural and Natural Heritage ("World Heritage Convention")**

440. The World Heritage Convention, signed by 194 parties, establishes a "*system of collective protection of the cultural and natural heritage of outstanding universal value*." The World Heritage Convention achieves this through setting out the duties of States Parties in identifying potential sites and their role in protecting and preserving them.

441. South Africa became a party in July 1997 and has ten inscribed world heritage sites, including iSimangaliso WHS.

442. I submit, for the reasons set out below, that there has been inadequate consideration of the impacts of the proposed project on the iSimangaliso WHS. As a result, there has been a failure to take South Africa's international obligations in terms of the World Heritage Convention into account in either the EIA, or the Initial Decision and Appeal Decision.

443. The *Operational Guidelines for the Implementation of the World Heritage Convention 2019* ("Operational Guidelines") inform how world heritage sites under the Convention are designated and protected. They prescribe that parties "*shall ensure that Environmental Impact Assessments, Heritage Impact Assessments, and/or Strategic Environmental Assessments be carried out as a pre-requisite for development projects and activities that are planned for implementation within or around a World Heritage property"* (paragraph 118*bis*). The purpose of these assessments is "*to identify development alternatives, as well as both potential positive and negative impacts on the Outstanding Universal Value of the property, and to recommend mitigation measures against degradation or other negative impacts on the cultural or natural heritage within the property or its wider setting*."

444. The iSimangaliso WHS is both marine and terrestrial and is also recognized by the World Heritage Marine Programme as "*one of 50 flagship marine protected areas of Outstanding Universal Value*," at risk.[16] It overlaps with the "core range of inter-nesting leatherbacks," leatherback and loggerhead turtles (both designated as vulnerable by the IUCN) nest there from mid-October through mid-January with loggerheads remaining close to shore and "within the boundaries of the iSimangaliso Wetland Park", and important reef and coral habitat is located to the South of the Park. (Final EIR, page 2-27, 4-33 and vii).

445. The Operational Guidelines require that the impact of activities that occur outside of the iSimangaliso WHS be both examined and mitigated, not just those within the boundaries thereof. In fact, the northern AOI lies just 51 kilometres away from

[16] UNESCO, "World Heritage Marine Programme" https://whc.unesco.org/en/marine-programme/.

the iSimangaliso MPA. I discuss in more detailed in paragraphs 503 to 528 below how the Final EIR fails to consider impacts on MPAs.

446. Except for noting that iSimangaliso WHS falls within the AII and that, "*The National Environmental Management: Protected Areas Act (2003) stipulate* [sic] *that the minimum over-flight height over nature reserves, national parks and world heritage sites is 762 m (2,500 ft)*" (page 7-33, Final EIR"), no reference is made to the WHS in the Final EIR. Critically, no impact assessment has been conducted in respect of the WHS, on the basis that there is no direct overlap between the iSimangaliso WHS and the norther or southern AOI (page 4-38, Final EIR). This is clearly contrary to the obligations imposed by the Operational Guidelines to conduct an impact assessment.

447. I submit the Minister's decision is based on an error of law regarding responsibilities to assess impacts on the iSimangaliso WHS and that she did not have relevant information before her. As a result, her decision is reviewable under PAJA.

**Convention on Wetlands of International Importance Especially Waterfowl Habitat (Ramsar Convention)**

448. The Ramsar Convention has "three pillars" to which parties commit including: 1) wise use of all wetlands; 2) designating suitable wetlands as Ramsar sites and ensuring their effective management; and 3) to cooperate internationally where wetland systems and species are shared. South Africa ratified the Ramsar Convention on 21 December 1975 and has designated 27 sites across the country, four of which are located in the Project's Area of Direct Influence. These

four sites include: Kosi Bay, Lake Sibaya, St. Lucia System, and Turtle Beaches/Coral Reefs of Tongaland.

449. The Final EIR does not identify the obligations and commitments under the Ramsar Convention that were relevant to the taking of the Minister's Decision and to the undertaking of the activities authorised therein. The Final EIR only mentions the Ramsar Convention once, stating that iSimangaliso Wetland Park is recognised as a wetland of international importance under the Convention, but the Final Environmental Impact Assessment fails to identify South Africa's obligations under the Convention, and consequently the level of impact assessment required.

450. By way of example, Article 3 of the Ramsar Convention requires parties to "*implement planning so as to promote the conservation of the wetlands included in the List*." To that end, Ramsar Resolution VII.16 calls upon parties to ensure "*any projects, plans, programmes and policies* ***with the potential*** *to alter the ecological character of the wetlands in the Ramsar List, or impact negatively on other wetlands*" are subject to "*rigorous impact assessment procedures*." (my emphasis).

451. Ramsar Resolution VII.16 also encourages contracting parties to ensure that impact assessments identify the "*the true values of wetland ecosystems in terms of the many functions, values and benefits they provide*" and that these processes be undertaken in a transparent and participatory manner.

452. I respectfully submit that the impacts (particularly in relation to <u>unplanned</u> accidents) on the iSimangaliso MPA (which includes Kosi Bay, the St. Lucia

System, and turtle beaches / coral reefs of Tongaland) have not been properly assessed nor placed before the Minister (or the Deputy Director General) for the reasons set out in I discuss in more detailed in section N below how the Final EIR fails to consider impacts on CBAs, MPAs and EBSAs.

453. The extent to which the proposed project has the potential to alter four Ramsar wetlands has therefore not been subject to a "*rigorous impact assessment*" as required by the Ramsar Convention. Certainly the true values of wetland ecosystems in terms of the many functions, values and benefits they provide was not considered in the Final EIR. No Oil Spill Contingency Plan, a key component to mitigating the risks from oil spills, has even yet been developed.

454. The Minister had a duty to consider impacts on Ramsar sites, and in the absence of an adequate and rigorous impact assessment being placed before the Minister in this regard, the Appeal Decision is fatally flawed.

**International Whaling Convention – Resolution 2018-4**

455. Resolution 2018-4: Resolution on Anthropogenic Underwater Noise ("IWC Resolution 2018-4") recognises that "*cetaceans fundamentally depend on sound for their survival and that exposure to certain anthropogenic underwater noise can have both physiological and behavioural consequences for cetaceans*" and that there has been a rapid growth of anthropogenic underwater noise generated by activities such as drilling. (Preamble to IWC Resolution 2018-4).

456. IWC Resolution 2018-4 is reference in Section 2.4.2 of the Final EIR which, lists certain international laws of relevance to the proposed project. Despite this

acknowledgement of its applicability to the proposed project, the Final EIR failed to consider IWC Resolution 2018-4 obligations.

457. IWC Resolution 2018-4 welcomes the inclusion of anthropogenic underwater noise as a “priority threat” to be addressed by International Whaling Commission Conservation Committee’s Strategic Plan. The Resolution was adopted by consensus in 2018, making it binding on contracting parties, including South Africa, which became a member to the Convention in 1948.

458. Under IWC Resolution 2018-4, Contracting Governments agree to incorporate the precautionary approach and “shall not” use a lack of full scientific certainty as a reason to postpone the implementation of cost-effective measures to reduce the effects of anthropogenic underwater noise (Article 2).

