MINISTER

FORESTRY, FISHERIES AND THE ENVIRONMENT

REPUBLIC OF SOUTH AFRICA

Reference: **LSA 237856**

APPEAL DECISION

APPEALS AGAINST THE DECISION OF THE DIRECTOR GENERAL OF THE DEPARTMENT OF MINERAL RESOURCES AND ENERGY, DATED 23 OCTOBER 2023, TO GRANT ENVIRONMENTAL AUTHORISATION TO TOTALENERGIES EP SOUTH AFRICA B.V. FOR THE PROPOSED EXPLORATION WELL DRILLING IN BLOCK DEEP WATER ORANGE BASIN OFF THE WEST COAST OF SOUTH AFRICA

TotalEnergies EP South Africa B.V.	Applicant
Danne Joubert	First Appellant
Anglia Joubert	Second Appellant
South Durban Community Environmental Alliance	Third Appellant
Aukotowa Fishing Cooperative	Fourth Appellant
WildTrust	Fifth Appellant
West Coast Guriqua Council	Sixth Appellant
The Green Connection and Natural Justice	Seventh Appellant
Oceans Not Oil	Eighth Appellant
Department of Mineral Resources and Energy	Competent Authority

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Appeal: This is an appeal lodged against the decision of the Director General of the Department of Mineral Resources and Energy, (the DMRE), to grant an environmental authorisation (EA) to TotalEnergies EP South Africa B.V. (the applicant), in respect of listed activities pertaining to the proposed exploration well drilling in Block Deep Water Orange Basin (DWOB) off the west coast of South Africa.

1. BACKGROUND

1.1. TotalEnergies EP South Africa B.V. (TEEPSA/ the applicant) is the operator for the Deep Water Orange Basin (DWOB) Licence Block (12/3/343 ER), located off the West Coast of South Africa. The eastern border of the DWOB Licence Block is located between approximately 150 km and 188 km off the West Coast, roughly between Saldanha Bay (33°S) and Kleinzee (30°S) and the northern boundary of the Licence Block is located along the international boundary with Namibia.

1.2. The applicant and its partners hold an Exploration Right issued in 2019 in terms of section 79 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) over Block DWOB, which allows for the undertaking of various exploration activities within the Block. The applicant now proposes to conduct exploration drilling of up to 10 wells in total within an area of interest within the Block.

1.3. On 7 November 2022, the applicant lodged an application for an EA with the DMRE (the competent authority (CA)) in terms of the Environmental Impact Assessment Regulations, 2014 (2014 EIA Regulations), published under the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended (NEMA), for, among others, Listed Activity 18 of Listing Notice 1 of the 2014 EIA Regulations in respect of various exploration activities within the DWOB Licence Block, including:

- Sonar bathymetry surveys throughout the year;
- Drop core sampling; and

- Exploration well drilling (including vertical seismic profiling).

1.4. The applicant proposes to drill one exploration well, and success dependent, up to nine additional wells (i.e., up to ten wells in total) within the Area of Interest, which is located within the DWOB Licence Block. The Area of Interest for exploration drilling is 9 711.21 km^2 in extent and is located offshore roughly between Port Nolloth and Hondeklip Bay offshore, approximately 188 km from the coast at its closest point and 340 km at its furthest, in water depths between 750 m and 3 100 m. The exact position of the drill sites will be selected based on further detailed analysis of previous seismic and pre-drilling survey data and the geological target (i.e. the expected location of the oil and gas resource) and the results of a remote operating vehicle (ROV) that scans the seafloor for obstacles or the presence of any sensitive features.

1.5. The applicant commissioned SLR Consulting (South Africa) (Pty) Ltd, as an independent environmental assessment practitioner (EAP), to undertake a Scoping and Environmental Impact Assessment (EIA) process for the application for EA.

1.6. On 7 July 2023, the EAP submitted an Environmental and Social Impact Assessment (ESIA) report, including an Environmental and Social Management Programme (ESMP)/ Environmental Management Programme (EMPr), prepared in respect of the EA application to the DMRE, for consideration and decision-making purposes.

1.7. On 23 October 2023, the DMRE issued an EA to the applicant under reference number: TEEPSA 12/3/343.

Appeals

1.8. The Directorate: Appeals and Legal Review (Appeals Directorate) in the Department of Forestry, Fisheries and the Environment (the Department/ DFFE) received the following appeals in opposition to the grant of the EA to the applicant:

1.8.1. On 27 October 2023, from Danne Joubert from the Cederberg Municipality (first appellant);

1.8.2. On 27 October 2023, from Anglia Joubert from the Bergrivier Municipality (second appellant);

1.8.3. On 13 November 2023, from the South Durban Community Environmental Alliance (SDCEA) (third appellant);

1.8.4. On 14 November 2023, from the Aukotowa Fishing Cooperative (fourth appellant);

1.8.5. On 14 November 2023, from WildTrust (fifth appellant);

1.8.6. On 14 November 2023, from the West Coast Guriqua Council (sixth appellant);

1.8.7. On 14 November 2023, from the Green Connection and Natural Justice (seventh appellant); and

1.8.8. On 16 November 2023, from Oceans Not Oil (eighth appellant).

1.9. The above appeals were lodged in terms of section 43(1A) of NEMA, read together with regulation 4 of the National Appeal Regulations, 2014 (2014 Appeal Regulations).

1.10. The Appeals Directorate also received appeals from the following appellants, however these were not submitted within the prescribed time frames and/or not in the correct prescribed template and could therefore not be considered.

1.10.1. Delwyn Pillay; and

1.10.2. Patrick Bond.

1.11. On 14 November 2023, the Appeals Directorate received a request from the applicant for extension of the time period for the submission of its responding statements to the appeals.

1.12. On 20 November 2023, the Director of the Appeals Directorate granted the request and accordingly extended the timeframe for the responding statement to 11 December 2023.

1.13. On 06 December 2023, the applicant submitted their responding statement to the appeals.

1.14. On 16 November 2023, the CA submitted their responding statements to the appeals lodged by the first and second appellant. On 28 November 2023 and 06 December 2023 respectively, the CA submitted their responses to the appeals lodged by the third and eighth appellant. These responses were filed on time.

1.15. On 14 December 2023, the Appeals Directorate received out-of-time responding statements from the CA for the appeals lodged by the remaining appellants, accompanied by a request for condonation of the late filing thereof.

1.16. On 20 February 2024, the Director of the Appeals Directorate condoned the late filing of the responding statements.

1.17. The appeals are premised on the following grounds:

1.17.1. Climate change, air quality, and full life cycle assessment;
1.17.2. Marine Ecology, Noise, and Spills;
1.17.3. Cultural Heritage;
1.17.4. Need and Desirability and the No-Go Alternative;
1.17.5. Strategic Environmental Assessment (SEA);
1.17.6. Socio-economic, Tourism and Fisheries;
1.17.7. Insufficient Public Participation Process; and
1.17.8. Inadequacy of the ESIA Report.

PRELIMINARY ARGUMENT

1.18. In its response to the above grounds of appeal, the applicant raises a preliminary argument that the appellants have attached appendices and annexures to their appeal that are to be disregarded by the appeal authority for the following reasons:

1.18.1. The relevance of the appendices and additional documents included in the appeals have not been clearly stated in the appeal itself.

1.18.2. In terms of the case of Minister of Land Affairs v D & F Wevell Trust *"It is not proper for a party…to base an argument on passages in documents which have been annexed to the papers when the conclusions sought to be drawn from such passages have not been canvassed"* in the appeal. "*The reason is manifest - the other party may well be prejudiced because evidence may have been available to it to refute the new case on the facts…. A party cannot be expected to trawl through lengthy annexures…and to speculate on the possible relevance of facts therein contained.*"

1.18.3. Based on this judgement, all of the appendices and annexures attached to the appeals must be disregarded unless 1) the relevant portion of such appendix/annexure has been specifically set out in their appeal; and 2) the relevancy of such portion of the appendix/annexure has been explained in sufficient detail to support the allegation made by the appellant.

1.19. I have considered that this is an appeal in the wide sense. I may therefore consider all information provided to me on appeal. In addition, I have approached this appeal by re-assessing and re-determining the merits of the application. I therefore deem it appropriate to consider all the information provided to me on appeal.

GENERAL APPROACH

1.20. I must at the outset stress that many of the grounds of appeal raised in this appeal are a repeat of the issues raised by the appellants in their appeals that were lodged against

the decision of the Competent Authority that was taken 17 April 2023, under reference number: TEEPSA 12/3/224 to grant an environmental authorisation (EA) to the applicant, in respect of listed activities pertaining to the proposed offshore drilling of exploration wells in Block 5/6/7 off the South West Coast of South Africa. Consequently, in my assessment of the grounds of appeal in relation to the matter at hand, I repeat many of the issues that guided me in my assessment of the grounds of appeal in the previous appeal. This must not be misconstrued to mean that I have not considered each and every ground of appeal in this matter within the context of this appeal.

1.21. I must also stress that I was guided in this appeal by the principles set out in section 2 of the National Environmental Management Act No. 107 of 1998 (NEMA). Those principles apply alongside all of the other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of persons disadvantaged by unfair discrimination. My decision has therefore been guided after a careful consideration of all of the principles set out in section 2 of NEMA, including section 2(2) which provides that "environmental management must place people and their needs at the forefront of its concern and serve their physical, psychological, developmental, cultural and social interests equitably"; also section 2(3) which provides that "development must be socially, environmentally and economically sustainable". Moreover, when I considered the issue of sustainable development, I did so with section 2(3) in mind and I considered the proper application of the factors articulated in section 2(4)(a) to (r).

1.22. I am also guided by the judgement in *Earthlife Africa Johannesburg v Minister of Environmental Affairs and Others* [2017] 2 All SA 519 (GP) at para 80, Murphy J explained that:

"NEMA, like all legislation, must be interpreted purposively and in a manner that is consistent with the Constitution, paying due regard to the text and context of the

legislation. Section 2 of NEMA sets out binding directive principles that must inform all decisions taken under the Act, including decisions on environmental authorisations. The directive principles serve as guidelines (by reference) to which any organ of state must exercise any function when taking any decision in terms of NEMA or any statutory provision concerning the protection of the environment. They guide the interpretation, administration and implementation of NEMA and any other law concerned with the protection or management of the environment. Competent authorities must take into account the directive principles when considering applications for environmental authorisation. The directive principles promote sustainable development and the mitigating principle that environmental damage must be avoided, minimised and remedied. The environmental impact assessment process is a key means of promoting sustainable development, by ensuring that the need for development is sufficiently balanced with full consideration of the potential environmental impacts of a project. The directive principles caution decision-makers to adopt a risk-averse and a careful approach, especially in the face of incomplete information."

1.23. With this in mind, I now deal with the grounds of appeal submitted by each of the appellants and where I deem it appropriate, I address those grounds of appeal that are overlapping in nature under a single ground of appeal.

2. GROUNDS OF APPEAL, RESPONSES AND COMMENTS

First Ground of Appeal: Climate change, air quality, and full life cycle assessment

2.1. The first, fifth, sixth, seventh and eighth appellants submit as follows:

2.1.1. The first appellant raises the concern that the release of toxic pollution into the air, the exploration activities at the platform, transportation of oil via tankers, and refining the oil on land, can release volatile organic compounds, greenhouse gases and other air pollutants.

2.1.2. The fifth appellant states that a concern which continues to be glossed over by the Minister is the purpose, intention and associated environmental consequences of finding oil and gas offshore of South Africa. TotalEnergies (the applicant), Sasol and PETROSA have continued to invest large sums into finding deposits with the intention to exploit them, and each phase (reconnaissance, exploration, production and demobilisation) is being treated as a stand-alone, with only its own environmental impacts being considered. Up to now, there has been no effort to report on the cumulative impacts on the environment for the duration of the full life cycle of oil and gas development. Interested and Affected Parties (I&APs) continue to be told that their concerns and issues cannot be taken into account because of the 'phase' which they are commenting on at the time not being relevant to the phase/s beyond it. To illustrate this point, the fifth appellant refers to the following:

i) when one argues the consequences of the intended final goal, which is extraction and production, the responses remain standard, i.e. "this EMPr [Environmental Management Programme] is for reconnaissance only, the impacts of oil and gas exploration and production is beyond the scope of this application";
ii) in the case for exploration, page 288, Appendix 5.8, of the ESIA report for the TEEPSA Block 11B/12B application for EA states that: "...a decision on the current EA application does not in any way guarantee the holder future approvals that would be required to undertake future production activities. The issues raised relating to production will need to be considered as part of the Production Right application should the project move onto production..."; and
iii) Page 12, Appendix 5.8, of the ESIA report for the TEEPSA Block 11B/12B application for EA states that "Any potential future production activities would need to be subject to the required environmental assessment and authorisation process under the NEMA, during which, the impacts related to these activities would need to be assessed as part of this separate ESIA process."

2.1.3. The fifth appellant states that it cannot be overemphasised that to obtain an accurate understanding of the cumulative impacts of oil and gas development in South Africa, all phases and components of the lifecycle need to be assessed collectively, rather than in isolation of one another.

2.1.4. The sixth appellant avers that climate change, and its associated warming of the oceans is real and that the rural communities are suffering dire consequences as a result of its impacts.

2.1.5. The seventh appellant states that the ESIA fails to assess the full lifecycle of climate impacts, should the exploration project lead to production. Instead, the final ESIA erroneously states that any future extraction activities would be subject to a separate Production Right application and associated application for EA by means of the necessary EIA process. The ESIA states that this is in line with the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA) and the 2014 EIA Regulations, which clearly separates 'exploration activities' from 'production activities' and sets out the distinct application/assessment processes by which an applicant would have to obtain further environmental authorisation.

2.1.6. The seventh appellant does not dispute that the two activities (exploration and production) are listed separately under NEMA and require separate EIA processes and EAs, however, they contend that this does not mean that an EIA for exploration can or should ignore reasonably foreseeable impacts that might eventuate from exploration and that these impacts of production should be considered, at least in a general sense. NEMA and the 2014 EIA Regulations require consideration of cumulative impacts of proposed activities and associated activities, which includes the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities. The appellant avers that this demonstrates quite clearly

that NEMA requires an assessment of the potential impacts of exploration, as well as production, as a reasonably foreseeable impact of an associated activity. They submit that this approach is also supported by the case of *Sustaining the Wild Coast and Others v Minister of Mineral Resources and Energy and Others* 2022 (6) SA 589 (ECMk) (Makhanda judgment), where the court mandated the consideration of the long-term climate change impacts of potential oil or gas production in determining need and desirability. The appellant states that NEMA does not permit a piece-meal approach and that the CA did not address this issue in its reasons for the decision.

2.1.7. Exploration and production are intrinsically intertwined and from an environmental perspective, it is artificial to consider them as separate from each other. They are discrete stages in a single process that culminates in the production and combustion of oil and gas and the emission of greenhouse gases that will exacerbate the climate crisis. The obligation to consider reasonably foreseeable associated impacts, as required by NEMA, from the proposed exploration, would also denote an obligation to consider estimated GHG emissions from production in the context of SA's domestic and international climate commitments. If an assessment of production, including an estimated quantification of potential production GHG emissions had been conducted, it may well have been found that production as per the proposed project would be in breach of South Arica's climate commitments and policies and not be desirable at all. Then there would be no point in exploration.