459. IWC Resolution 2018-4 recommends contracting governments, such as South Africa, to “*engage with industries . . . to support the development and implementation of mitigation strategies and best practices that protect cetaceans in line with an* ***ecosystems approach and the precautionary approach***.” (my emphasis). In order to achieve the twin goals of “*robust, comprehensive, and transparent assessment*” and “*mitigation of adverse effects of anthropogenic underwater noise*,” contracting governments are recommended to “take into account best practice guidelines (Article 3(d)).

460. The EIA, and Final EIR fail to take into account best practice guidelines, including the International Maritime Organization Guidelines For the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life (Circular MEPC.1/Circ.833) (“International Maritime Organization

Guidelines"); and the Convention on Migratory Species Family Guidelines on Environmental Impact Assessment for Marine Noise-generating Activities (Convention on Migratory Species, 2017) ("Convention on Migratory Species Guidelines"):

460.1. The Convention on Migratory Species Guidelines require an independent expert model of the "*noise of the proposed activity in the region and under the conditions they plan to operate"* in order *"[t]o present a defensible Environment Impact Assessment*." This also includes "*an understanding of the ambient or natural sound in the proposed area*" that should be measured *"prior to an EIA being developed and presented*." (paragraphs 9 and 18).

460.2. The Final EIR did not model noise or noise propagation, nor did it include an understanding of ambient sound in the drilling area. Instead, the Final EIR relied on studies from not only a different region, but also a different ocean (Final EIR, paragraph 7.3.5). As the expert report of Michelle Fournet indicates, propagation modelling from one area is not applicable to another (Fournet Expert Report at page 9). Further, Fournet's Report explains that the information in the report relied upon in the Final EIR, could not adequately and reliably be applied to the Eni/Sasol's drilling activities as it lacked information on ambient noise bandwidth, decibel value calculations, and a baseline soundscape. She notes (page 8) that: "*The actual range that the sound from this project is capable of travelling before attenuating before exceeding a biologically meaningful threshold*

*can only be determined through either in situ sound propagation experiments or through propagation modeling*." This has note been done.

460.3. IWC Resolution 2018-4 recommends consideration of obligations under the Convention on Migratory Species Guidelines, which encourage mitigation measures, monitoring, and the use of exclusion zones. which are areas "*designed for the protection of specific species and/or populations*." In exclusion zones, "*noise generated by activities, should not propagate into these areas* (paragraphs 9 and 10).

460.4. The Final EIR failed to even consider spatial exclusion zones for MPAs, and CBAs, or temporal exclusion zones to protect species and populations against noise propagation into biologically-sensitive habitats during important periods of biological functioning, such as breeding, rearing and migrations.

460.5. International Maritime Organization Guidelines provide that "*operational modifications and maintenance measures should be considered as ways of reducing noise for both new and existing ships*." (paragraph 10.1). This can include ship speed reductions and rerouting or operational decisions to reduce adverse impacts on marine life; in other words adjustments of shipping routes and the timing of operations to avoid well-known habitats, migratory pathways, and biologically sensitive periods for marine life (paragraph 10). This is confirmed by the Fournet Report at page 13.

460.6. The Final EIR considered only one mitigation measure, the cleaning of the propeller and underwater hull at uncertain intervals, and failed to even

consider the number of additional operational and maintenance mitigation measures available.

460.7. International Maritime Organization Guidelines also look to ship design and onboard machinery as a means to reduce underwater noise generated from ships (paragraphs 7 and 8). The Final EIR did not consider design or onboard machinery options including mounting or relocating more appropriately onboard machinery as noise mitigation measures (Guidelines, paragraph 7 and 8). Nor did the Final EIR consider the option of additional technologies, such as the installation of new propellers, wake conditioning devices, air injection, or isolation mounts, electric motors or other to reduce onboard noise that travels into the ocean (International Maritime Organisation Guidelines, paragraph 9).

461. The Final EIR failed to incorporate the precautionary approach and failed to consider as well as incorporate available cost-effective mitigation measures to address the adverse effects of anthropogenic underwater noise as required under IWC Resolution 2018-4 in the face of scientific uncertainty regarding noise impacts.

462. As expert Michelle Fournet notes in her report, "*the lack of research resulting from the exact region on these specific faunal communities is not grounds for ignoring potential noise impacts, rather it is a greater indication for the need of baseline research in this region prior to development, and a need for careful mitigation measures*" (Fournet Report, page 12).

463. I therefore submit that the impacts of underwater anthropogenic noise on whales in relation to South Africa's international obligations in this regard have not been adequately assessed or included in the Final EIR, and consequently the Deputy-Director General and Minister have misconstrued their obligations in terms of international law, as well as failed to take relevant considerations in this regard into account, in rendering the Initial Decision and the Appeal Decision respectively.

**Conclusion**

464. South Africa is party to several international conventions, agreements and protocols detailed above in terms of which it has obligations to satisfy. The information placed before the Deputy Director in the first instance, and the Minister on appeal, did not adequately demonstrate how the proposed project would support these obligations. In fact, in many instances it appears to achieve the contrary. Consequently, both the Deputy Director General and the Minister erred in rendering the Initial Decision and Appeal Decision, and did so without taking certain relevant considerations into account.

465. The Initial Decision and Appeal Decision are thus reviewable in terms of sections 6(2)(b), 6(2)(d), 6(2)(e)(iii), 6(2)(f)(ii)(cc) and 6(2)(f)(ii)(dd) of PAJA.

## N. 7TH REVIEW GROUND: FAILURE TO CONSIDER OTHER RELEVANT CONSIDERATIONS

466. I now focus on the ground of review contained in section 6(2)(e)(iii) of PAJA to demonstrate that the DDG and the Minister failed to consider relevant factors in

the decision-making process. (The applicant's arguments about the material errors of law relating to the specific environmental management (section J of this application) which forms the legislative backdrop against which many of these arguments must be considered.)

**Failure to take inadequacy of Oil Spill Modelling into account**

467. The applicant raised various concerns about the OSM Report during the environmental impact assessment process.

468. These arguments are contained, *inter alia*, in paragraphs 29 to 45, as well as in paragraphs 120 to 130 in relation to impacts on fisheries, of the applicant's appeal, and I incorporate those arguments by reference.

469. As is evident from the appeal decision, the Minister did not even deal with these arguments. In other words, the Minister ignored the applicant's arguments on these matters.