2.1.8. The climate change impact assessment does not adequately assess the risks that climate change poses to the project and the resilience of the surrounding marine environment to climate change, as per the requirements of Section 24O(1)(b) NEMA and the 'Consultation on Intention to Publish the National Guideline for Consideration of Climate Change Implications in Applications for Environmental Authorisations, Atmospheric Emission Licences and Waste Management Licences.' The risk that the project poses to adaptation is regarded as a "non-issue" in the ESIA because of the temporary and short nature of the exploration activities, however, no consideration is given to how an

unplanned event, such as a spill, could aggravate the surrounding marine environment's resilience and adaptation to climate change. The ESIA acknowledges that the impacts on the fishing sector could be increased due to additive cumulative impacts of climate change, yet this was not addressed in sufficient detail in the ESIA, where climate projections should have been factored into the baseline assessment for the area.

2.1.9. The ESIA fails to consider the rights and welfare of children in the context of climate change as per the requirements of section 24, 28(2) and 39(1)(b) of the Constitution, read with The African Charter on the Rights and Welfare of the Child, and the Convention on the Rights of the Child, both of which South Africa is a signatory to. It is a globally accepted fact that climate change causes unpredictable and violent weather conditions, which in turn affects infrastructure that is key to children's wellbeing. Exploration activities, with the aim of establishing fossil fuel during the current climate crises, undermines South Africa's national policy position on climate change and its international commitments to a transition from non-renewable to renewable energy.

2.1.10. The use of gas (mostly methane) to generate electricity is likely to have a worse climate change impact than using coal, given the significant potential for leaks in the extraction and transportation of gas to a power plant. Studies are increasingly showing that gas fired power generation does not produce less greenhouse gas emissions than coal, when considering the lifecycle of the project.

2.1.11. The decision to implement section 6 of the National Energy Act, 2008 (Act 34 of 2008) (NEA) into operation with effect from 1 April 2024 has been announced by President Ramaphosa, which requires the Minister of Mineral Resources and Energy to develop an Integrated Energy Plan (IEP) in the context of the current climate crisis. Without the legislative framework, the application for EA lacks the appropriate guidelines prescribing the adoption and implementation of performance management systems relating to global warming and international carbon commitments. Offshore exploration for fossil fuels lacks

the legislative mandate to proceed whilst the IEP undergoes full public participation and consideration as per the Constitution.

2.1.12. The ESIA and the CA have failed to adequately consider the climate change impacts, and the consequential biodiversity impacts, of the project, and therefore have failed to meet the requirements of, inter alia, section 24(1) of NEMA to account for all relevant factors, in particular those regarding the pollution, environmental impacts or environmental degradation "likely to be caused if the application is approved", as well as any guidelines, departmental policies, and environmental management instruments and any other information in the possession of the CA relevant to the application. This is in contravention of the NEMA requirement to ensure that the activity's potential environmental impacts are properly assessed for the following reasons:

a. There is a deeply flawed timeframe underpinning the ESIA concept of energy transition to carbon neutrality. Exploration wells take up to ten years or more to complete; extraction can take anything from twenty to fifty years for completion (MacFayden & Watkins 2016), which, situated on the project description timeframes, would take activities well past 2050. To assume to be drilling wells in ten years from start-up makes the fundamental assumption that planetary tipping points and accelerating climatic events will wait, and that their consequential greenhouse gas (GHG) emissions will be benign. The assumption that current climate conditions will remain stable is, at best, unrealistic and, at worst, catastrophic.

b. Last minute oil and gas production ambitions risk inconsistency with South Africa's binding carbon budget peak-plateau-decline emissions trajectory, pushing peaking well past Net Zero in 2050; thereby maintaining existing carbon lock-in inequalities whilst generating new ones (Atteridge & Strambo 2020; Kartha et al. 2019). As such, this project is not aligned with global coalition for carbon neutrality by mid-century.

c. A recent study by Lamboll, R.D., Nicholls, Z.R.J., Smith, C.J. *et al* (2023) has revealed that the remaining carbon budget – the net amount of carbon dioxide humans can still emit to retain a 50% chance of staying within 1.5°C of global heating – will be exhausted in the next six years of business-as-usual. The sudden acceleration of environmental crises in 2023 demonstrate the magnitude of future risk of continuing to extract fossil fuels, which demands the decision to abort this project in an effort to prevent this temperature threshold being breached.

d. It is now widely recognized that, if atmospheric temperature is not to exceed 1.5°C above pre-industrial levels, emissions of human-caused carbon dioxide must fall by at least 45 per cent by 2030 (as compared to 2010 levels) reaching "net zero" by 2050. If the applicant finds hydrocarbons, production will very possibly begin only after 2030.

e. The *United Nations Environment Programme Finance Initiative in Harmful Marine Extractives: Understanding the risks & impacts of financing non-renewable extractive industries* (2022), states that:

If the world is to achieve the Intergovernmental Panel on Climate Change (IPCC's) 1.5°C scenario, no new oil and gas production projects can be sanctioned and existing production must be significantly and urgently reduced towards full transition to sustainable renewable energy. This is the primary and most significant message of this paper.

2.1.13. To continue expanding fossil fuel exploration, dismissing climate impacts and ignoring local communities in South Africa and around the world who are suffering the consequences of the climate emergency, makes the CA complicit in choices that exacerbate the climate crisis.

2.1.14. The ESIA fails to clarify a carbon budget allocation by the Minister of Forestry, Fisheries and the Environment (Environment Minister) for this project, or whether a greenhouse gas mitigation plan been prepared and submitted to the Minister for approval.

APPLICANT'S RESPONSE

2.2. In their comments to this ground of appeal, the applicant responds as follows:

2.2.1. The allegation that exploration and production are part of the same process is patently incorrect. It is important to distinguish exploration operations from production operations. The applicant was granted an EA for exploration activities.

2.2.2. For the applicant to undertake exploration activities, it required an exploration right in terms of section 79 of the MPRDA and an EA under NEMA read with the 2014 EIA Regulations for activity 18 of Listing Notice 2. Whereas to undertake production activities it requires an EA in respect of activity 20 of the 2014 EIA Regulations, and a production right in terms of section 84 of the MPRDA.

2.2.3. Activity 18 of Listing Notice 2 states as follows: "Any activity including the operation of that activity which requires an exploration right in terms of section 79 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity contained in this Listing Notice, in Listing Notice 1 of 2014 or in Listing Notice 3 of 2014, required to exercise the exploration right." Listed activity 20 of Listing Notice 2 states as follows: "Any activity including the operation of that activity which requires a production right in terms of section 83 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, in Listing Notice 1 of 2014 or Listing Notice 3 of 2014, required to exercise the production right."

2.2.4. An exploration operation is defined in section 1 of the MPRDA as "the re-processing of existing seismic data, acquisition and processing of new seismic data or any other related

activity to define a trap to be tested by drilling, logging and testing, including extended well testing, or a well with the intention of locating a discovery."

2.2.5. While exploration is concerned with the identification of a resource, production is concerned with the extraction of the discovered oil / gas. Only, once extracted, can the oil / gas be liquefied, re-gasified, transported and consumed.

2.2.6. Appendix 3 to the 2014 EIA Regulations sets out the minimum requirements for an EIA report. In terms of Appendix 3, applicants are only required to consider and assess the impacts arising from the listed activity for which they are seeking an EA. An application for an EA to undertake listed activity 18 (exploration) is not required to consider and assess the environmental impacts arising from infrastructure (such as pipelines to transport oil or a floating storage and regasification unit) in respect of listed activity 20 (production).

2.2.7. Notwithstanding the clear distinction between exploration and production, the appellants argue that the 2014 EIA regulations require the applicant to consider and assess the life-cycle and cumulative GHG emissions arising from: (a) the exploration activities; (b) the production activities; and (c) the activities where such oil/gas is used in energy generation. This claim is false for the following reasons:

2.2.7.1. "Cumulative impacts" are defined in the 2014 EIA Regulations as "in relation to **an** activity, means the past, current and reasonably foreseeable future impact of **an** activity...."

2.2.7.2. An "impact" is not defined in the NEMA or the 2014 EIA Regulations but is generally understood to mean (as it is defined in the ESIA Report and EN ISO 14001: 2015) "any change to the environment, whether adverse or beneficial, wholly or partially resulting from the organisation's activities...."

2.2.7.3. The "activity" in question refers to those activities associated with an exploration operation (i.e. listed activity 18) as defined above.

2.2.7.4. Considering the above definitions, the ESIA report must consider the future changes to the environment arising from the drilling, logging and testing of wells. Such a future impact may include, for example, any potential leakage from the sealed wells once they have been capped, which has been considered in the ESIA Report.

2.2.7.5. The definition of "cumulative impacts" is clear. The EAP must consider the "reasonably foreseeable future impacts" of the activity for which the EA is sought. It does not state that the EAP must consider "the reasonably foreseeable impacts of future activities."

2.2.7.6. If the applicant were, during the exploration application phase, to consider the GHG emissions associated with production, it would result in a superficial and unhelpful assessment, as the information required to accurately assess the impacts of production are not known and, in fact, can only be established through the exploration activities for which the applicant is seeking approval. In addition, assuming that it is possible to consider the future production impacts (which it is not), it would render the subsequent ESIA process for listed activity 20 redundant. This goes against the intention of the drafters of the 2014 EIA Regulations, as the Minister would not have created two separate listed activities but would have combined them into one consolidated listed activity.

2.2.7.7. In light of the above, it is clear that an applicant seeking environmental authorisation for Listing Activity 18 would not need to consider and assess the environmental impacts associated with an activity for which he/she is not seeking authorisation.

2.2.8. The appellants' reliance on the Makhanda judgment as justification that the exploration right and production right processes are one and the same process is misplaced and based on an error of law. The Makhanda judgment relied on the judgement of *Director: Mineral Development, Gauteng Region and Another v Save the Vaal Environment and Others* [1999] 2 All SA 381 (A) (Save the Vaal), which was concerned with whether the

applicant in that case had the right to be heard before the CA approved the EMPr required by the respondent (Sasol Mining) to undertake mining in terms of a mining licence granted under section 9 of the Minerals Act. The Save the Vaal judgment held that:

"The issue of a licence in terms of sec 9 enables the holder to proceed with the preparation of an environmental management programme, which, if approved, will enable him to commence mining operations. Without the sec 9 licence he cannot seek such approval. The granting of the sec 9 licence opens the door to the licensee and sets in motion a chain of events which can, and in the ordinary course of events might well, lead to the commencement of mining operations. It is settled law that a mere preliminary decision can have serious consequences in particular cases, inter alia where it lays "...the necessary foundation for a possible decision ..." which may have grave results. In such a case the audi-rule applies to the consideration of the preliminary decision...In my view this is such a case."

2.2.9. It is clear from the Save the Vaal judgment that the granting of the mining licence and the environmental management plan are inextricably linked. For Sasol Mining to undertake mining activities it required both a mining licence and an environmental management plan. The same applies in the present matter: for the applicant to undertake exploration activities, it requires an exploration right in Section 79 and 80 of the MPRDA and an EA under the NEMA, read with the 2014 EIA Regulations for Activity 18 (exploration activities) of Listing Notice 2. Similarly, if the applicant seeks to undertake production activities, it will be required to apply for a production right in terms of section 83 of the MPRDA and obtain an EA under the NEMA, read with the 2014 EIA Regulations for Activity 20 (production activities) of Listing Notice 2. If it plans to undertake production activities, the applicant cannot rely on or use either the exploration right or the EA granted for exploration activities. Furthermore, the Save the Vaal case is not precedent that prospecting rights and mining rights are discrete stages of the same process, nor is it precedent that exploration rights and production rights are part of the same process. Notwithstanding this, the Makhanda judgment concludes, based on the Save the Vaal

Case, that the exploration right process and the production right process are discrete stages of the same process. The Makhanda judgment is clearly based on an error of law.

2.2.10. It is clear that the administrative processes followed to undertake exploration activities is different and separate from that of production activities and that each must be considered and assessed based on the nature and extent of the environmental impacts arising from that individual activity. These processes are not discrete stages of the same process. The EA required for exploration activities, and the Exploration Right, however, are discrete stages of the same process. It is not possible for the applicant to meaningfully assess the GHG emissions that may arise from potential future production activities as the information that is required to complete such an assessment will be obtained by undertaking the very exploration activities authorised by the EA.

2.2.11. In terms of international obligations, the Paris Agreement is a comprehensive framework created in terms of the United Nations Framework Convention on Climate Change (UNFCCC) that aims to guide international efforts to limit GHG emissions and to meet challenges posed by climate change. The long-term goals of the Paris Agreement are set out at page 75 of the ESIA Report and include:

2.2.11.1. Limiting the global temperature increase below 2°C above pre-industrial levels, while pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels;

2.2.11.2. Achieving a peak in GHG emissions 'as soon as possible', while recognizing that the timeframes for achieving this will differ between developed countries and developing countries (such as South Africa) (i.e. the principle of equity and common but differentiated responsibilities); and

2.2.11.3. Achieving a balance between anthropogenic emissions by sources and removal by sinks of greenhouses gases in the second half of this century on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

2.2.12. To give effect to the above objectives, each party to the Paris Agreement (Member State) is responsible for determining its Nationally Defined Contribution (NDC). The NDC is the cornerstone of each country's commitment to the objectives of the Paris Agreement and sets out the way it will address climate change (including GHG emission reduction and adaptation).

2.2.13. The Intergovernmental Panel on Climate Change (IPCC) supplies Member States with scientific information to assist in developing the NDC and climate-change related policies. These IPCC reports inform international climate change negotiations and provide the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation. The report disclosed in 2021 & 2022 concluded that human influence has warmed unequivocally the atmosphere, ocean and land; and that human-induced climate change is already affecting many weather and climate extremes in every region across the globe and indicates that more urgent and rapid reductions in emissions are required by all countries.

2.2.14. With regard to South Africa's international commitment to GHG emission reduction and climate change, in September 2021, South Africa published an updated NDC (the South African NDC), which states as follows:

"We have warmly welcomed the IPCC's special report on 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. South Africa considers the IPCC reports to be of the highest importance in guiding our actions. Our approach has consistently been guided by science and equity. As the Call for Action by the Presidents of COP23 and COP24 states, "we must achieve a just transformation towards a better world." We believe this to be true globally. In South Africa, a just transition is core to shifting our development pathway to increased sustainability, fostering climate resilient and low greenhouse gas emissions development, while providing a better life for all. The

Sustainable Development Goals (SDGs) were adopted in 2015, the same year as the Paris agreement, and include urgent action to combat climate change and its impacts. The context of development is critical to implementing and achieving climate goals in South Africa and elsewhere. As highlighted in our National Development Plan, South Africa faces a triple development challenge of poverty, inequality and unemployment."

2.2.15. This statement regarding South Africa's approach to GHG emissions and climate change is explained at pages 3 – 5 of the South African NDC under the heading: "Context: national priorities and circumstances". The relevant key points are summarized as follows:

2.2.15.1. "The South African NDC will be implemented in a context in which significant development challenges need to be addressed. Low economic growth over the last decade has been accompanied by high levels of unemployment and persistent poverty and inequality.'

2.2.15.2. The South African economy and its energy system is largely coal dependent. However, South Africa has "abundant renewable energy resources, and developments in the economics of renewable energy technologies over the last decade are very favourable to low-carbon development in the country, but a well-resourced just transition strategy will be needed to shift to low-carbon technologies, to maximise benefits, and minimize adverse impacts on communities, workers, and the economy."

2.2.15.3. 'Implementing the South African NDC will require the implementation of South Africa's Integrated Resource Plan' (2019) (IRP 2019).

2.2.16. The IRP 2019 is summarised in the ESIA report at page 76. As indicated in the ESIA, the IRP 2019 provides a mechanism for Government to drive diversification of the country's electricity generation mix and promote the use of renewable energy and other low-carbon technologies which would include natural gas, which is globally considered a 'transition fuel...that can provide the flexibility required to complement renewable energy sources.

To facilitate this exploration to assess the magnitude of local recoverable ... coastal gas is being pursued and must be accelerated.

2.2.17. At indicated on page 5 of the South African NDC, at the time the South African NDC was submitted, the Government was in the process of finalising its Just Transition Plan, including defining pathways compatible with pursuing efforts to limit temperature increase to 1.5 °C, while ensuring that no one is left behind in the transition from a high GHG emissions, low-employment energy development pathway to a low emission, climate-resilient and job-rich pathway. The Just Transition Plan recognises that:

2.2.17.1. To deal with the electricity supply crisis and meet climate change objectives, renewable energy options will be the primary focus, however, it envisages that gas will be needed to ensure security of supply and grid stability.

2.2.17.2. Further requests for proposals will be issued for battery storage and gas power generation.

2.2.17.3. During the period 2023 – 2027 ZAR15 billion will need to be spent on infrastructure investment on new open cycle gas turbines / combined cycle gas turbines. In the period 2023 – 2035, this amount increases to ZAR169.7 billion. It is noted that this infrastructure does not fall within the scope of the Just Transition Investment Plan proposed by government but would be invested by Eskom, local authorities and/or the private sector.

2.2.18. The Just Transition Plan notes that while South Africa is committed to reducing GHG emissions, the process of transition must be carefully managed, and the social and economic cost of the transition for vulnerable groups must be factored into the planning process, while the economic opportunities of the transition should be fairly distributed.

2.2.19. To facilitate this economic growth and reduce dependency on imported fuel products, there is a critical need to ensure that there is sufficient, stable capacity in the country's energy supply by diversifying the primary energy sources within South Africa. In this

regard, South Africa needs to balance the three core dimensions of what has been defined as the "energy trilemma": (1) affordability and accessibility, (2) energy security and (3) environmental sustainability. In weighing up these core dimensions, the South African Government policy supports exploration for indigenous oil and gas resources as oil and natural gas will still be part of the energy mix in the short- to medium-term and domestic production is preferable to imports. This is also in line with international policy documents, which recognises the need for natural gas and remaining oil demand in the energy mix in the pathway to net-zero emissions by 2050.

2.2.20. In fact, the "Just Transition and Climate Pathways Study" (NBI, 2021) concludes that a lack of gas supply threatens South Africa's decarbonisation strategy because the synfuels, power and industrial sectors would rely on carbon-intensive fuels (e.g., coal and diesel) for longer. In addition to the use of natural gas for electricity generation, the many other uses of oil and gas (e.g., transportation fuels, asphalt, and feedstocks for making chemicals, polyurethane, solvents, plastics and other synthetic materials) will also need to see adaptation and mitigation during this transition period.

2.2.21. It is acknowledged that the proposed project itself would not result in the production of oil and gas, but rather the generation of information on possible indigenous resources. By gaining a better understanding of the extent, nature and economic feasibility of extracting these potential resources, the viability of developing indigenous oil and gas resources as part of the medium-term energy mix in South Africa would be better understood.

2.2.22. A Climate Change and Air Emissions Impact Assessment (CCIA) was prepared for the proposed project and attached as Appendix 16 to the ESIA report. The CCIA established an air emissions inventory of the GHG and criteria pollutants that would potentially be emitted by the proposed project. The CCIA states that the proposed project only entails exploration activities and not production activities. Since these processes are separate administrative and operational processes, the inventory only applies to the proposed

project (exploration) and not the full lifecycle (i.e. from upstream exploration and production until combustion of the oil / gas).

2.2.23. Emissions generated by the project are exhaust gas emissions produced by the combustion of fuel (project vessels, the drilling unit and helicopter). As with any stationary or mobile combustion engine powered by fossil fuels, some emissions of unburned hydrocarbons, gaseous pollutants, volatile organic compounds and particles are likely to be generated by the propulsion of the vessels. Emissions would primarily take place in the area of interest and along the route taken by the supply vessels (Cape Town or Saldanha) and helicopter (Cape Town). Although a significant amount of vessel traffic can be anticipated in the vicinity of Block DWOB and is expected to pass through the Area of Interest, the air quality is expected to be relatively good.

2.2.24. Well or flow testing may be undertaken to determine the economic potential of a discovery during the exploration phase. One test may be undertaken per exploration well should a resource be discovered and up to two tests per appraisal well. Each flow period would take up to 2 to 3 days. For the proposed project, an estimated 20 Mscf of gas per day and 20 400 barrels (bbl) of oil could be flared per test.

2.2.25. As the Area of Interest is located more than 188 km offshore, it is removed from any sensitive receptors, such as settlements, birds or seal colonies etc. The atmosphere has the capacity to disperse relatively minor emissions without a detectable alteration in air quality. These air emissions are unlikely to directly affect any receptor. In addition, sea level rising because of GHG emissions may impact coastal regions and may contribute to changes in tides and storm events. As a result, the sensitivity on receptors is rated as "medium."

2.2.26. In the CCIA, the total CO2-equivalent emissions from the drilling and well testing campaign is calculated to be approximately 0.07Mt per well and therefore for the maximum 10 wells with tests, the total GHG emission for the project would be 0.7Mt. The

European Bank for Reconstruction and Development (EBRD) classifies projects contributing more than 0.1Mt CO2-e (or 0.0001Gt CO2-e) per year to have significant GHG emissions (EBRD 2019). This is also in line with the Carbon Tax Act (Act 15 of 2019). Although the project's combined GHG emissions of approximately 0.7 Mt for all 10 wells is above this threshold, these would not occur in a single year. It is more likely that only one or two wells will be drilled in a year and that the annual GHG emission total would be less than the 0.1 Mt CO2-e threshold and is therefore considered to have a low intensity. As set out in the ESIA Report, the significance of the exploration activities on GHG emissions is very low without or with mitigation.

2.2.27. The applicant, a multi-energy company, supports the objectives of the Paris Agreement on Climate Change and shares its ambition of reducing greenhouse gas emissions in the context of a sustainable development and the fight against poverty. Since 2020, the applicant has stated its ambition to get net zero by 2050, together with society and has set ambitious and rigorous objectives to transform within the decade 2020-30.

2.2.28. To meet the challenge of the energy transition and still ensure that reliable energy is available in the short term at the lowest possible cost, the world still needs to invest in two energy systems simultaneously, so as to ensure the current system continues to operate responsibly, and at the same time speeds efforts to build a new system centred on low-carbon energies (renewable electricity, biofuels, and biogas, clean hydrogen and synthetic fuels, CCS solutions for offsetting residual fossil-fuel emissions), which does not curb economic and social development.

2.2.29. The applicant plans to decarbonize the energy products offered to end customers, reduce its direct and indirect emissions on its operations, strengthen its climate objectives, and further accelerate investment in its transformation.

2.2.30. The applicant avers that it is the industry's responsibility to reduce methane emissions near to zero by 2030. In efforts to attenuate global warming, it has been working on this

issue for many years and has already halved its methane emissions between 2010 and 2020. In early 2022, it set very ambitious, specific targets for the decade ahead: that call for a 50% reduction from 2020 levels by 2025 and 80% by 2030. These targets cover all the applicant's operated assets and go beyond the 75% reduction in methane emissions from coal, oil and gas between 2020 and 2030 outlined in the IEA's Net Zero Emissions by 2050 scenario.

2.2.31. Due to the low intensity and short duration of the project, and the implementation of the mitigation measures, the intensity and magnitude of the methane emissions will be limited to oil and gas being flared during the flow period of the DSTs as in the flare. Gas flares typically operate with an efficiency of 98-99% while oil burning flares operate with an efficiency of 95%.

2.2.32. The applicant asserts that consequently, the CA's decision to grant the EA for the proposed exploration project is not inconsistent with South Africa's international commitments, nor the applicant's climate change commitments. The project's contribution to GHG emission and/or climate change when implementing mitigation measures has been assessed at low/very low in the ESIA.

2.2.33. The applicant denies the seventh appellants claim that the ESIA report does not adequately assess risks that climate change poses to the project and the resilience of the surrounding marine environment to climate change. The applicant avers that adaptation is considered and assessed to be a "non-issue" because the exploration activities are of a temporary nature and expected to be completed in the near future; although over a multi-year period, physical risks of climate change and changes in meteorological parameters are not expected to have a significant impact on the project (page 298 of the ESIA).

2.2.34. In relation to the seventh appellant's statement that no consideration is given to how an unplanned event could aggravate the surrounding marine environment's resilience and

adaptation to climate change, the applicant asserts that the likelihood of a large oil spill is extremely low, and that should this event occur, the provisions of section 30 of the NEMA (Control of Incidents) and 30A of the NEMA (Emergency situations) will take effect. These sections require the applicant to implement a plan to remediate the oil spill and rehabilitate the environment.

2.2.35. The applicant avers that the "Consultation on Intention to Publish the National Guideline for Consideration of Climate Change Implications in Applications for Environmental Authorisations, Atmospheric Emissions Licence and Waste Management Licences," which the seventh appellant refers to, is not a final guideline and consequently the applicant is not required to comply with the draft guideline and the Minister is not able to enforce compliance therewith.

2.2.36. In relation to the seventh appellant's allegation that the ESIA fails to consider the rights and welfare of children in the context of climate change, the applicant notes that in terms of South African case law, the rights afforded children under section 28(2) do not trump other rights in the Bill of Rights. This was confirmed by the Constitutional Court in *De Reuck v Director of Public Prosecutions (Witwatersrand Local Division)* 2004 (1) SA 406 (CC). Like all other rights in the Bill of Rights, the rights of the child must be read in conjunction with and weighed up against other competing rights. Consequently, children's rights under section 24 (the Environmental Rights) are equal to majors under section 24. Furthermore, their rights must be weighed up against the applicant's constitutional right to freedom of trade, occupation and profession. A right that is shared with a large portion of the population that are currently unemployed due to the economy. The applicant avers that NEMA was promulgated to give effect to the Constitutional Right. It is premised on the principle of sustainable development. That is, all decisions must secure ecological sustainable development and use of natural resources while promoting justifiable economic and social development.

2.2.37. The applicant reiterates the findings of the ESIA that the project will not materially contribute to GHG emissions and associated climate change impacts. The applicant asserts that all environmental impacts arising from the project can be suitably mitigated to sustainable levels. The only impact that would result in a high negative impact is a large uncontrolled oil spill. However, the likelihood of this occurring is extremely low.

2.2.38. The applicant avers that the project will also expand knowledge on oil and gas reserves in the region and, subject to further assessments and regulatory approvals, could contribute towards a reduction in coal as an energy supply, contribute towards electricity generation in South Africa, security of supply, and economic development which, in turn, will have numerous positive social benefits.

2.2.39. In relation to the eighth appellant's averment that section 6 of the National Energy Act requires the development of an Integrated Energy Plan (IEP), without which legislative framework, the application lacks the appropriate performance management systems relating to global warming and international carbon commitments, the applicant states that section 6 of the National Energy Act is not in force and therefore is not currently binding on the Minister of Mineral Resources and Energy. The applicant avers that in any event, there is more than sufficient legislative and policy guidance in relation to South Africa's international law commitments to climate change. The applicant avers that the CA was therefore authorised to grant the EA.

2.2.40. In relation to the eighth appellant's averment that the timeframes underpinning the ESIA are deeply flawed as they take exploration activities well past 2050 and assume that current climate conditions will remain stable, the applicant states as follows:

2.2.40.1. In terms of section 81(4) of the MPRDA, the Minister of Mineral Resources and Energy may only renew an exploration right for a maximum of three periods not exceeding two years each. The applicant is already half-way through its first renewal period. As a result, assuming the applicant requires

all 3 renewal periods to complete the proposed 10 exploration wells, this work would need to be completed during 2028. If the exploration indicates that there are viable reserves, the applicant will need to conduct an EIA and obtain an EA and production right before production can arise. This will require an assessment of *inter alia* the legal framework and policy governing climate change and GHG emissions that exist at that time. The legal framework at the time will inform whether production is permissible and, if so, if the applicant must comply with specific conditions or requirements.

2.2.40.2. The proposed exploration project is aligned with South Africa's peak-plateau-decline emissions trajectory in its NDC, which seeks to balance GHG emissions while eliminating poverty, inequality and unemployment. The project will not result in carbon lock-in inequalities. The project authorises exploration with insignificant contributions to GHG emissions. No oil or gas will be produced. As a result, the question of carbon lock-in is not relevant. Similarly, as the GHG emissions arising from the project are insignificant, they will have no bearing on global carbon budgets. The article by Lamboll *et al* is therefore equally irrelevant.

2.2.40.3. The applicant has considered the United Nations Environment Programme Finance Initiative, the risks and impacts of financing non-renewable extractive industries (2022) and it does not include the statement that no new oil and gas production projects can be sanctioned or that existing production must be significantly and urgently reduced.

THE COMPETENT AUTHORITY'S (CA'S) RESPONSE

2.3. In its comments to this ground of appeal, the Competent Authority (CA) responds as follows:

2.3.1. The impacts of the proposed project on air quality were assessed and found to be of very low significance before and after mitigation.

2.3.2. The processing of any gas and oil/condensate to end products does not form part of the scope of this exploration project. The scope of the project includes sonar bathymetry surveys, drop core sampling and exploration drilling. Therefore, impacts associated with transportation of oil and gas and refinery activities are not assessed. Approximately 10 m^3 of fuel will be temporarily stored during the flaring period. Other than that, there will be no storage of fuel or oil in the drill rig and support vessels. Impacts of drilling were assessed during the EIA process and mitigation and management measures were proposed where deemed necessary. Impacts of the proposed project on air quality were assessed and found to be of very low significance before and after mitigation.

2.3.3. The scope of the proposed work is to drill up to ten (10) wells with the main objective being to confirm the presence or absence of petroleum. It includes the collection of information such as the extent, type of petroleum (gas, condensate and oil) and the economic feasibility of the reservoir for extracting the potential petroleum resources if present.

2.3.4. No exploitation of petroleum resources i.e., production activities are authorised by the EA. Importantly the EIA process is a project-based process. Therefore, the assessment of the impacts associated with aspects related to production activities are not authorised nor assessed. Assessment of the impacts of potential production activities is not a requirement of the applicable legislation considering that this is an application for exploration activities related to an exploration right. Because currently no details regarding the type/scope of production activities are known it would be difficult to assess the impact without unacceptable uncertainties. Unacceptable uncertainties cannot lead to an informed decision-making process.