470. Furthermore, I point out that as part of an appeal lodged by another appellant, Wildoceans, a project of the Wildlands Trust (which will form part of the Rule 53 record in due course), two independent reviews of the OSM Report were commissioned:

470.1. one from Prof. Claire Paris, a biological oceanographer and Full Professor of Ocean Sciences at the University of Miami's Rosenstiel School of Marine and Atmospheric Sciences, Miami, Florida, USA ("the Paris Review"). The Paris Review is annexed hereto as **DDS33.**

470.2. a second from Prof. Annelisa Bracco, a physical oceanographer and Full Professor in the School of Earth and Atmospheric Sciences and Ocean Science and Engineering Program at the Georgia Institute of Technology in Atlanta, Georgia, USA, (“the Bracco Review”). The Bracco Review is annexed hereto as **DDS34.**

471. An independent review of the Marine Ecology Assessment was also commissioned as part of the Wildoceans appeal from Prof. Erik Cordes, Full Professor and the Vice Chair of the Department of Biology at Temple University in Philadelphia, whose research focusses on deep-sea corals and natural hydrocarbon seeps (“the Cordes Review). The Cordes Review is annexed as **DDS35.**

472. Paris found that the OSM Report significantly underestimated the amount of oil that could be released from a blowout and therefore did not model the worst-case scenario. She notes that the Deep Water Horison accident resulted in an 87-day release of nearly 5 million barrels of oil, with a flow-rate of 50,000 to 70,0000 barrels a day, as opposed to the weak flow rate of 6,604 barrels / day, and spill duration of 7-34 days depicted in Table 8.3 (page 8-7) of the Final EIR. She also notes that deep-water spills have different characteristics than spills in shallow water (page 3, Paris Review).

473. Bracco found that the hydrodynamic model (HYCOM) used in the OSM Report underestimates the instantaneous velocities of the water column in the AOIs, and places the core of the Agulhas too far off-shore when the current approaches the shore of Durban. Further, HYCOM underestimates the variability of the Agulhas

current. This underestimation means oil may reach the shore much more quickly than predicted (page 9, Bracco Review).

474. Cordes observes that greater drilling depths may lead to increased frequency of accidents during drilling operations, and that the Final EIR and OSM Report only deal with a surface oil slick and makes no predictions for the distribution of oil on the seafloor (page 10, Cordes Review).

475. Two of these experts, Paris and Bracco, also pointed to the fact that the OSM relied on outdated factual information and did not consider more recent, objectively verifiable learning which the scientific community obtained after Deepwater Horizon Oil Spill. This appears at page 5 of the Paris Review and page 8 of the Bracco review.

476. Dr. Elwen also comments briefly on the OSM Report in the Elwen Report, importantly observing that OSM was based on average, rather than extreme weather conditions (which are likely to occur off the east coast). He finds that "*The oil spill modelling is based on averaged oceanic conditions over a period, or rather average results of spills modelled over a period (Jan 2013 to Feb 2018, p28, Annex D4). By definition – these do not then account for a 'worst case scenario' which would involve a spill under 'unfavourable' conditions, for example a tropical storm, onshore winds or unusual current conditions… The Agulhas Current area can be very powerful and hurricane level storms and other extreme events happen with regularity in this area"* (pages 11 to 12).

477. The applicant relies upon these expert reports as evidence in this review and, presumably, the Bracco Review, Paris Review and Cordes Review will be filed in

due course as part of the Record in this matter. Based on the foregoing, I respectfully submit that the DDG and the Minister ignored relevant considerations in their decisions. I point out that this is not simply a matter of experts "disagreeing" on matters. The point that the applicant makes is that objectively verifiable facts and scientific learning were left out of the environmental impact assessment process and were clearly ignored by the DDG and the Minister in rendering their decisions.

478. This is all the more important because many of the other assessments in the Final EIR, such as the Marine Ecology Assessment, rely on the findings in the OSM Report to predict and assess impacts on the basis of that model. It follows, that if the OSM Report is fatally flawed, then the entire impact assessment process is similarly flawed.

479. I will deal with these matters further, after the Record is filed, in my supplementary founding affidavit and with specific reference to the Record.

**Absence of Oil Spill Contingency Plan**

480. The applicant raised the need for an oil spill contingency plan throughout the environmental impact assessment process, but this were not taken into account by the decision makers.

481. I refer to paragraphs 46 to 56 of the applicant's appeal to the Minister. I respectfully incorporate those arguments by reference in this affidavit.

482. The DDG ignored these relevant considerations.

483. The Minister obviously considered that an oil spill contingency plan was important because she included conditions 3.4.2 to 3.4.5 in the Appeal Decision to the effect that interested and affected parties were to be given a 30-day comment period on such plan, when it is eventually developed.

484. I submit that this is to put the cart before the horse. I say so because the very purpose of an environmental impact assessment is to assess what could go wrong and what the negative impacts on the environment might be. In this case, an oil spill is a very real likelihood and is confirmed by ordinary human experience, particularly after the Deepwater Horizon oil spill.

485. The ability to contain damage to the environment, resulting from an oil spill must therefore constitute a relevant factor in the environmental impact assessment process, yet the decision makers paid no regard to this.

486. This is particularly important given that the Marine Ecology Assessment presented as part of the Final EIR states that a major oil spill "could have devastating effects on the marine environment" (page 146). That report also notes that even in the case of an operational spill the toxic effects would "negatively affect any marine fauna it comes into contact with," which when coupled with the Agulhas current could see hydrocarbons "rapidly transported considerable distances."

487. In my respectful submission therefore, it does not matter that an oil spill contingency plan is not identified as a specific requirement in NEMA or in the EIA Regulations because those are not closed lists, nor the end of the required evaluation.

488. Section 24O(b)(iii) of NEMA lists “criteria to be taken into account by competent authorities when considering applications” for environmental authorisations. One such consideration is “the ability of the applicant to implement mitigation measures and to comply with any conditions subject to which the application may be granted.”

489. The ability to respond to a catastrophic environmental event, such as an oil spill during the exploratory drilling, therefore required an assessment of the method, manner and speed at which the authorisation holders would respond to an oil spill. The only way that this could properly be assessed was if ERM had developed an oil spill contingency plan which could have been assessed, debated and influenced through the course of the environmental impact assessment process.

490. None of this was considered by the DDG. Nor was it considered by the Minister, although she thought it important enough to include in conditions to the Appeal Decision. As I have said, such approach does not address the failure to consider this relevant factor.

491. I will deal with these matters further, after the Record is filed, in my supplementary founding affidavit and with specific reference to the Record.

**Failure to assess intangible ocean heritage**

492. The Final EIR only refers to tangible ocean heritage and does not consider intangible heritage at all. I submit that this too constitutes the failure to consider a relevant factor as required by NEMA.

493. The applicant raised these arguments throughout the environmental impact assessment process. In particular, such arguments are contained in paragraphs 131 to 145 of its appeal to the Minister, attached as DDS13. I respectfully incorporate these arguments by reference in this affidavit.

494. As is evident from those arguments, the applicant submits that a relevant factor in the environmental impact assessment process, is the intangible ocean heritage of the areas concerned.

495. Those aspects were simply overlooked by the desktop study conducted in the form of a “Maritime Heritage Impact Assessment” (Annex D3 to the Final EIR) which focused only on submerged prehistory and shipwrecks. A copy of the Marine Heritage Impact Assessment is marked **DDS36.**

496. Yet, as set out in the applicant’s arguments, the ocean holds cultural significance for local communities and species that migrate through this neighbouring ocean constitute important parts of the identity of coastal communities.

497. Many members of our community rely on the ocean for sustenance through small scale fishing, often using traditional methods and practices.