2.3.5. Should the results be favourable (importantly this exploration project could result in a dry well), an impact assessment with respect to production activities will be conducted because currently no details regarding the type/scope of production activities are known.

The scope of the project is required to inform the impact assessment process. At this stage it is not known if the results would be favourable for future production consideration with the DWOB licence Block.

2.3.6. In terms of the project's impact on climate change and GHG emissions, the climate change assessment outcome indicates that the residual impact is of low significance provided the mitigation measures are implemented. The project will only contribute a maximum of 0.17% towards the 2017 South African energy sector and 0.14% towards the South African National GHG Inventory. It should also be noted that the objective of this project is to gather more information (i.e., regarding the extent, petroleum type and exploitation feasibility) on the potential petroleum resources and has a short duration and is localised. Considering the global nature of greenhouse emissions, it is not reasonable to factor in long-term considerations for climate change adaptation.

2.3.7. The impact assessment process considers the factors prescribed in section 24O of NEMA. These factors include compliance with NEMA, impact assessment, identification of mitigation measures, applicants' ability to implement mitigation measures and comply with prescribed financial provision and considering comments from organs of state, to name a few. The EIA process considers relevant legislation, policies (such as the Integrated Resources Plan (IRP) gazetted in 2019 that recognises the need for South Africa to employ a diversified energy mix to meet the country's electricity requirements) and strategies to ensure that the project activities are undertaken in a sustainable manner. Specific Environmental Management Acts (SEMAs) such as the National Environmental Management: Air Quality Act (NEM:AQA), 2004; National Environmental Management: Waste Act (NEM:WA), 2008; and the National Environmental Management: Protected Areas Act, 2003, National Heritage Resources Act, 1999 etc., are considered in the context of the project. The needs and desirability guideline were also used during the assessment of the projects need and desirability. The manner in which the project considered the NEMA principles were incorporated throughout the EIA process as evidenced in section 5.3 on page 83 of the BAR. Consideration of these

factors is necessary to ensure that section 24 of the Constitution is upheld. Thus, the EIA process followed (NEMA) provides for protective mechanisms that ensures that project activities are undertaken in a sustainable manner.

2.3.8. The effective date for the implementation of section 6 of the National Energy Act is 01 April 2024 according to the government gazette. The EA was granted in 2023 before the effective date. This means that the granted environmental authorisation is not affected by the said notice.

2.3.9. The holder of the EA is authorised to undertake drilling of up ten (10) wells. According to section 6.5.1 of the ESIA report, drilling and testing of each well would take up to three (03) to four (04) months to complete. This means that drilling and testing of ten (10) wells would take approximately three (03) years and not ten as indicated by the eighth appellant. It is also important to note that the holder of the EA has recently drilled exploration wells in the offshore deepwater area within approximately the indicated timeframe. There is no indication that the climatic events and conditions will remain the same in the ESIA or supporting documents. The CA is therefore not able to respond to such statement, especially considering that it is made based on the incorrect information that the well drilling will take up to 10 years to complete.

2.3.10. The study only used data from 2010 to 2019 and the study specifically indicated that year 2020-2022 data was excluded. The assertion that there is an accelerated environmental crisis in 2023 is not indicated in the referenced study. A maximum of three (03) wells will be drilled in one (01) year since it takes about four (04) months to complete a well.

2.3.11. The combined GHG emissions per annum would most likely be 142 kt CO2-eq (or a maximum of 212 kt CO2-eq for 3 wells) and therefore 0.028% to 0.041% of the National GHG inventory total of 0.51 Gt. The European Bank Reconstruction and Development (EBRD) classifies projects contributing more than 0.1 Mt CO2-eq (or 0.0001Gt CO2-eq) per year to have significant GHG emissions (EBRD 2019). This is also in line with the

Carbon Tax Act (Act 15 of 2019). Since the GHG emissions are expected to be above this threshold, but less than 0.1% of the total gross South African GHG emissions, the residual impact is considered of low significance (due to a medium intensity) after implementation of mitigation measures. Furthermore, since the project is of a temporary nature and expected to be completed in the near future, changes in meteorological parameters are not expected.

2.3.12. The climate change assessment indicates that GHG reporting requirements and carbon tax liability are applicable and that one (1) year operation will contribute to further depletion of the available South Africa carbon budget by about 0.0017%.

EVALUATION (Reasons for Decision)

2.4. At the core of this ground of appeal is the averment that all phases and components of the lifecycle of the proposed project should have been assessed collectively at the outset, rather than in isolation of one another, to have an accurate understanding of the cumulative impacts of oil and gas development in South Africa. The relevant phases relating to the lifecycle of the proposed project for the purpose of this appeal are reconnaissance, exploration and production.

2.5. I am aware that the MPRDA recognises that each phase of the process is separate and distinct from the other. Section 1 of the MPRDA defines and distinguishes between each of the phases as follows:

2.5.1. "'Reconnaissance operation' means any operation carried out for or in connection with the search for a mineral or petroleum by geological, geophysical and photogeological surveys and includes any remote sensing techniques, but does not include any prospecting or exploration operation;"

2.5.2. "'Exploration operation' means the re-processing of existing seismic data, acquisition and processing of new seismic data or any other related activity to define a trap to be tested

by drilling, logging and testing, including extended well testing, of a well with the intention of locating a discovery;" and

2.5.3. "'Production operation' means any operation, activity or matter that relates to the exploration, appraisal, development and production of petroleum."

2.5.4. In addition to the above, the MPRDA distinguishes between applications for each phase of the process as follows:

2.5.4.1. A reconnaissance permit is applied for and issued in terms of section 75(1) of the MPRDA;

2.5.4.2. An exploration right is applied for and granted in terms of section 80 of the MPRDA; and

2.5.4.3. A production right is applied for and granted in terms of section 84 of the MPRDA.

2.6. The appellant seeks that each phase of the process must be assessed at the outset irrespective of whether the exploration operation finds any oil and gas resources. This approach is also based on the assumption that every exploration operation will yield positive results and that every phase of the proposed project will indeed be approved by the CA. It also requires that the CA imposes a burden on the applicant greater than that imposed by the legislation. Moreover, it ignores the fact that the cumulative impacts of each phase of the proposed project is assessed at the appropriate stage of the project, which allows the process to be considered in a more cost effective, effective and detailed manner.

2.7. The applicant applied for and was granted an exploration right under section 79 and 80 of the MPRDA to undertake exploration activities. This process is concerned with the identification of a resource, while production is concerned with the extraction of the discovered oil and gas. The impacts associated with the proposed exploration activities were appropriately considered and assessed.

2.8. I have perused the ESIA report and note that section 3.2 of the Climate Change and Air Emissions Impact Assessment Report (CCIA) indicates that the climate change impact for the project was assessed. The CCIA, on page 62, concludes as follows:

"Thus, with the implementation of the mitigation measures, the intensity and magnitude of the GHG impact reduces to low, with the residual impact reducing to low significance.

The impact of climate change over the lifetime of the Project taking the robustness of the Project into account is not expected to have a significant impact on the Project. Furthermore, since the Project is of a temporary nature and expected to be completed in the near future, changes in meteorological parameters are not expected to have a significant impact on the Project.

An annual Carbon Tax environmental levy will be required in July of each year after operations commence."

2.9. I find that the CCIA falls within the scope of the proposed project. In this regard, I also find that there is no legal requirement to conduct a full life cycle impact assessment for GHG beyond the exploration activities, nor to assess the impacts associated with production activities.

2.10. It is perhaps apt for me to point out at this stage that a number of appellants conflate the scope of the EA granted to the applicant (which is for the drilling of exploration wells in the area of interest) with activities of extraction for purposes of production and consumption. I deem it necessary to point out that to undertake exploration, an applicant requires an exploration right under the MPRDA and an environmental authorisation (EA) in terms of listed activity 18 in Listing Notice 2. Production activities require a production right and an environmental authorisation under listed activity 20 in Listing Notice 2. Listing Notice 2 of the 2014 EIA regulations requires a separate authorisation for these two activities which are regarded as distinct from each other.

2.11. I am aware that a number of the appellants rely on the Makhanda Judgment[1] for the proposition that activities associated with the exploration for oil/gas and the activities associated with the extraction, production, transportation and consumption thereof are part and parcel of the same activity and therefore the applicant should have identified and assessed all the potential life cycle risks and mitigation measures in regard thereto. I respectfully disagree. It is my view that the applicant is only required to assess the potential impact and mitigation measures in respect of the activity for which it has sought an authorisation, namely listed activity 18. It need not assess the potential impact and mitigation measures in respect of an activity for which it has not yet sought an authorisation, even though it may one day seek to do so, namely listed activity 20.

2.12. Of course, if the applicant discovers gas resources whilst exploring, and in sufficient quantities to persuade it that extraction of that gas, and production, is a viable option, then, before it can extract and produce – which are activities that will trigger listed activity 20 - it will need to apply for an environmental authorisation to do so. Not before then.

2.13. The Makhanda Judgment is currently being taken on appeal. I understand from the advice I received from the legal officials in the Department that section 18(1) of the Superior Court Act automatically suspends the operation of the order pending the finalisation of the appeal. It is therefore incorrect, and unfair, to assert, as some of the appellant's do, that the Competent Authority's decision is "in contempt" of that order or has failed to apply the decision of that court.

2.14. The appellants makes a bald and unsubstantiated allegation that the ESIA fails to consider the rights and welfare of children. It is unclear to me how, if at all, the proposed project violates the rights of children under section 24, 28(2) and 39(1)(b) of the

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Constitution. It is acknowledged that South Africa is a signatory to the African Charter on the Rights and Welfare of the Child, and the Convention on the Rights of the Child. South Africa's main obligation under these treaties is to ensure that the rights of children in the country are fulfilled. The appellants do not state what rights of children are being violated, if at all, particularly in light of the fact that the CCIA concludes, on page 62, that with the implementation of the mitigation measures, the residual impact of the proposed project is reduced to low significance.

2.15. Therefore, I determine this ground of appeal is without merit and is dismissed.

Second Ground of Appeal: Marine Ecology, Noise and Spills

Marine Ecology and Avifauna

2.16. The first, second, third, fourth, fifth and eighth appellants submit inter alia as follows:

2.16.1. The first appellant submits that oil and gas exploration and development cause disruption of migratory pathways, degradation of important animal habitats, the release of toxic pollution into water, and oil spills, which can be devastating to the animals and humans who depend on these ecosystems.

2.16.2. The first appellant submits that the proposed exploration drilling would have severe negative impacts on marine life, marine ecosystems, fishing industries and damages to the seafloor and seabed, and that the proposed well drilling would result in various forms of disturbance to the seafloor and would result in more than 5 cubic meters of sediment being disturbed and moved.

2.16.3. The second appellant avers that offshore exploration and drilling may disturb marine ecosystems, and that the resulting residue has several compounds containing potential pollutants, which if incorrectly disposed of can pose several risks to terrestrial, aquatic,

and aerial environments, including reducing soil fertility, negatively affecting flora and fauna and causing health, survival or reproductive and communication (such as echolocation) problems.

2.16.4. The third appellant states that the ESIA report is silent on how the drilling activities and accompanying infrastructure will disrupt and destroy marine ecosystems, as has occurred in other parts of the world, and that the exploration activities will result in physical disturbances to the seabed and changes in the water quality which will negatively affect marine life and environments.

2.16.5. The fifth appellant states that various Marine Protected Areas, Ecologically and Biologically Sensitive Areas (EBSAs), and Critical Biodiversity Areas (CBAs) lie within and adjacent to the proposed area, and the Marine Protected Areas (MPAs) around the mainland of South Africa form a Network which covers 5.4% of the Exclusive Economic Zone (EEZ). The MPAs are important biodiversity areas with multiple functions and are recognised for their importance in providing sanctuaries for threatened species and their essential habitats, for their role in supporting and rebuilding populations of over-exploited fish species, for their promotion of tourism, and for their role as agents of climate mitigation. The MPAs, while designated in terms of the National Environmental Management: Protected Areas Act, 2004 (Act No. 57 of 2003) (NEMPAA), also support the provisions of the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (NEM:ICMA), which establishes coastal public property "to protect sensitive coastal ecosystems", and it serves to ensure that coastal and marine environments are afforded a high degree of protection in the interests of the whole community and for the benefit of future generations. The MPAs overlap with the CBAs and are key conservation areas requiring special consideration and protection.

2.16.6. The fifth appellant states further that the objective of the EBSAs in the proposed area is to identify features of higher ecological value that may require enhanced conservation and management measures and contain sensitive ecosystems and areas important for

coastal fisheries. Even though the EBSAs currently carry no legal status, the license Block DWOB overlaps or is adjacent to four EBSAs, namely the Cape Canyon and Associated Islands, Childs Bank and Shelf Edge, Namaqua Fossil Forest and Namaqua Coastal EBSAs. Although an evaluation of these MPA's, CBA's & EBSA's was undertaken in the ESIA, with their sensitivities and critical ecosystem functions being identified, there was no real acknowledgement of the risks of the proposed activity to the biodiversity and ecosystems within these and adjacent areas, in which 18 commercial fisheries, small-scale fishers, coastal communities and the tourism sector are entirely dependent upon. Consequently, it is not reasonable to conclude that the risk to MPAs, CBAs, EBSA's and the South African people who rely on these areas is not substantial.

2.16.7. The fifth appellant notes that the ESIA report lists over 200 species, which is evidence of the massive number of species that both large, unplanned and minor operational spills can severely affect and impact. Further to this, South Africa has over 30% species endemism, and while many species are under severe threat of extinction and are protected from exploitation due to their vulnerability, the magnitude, responsibility and costs involved in managing these protected species and habitats by the Department are not accounted for in the EA.

2.16.8. The fifth and eighth appellant aver that the cumulative impacts of noise, operational spills and other disturbances on cetaceans remain unknown and that the increased offshore anthropogenic activities, including offshore mining, is likely to generate additional energy costs for migrating Humpback whale populations (Braithwaite et al 2025) such that energy related to reproduction would be jeopardized because it would be funnelled into other related survival activities such as travelling greater distances to avoid certain areas and changing swimming speeds. Given the historical anthropogenic pressure (whaling) on the Humpback whale population and its recent population comeback, it is a concern that exploration will be occurring in their direct migration channels, thus disturbing and changing the behaviour of the population, at an unknown cost.

2.16.9. The fifth appellant notes that the ESIA acknowledges that "the individual and population level consequences of other exploration activities or multiple smaller and more localised stressors are difficult to assess" and that "despite the density of seismic survey coverage off the southern African West Coast over the past 17 years (noise emissions), the southern right whale population is reported to be increasing by 6.5% per year (Brandaõ et al. 2017), and the humpback whale by at least 5% per annum (IWC 2012;) over a time when seismic surveying frequency has increased, suggesting that, for these population at least, there is no evidence of long-term negative change to population size as a direct result of exploration activities." Although the C1 humpback population (east coast) has recently been documented to be making a 'comeback' (Wilkinson 2023), the same cannot be said for the southern right whale population, where Vermeulen et al (2020) reported that there are strong changes in the prevalence of southern right whales on the South African breeding ground, including a marked decline of unaccompanied adults since 2010, and extreme fluctuations in the number of cow-calf pairs since 2015. They aver that the cause/s and implications of this to the population going forward are unknown and should be of concern.