498. In addition to the ocean holding a source of food and livelihoods for members of the community, the ocean is also significant for our community and holds ceremonial, cultural or ritual significance.

499. This accounts for why the NEM:PAA defines “environmental goods and services” as including intangible heritage:

*"(c) cultural non-material benefits obtained from ecosystems such as benefits of a spiritual, recreational, aesthetic, inspirational, education, communal and symbolic nature*."

500. I have already dealt with the "collective interests of the community" as defined in the NEM:ICMA (see paragraphs 372 to 398 above).

501. In the light of the foregoing, I respectfully submit that the limited scope of the Marine Heritage Impact Assessment in the Final EIR means that all relevant heritage considerations were not considered as they ought to have been, including intangible ocean heritage, and as contemplated in the Heritage Act, NEMA, ICMA and the Protected Areas Act.

502. These matters will also be dealt with further in argument.

**Failure to take relevant impacts on CBAs, MPAs and EBSAs into account**

*Importance of MPAs, CBAs and EBSAs*

503. The northern and southern AOIs lie in close proximity to several MPAs, CBAs and EBSAs. However, it is unclear from the Final EIR what the distance between the proposed drilling areas and relevant MPAs, CBAs and EBSAs is. This information consequently did not serve before the DDG or the Minister on appeal.

504. The Area Map commissioned as part of this review application demonstrates the MPAs, CBAs and EBSAs in relation to Block ER236 as a whole and to the ADI. From the Area Map it is evident that the ADI are in reality situated very close to these areas, in some instances (Aliwal Shoal) being only 38 kilometres away. On

page 9 in the Harris Report, Harris notes that the Agulhas Current can travel almost 9 km/h. This means that it may take a little over 4 hours for oil from a spill or blowout to reach the Aliwal Shoal MPA. In the context of the dynamic marine environment, this is not “fairly far” as contended by the Minister and presumably which was also the view of the DDG, because he too had no direct information on these distances in the Final EIR

505. These areas are an important part of South Africa’s protected area network and have been protected for particular reasons. For example:

505.1. uThukela MPA contains unique soft sediment ecosystems and fragile soft coral and sponge reefs and is an important area for threatened reef fish and is a nursery area for endangered hammerhead sharks (page 2, Harris Report);

505.2. Protea Banks MPA protects critical areas for aggregation and breeding of endangered sharks and rays, and to conserve and protect submarine canyons, deep reefs, cold water coral reefs and other habitats of the shelf edge and slope (page 4-38, Final EIR and page 2, Harris Report);

505.3. the expanded Aliwal Shoal MPA contains vital spawning area for Kob (and other fish) species that are important in coastal fisheries (page 4-37, Final EIR and page 2, Harris Report);

505.4. iSimangaliso MPA protects a large number of turtle nesting sites; turtle migration routes, the migration of whales, dolphins and whale-sharks offshore; coelacanths in the submarine Sodwana canyons; and a

considerable number of waterfowl associated with the iSimangaliso Wetland Park (page 4-37, Final EIR);

505.5. brief mention is made of the Pondoland MPA, located off the Wild Coast, in the Final EIR (page 4-38)';

505.6. Offshore Area 20 is a CBA of irreplaceable importance and drivers for protecting this area relate to the identification of a unique bioregion characterized by the frequency of mesoscale eddies and fronts, which are typically associated with ocean upwelling, higher primary productivity, importance for recruitment and larval stages of fish, and increased presence of top predators (such as seabirds, sharks and whales) that use these productive areas for feeding (page 3, Harris Report);

505.7. The AOIs overlap with three EBSAs inscribed under the Convention on Biological Diversity. These EBSAs contain sensitive systems and areas important for coastal fisheries, including the annual "sardine run" (page 3, Harris Report).

506. Other declared MPAs in the AII include the Amathole MPA (in the vicinity of East London) and the Dwesa-Cwebe, Hluleka and Pondoland MPAs (located on the Wild Coast) (page 4-38, Final EIR).

*Failure to properly assess impacts on CBAs, MPAs and EBSAs*

507. One important underlying issue with the EIA and the findings of the Final EIR is the deficiency in baseline information. As I've pointed out previously, little

information exists about the ADI and AII. In addition, the Marine Ecology Assessment comprised a desktop study with no physical environmental surveying being conducted.

508. This has led to a deficient impact assessment, and consequently a lack of relevant information serving before the DDG and the Minister on appeal.

509. Several experts have raised concerns about the lack of baseline information. In a Supplementary Report prepared as part of this review and annexed hereto as **DDS37.** ("Cordes Supplementary Report") Dr Cordes notes that:

> *"It is my opinion that the baseline information presented in the EIA is not adequate. There are no high-resolution maps of the area and very few biological data… High-resolution maps of the AOIs are not available. These are the most minimal requirements for systematic conservation planning and the determination of the presence of suitable habitats to support critical biodiversity areas (CBAs) or ecologically and biologically significant areas (EBSAs) in the AOIs*" (page 2).

510. This observation is shared by Dr. Elwen and Dr. Fournet. Dr. Elwen comments that:

> "*However, given the lack of surveys and published information in this offshore environment, especially the benthic environment it is clear that there are significant data gaps in terms of even basic information such as species presence and diversity, let alone more detailed information on aspects such as behavioural or physiological responses to human impacts or population recovery rates etc*." (page 7).

511. Dr. Fournet notes that:

> *"[The Marine Ecology Assessment] failed to adequately quantify baseline ambient sound levels. This is significant because—given that marine organisms use sound for navigation, prey detection, and foraging—alterations made to the baseline natural soundscape will have ecological consequences that may be severe.*" (page 2).

512. Crucially, this lack of baseline information is not listed as a limitation to the EIA in the Final EIR. Consequently, the Minister has made no reference to limited baseline information in the Appeal Decision.

513. I submit that it is irrational to use lack of information about the deep ocean as a justification for a desktop-only EIA, given that there is no clarity regarding what exactly would be impacted. Were this a land-based EIA, I submit that a far more rigorous EIA would have been conducted, with extensive species-specific monitoring and ground-truthing of desktop literature.

514. In addition to the paucity in baseline information, a deficient impact assessment has been conducted in relation to MPAs, CBAs, and EBSAs:

514.1. Paragraph 2.123 and 2.124 of the Appeal Decision notes that the impacts of an oil spill on EBSAs and MPAs was assessed as "**minor**", that these areas are "fairly far" from the AOIs, and that the AOIs do not overlap with any MPAs;

514.2. In relation to CBAs, I have already addressed the error of law which influenced the Minister's decision in this regard.

515. I have already dealt with the issues around the OSM Report and how errors in the modelling thereof, and the modeling of the Agulhas current. have led to

inaccurate impact assessment. This is confirmed in the Harris Report (page 6), wherein Dr. Harris notes that:

> "*the available knowledge dictates that given the direction of flow of the current, the meanders it takes and the available evidence of its role in transport of water (and larvae) towards the coast it is highly likely that anything discharged at the drill sites would have a high chance of reaching the coastal areas in which the MPAs are located*."

516. Several experts concur that the impacts on specific MPAs, CBAs and EBSAs have not been properly taken into account in the Final EIR, and consequently that this information did not serve before decision-makers. I discuss their findings regarding the deficits in the Final EIR and Marine Ecology Assessment briefly below.

517. The Final EIR failed to consider how corals that are a key component of the Protea Banks MPA may be impacted. As the expert Michelle Fournet concludes in her expert report,

517.1. The Final EIR "*Failed to adequately model/measure sound propagation in this region. This is significant because sound propagation may impact MPAs, CBAs, and EBSAs. This is particularly pertinent for example in the Protea Banks and Sardine Route, the first of which contains a cold-water coral system and the second of which is a major fish migration corridor. Larval corals rely on reef sounds to determine where to settle; disturbance to reefs and associated soundscapes negatively impacts coral settlement, and thus continued reef building*." (Fournet Report, page 2-3).

518. According to the expert report of Michelle Fournet, it is possible that noise impacts from the proposed activities could impact the turtles, whales, and other marine animals in the iSimangaliso area for two reasons:

518.1. One, "*As a boundary-less medium, the ocean does not provide structure preventing the entrance or exit of organisms from impacted areas. Animals that experience a physiological response to noise when in close range to anthropogenic noise sources, may continue to experience that physiological response when they exit the region and travel to nearby MPA, CBA, and EBSA areas. Physiological responses alone and in combination with behavioral responses may result in population level cumulative effects that have not been analyzed in this study*." (Fournet Report, page 11).

518.2. Two, the animals that are important to the iSimangaliso area, such as turtles and whales, migrate through the ocean in ways that could be impacted by the proposed activity and these impacts were not assessed in the Final EIR. (Fournet Report, page 9, 11). For example, "*the proposed timeline for drilling overlaps temporally with the migration and nesting of loggerhead and leatherback sea turtles that come ashore to nest between mid-October and mid-January each year (Page 52, Marine Ecology Appendix)*," and "*it is both likely and possible that turtles migrating inshore to breed will overlap with the proposed activities and be exposed to noise. This migration was not adequately considered*," and therefore the impacts of turtles that are important to the iSimangaliso area have not been addressed.

519. Dr. Harris opines that "*four of these MPAs* [Protea Banks, uThukela, Pondoland, Aliwal Shoal] *are close enough to the proposed drilling sites, and their location relative to sites is such as, to make them vulnerable to persistent degradation and damage from day-to-day operational oil leakages and smaller spills that are well documented to occur, in addition to them being at significant risk should a major oil spill incident happen*." (page 3, Harris Report).

520. In his Supplementary Report, Dr Cordes notes, regarding the importance of vulnerable marine ecosystems to maintaining ocean productivity, that:

> "*The Applicants state that the overlap with the Offshore Area 20 CBA is insignificant because it was designed to protect highly mobile species. However, the presence of those highly mobile species is related to the high productivity in this area of active upwelling.*
>
> *There are numerous connections between the deep sea and the shallow waters. Of primary importance in this region, the upwelling of nutrients from the deep sea is the basis of the productivity of the fisheries in the area…"* (page 2).

521. Impacts from planned exploration activities (including physical disturbance of seabed sediments, accumulation of cement, drill cuttings and associated fluids on the seabed), as well as from major oil spills resulting from a blowout could impact on vulnerable marine ecosystems and consequently the high levels of productivity associated with Offshore Area 20.

522. Dr. Harris notes in relation to EBSAs that they:

> "*contain sensitive systems and areas important for coastal fisheries, including the annual "sardine run" (van der Lingen 2010). The annual*

*sardine run is of specific concern since the sardines move all the way up the coast through the Eastern Cape attracting huge schools of dolphins, whales, seabirds, predatory fish, and sharks. If an oil spill were to occur at the time of the sardine run, the impact would be extremely high for the "concentrated fauna" both in terms of impact on their food source (their sardine prey) as well as direct impacts from the oil (smothering and toxic effects)*." (page 3, Harris Report).

523. I reiterate that the ocean is dynamic and consequently impacts associated with particularly unplanned accidents (well blowouts) will not be confined in the matter suggested in the Final EIR.

524. Dr Elwen best expresses the dynamic nature of the marine environment as follows in the Elwen Report:

"As useful and beneficial as spatial planning and Marine Protected Areas are for planning, conflict avoidance and conservation, they *remain vulnerable to impacts well outside their boundaries due to the fluid and interconnected nature of the ocean and most life within it."* (Page 4.)

"*These boundaries are completely pervious to noise, chemical spills, water degradation, and solid pollution which may move in or out of these areas with currents and tides*." (Page 4.)

"*Thus, activities hundreds and even thousands of kilometres away can affect the overall habitat quality within these areas*." (Page 4.)

"*These impacts are especially important for highly endangered species and populations….*". (Page 4.)

"*The fluid and interconnected nature of the oceans and the vulnerabilities of spatial planning is most evident in the massive areas potentially affected by oil in the case of a blowout*."

*Failure to consider impacts on CBAs, MPAs and EBSAs*

525. I have already dealt with the material error of law made by the decision makers in failing to consider relevant specific environmental management Acts and their obligations in this regard (see section **J** herein).

526. I respectfully submit that no consideration was given by the decision makers to the importance of the impacts on CBAs, MPAs and EBSAs, because they were misled into thinking that the exploratory drilling is “situated fairly far” from these areas, or that the impacts were assessed to be “minor”, as the Minister recorded in paragraphs 2.134 and 2.124 of her Appeal Decision.

527. The contrary is true. These important and legislatively protected areas exist within a dynamic coastal environment, where the movement of species and currents is not static at any given point in time.

528. In the result, the applicant submits that the impacts on these legislatively protected MPAs, CBAs and EBSAs ought to have been considered but were not considered by the decision makers. Therefore, relevant considerations were ignored.

**Failure to take relevant impacts of production into account**

529. I submit that a relevant factor that ought to have been considered, but which was ignored in the process, relates to the impacts of production on the environment.

530. It is indisputable that the Final EIR did not consider this at all because ERM claimed that these matters were irrelevant because they would be considered in

due course through a separate impact assessment process for the production phase.

531. I submit that this constituted a material flaw in the environmental impact assessment process.

532. I have already dealt with some of the applicant's arguments on such matters in the section dealing with inadequate consideration of "need and desirability" above (in section K).

533. I have already referred to the wholly inadequate baseline information presented in the Final EIR about the receiving environment and the lack of adequate scientific analyses particularly about benthic communities in the offshore drilling environment. (See paragraphs 507 to 513 above)

534. The Applicant continuously argued during the environmental impact assessment process that the environmental impact assessment process was flawed because there was no consideration given to the impacts of production.

535. I refer in this regard to paragraphs 17 to 23 of the applicant's appeal submitted to the Minister. I incorporate these arguments by reference.

536. I submit that in the context of this dynamic coastal environment, and in the context of the proximity of the legislatively protected MPAs, CBAs and EBSAs, that the decision makers ought to have considered the environmental impacts of the production phase of this project, if they were to form an assessment over whether to permit exploratory drilling in the first place.