2.16.10. The fifth appellant states that, based on available data, they agree with the statement in the ESIA report that three species of turtle occur along the West Coast, with the Leatherback being the most likely to be encountered in the offshore waters west of South Africa and that their abundance in the study area is unknown but expected to be low, based on Marine Mammal Observer (MMO) observations and satellite tagging. However, they caution that there is very little published satellite tag data, while MMO sightings would only occur on a "good" sighting day (Beaufort 0-1), which are seldom within this region. They note that the ESIA report states that "A sighting of a Loggerhead turtle in the DWOB Block has, however, been reported by an MMO. Loggerhead and Green turtles are expected to occur only as occasional visitors." Evidence of a single loggerhead and a green turtle is not necessarily an indication of low numbers because visually recording turtles by an MMO is extremely difficult since observations of turtles at the surface are unreliable in sea states above Beaufort 1, and detection rates decrease with

increased distance from the vessel. Additionally, it is currently not possible to detect turtles at night, in poor weather conditions, or below the surface where they might be most vulnerable to both noise emissions and other infrastructure (Weir, 2007), and many MMOs are inexperienced. MMO's are not an appropriate mitigation method to reduce the risk to turtles.

2.16.11. The fifth appellant avers that the Benguela ecosystem, especially the northern Benguela where jellyfish numbers are high, is increasingly being recognized as a potentially important feeding area for leatherback turtles from several globally significant nesting populations in the south Atlantic (Gabon, Brazil) and southeast Indian Ocean (South Africa) (Lambardi et al. 2008, Elwen & Leeney 2011). Both green turtles and loggerhead turtles are known to be found feeding on inshore reefs on the south and east coasts and they are expected to only occur as occasional visitors along the west coast.

2.16.12. The fifth appellant states that while satellite tagging of loggerheads suggests that these turtles seldom occur west of Cape Agulhas (Harris et al. 2018; Robinson et al. 2019), more recent data suggests otherwise. Satellite-tracked turtle data of captive turtles (various species) shows that St Helena Bay to approximately Groen River mouth area are popular turtle areas, both inshore and offshore (to ~200 km), suggesting this as a refuge or preferred feeding area. In addition, evidence suggests that olive ridley and hawksbill species have migrated to these areas as well, sometimes taking temporary residence, before moving up or down the coast. This uncertainty about marine species and the marine environment, especially in these areas where little / no sampling has been undertaken, should be kept in mind when the implications for noise disturbance and oil spill threats in this environment are considered.

2.16.13. The fifth appellant states that given that many of South Africa's marine species, including all cetaceans and turtles, are protected and/or regarded as threatened (critically endangered, endangered, or vulnerable), while being a signatory of the Convention on Migratory Species (CMS) and the resolution passed at the 67th International Whaling

Commission (IWC) to conserve these species at an international level, it is unclear how South Africa can continue to fulfil its duties and obligations when the proposed activity will create significant disturbance for an extended period for these protected and threatened species.

2.16.14. The eighth appellant submits that the authorisation of activities involved in offshore exploration well drilling, sonar surveys and seabed coring for oil and gas, has occurred without assurance that they are compatible with other ocean uses and objectives within the marine environment, since the necessary ocean governance framework required to implement the Constitutional imperative flowing from Section 24 of the Constitution of the Republic of South Africa (1996) has yet to be implemented, namely the:

- White Paper on the National Environmental Management of the Ocean (2014) has yet to be promulgated, and
- The Marine Spatial Planning Act, 2018 (Act. No 16 of 2018) (MSPA) still requires development of the Marine Area Plans (as defined in the MSPA).

2.16.15. The fourth appellant also states that the MSPA must first be fully implemented before any further development in the ocean can be decided upon, and it is demanded that a proper process of integrated planning, that includes all actors and rights holders like themselves, is to take place before the exploration activities can be approved.

2.16.16. The eighth appellant avers that this effectively renders the continuation of the EA unlawful as it, inter alia, ignores alternate sectoral objectives as well as cumulative pressures to the marine ecosystem itself. They aver that section 3(2) of the MPSA, states that:

"Any right, permit, permission, license or any other authorisation issued in terms of any other law must be consistent with the approved marine area plans."

2.16.17. The eight appellant contends that the CA was therefore never entitled, in law, to award an EA for the proposed exploration activities, until such time as the Marine Area Plans

are gazetted, come into law, and become binding, and that, because the Marine Area Plans have not yet been "approved" as envisaged by section 3(2) of the MSPA, **no** 'right, permit, permission, license or any other authorisation' could be deemed to be 'consistent' with the said Marine Area Plans. Therefore, and considering the peremptory language used by the drafters of the MSPA *viz* the use of the word "must" – the CA was not authorised to grant the right and EA.

2.16.18. The eighth appellant states that the ESIA fails to explain the environmental effects and impacts of the processes, such as smothering in the Drill Cutting Discharge Modelling; to provide a detailed report, describing the compound ingredients, levels of expected toxicity and any radioactivity of the lubricants used, and their effects to human and animal species, including larval stages; and to mitigate these toxins during fish spawning periods. The Drilling Discharges Modelling Study failed to evaluate the contamination by not only weight (Kgs) of Non-aqueous Drilling Muds per well, but also the model for the risk of the cumulative exposure to toxic and non-toxic stressors (dissolution of the chemicals, transport and deposition of particles, biodegradation, attachment of chemicals to particles, and eventually formation of agglomerated particles), and the fates of the discharge compounds in the sediment (e.g., concentrations and biodegradation in the sediment, bioturbation, equilibrium partitioning for organic chemicals and heavy metals, oxygen content in the porewater, change of grain size, and burial) from the tonnes of discharge from 10 wells.

2.16.19. The eighth appellant states that the ESIA notes that sampling beyond 1 000 m depth has not taken place in South Africa. The benthic communities within the Block are completely unknown, and given the location of the Block, the possibility of this area hosting Vulnerable Marine Ecosystems cannot be discounted given the lack of knowledge of the abyssal areas in the EEZ.

2.16.20. The eighth appellant avers further that the ESIA fails to mitigate for seals which forage in the area, and that according to Shaughnessy (1979) seals have been recorded up to 120 nautical miles offshore.

Underwater Noise

2.17. The second, third, seventh and eighth appellants submit as follows:

2.17.1. The second appellant suggests that loud noises introduced into the ocean from human activity creates an acoustic smog, which negatively impacts the sensory range of marine animals; and that ocean noise pollution negatively affects at least 55 marine species, including several endangered species of whales and 20 commercially valuable species of fish.

2.17.2. The third appellant avers that the assessment of acoustic impacts is flawed and deficient. The ocean is an acoustic world, given that water is a dense medium, which allows sound to travel faster and further. Marine species utilize this efficiency and have evolved to depend on sound for essential biological functions, including feeding, breeding, travelling, and socialising. The anthropogenic noise caused by the drilling of exploratory wells, which includes vessel noise, drilling noise, and Vertical Seismic Profiling (VSP) blasts, can cause significant temporary and permanent harm across taxa, and this harm can be physiological, including loss of hearing, death, or other injury, and behavioural, including cessation of feeding, changes in spawning or breeding, changes in movement patterns, and masking of communication. In addition, these harms are not limited to individual species, but can have ecosystem and population level impacts. The ESIA report does not fully capture the acoustic risk posed to marine species and ecosystems and does not effectively mitigate the risks from the proposed exploratory drilling activities, because of several flaws in its (the ESIA's) approach.

2.17.3. The seventh and eighth appellant states that the ESIA underestimates the acoustic impacts of VSP, vessel, and drilling activities on marine species and ecosystems; fails to analyse the consequences of displacement due to noise; and fails to evaluate cumulative acoustic impacts of the project's operations together with other current and future anthropogenic sources. The mitigation measures proposed by the ESIA and adopted by the EA are also insufficient to mitigate the likely acoustic impacts from proposed exploratory drilling activities. Much of the mitigation for the project depends on "short-term" temporality, yet a 7 and half year duration is more realistic and therefore more impactful to fisheries, biodiversity and ocean health, making the ESIA unreliable.

2.17.4. The seventh appellant states that the ESIA concludes that acoustic impacts from VSP operations will be "Low" without taking into account the increase in ambient noise from the proposed project's VSP activities, which can be significant and extend for kilometres. This is a major flaw. VSP is expected to occur in sessions that could last up to 9 hours with as many as 250 blasts per session. The ESIA's Underwater Noise Assessment only modelled the zones of impact for individual and cumulative VSP pulses. However, sounds emanating from a seismic airgun array do not behave as individual and finite pulses *in situ*, but instead reflect off the ocean surface and seafloor as they travel for great distances, leading to nearly continuous noise through reverberation, which contributes to chronic stress in marine species. This means that the ESIA fails to account for the potential far-reaching effects of VSP in inshore areas, including coming to the erroneous conclusion that VSP will have no effect on biologically important spawning areas which "all lie inshore of the Area of Interest, and should in no way be affected by the highly localised VSP operations." The ESIA also concludes that acoustic impacts from vessel and drilling noise will be "Very Low" without taking into account all relevant information.

2.17.5. The seventh appellant notes that the ESIA and Marine Faunal Assessment (MFA) conclude that pelagic species will react to VSP blasting and vessel and drilling noise by moving away from the sound source, and therefore, expected physiological injury will be very low. The seventh and eighth appellants contend that this places the burden on the

animals themselves to mitigate the harm caused by project activities. The ESIA assumes that pelagic species can and will move away from persistent and significant sound pollution, and it does not adequately analyse the short and long-term impacts of this movement from an ideal or preferred habitat on individuals, populations, and ecosystems.

2.17.6. The seventh and eighth appellants submit that many protected marine species utilise habitat in the Area of Interest for important biological functions and that Block DWOB forms part of several "blue corridors," also known as "whale superhighways," for species like the humpback whale and the southern right whale, and is extremely close, (acoustically 25km is close) to the Tripp Seamount, where whales are known to occur. If species are displaced from these critical areas, it may cause severe and potentially irreversible consequences. The ESIA underestimates the cumulative effect of acoustic impacts from VSP activities in intensity, effect, and reach, which undermines the conclusion that impacts will be "Low."

2.17.7. The eighth appellant states that the reversal of noise was demonstrated in 2020, when 60% of the globe was in lockdown with a resultant 20% reduction in the oceans noise, and the response was also almost instantaneous, where large marine animals began coming closer to shore and claiming back their ancestral territory.

2.17.8. The seventh appellant states that while the ESIA acknowledges that the overall sound level generated by drilling operations "would be audible for considerable ranges before attenuating to below threshold levels," it dismisses the chronic impacts of this noise because it would "not cause direct physical injury or mortality to marine life, except at close range." This is a major flaw, as several studies have shown that chronic noise exposure increases stress and leads to changes in behaviour, which can lead to decreased reproductive activity, decreased foraging, inhibited predator avoidance, immunosuppression, and ultimately reductions in survivorship.

2.17.9. The eighth appellant states that the adverse effect of continuous noise exposure may intensify and last for a considerable time after the termination of the sound source, however neither stress nor maladaptive neuroplastic changes within the central auditory pathway symptomatic of noise exposure induced tinnitus in marine animals are broached in the ESIA. The harm to the marine environment from the noise and disturbance is not sufficiently mitigated and the ESIA excludes mitigation for pelagic fish and sharks, and excludes noise modelling for commercial species such as squid, Loligo reynaudii and for invertebrates, including lobster.

2.17.10. The seventh appellant states that the ESIA fails to assess whether the marine ecosystem is capable of withstanding the increase in anthropogenic chronic noise caused by the exploratory drilling activities, and instead concludes that behavioural disturbance from vessel and drilling noise will be low because "the drill area is located in a main marine traffic route and thus is in an area already experiencing increased marine traffic and vessel noise." The Underwater Noise and Marine Faunal Assessments acknowledge that the project's drilling, vessel, and VSP activities "may potentially contribute to and/or exceed ambient noise levels in the area," and would generate noise that is roughly 100 times more intense than the ESIA's highest estimates of ambient noise in the region. The seventh and eighth appellants submit that given this anticipated increase in ambient noise, the ESIA should have integrated these sources of greater noise into a cumulative noise assessment with other current or planned adjacent projects.

2.17.11. The seventh appellant states that the ESIA does not attempt to assess the project's cumulative noise impacts, by claiming that "*the possible range of the future prospecting, mining, exploration and production activities that could arise will vary significantly in scope, location, extent, and duration... As these cannot at this stage be reasonably defined, it is not possible to undertake a reliable assessment of the potential cumulative environmental impacts.*" In light of this uncertainty, the precautionary approach in section 2(4)(a)(vii) of NEMA mandates an evaluation of cumulative noise impacts under the worst-case scenario, and South African law does not condone the approach taken in the

ESIA, in which uncertainty is used as an excuse to avoid evaluating potentially significant environmental impacts.

2.17.12. The seventh appellant states that while the ESIA acknowledges that the project activities will generate sufficient noise to result in behavioural impacts to a variety of species, including marine mammals, fish, seabirds, and sea turtles, which can lead to changes in feeding, growth, and reproduction, with significant ecosystem-wide consequences, it concludes that these behavioural impacts will not be significant because "*there is no evidence of significant behavioural changes that may impact the wider ecosystem.*" To arrive at this conclusion, the assessment relies on an almost 15-year-old EIA prepared for offshore drilling in the Falkland Islands. The seventh appellant states that relying on an outdated study that looked at the impacts of a different project on a different environment is inadequate to assess the ecosystem-wide impacts for this project.

2.17.13. The seventh appellant states that the ESIA also claims that a quantitative analysis of ecosystem impacts was not possible because *"[t]he required data inputs into such models are currently limited in southern Africa,"* yet at the same time, the ESIA implies that no further assessment of ecosystem impacts is needed because "*there is no evidence of long-term negative change to population size or irreparable harm as a direct result of seismic survey activities [and] ... [t]o date no trophic cascades off the South African coast have been documented despite the completion of a number of seismic surveys...*".

2.17.14. The seventh appellant states that the ESIA does not cite any studies or data to support its assertion that historical seismic surveys in South Africa have not had any ecosystem impacts, and that it notes in several places that it's understanding of the baseline is inadequate. For example, the MFA points to the deficiency of data surrounding cetacean behaviour and states that available information about the offshore environment is primarily from historic whaling records prior to 1970. It also notes that "data population sizes and trends for most cetacean species occurring on the west coast of southern Africa

is lacking," and that short-term observations on behavioural impacts have the potential to mask long-term population declines. Therefore, the ESIA would have needed to conduct or rely on a comprehensive long-term study of the ecosystem effects of oil and gas exploration in South Africa to support its conclusion that no ecosystem-level impacts are likely.

2.17.15. The seventh appellant states that the ESIA also recognises that a stronger assessment of the ecosystem impacts of project noise was feasible, but not undertaken. The ESIA states that expert elicitation "would be a useful method" to assess ecosystem-level impacts that otherwise would be ignored, however the ESIA does not explain why expert elicitation was not carried out to analyse the ecosystem effects of acoustic noise for the project.