537. I demonstrate this as follows. At present, exploratory drilling has been authorised by the DDG and the Minister in the absence of any scientific information particularly about the benthic communities at the distances offshore at which the exploratory drilling is to take place. That, of necessity means, that no one knows what the marine and ecological environment is at those distances.

538. How then is it possible to permit exploratory drilling without an assessment of whether, in the production phase, the marine and ecological environment at those distances will not be negatively affected?

539. I submit that it is irrational to claim that as our regulatory environment provides for two separate "exploration" and "production" impact assessments that it does not matter now how the marine environment and ecological communities therein will be affected during the production phase.

540. I have set out above in section **G** why the distinction between exploration and production activities is artificial.

541. I have already referred to the legislative protection given to the CBAs, MPAs and EBSAs in Block ER236. The question arises whether there can be any rational basis for considering the impacts of production on those marine communities now, before authorising exploration activities in the first place. I submit that there is no rational basis for such an approach and particularly not in the context of this dynamic marine environment.

542. As is evident from pages 7 and 11 to 12 of the Elwen Report, "during production, potential locations of *oil spills would not be limited to around the drill site*, which

substantially changes the implications of spills for any protected areas" (at page 12).

543. Furthermore, Dr Elwen notes (at page 11) that in relation to the impacts on MPAs, CBAs and EBSAs: "All these aspects fall under the Assessment of Impacts from Accidental Events within the ME Report, rather than more predictable impacts of known and regular activities (shipping, noise, drilling etc). The calculation of risk for accidental activities differs from that for planned activities in that it is "based on a combination of the likelihood (or frequency) of the incident occurring and the consequences of the incident should it occur".

544. For this reason, Dr Elwen is of the opinion (on page 12) that "it is likely that the potential impacts of oil spills have been significantly underestimated and given the value of surrounding habitat and the potential impacts thereon, this environmental impact assessment process ought to have been considered "over a much wider potential source area, and much longer time frame, while taking into account changing environmental conditions and increasing extreme weather events…" (at page 12).

545. The applicant respectfully adopts and presents this argument herein.

546. In the result I submit that the lack of any assessment of the impacts of production, as part of the environmental impact assessment process, constitutes a reviewable error in terms of section 6(2)(e)(iii) of PAJA.

547. These matters will be amplified upon in my supplementary founding affidavit, after the Record has been delivered and will be dealt with further in legal argument at the hearing of this review.

**Failure to conduct climate change impact assessment**

548. I submit that a further relevant consideration that was ignored in the environmental impact assessment process relates to the failure to assess the impacts related to climate change.

549. The Applicant dealt with this argument in paragraphs 57 to 88 of its appeal to the Minister. I incorporate those arguments by reference into this affidavit.

550. It is clear that no climate change impact assessment was conducted during the environmental impact assessment process.

551. While the Minister noted that section 7.3.1 of the Final EIR "adequately addresses the potential impact of GHG on climate change," (at paragraph 2.67 of the appeal decision), this section of the Final EIR only deals with emissions as a result of drilling operations. No further aspect of climate change impacts related to the exploratory drilling was investigated or considered, including how climate change may impact on the exploratory activities.

552. Nor was there any climate impact assessment of the associated fossil fuel production activities.

553. The Appendix 3 of the EIA Regulations provides that:

553.1. the environmental impacts of a proposed project must be set out in the environmental impact assessment report which must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include the information specified in section 3 of Appendix 3;

553.2. one of the objectives of an environmental impact assessment process is to determine the nature, significance, extent, duration and probability of the impacts occurring to inform the identified preferred alternatives.

554. I am advised and submit that our courts have now recognised the critical importance of comprehensive climate change impacts to be assessed in environmental authorisation processes. This must include the extent to which the authorised activity will contribute to climate change over its lifetime; the resilience of the project itself to climate change such as through extreme weather patterns; and how these may be mitigated or avoided.

555. I submit that all of these were relevant factors which ought to have been carefully considered, but which were not by the DDG and the Minister. Consequently, the Applicant submits that these relevant factors were not considered contrary to section 6(2)(e)(iii) of PAJA.

556. I set out below why a detailed assessment of climate change impacts was necessary.

*Overview of deficiencies in assessment of climate change impacts*

557. The Final EIR includes section 7.3.1 titled “Impact of Project Greenhouse Gas Emissions on Climate Change” (at page 7-6). However, no specialist climate change impact assessment report has been included.

558. Section 7.3.1 explains that the main sources of air emissions resulting from offshore drilling activities during operations include (page 7-7):

- “*Exhaust gas emissions produced by the combustion of gas or liquid fuels in pumps, boilers, turbines, compressors and other engines for power and heat generation on the offshore vessels including the drillship, supply and standby vessels and helicopters. This can be the most significant source of air emissions from offshore facilities.*

- *Fugitive emissions associated with leaking valves, tubing, connections etc. and hydrocarbon loading and unloading operations.*

- *If well testing is conducted, it may be necessary to flare or vent off some of the oil and gas brought to the surface. Flaring and venting is also an important safety measure used to ensure gas and other hydrocarbons are safety disposed of in the event of an emergency, power or equipment failure or other plant upset conditions. The flow periods and rates will be limited to the minimum necessary to obtain the required reservoir information during the well test. It is anticipated that a maximum well test time for this project, if required, will be approximately 20 days.*”

559. Insofar as section 7.3.1 constitutes a climate change impact assessment, it is deficient in at least two respects:

559.1. first, it failed to calculate and assess the emissions from flaring and venting; and

559.2. second, it failed to assess the impacts of climate change on the exploration operations and therefore the resilience of the operations to climate change.

560. Each of these deficiencies is addressed in more detail below. They are particularly significant because in the Appeal Decision, the Minister dismissed the appeal ground titled “Impacts of greenhouse gas emissions on climate change from the project’s exploration activities” (para. 2.64 to 2.68) on the basis that climate change impacts were adequately assessed in the EIA phase and assessed as Negligible.

561. I am advised that in *Earthlife Africa Johannesburg v the Minister & Others* [2017] 2 All SA 519 (GP) (8 March 2017), this Court found that in considering climate change, the decision maker must do more than exclusively rely on unsupported statements in the environmental impact assessment that the climate change impacts of the project are relatively small or low.

*Failure to calculate and assess the emissions from flaring and venting*

562. According to the Final EIR, flaring may occur during a well test, which is conducted on the appraisal wells to assess how the well is performing in regard to the “pressure, volume, and temperature” of material moving through the well. (page 3-21) The Final EIR states that “[i]f well testing is conducted, it may be necessary to flare or vent off some of the oil and gas brought to the surface” which

is done “to ensure gas and other hydrocarbons are safety disposed of” while the operator of the well is obtaining data about the well’s performance. (page 7-7)

563. It then goes on to say that “The emissions from flaring, during well testing have not been quantified in Table 7.5 as the characteristics of the well in terms of pressure, flow rate and pressure are unknown and will only be determined while the well is being drilled” and concludes that the significance of the impact from the project’s contribution to climate change will be Negligible.

564. However, the greenhouse gas emissions from venting and flaring during offshore operations can be significant and can be estimated. Given their significance as one of the “main sources of air emissions”, the failure to include a calculation of the emissions from such activities is material.