2.17.16. The seventh appellant submits that the MFA dismisses noise impacts to seabirds, because "the Area of Interest lies offshore of the distribution of small pelagic fish species that constitute the main prey of these seabirds." They contend however that this generalisation is contradicted by the ESIA's own description of the baseline environment, which states that the Area of Interest "overlaps with the foraging ranges of various pelagic bird species" and shows that the Area of Interest overlaps significantly with the foraging area of the Endangered Atlantic Yellow-nosed Albatross.

2.17.17. The eighth appellant also states that the ESIA fails to consider the displacement of species by cumulative impacts. The compounding effects of multiple abiotic and biotic stressors associated with explosive use, sonar surveys, vertical seismic profiling, seabed coring, and well drilling being undertaken concurrently with multiple 3D surveys is understated, and TGS; Searcher and GX Technology Corporation all have pending applications that overlap the proposed exploration area and may occur simultaneously. Compounded behavioural disturbance and chronically present sound could constitute a threat to populations by changing behaviour and distribution, regularly, at critical times and in critical areas.

2.17.18. The seventh appellant avers that the ESIA offers inadequate mitigation measures. For example, the VSP mitigation measures include a measure that calls for industry to limit VSP blasting to daylight and good visibility "as far as possible." They aver that good visibility is an important condition for VSP operation, since other mitigation measures depend on visual scans to ensure that marine fauna are not within close range of the sound source. However, the "as far as possible" language is too permissive and leaves considerable discretion to the industry, which could result in VSP operations being conducted extensively during times when visual mitigation is not possible.

2.17.19. The seventh appellant states that the ESIA relies on the use of Passive Acoustic Monitoring (PAM) technology (nonvisual detection of marine mammals if they are vocalising within range) to mitigate harm from VSP blasting during periods of low visibility. However, it only requires the use of PAM if a risk assessment, undertaken ahead of the VSP operation, indicates that PAM equipment can be safely deployed considering the metocean conditions (specifically current). Additionally, the operator can avoid deploying PAM at all during conditions of low visibility. This is problematic on many fronts as it would allow the applicant to go ahead with drilling operations *without any form of visual or acoustic monitoring* if they determine it is too dangerous to deploy PAM equipment. If PAM cannot be safely deployed, no drilling should be allowed to take place.

2.17.20. The seventh appellant contends further that this mitigation measure would result in dangerous VSP operations during periods of prolonged poor visibility conditions. For example, the ESIA notes that the region experiences strong winds and swells throughout the winter, with waves "often attaining over 5 m" in height. Thus, poor visibility conditions could feasibly last for weeks if not months and the applicant could conduct VSP operations without PAM and when visual monitoring is not possible, so long as the mitigation zone was monitored for two hours sometime prior to the period of low visibility. Since the ESIA does not specify when this two-hour monitoring needs to occur, the

applicant could conduct VSP operations in the winter based on a visual scan of the mitigation zone that took place months prior.

2.17.21. The seventh appellant avers that the ESIA's proposed 500m mitigation zone for visual and acoustic monitoring is also inadequate, given that the Underwater Noise Assessment found that the VSP impacts on marine mammals could extend up to 980 m away from the sound source. Even assuming that visual monitoring is effective at detecting all whales within the 500 m mitigation zone, the project's VSP activities will still result in significant behavioural impacts to any whales located within a roughly 1km vicinity. The Marine Faunal Assessment does not present any mitigation measures either for drilling, vessels, or VSP noise impacts that considers the seasonality and movement patterns of cetaceans, sea turtles, or any other species with complex movement patterns or migratory routes through the Block. The ESIA requires the applicant to avoid, as far as possible, planning sonar surveys during the movement of migratory cetaceans, but it does not require the same for VSP or drilling activities, which are anticipated to generate similar acoustic harms.

2.17.22. The seventh appellant avers that South African law requires the adoption of the precautionary principle when addressing threats of harm characterized by uncertainty, including acoustic impacts to marine and bird life caused by seismic surveys. While the ESIA uses outdated data and, at times, recognizes the considerable scientific uncertainty characterizing acoustic impacts, it does not apply the precautionary principle.

2.17.23. The eighth appellant states that changes in behaviour of marine animals in response to noise is dependent on various factors, such as age, sex, presence of offspring, location and an individual animals' previous encounter with a specific sound or noise, and that behavioural responses may include modification of vocal behaviour, displacement from important habitats, and other subtle responses, including increased breathing rates, change in dive duration, time spent at the surface, rapid or erratic movements (Bowles

et al. 1994; Lesage et al. 1999; Williams et al. 2002; Ng and Leung 2003; Aguilar de Soto et al. 2006), all of which have energetic costs (Williams et al. 2006; Koper and Plön 2012).

2.17.24. The eighth appellant avers that the final ESIA relies on an unrealistic time period for modelling noise pollution mitigation, affecting the CA's understanding of the scope of potential impacts. The ESIA's "worst-case" scenario is 24 hours continuous exposure duration. The wells can take as long as a year to complete, with ongoing drilling, and this project involves up to 10 wells. VSP involves airguns being discharged at intervals and that this process is repeated for different stations in the well and may take up to nine hours to complete. The frequency of the VSP operations is missing in the ESIA, as is mitigation for least possible impact for seasonal breeding, feeding, spawning and migratory animals moving through the Area of Interest during VSP operations. The ESIA fails to consider seabed coring noise emissions.

2.17.25. The eighth appellant states that the ESIA mentions that the use of explosives will be undertaken during drilling if required, however it offers no mitigation for their use. Given the extremely high risk to marine fauna and flora in the use of explosives, this failure is a gross oversight of the ESIA.

Oil Spill / Well Integrity / Well Abandonment/ Water Quality

2.18. The first, third, fifth, sixth, seventh and eighth appellants submit as follows:

2.18.1. The first appellant states that there is a great risk of oil and fuel spillages and leakages directly into the ocean, killing marine life.

2.18.2. The third appellant contends that oil exploration brings the risk of oil spills, yet the ESIA report does not address this in its risk assessment. The disaster on the Deepwater Horizon that occurred on 20 October 2010, when a semi-submersible offshore oil rig exploded killing 11 people and spilling an estimated 4.9 million barrels of oil into the Gulf

of Mexico, demonstrates that exploration drilling is not completely safe for the environment, the people, and the ocean. Some estimates are that only 2% of the carcasses of mammals killed by the Deepwater Horizon incident have been recovered and that it is considered the largest marine oil spill in the history of the petroleum industry. Given the fact that the testing site is on the Agulhas Current, its potential to bring devastation to the entire South African coast is too high to allow seismic testing to be carried out.

2.18.3. The fifth appellant states that the impacts of crude oil on marine fauna and various marine ecosystems are well documented globally, including its toxicity, impacts through ingestion, waterproofing of birds, suffocation, restriction of locomotion, poisoning and death. These impacts are explained but actual consciousness of consequence in the event of a spill does not come across in the ESIA report and was absent in the EA.

2.18.4. The fifth and seventh appellant note that the EA states that "Most of the potential impacts associated with normal drilling operations range from negligible to low significance with mitigation. The impact of unplanned events such as well blowout range from high to very high, however the occurrence of such events is very unlikely, and the holder has strategies in place to safeguard against the occurrence of such an event. TEEPSA will also have a Blowout Prevention Plan in place that sets out its detailed response plan and intervention strategy to be implemented, should an unplanned well blowout event occurs." The ESIA notes further that the greatest environmental threat from offshore drilling operations is a major spill of crude oil and/or natural gas occurring either from a blowout or loss of well control, and that, although the probability of a blowout occurring is highly unlikely, the impacts of a well blowout, should it occur, range from high to very high significance.

2.18.5. The fifth and seventh appellant highlight this as a major concern and they contend that the EA does not reflect an understanding of the risk associated with drilling in ultradeep waters and is predicated on a ESIA that is legally deficient and factually inaccurate. It

does not appear that the Minister is taking sufficient cognisance of the serious consequences of an activity that is high risk to both the biodiversity, the livelihoods of the coastal communities and the small-scale and commercial fisheries in the area.

2.18.6. The fifth appellant also does not agree with the low probability finding and contends that it is more appropriate to rate the probability of a blowout as moderate, given the number of wells to be drilled (cumulative risk) and the challenging environment they are to be executed in. Even if the probability of a blowout event is low, the significance of the negative impact means that the risk does not outweigh the reward sought. Literature reports of an oil spill model for South African waters, developed by local and international scientists, which presents results for a hypothetical 15-day blowout spill of light crude oil, in support of their submissions was submitted as part of the appeal.

2.18.7. The fifth appellant contends that the significance and impacts of daily/weekly/monthly operational spills caused by routine activities, such as pipe couplings and un-couplings, have been discounted, and that this under-estimation of the quantity of oil released operationally is exacerbated by the frequent occurrence of more "minor spills", which have been inadequately quantified despite records available about this at other sites around the world.

2.18.8. The fifth appellant states that minor spills and their frequency are significant in terms of assessing the impact of biodiversity within areas of significance such as Marine Protected Areas (MPA's), Ecologically and Biologically Sensitive Areas (EBSA's), and Critical Biodiversity Areas (CBA's) where marine fauna and flora are concentrated and extremely vulnerable to soiling. The literature that provides evidence about the impact of small spills has not been adequately considered in the specialist reports. For example, Brussard et al (2016) recorded immediate ecotoxicological effects of short-lived oil spills on marine biota including a decline in certain plankton species and concluded that recurrent small spills are likely to affect marine ecosystem functioning. It is of particular concern for the threatened and endangered species within an area that supports high concentrations of

both plankton and other fauna (fish, birds, cetaceans) up the food chain, which are a key feature within this area, and considering the high risk of oiling (Livas 2023, Feron 2023) on adjacent CBAs, MPAs and EBSAs.

2.18.9. The sixth appellant states that any possibility of an oil spill will have devastating negative effects on their community.

2.18.10. The seventh appellant states that the final ESIA's oil spill analysis fails to comply with NEMA's requirements to analyse the full scope of the impact and risk associated with an activity, for the following reasons:

2.18.10.1. *The ESIA inaccurately and artificially minimizes the risks associated with drilling in ultradeep waters.*

2.18.10.1.1. It is riskier to drill in ultradeep waters since the pressures and temperatures increase with depth. A peer-review study, Muehlenbachs et al 2013, found that the probability of industry-reported serious accidents, fatalities, injuries, explosions, or fires grows by 8.5 percent with every additional 100 feet (~30 m) of depth at which an offshore platform operates. Applying this increased risk percentage to the proposed project would mean that the project—which proposes to drill at depths of up to 3100 m—is 450% riskier than the drilling that occurred at Deepwater Horizon. Since there is additional risk associated with drilling at such depths, the ESIA must analyse and examine that additional risk, however the ESIA instead attempts to minimise it by claiming that the findings of available literature (Muehlenbachs et al 2013, Murawski et al 2020, the U.S. Bureau of Ocean and Energy Management (BOEM)) are not relevant, because the studies examined production drilling and not exploration drilling. This is not a material distinction, particularly since exploratory drilling is considered to be risker than production drilling. The ESIA does not present alternative scientific studies to refute the risk.

2.18.10.1.2. The ESIA also evades analysing the risk of drilling in ultradeep water by stating that the applicant has mitigation measures in place to minimize this risk, however mitigation measures do not obviate the need for a full assessment of the project's impacts *prior* to any mitigation as NEMA requires. If the full scope is not analysed, then the mitigation measures proposed likely will not be applicable or effective. For example, the environmental authorisation requires that "*[i]f the operations are planned to cover the Austral winter period, the oil spill response plan must be enhanced to cover risks associated with shoreline oiling from a well blowout.*" But this mitigation measure is based on an oil spill analysis that only evaluates a blowout at 1500 m of depth. A blowout at 3100 m might include shoreline oiling in different or a wider range of seasons, undermining entirely the effectiveness of this mitigation measure.

2.18.10.2. *The final ESIA fails to analyse or model the impacts from a spill that would occur if oil were released at depths of 3100 m, the deepest well authorized for the project.*

2.18.10.2.1. The ESIA only analyses the impact of a blowout at depths of 1534 m and 1253 m. The ESIA tries to justify its failure by claiming "the modelled Release Points were determined to be the worst-case points for both oil spills and drilling discharges, based on" shortest distance to the coast, water depth, proximity to marine protected areas, and wind and current directions. This statement is false. The ESIA omitted the consideration of water depth when selecting release points to model as is clearly demonstrated in the final ESIA's Oil Spil Modelling Technical Report, which shows that water depth was not a criterion that it considered.

2.18.10.3. *Contrary to the final ESIA's claims, the ESIA does not actually analyse a worst-case blowout scenario.*

2.18.10.3.1. The ESIA fails to analyse the worst-case blowout scenario since it fails to analyse a spill at the deepest point. In addition, the ESIA assumes that a blowout can be contained in a mere 20 days. This capping timeframe is unrealistic and it is unclear how the ESIA arrived at this highly optimistic number. The U.S. National Oceanic and Atmospheric Administration more conservatively assumes that it could take up to 30 days to contain a blowout in the Gulf of Mexico, a region with far more oil and gas infrastructure than South Africa's west coast. The Deepwater Horizon disaster took 87 days to contain. The ESIA claims Deepwater Horizon is not an appropriate benchmark because "The current state of knowledge, available technology and approach to well blowout responses by the drilling industry have advanced since, and because of, the Deepwater Horizon spill event, which occurred in the Gulf of Mexico in April 2010." Even if the technology has advanced, the depth of oil wells drilled have also advanced and the associated risk has therefore also increased. The applicant uses the same 20-day capping timeframe for many of its offshore projects, regardless of well depth or distance from shore. For example, to analyse potential blowouts at the applicant's offshore oil and gas production project in Block 11B/12B, they used the same 20-day timeframe for capping a blowout, even though the Block 11B/12B project is located at significantly shallower depths (up to only 2300 mt as opposed to 3100 m) and is located significantly closer to shore (120 km as opposed to 340 km).

2.18.10.3.2. It is irrational for the ESIA to assume that a blowout at the project site will be capped in only 20 days under a worst-case scenario when 1) the wells are in ultradeep water; 2) the project site is far from shore; and 3) real-world experience demonstrates that capping can take much longer than 20 days, even in less risky conditions than those at the project site. In addition, the final ESIA fails to analyse the impacts of a truly worst-case scenario blowout since it assumes that if a blowout were to occur, the uncapped well would

release an average of 33,375 barrels of oil per day for a period of 20 days. The ESIA thus analyses a potential spill of approximately 667,500 barrels of oil. In contrast, a true worst-case scenario—in the vein of Deepwater Horizon or Ixtoc—would release well over one million barrels of oil into the environment.