565. The applicant’s attorneys have advised the applicant that in the event that data on well testing from offshore exploration wells in South Africa is limited, data from similar exploration wells in the United Kingdom is readily available in scientific literature. Such literature shows that well testing at offshore oil and gas sites have reported up to 8,000 tons of carbon dioxide per well.[17] Nationally, all offshore oil well testing in the United Kingdom has reached as high as 840,000 tons of CO2-equivalent per year,[18] and offshore gas well testing has reached as

[17] Laura Cardenas, et al., “UK Greenhouse Gas Inventory, 1990 to 2005 Annual Report for submission under the Framework Convention on Climate Change,” p. 315 (Apr. 2007) https://www.researchgate.net/profile/Laura-Cardenas-8/publication/237108817_UK_Greenhouse_Gas_Inventory_1990_to_2005/links/0deec52e557d5aa3b7000000/UK-Greenhouse-Gas-Inventory-1990-to-2005.pdf.

[18] United Kingdom of Great Britain and Northern Ireland, “National Atmospheric Emissions Inventory: Greenhouse gases, Between 1990 - 2018, Total GHGs in CO2 Eq., All sector groups, , Upstream Oil Production - Offshore Well Testing” https://naei.beis.gov.uk/data/data-selector-results?q=145086.

high as 696,000 tons of CO2-equivalent per year.[19] In Canada, a study of greenhouse gases from well testing during the exploration phase of a gas project estimated up to 63,000 tons of CO2 equivalent per year.[20]

566. I am advised that the American Petroleum Institute has developed methods to estimate the GHG emissions from well testing that relies primarily on information about how many days the well testing will occur and the expected volume of gas per day that would be flared or vented.[21]

567. Using the comparative examples of offshore well testing in the United Kingdom as a reference, in which a single well emitted approximately 8,000 tons of CO2-equivalent during well testing, a similar amount of CO2-equivalent released during well testing of a single well would nearly double the amount of greenhouse gases from operations. Depending on the number of well tests, the length of the well tests, the amount of GHGs emitted from flaring and venting could conceivably be much higher. Given that Final EIR indicates that up to three appraisal wells will be dug and "It is anticipated that a maximum well test time for this project will be approximately 20 days," (page 3-21) meaning up to 60 days total of well testing is possible.

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[19] United Kingdom of Great Britain and Northern Ireland, "National Atmospheric Emissions Inventory: Greenhouse gases, Between 1990 - 2018, Total GHGs in CO2 Eq., All sector groups, All sources" https://naei.beis.gov.uk/data/data-selector-results?q=145088.

[20] Pembina Institute, "Mackenzie Gas Project Greenhouse Gas Analysis," p. 37 (Aug. 2007) https://www.pembina.org/reports/mgp-ghg-consolidated-report.pdf.

[21] American Petroleum Institute, "Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry," p. 5-80 (Aug. 2009) https://www.api.org/~/media/files/ehs/climate-change/2009_ghg_compendium.ashx.

568. I therefore submit that it was possible for GHG emissions from venting and flaring to be estimated and included in a climate change assessment, because:

568.1. firstly, as set out above, a maximum test time for each well has been estimated;

568.2. secondly, a volume and flow rate was estimated for the purpose of the oil spill modelling. See for example:

> *"Regarding the selected rate of release chosen for this simulation: The input data provided for the model run are based on lithology and preliminary reservoir assessment and interpretation starting from seismic data. During the second quarter of 2018, new data interpretation were available from 2D/3D seismic data acquired by some multi-client providers in 2016 and 2018.*
>
> *Based on the analysis already finalized, the reservoir and production profiles are expected to be very similar to the same available in other subsea fields developed by Eni in Africa. For this reason the PI (productivity index), porosity, hydrocarbon properties and expected flow rate have been re-calculated and optimized using real data from similar fields"* (page 52 of Annex D4 to the Final EIR);

568.3. third, industry practice does exist for estimating the emissions from well testing; and

568.4. finally, ENI has past experience with well testing which information could be used to inform any such estimation.

*Failure to assess the impacts of climate change on the exploration operations*

569. As set out above, a climate change impact assessment must consider the resilience of the proposed project to climate change.

570. The Final EIR characterises South Africa's sensitivity to climate impacts as high due to its vulnerability to climate change (page 7-8) and acknowledges that climate change is likely to have a significant impact on South Africa's economy (page 7-6). Despite this, it does not give any consideration to the effects that climate change will have on the exploration operations and associated activities. On this basis alone, the Final EIR failed to include an adequate climate change assessment.

571. Although the Final EIR contains a section (4.31) which sets out climate change impacts in general, it is high-level, general and in no way specific to the marine environment in which the activities will occur (for example, it refers to land-based impacts on agriculture which are of little relevance to the project).

572. The Applicant submits that significant climate change impacts have been and are likely to be recently experienced within this environment, which were relevant factors which ought to have been considered but which were not.

573. For example, our attorneys have advised the applicant that the Long-Term Adaptation Scenarios: Summary for Policy Makers (2013), which is readily accessible, recognises that:

573.1. There will be climate-related changes in wind, upwelling, sea surface temperature, productivity, oxygen levels, storm frequency, precipitation, freshwater flow and runoff patterns, may all have impacts on estuaries, inshore and offshore ecosystems, which are likely to affect resource and habitat diversity, resource abundance, fish behaviour and physiology, resource catchability, fish size and fishing opportunities and success, which in turn will affect commercial and subsistence fishing livelihoods and recreational fisheries and their associated industries.

573.2. Accelerated sea level rise, changes in river flows and increased frequency of high-intensity coastal storms and high water events pose a significant risk to estuarine, inshore and offshore fisheries with potential impacts on linefish, prawns and squid. Sea level rise may reduce estuarine nursery habitat, and decreased rainfall may cause temporarily open estuaries to close more frequently or even permanently, impacting on linefish.

573.3. On a regional scale, KwaZulu-Natal and west coast estuaries are likely to be the most affected from a structural and functional perspective especially under wetter climate scenarios. Offshore catches of important linefish (squaretail kob and slinger) may decrease if freshwater flow inputs are not maintained to key systems such as the Thukela banks, especially under drier climate scenarios.

573.4. Increased storm activity under a changing climate would significantly impact on fishing activity by reducing the number of viable sea fishing

days, and damaging shore-based off-loading facilities and fishing vessels.

574. Dr Elwen points to significant climate changes which have been recently experienced within this environment. At page 12 of the Elwen Report, he notes that:

> "*Accidents are most likely to happen in extreme weather conditions … The Agulhas Current area can be very powerful and hurricane level storms and other extreme events happen with regularity in this area (for example, Hurricane Domoina 1986, floods 1987, coastal erosion event 2007, Storm Irina 2012, Cyclone Kenneth in 2019) and references within the ME report of giant waves over 20m high recorded within the Agulhas current. There is a clear trend in global and African climate conditions for an increase in the frequency and power of 'extreme weather conditions' as well as subtler changes such as shifts in storm tracks … I can see no reference within either the oils spill modelling report … or ME report … of either extreme weather conditions or the likely increase therein over the coming decades when oil extraction will likely be taking place."*

575. Climate change is therefore likely to result in more frequent and more extreme weather events, which is particularly significant as the exploration activities will already be occurring in a dynamic ocean environment (paragraph 215 onwards), in an area of already high volatility due to the Agulhas current.