2.18.10.4. *The ESIA fails to analyse the cumulative risks of offshore oil and gas development in the region.*

2.18.10.4.1. NEMA defines cumulative impacts as "the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant *when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.*"

2.18.10.4.2. For the proposed project, that includes examining the cumulative risk from current and future offshore drilling. However, the ESIA fails to conduct this cumulative analysis and erroneously asserts that the presence of many other wells in the region minimizes risk: "The probability of a well Blowout occurring is considered to be extremely low. Offshore South Africa, 358 wells have been drilled to date … and no well blowouts have been recorded to date." Likewise, the ESIA notes that the applicant has already drilled wells in Namibia without any accidents. This analysis of risk is flawed for multiple reasons. As an initial matter, it is unclear how many of those 358 wells have been in ultradeep water. In addition, contrary to the implications in the ESIA, risk *increases* with the number of wells drilled and a track record of no blowouts does not diminish the chance of a blowout in the future. Despite these major gaps, the EA states without any further explanation that: "The identification and assessment of potential impacts of the activity, including cumulative impacts, was adequately undertaken". Because the CA's

findings are based on a faulty ESIA, it violates NEMA and the Promotion of Administrative Justice Act (Act. No 3 of 2000) (PAJA).

2.18.10.5. *The final ESIA's oil spill modelling is flawed.*

2.18.10.5.1. The oil spill modelling is flawed because: 1) It fails to adequately factor in northwest wind; 2) it fails to adequately consider climate induced weather changes; 3) it uses Block 5/6/7 to validate model results without adequate explanation; it relies on outdated thresholds of oil toxicity to evaluate harm to fish in the event of a spill; and it fails to evaluate all relevant depths of the water column.

2.18.10.6. *The final ESIA fails to analyse the environmental impact associated with the use of dispersants, even though the proposed project includes the use dispersants in the event of a spill.*

2.18.10.6.1. The ESIA tries to evade this analysis, by claiming that the use of specific dispersants will be developed later, when the applicant develops a full Oil Spill Contingency Plan. This response is not legally relevant. Since the use of dispersants is an environmental impact of the proposed project, the harm associated with dispersants must be analysed in the environmental impact assessment as required by NEMA. Approving this EA without this information contravenes PAJA in that the CA failed to consider relevant considerations.

2.18.11. The seventh appellant avers that the final ESIA does not indicate how it will deal with a multiple block simultaneous blowout scenario, with all authorised projects relying on the same capping equipment based in Saldanha and Aberdeen.

2.18.12. The eighth appellant states that this project has the potential to exclude or reduce catch rates for large pelagic longline fisheries and small-scale fishers for years and could prove catastrophic for some of them. They state that these fishers spend most of their time at

sea searching for fish with actual fishing events taking place over a relatively short period of time and that these fishers will be severely disadvantaged being unable to work in their operational areas. They contend that the significance of impact of both cumulative effects and extended duration should be considered high and compensation for loss of income must be established through a Cost Benefit Analysis.

2.18.13. The eighth appellant avers that the ESIA fails to assess the social and economic costs resulting from a major oil spill arising from an uncontrolled wellhead blowout. The consequences of a blowout, or accidental release, of oil and/or gas (or associated materials), to the tourism, fisheries and recreational industries have not been properly considered especially in the light of compensation for loss of income. At the very least, the implications of the surrounding MPAs, CBAs and EBSAs on the sustainability of the ocean and coastal fisheries should be explored. The ESIA assures the CA that the applicant ensures that damages and compensation to third parties are included in insurance cover to financially manage the consequences of any unplanned event, but it also states that "*In the event of an unplanned event (i.e. such as a well blow-out) occurring, a process of determining the economic effects and related compensation would be initiated.*" Without a cost-benefit analysis, the compensation amount used for insurances purposes is therefore unreliable and the ESIA has failed to properly inform the CA for decision-making.

2.18.14. The eighth appellant states that the greatest threat to the environment from offshore oil and gas operations is an unplanned, major oil spill (or blowout), the impacts of which are documented globally, however, the ESIA fails to make the consequences and impacts of an event such as this clear to the public. They contend that the Oil Spill Modelling (OSM) is inadequate.

2.18.15. There is a fatal flaw to the OSM, which is only modelled for 20 days of release, and this should have been extended for the full 60 days and the 60 days should be 120 days, extrapolating on the specialist's (HES Expertise Services) same ratio. The modelling of

only 20 days throws doubt on the confidence of the specialist's modelling for such an extended and more realistic period. The eighth appellant refers to the applicant's assurances that an event such as Deep-Water Horizon would never happen again and asserts that the Deep-Water Horizon incident occurred because of a blasé attitude towards the risk of an unplanned event.

2.18.16. The eighth appellant avers that a different OSM by Feron et al 2023 estimates a much larger impact surface area, which is likely due to the use of different ecological thresholds (1 µm vs 10 µm), and an extremely high biodegradation rate applied in the HES model, making HES's modelled oil in the ESIA far less persistent and less sensitive. The oil modelling in the ESIA is based on South East winds and did not consider the basic long term wind rose for Port Nolloth, which shows that NW-WNW winds are frequent, having a major impact of the oil slick movement. An oil spill during a North Wester could impact the closest bird breeding islands namely, Bird Island in Lambert's Bay, the Saldanha Bay islands, Dassen Island, affecting the colonies of approximately 15 species bred in southern Africa, including Cape Gannet, African Penguin, African Black Oystercatcher, various Cormorants, White Pelicans, Gulls and Terns. Wind-forcing in non-dominant winds, and the bottom currents in the Morholtz study of 2008 (which shows that both the meridional and the cross-shelf circulation undergo a distinct seasonal cycle in both summer and winter), have also not been considered, and the OSM has not taken swell into consideration in the plume movement.

2.18.17. The eighth appellant states that the ESIA offers inadequate mitigation measures in suggesting that the applicant avoid scheduling drilling operations during the periods when the likelihood of shoreline oiling for a blowout is highest (namely the Austral Winter). Cold fronts can pass through the DWOB Block area at any time from late March / early April until September, as meteorologists have seen in recent years. In addition, the ESIA has not considered delayed drilling, which continues well into summer, given the timeline for drilling each single well is 3-4 months.

2.18.18. The eighth appellant states that the HES model considers that dispersants will be applied to help mitigate the impact of the spill. HES assumes that a Subsea Dispersant Injection Kit (SSDI) will be deployed after the 15th day, as well as surface dispersion with 2 aircraft for chemical dispersion operations, 10 vessels for chemical dispersion operations and 5 pairs of vessels for containment and recovery operations. It is highly unlikely that all these measures (2 aircraft and 20 vessels) will be able to be deployed in time to prevent the oil from reaching sensitive biodiversity, MPAs and important fishery areas. The applicant's presumption of the immediate mobilisation of these vessels and aircraft simply cannot be guaranteed. This is a fatal flaw of the OSM in the ESIA and it has therefore not considered the worst possible scenario.

2.18.19. The eighth appellant avers that the ESIA fails to mitigate or create contingency plans in the event of a fire or explosions. They refer to the Chevron Nigeria Limited explosion of January 2012 and the Gunashli oilfield disaster of December 2015 and state that these are indicators of the dire need for proper mitigation planning.

2.18.20. The eighth appellant states that the ESIA has not provided I&APs with a list of dispersants, neither has it provided an explanation of their chemical components, toxicity, potential for bioaccumulation, and ecological impacts through the water column and on the shoreline. The ESIA fails to provide an assessment of onshore environment and mitigation in the case of predicted oil pollution touching the coast near the border. Buried oil contaminants can resurface as the beach erodes and buried oil must be removed through mechanical excavation. It is a flaw that the ESIA has not provided detailed modelling of cross-shore distribution of oil contaminants relating to beach morphodynamic terminology to help optimise beach clean-up planning. The ESIA fails to include the possibility of more than one accidental release event.

2.18.21. The eighth appellant avers that the ESIA fails to address the impacts of operational spills, minor spills, and an unplanned blowout (despite the standard mitigation) that risks oiling to many protected, or threatened, pelagic bird species, which have the highest

sensitivities to unplanned events, and which are known to occur at their highest densities offshore of the shelf break, and therefore are likely to occur within the proposed Area of Interest.

2.18.22. The eighth appellant avers that any oil spilled in the marine environment would have an immediate detrimental effect on water quality, with the toxic effects potentially resulting in the mortality of various marine animals and /or affecting animals and ecosystem health. and would influence fishing operations, both commercial, small scale and recreational. In the event of a large oil spill, assuming the worst-case scenario of coastal oiling, the residual impact on marine and coastal ecology and nearshore users will be of Very High significance and the residual impact on offshore fishing would be of High significance. This risk out-weighs the need and desirability of the project and is in contravention of the environmental duty of care imposed by section 28(1) of NEMA.

2.18.23. The seventh appellant avers that the NEM:ICMA requires the CA to manage any activity in coastal waters in accordance with the Republic's obligations under international law. South Africa has two key obligations with respect to environmental authorisations for coastal activities with transboundary impacts: first, the CA must ensure that any transboundary impacts are adequately assessed and second, the CA must consult with any other relevant authorities. The ESIA recognises the possibility of a transboundary oil spill (the oil spill modelling found that, in the event of a well blowout, the oil slick would spread into Namibia and International waters beyond the EEZ and thus be of international extent), however it fails to consider any non-domestic impacts.

2.18.24. The seventh appellant avers that the ESIA arbitrarily constrains its assessment of oil spill impacts at the South African border. For example, the ESIA's Socio-Economic Assessment concluded that the social impacts of a spill reaching the coast would be international in extent and are therefore considered to be of very high significance, but never assessed impacts specific to Namibian communities. The oil spill impact magnitude analysis considered impacts to South African coastal tourism, South African coastlines,

South African fishing revenue, and South African GDP without doing the same for Namibia. The appellant states that given that the Namibian economy is roughly 1/30th the size of South Africa's, the socio-economic consequences of oil spill impacts on fisheries, ecology, and tourism cannot be equated.

2.18.25. The International Court of Justice's decision in the Pulp Mills case establishes that the assessment of transboundary impacts is not solely a treaty-based obligation, but a requirement under general international law. They state that this decision, taking into account Principle 17 of the Rio Declaration on Environment and Development and Article 7 of the International Law Commission's draft articles on transboundary harm, confirms that a transboundary EIA should be conducted before implementing a project that may cause significant harm across borders.

2.18.26. The eighth appellant states that the ESIA fails to consider cross-border mitigation, and any agreements with Namibia.

APPLICANT'S RESPONSE

2.19. In its comments to this ground of appeal, the applicant responds as follows:

Marine Ecology and Avifauna

2.19.1. All of the appeals include broad, unsubstantiated objections to the proposed project that neither dispute nor discredit any of the findings contained in the Marine Faunal Specialist Assessment Report attached to the ESIA report as Appendix 12. As such, there is no evidence to suggest that the nature and extent of the impacts considered and assessed in the Marine Ecology Report are incorrect or that the mitigation measures proposed in the Marine Ecology Report do not adequately and suitably mitigate the impacts that may arise.

2.19.2. Whilst the impact of such a well blowout will be high, the risk of a well blowout is exceptionally unlikely and extensive preventive and mitigation measures have been provided. Consequently, this ground of appeal should not be afforded a disproportionate weight to the actual risk of such events occurring.

2.19.3. The Marine Ecology Report clearly demonstrates that all impacts associated with normal operations were considered and assessed and found not to have a significant impact on the marine environment. These findings and impacts are as follows:

2.19.3.1. Routine operational discharges to sea:

2.19.3.1.1. Discharges from vessels (deck drainage, grey water and sewage, bilge water drainage, food waste, cooling water and freshwater surplus) will impact water quality both during transit and within the area of interest during the drilling activities, which may have a direct impact on marine fauna.

2.19.3.1.2. The nature and extent of this impact can be mitigated by vessels complying with the discharge requirements under MARPOL[2] 73/78 and a waste and discharge management plan that will need to be developed.

2.19.3.1.3. The waste discharging activities will take place primarily within the area of interest or the route that the support vessels traverse between drill sites and Cape Town / Saldanha.

2.19.3.1.4. The area of interest is 188km offshore at its nearest point and far removed from coastal MPAs and any sensitive coastal receptors (e.g. key faunal breeding/feeding areas, bird and seal colonies etc). There is also no overlap between the area of interest and MPAs and EBSAs. The closest MPA is 12km away and the closest EBSA is 4km away.

2.19.3.1.5. The taxa most vulnerable to the operational discharges are pelagic seabirds, turtles and large pelagic migratory fish and marine mammals. Although some of these species may be critically endangered or

2 International Convention for the Prevention of Pollution from Ships.

endangered, compliance with MARPOL will ensure reduced discharges and reduced sensitivity of marine fauna.

2.19.3.1.6. The overall sensitivity is therefore considered to be medium. Based on the relatively small discharge volumes and compliance with MARPOL standards, offshore location and high energy sea conditions, the potential impact of normal discharges from the project vessels / drilling unit will be of very low intensity, short-term duration and regional (although localized at any one time around the project vessels). Therefore, even before mitigation, the impact is considered to be **very low**.

2.19.3.2. Discharge of ballast water from vessels:

2.19.3.2.1. The vessels will result in the discharge of ballast water and the potential introduction of alien invasive species.

2.19.3.2.2. Ballast water discharged will follow the requirements of the International Maritime Organisation's (IMO) 2004 International Convention for the Control and Management of Ship's Ballast Water and Sediments. The discharge of ballast water from the drill rig and possible support vessels would take place in the vicinity of the drill area, but at least 93km from the coast as per the IMO requirements, far removed from any sensitive coastal receptors.

2.19.3.2.3. Due to the water depths in the area of interest, colonization of invasive species on the seabed is considered **unlikely**. The sensitivity of benthic receptors is considered **very low.**

2.19.3.2.4. Considering the remote location of the drill and compliance with the IMO guidelines for ballast water, the impact related to the introduction of alien invasive marine species is considered of medium intensity in the short-term and regional in extent. As a result, the magnitude of the impact is considered **low**.

2.19.3.2.5. The potential for introduction of non-native species through hull fouling or ballast water discharge is deemed to be of **very low** significance, due to the **low** sensitivity of the impact. Once the mitigation measures proposed in the

ESIA report are implemented, the impact would be reduced to a **very low** magnitude, and it shall be of **negligible** significance.

2.19.3.3. Lighting from drill units and vessels:

2.19.3.3.1. The operational lighting of support vessels during transit and well-drilling can be a significant source of artificial light in the offshore environment, increasing the ambient lighting in offshore areas.

2.19.3.3.2. The strong operational lighting used to illuminate the project vessels, and especially the drill rig at night, increase ambient lighting of offshore areas, which may disturb and disorientate pelagic seabirds feeding in the area.

2.19.3.3.3. Operational lights may also result in physiological and behavioural effects on fish and cephalopods.

2.19.3.3.4. Contractors will be required to comply with industry best practice regarding lighting to ensure minimal impact but also maintaining sufficient lighting for safe operations.

2.19.3.3.5. The drilling activities will be undertaken in the offshore marine environment, 188km from the shore at its closest point and thus far removed from any sensitive coastal receptors (e.g. bird or seal colonies) and range of most coastal seabirds, but could still directly affect some coastal species and migratory pelagic species (pelagic seabirds, marine mammals and fish) transiting through the licence area / drill area as well as coastal species during vessel transit to port.

2.19.3.3.6. The taxa most vulnerable to ambient lighting are pelagic seabirds, although turtles, large migratory pelagic fish, and both migratory and resident cetaceans transiting through the drilling area may also be affected. Although species listed as "critically endangered" or "endangered" may potentially occur in the drill area, the area of interest is in a main marine traffic route and thus is in an area already experiencing increased operations. The overall sensitivity is **medium**.