576. Climate change is therefore likely to impact on the exploration activities. This has not been assessed at all.

577. Furthermore, the impacts of exploration activities may themselves exacerbate the impacts of climate change on the coastal community and coastal environment. For example, a blowout arising in circumstances of an extreme weather event and reaching the shoreline already impacted by the extreme event, or spills could aggravate impacts on already affected fisheries.

578. Despite this, the Final EIR makes no attempt to consider the extent to which exploration activities will aggravate the impact of climate change on the local community.

579. In the circumstances, it is clear that the Final EIR did not assess the resilience of the exploration operation to climate change or the extent to which exploration impacts may exacerbate the impact of climate change on its surrounding community.

**Failure to adequately consider the no-go option**

580. The applicant submits that a critical flaw in the Final EIR is that it failed adequately to consider the “no-go option”. This too constituted a relevant consideration that was not considered by the DDG or by the Minister.

581. The applicant dealt with this argument in paragraphs 89-93 of its appeal to the Minister. I incorporate these arguments by reference herein. The Minister did not deal with these arguments in the Appeal Decision, which supports my submission that relevant considerations were ignored.

582. In addition, I add the following.

583. The no-go option as presented in the Final EIR was inherently flawed. This is because it concluded that there would be a nett loss from not proceeding with the exploration because it would "contravene" Operation Phakisa by failing to unlock ocean economic potential.

584. Operation Phakisa is a policy. It is not a law. Further Operation Phakisa itself speaks to the importance of protecting our marine environment.

585. By contrast, we have NEMA and the three specific environmental management Acts which I have already referred to in section **J**, with a stated legislative purpose of protecting and conserving important environmental areas within Block ER 236.

586. I respectfully submit that properly applied, an assessment of the no-go option ought to have resulted in a nett gain, in that the legislative purposes of the three specific environmental management Acts would be achieved, namely, the protection and conservation of such areas.

587. NEMA principles listed in section 2(4)(a) in the context of "sustainable development" emphasise the need to "avoid" negative environmental impacts in the first place. This is underscored by the criteria set out in section 24O of NEMA.

588. Consequently, had the Final EIR properly considered the "no-go" alternative, this ought to have resulted in a net gain and not a nett loss as claimed.

589. This is because the no-go alternative would result in a situation where marine ecosystems as a whole would be protected, including the interdependence of

marine and terrestrial ecosystems with no net loss to “environmental goods and services”.

590. In other words, it would appear that the no-go alternative was actually not considered and to the extent that it was, the analysis was flawed and legally incorrect.

591. Consequently, the Applicant submits that the DDG and the Minister contravened section 6(2)(e)(iii) of PAJA by failing adequately to consider the “no-go” option.

## O. INTERIM RELIEF

592. On 27 May 2021 the Applicant’s attorneys addressed the letter marked **DDS38.** to the attorneys representing Eni South Africa B.V and Sasol Africa Limited. This letter is self-explanatory and I incorporate its contents by reference.

593. In that letter, the Applicant pointed out the need for the authorisation holders to provide notice of the commencement of the authorised activities.

594. Clause 5.5.1 of the authorisation requires 30 days’ notice of the commencement of the authorised drilling programme.

595. Clause 3.4.5 of the Appeal Decision requires that the Oil Spill Contingency Plan and the revised EMPR be made available to interested and affected parties for a 30 day commenting period prior to drilling and requires that such comments be considered and addressed.

596. Clause 3.4.1 of the Appeal Decision requires that the revised EMPR be submitted to DMRE for written approval prior to the commencement of the authorised activity.

597. Collectively, these conditions require a substantial notice period before the authorised activity may commence.

598. For that reason our attorneys sought to confirm that the authorisation holders would provide the applicant at least 120 days' notice prior to the commencement of the authorised activities.

599. No response was received to the letter of 27 May 2021.

600. Our attorneys enquired about a response again on 4 June 2021 but the applicant has still not heard from the Eni and Sasol's contact person, as indicated in the EA, or attorneys representing Eni South Africa B.V and Sasol Africa Limited.

601. Accordingly, the applicant proceeds with this review upon the basis that all of the notice periods and required pre-conditions in the Clauses referred to above, will be met, prior to the commencement of the authorised activities and the process of this judicial review may continue in the interim.

602. However, in the event that the applicant becomes aware that the implementation of the proposed project is likely to commence before this review application has been adjudicated (including receiving notice of any of the matters listed in the clauses above), the applicant gives notice now that it will seek the leave of this court to supplement these papers and to seek interim relief, interdicting the

authorised activities from commencing until this judicial review has been finally determined.

## P. CONCLUSION

603. Based on what I have stated in this affidavit, and in the confirmatory affidavits and expert reports included in these founding papers, the applicant submits therefore that the Initial Decision and the Appeal Decision fall to be reviewed and set aside in terms of PAJA. In summary, the basis upon which this review is sought is that these decisions:

603.1. were taken without complying with mandatory or material procedures or conditions prescribed by NEM:ICMA;

603.2. were procedurally unfair;

603.3. are premised on material errors of law

603.4. were taken because relevant considerations were not taken into account and irrelevant considerations were taken into account;

603.5. were taken arbitrarily and capriciously;

603.6. were not rationally connected to the purpose for which they were taken;

603.7. were not rationally connected to the purpose of NEM:ICMA, NEMA and the EIA Regulations;

603.8. were not rationally connected to the information before the DDG and the Minister;

603.9. were not rationally connected to the reasons provided by the DDG or the Minister; and

603.10. were so unreasonable that no reasonable administrator could have taken them.

604. Therefore both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b), 6(2)(c), 6(2)(d), 6(2)(e)(iii), 6(2)(e)(vi), 6(2)(f)(ii)(aa), 6(2)(f)(ii)(bb), 6(2)(f)(ii)(cc), 6(2)(f)(ii)(dd), and 6(2)(h) of PAJA.

605. The applicant will file its supplementary founding affidavit, in accordance with Rule 53, and after the Record of the decisions is filed in these proceedings. It is important for the applicant to review what further information was before the decision makers because I have already demonstrated that there were certain undisclosed matters. The applicant will file its supplementary founding affidavit in this application for judicial review in due course and will amplify the matters in this affidavit and include any new matters which arise from the delivery of the Record.

606. According, I respectfully submit that the applicants are entitled to the relief sought in the Notice of Motion.

**WHEREFORE** the applicants pray for an order in terms of the notice of motion.

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**DESMOND MATTHEW D'SA**

I hereby certify that the deponent has declared that he knows and understands the contents of this Affidavit and that to the best of his knowledge and belief it is the truth, which Affidavit has been signed to and affirmed to before me at _____ on this the _____day of _____ 2021.

_____

**COMMISSIONER OF OATHS**