2.19.3.3.7. Due to the proximity of the drilling area to the main traffic routes, the increase in ambient lighting in the offshore environment would be of low intensity and limited to the area in the immediate vicinity of the vessel/drilling unit within the drill area over a short-term.

2.19.3.3.8. The potential for behavioural disturbance because of vessel lighting is rated as being **very low**. With the implementation of the mitigation measures above, the residual impact would remain **very low**.

2.19.3.4. Drilling and placement of infrastructure on the seafloor:

2.19.3.4.1. The project activities will result in impacts to benthic biota because of the disturbance of seabed sediments. These activities include:

a) The operations from using a ROV.

b) Sediment displacement around the well during the initial open hole section of the well whereby drill cuttings from the well settles around the well.

c) Casing and cementing the structural conductor prior to installation of the wellhead and BOP would also result in localized direct disturbance around the well site.

d) Before the demobilization, the wells are properly plugged and abandoned then BOPs would be removed.

2.19.3.4.2. Cement would be used to plug the wells. Any benthic biota in the footprint of the ROV skids or equipment lost to the seabed would either be disturbed or crushed or eliminated. Drilling of exploration wells in the area of interest would result in the direct physical disturbance and removal of sediments, with potential changes in sediment characteristics.

2.19.3.4.3. Based on pre-drilling ROV surveys, the wells will be sited to avoid sensitive hardgrounds, as the preference will be to have a level surface area to facilitate spudding and installation of the wellhead. The drilling activities will be undertaken offshore where the Southeast Atlantic Unclassified Slope

habitat has been classified as "Least Threatened" due to the expansive areas they occupy.

2.19.3.4.4. The sensitivity of the benthic communities in the unconsolidated sediments is considered to be **low**. In contrast, the benthos of deep-water hard substrata is typically vulnerable to disturbance due to their long generation times. Should they occur in the Area of Interest, the sensitivity of such deep-water reef communities to physical disturbance are considered high.

2.19.3.4.5. The magnitude of the disturbance to benthic communities because of both the ROV operations and the spudding and associated works would be site specific, short term and **very low**. Due to the **low sensitivity** of the receptors and the **very low magnitude** for each of the impacts considered above, the disturbance of sediments and potential loss of associated benthic communities is deemed to be **negligible**. The potential impacts cannot be eliminated due to the necessity for pre-drilling ROV seabed surveys and spudding. The impacts thus remain of **very low** significance for spudding and **negligible** for increased seabed turbidity for the ROV surveys.

2.19.3.5. Discharge of cement, cuttings (unconsolidated sediments and hard substrata) and drilling fluids:

2.19.3.5.1. The project activities that will result in impacts to benthic biota because of sediment and smothering by accumulation of cement, drill cuttings and drilling fluids.

2.19.3.5.2. The cuttings and Water Based Muds (WBMs) from the well are discharged onto the sea floor at the wellbore where they would accumulate in a conical pile, smothering or crushing invertebrate benthic communities living on the seabed.

2.19.3.5.3. Cutting and associated Non-aqueous Drilling Fluids (NADF) drilling muds discharged from the drill rig would disperse and settle over a wider area

around the wellhead resulting in changes in sediment structure and community composition within the fall out footprint of the cuttings plume.

2.19.3.5.4. The discharge of residual cement during cementing of the first string (surface casing) would result in accumulation of cement or suffer indirect toxicity and bioaccumulation effects due to leaching of potentially toxic cement additives.

2.19.3.5.5. The following controls will be implemented:

a) the wells will be sited to avoid sensitive or potentially vulnerable hardground habitats;

b) should WBMs not be able to provide the necessary characteristics for drilling during the risered stage, a low toxicity Group III NADF will be used for drilling during the risered stage;

c) discharge of risered cuttings via a caisson greater than 10m below surface to reduce dispersion of the cuttings in surface currents.

2.19.3.5.6. The magnitude of smothering of unconsolidated sediments:

a) The drilling discharges are located in the mid- and lower slope habitats rated "least threatened". The depositional footprints are also highly localized, and overlap of concentrations of total discharge in the superficial layers of seabed sediment with any potential sensitive ecosystem types would be **negligible**.

b) The smothering effects resulting from the discharge of drilling solids is of medium intensity on the benthic macrofauna of unconsolidated sediments in the cutting footprint due to higher deposit thickness and grainsize variations associated with riserless discharges.

c) Mortality of fauna is expected where the thickness of the drilling solids is >30mm. However, this is only expected within a few metres of the well bore.

d) Discharges from the drilling unit would have a **low** intensity impact as the depositional footprint would have a considerably lower deposit thickness but spread over a larger area. This impact is **highly**

localized in respect of the wellbore, whereas discharges from the drilling unit would have local impacts (up to 5.6km west-northwest from the well).

e) As the sediment structure would persist for up to 10 years, the recovery of benthic communities to functional similarity is expected to occur within the long term. As a result, the impact from riserless and risered drilling is **medium**.

f) Given the **low sensitivity** of the receptors, the impact is considered of **low significance**. However, the potential smothering effects of drilling discharges on deep-water reef communities (should they occur) would be high due to the high sensitivity of the biota and the high magnitude of impact.

2.19.3.5.7. Magnitude of smothering of sensitive hard substrata:

a) Considering the avoidance of possible hardgrounds through the ROV survey, the wells would be sited in unconsolidated sediments beyond the shelf edge. Modelling shows that the deposition footprint extends primarily in a north-west and west-northwest direction away from the drill sites, and the vulnerable ecosystem types along the shelf edge. At both discharge points, however, the depositional footprints overlap with the Orange Seamount and Canyon Complex EBSA. In no case are the depositional footprints extensive enough to influence the Orange Shelf edge or the Child's Bank MPAs. The riserless drilling stage is unlikely to affect sensitive hardgrounds. If the cuttings footprint overlaps with vulnerable communities on hard substrates the smothering effects would be a localized impact of high intensity. Recovery would only occur in the long term and as such it is expected to be of a **high** magnitude.

b) The smothering effects of reef communities will be of **high** significance due to the sensitivity of the biota.

2.19.3.6. Discharge of cement, cuttings and drilling fluids (seabed and water column toxicity and bioaccumulation effects on marine biota):

2.19.3.6.1. As in the case with the unconsolidated sediments, the receptors of cement and drilling fluids and cuttings are expected to be of **low** sensitivity.

2.19.3.6.2. The sensitivity of deepwater communities is **high**, however, the Area of Interest for drilling has specifically been planned to **avoid** such sensitive habitats.

2.19.3.6.3. Although chemical additives are used in the cementing programme, they typically have low toxicity to marine life and dilution is expected to be rapid. In respect of the riserless section WBMs will be used. These are relatively inert but may contribute small amounts of trace metals/hydrocarbons. For the risered sections, NADFs will be used. Some of the chemicals in the NADF may be hazardous to the marine environment. The risk related to the sections drilled with the riser is much higher than the potential risk induced by the riserless sections due to the chemicals in the drilling muds.

2.19.3.6.4. The potential toxic effects of drilling muds on marine benthic communities and associated food chain or the potential for bioaccumulation of mud constituents is considered **low intensity** for cement and WBMs (riserless stage) and high intensity for NADF's (risered stage) as sensitive and potentially vulnerable habitats in the CBAs or the EBSA to the north of the area of interest could be impacted.

2.19.3.6.5. The intensity of the impact on the water column is low as the Block lies well offshore of the egg larval distribution of commercial fish species. This impact is localized. Chemicals released during the risered drilling stages and absorbed into the cutting contribute minimally to the environmental risk to the water column as most of the NADF is recycled.

2.19.3.6.6. Rapid dilution of these constituents ensures that impacts would persist only for a short time in the water column. Due to the short duration and localized nature of the risk, nearby sensitive areas are **not affected**.

2.19.3.6.7. For communities in unconsolidated sediments and on hardgrounds, the residual impact on marine fauna will have a **lower intensity**, and the significance of residual impacts would reduce to negligible significance in respect of the unconsolidated sediments and medium significance (sensitive hardgrounds, EBSAs and CBAs) but remain **negligible** in the water column.

2.19.3.7. Increased water turbidity and reduced light penetration on marine ecology:

2.19.3.7.1. Cuttings discharged from the drill rig would lead to increased water turbidity and reduced light penetration resulting in both direct and indirect effects on primary producers (phytoplankton) in surface waters, and direct effects on pelagic fish and invertebrate communities in the water column. The heavier cuttings will settle on the seabed.

2.19.3.7.2. The finer components of the surface discharge generate a plume in the upper water column, which is dispersed away from the drilling unit by prevailing currents, diluting rapidly to background levels at increasing distances from the drilling unit.

2.19.3.7.3. Increased turbidity near the surface may limit light penetration thereby negatively affecting primary productivity by phytoplankton communities. In contrast, increased turbidity near the seabed may have direct physiological effects on filter feeding organisms and indirect effects on predation success of demersal species.

2.19.3.7.4. The taxa vulnerable to increased turbidity and reduced light penetration are phytoplankton. Due to the location of the drilling site, phytoplankton and pelagic fish is expected to be low. Plankton abundance is typically spatially and temporally highly variable and is thus considered to be of **low sensitivity**. The major spawning areas are all located on the continental shelf, inshore of the area of interest. Phytoplankton and ichthyoplankton are of **low sensitivity**, as any potential overlap of turbid water plumes

generated during cutting disposal on phytoplankton and ichthyoplankton production, fish migration and spawning areas in the area is **negligible**.

2.19.3.7.5. Overall, the sensitivity to turbidity is **low** with respect to benthos in unconsolidated sediments and deep-water hard grounds. The impact of increased turbidity in the water column and elevated suspended sediment concentrations around the wellbore would thus be of low intensity as dispersion will be rapid, and concentrations are expected to be sub-lethal and would be easily tolerated by marine fauna. Impacts would persist only over the very **short term** and would be **localized**. The biochemical impact of reduced water quality through increased turbidity is therefore considered to be of a **very low magnitude**.

2.19.3.7.6. Due to the **low sensitivity** of receptors expected in the offshore pelagic and soft-sediment benthic environment and the very low magnitude, the impact is deemed to be of **negligible** significance. In the case of benthic communities from deep-water hard grounds, the sensitivity to increased turbidity is also considered to be **low**, despite their high sensitivity to physical disturbance. The impact of increased turbidity on deep-water reef communities is therefore also negligible.

2.19.3.8. Reduced physiological functioning of marine organisms due to indirect biochemical effects in the sediments:

2.19.3.8.1. An indirect impact associated with cuttings disposal is the potential development of hypoxic conditions in the near-surface layers through bacterial decomposition of organic matter.

2.19.3.8.2. As offshore drilling will occur in areas of **least concern**, biota can be expected to be well adapted to periodic low oxygen conditions and consequently receptors can be considered of **low sensitivity**.

2.19.3.8.3. Development of anoxic conditions beneath re-deposited riserless and risered cuttings is due to high deposition thickness close to the wellbore and discharge point and the use of chemicals in the NADFs with low

biodegradation rates. The results of the modelling study indicated that although there was no significant risk in changes in oxygen concentrations in the sediments at the end of drilling operations, these manifested over the longer term, contributing up to a maximum of 25% of the risk after 10 years. Due to the low deposition thickness (0.1mm) predicted in the cutting's fallout footprint for distances beyond 2 000m from the modelled location, the development of anoxic conditions beneath re-deposited cuttings beyond 2km is highly unlikely. Anoxic conditions are thus limited to the area of maximum deposit thickness of the cuttings pile around the wellbore, where they would have an impact of low intensity on benthic macrofauna as deep-water communities typically show a degree of tolerance to hypoxic sediment conditions, with recovery expected over the short term due to bioturbation. The impact is thus considered to be very low. Due to the low sensitivity of the receptors expected in the offshore soft-sediments environment and the low magnitude, the impact is deemed to be of **very low** significance.

2.19.3.9. Presence of subsea structure:

2.19.3.9.1. Placement of wellheads on the seabed and subsequent abandonment provide islands of hard substrata in otherwise uniform area of unconsolidated sediments.

2.19.3.9.2. Although the impact is direct, it can be considered **neutral**.

2.19.3.9.3. No rare or endangered species have been reported or are known from the continental slope unconsolidated sediments. The sensitivity of the benthic communities of unconsolidated sediments is therefore considered **low**.

2.19.3.9.4. The increase or modification of a site's biodiversity (neutral impact) due to the presence of subsea structures would be considered a secondary impact of **low intensity**. The impact would be highly **localized**. The applicant has indicated that the wellheads would be abandoned, the impact would be permanent, resulting in the magnitude of the impact being **low**. However, if

the wellheads were removed upon abandonment, the duration would be **short-term** and the magnitude **very low**.

2.19.3.9.5. Due to the **low sensitivity** of benthic communities of unconsolidated sediments and the **low** (well abandonment) to very low (wellhead removal) magnitude of the impact, the presence of subsea structures on seabed biodiversity is deemed to be **negligible** (wellhead removal) or **very low** (well abandonment).

2.19.3.10. Well testing:

2.19.3.10.1. Flaring during well testing produces a flame of intense light and heat at the drill unit.

2.19.3.10.2. Increased ambient lighting may disturb and disorientate pelagic seabirds feeding in the area (direct negative impact). This increased lighting may also result in indirect physiological and behavioural effects on fish and cephalopods, as these may be drawn to the lights at night where they may more easily be preyed upon by other fish and seabirds.

2.19.3.10.3. If water flows during well testing, the hydrocarbon component will be separated and piped to a flare boom where it would be incinerated, while the water will be treated and possibly discharged. This product water contains hydrocarbons, which if released overboard without treatment would have toxic effects on marine fauna.

2.19.3.10.4. Inefficient combustion of hydrocarbons during flaring can result in the release of unburnt hydrocarbon, which 'drop-out' onto the sea surface and may form a visible sheen of oil.

2.19.3.10.5. Flaring during well testing could directly and indirectly affect migratory pelagic species transiting through the area of interest. Many of these species may be critically endangered, endangered, vulnerable or near threatened. Although species may be critically endangered or endangered, the Area of Interest is in a main marine traffic route and thus is in an area

already experiencing increased marine traffic and operational lighting. The sensitivity on receptors is therefore considered to be **medium**.

2.19.3.10.6. The increase in ambient lighting in the offshore environment due to flaring would be of **low** intensity and limited to the area of the immediate vicinity of the drill rig over the **short-term**.

2.19.3.10.7. The potential for behavioural disturbance because of flaring would thus be of **very low** magnitude.

2.19.3.10.8. Overboard discharge of treated product water would also be of **very low** magnitude and intensity.

2.19.3.10.9. Similarly, the impact of hydrocarbon "drop-out" during flaring would also be of a **low intensity** and a **very low** magnitude.

2.19.3.11. Well Plugging and abandonment (**P&A**)

2.19.3.11.1. Plugging

a) The applicant is fully aware of well integrity risks, and therefore puts utmost stringent processes and verification means to ensure that once a well is drilled to its intended depth and after data acquisition, the well abandonment process is constructed in accordance with industry standards, and barriers installed to prevent flow to underground reservoirs or to the surface are tested. The applicant's Well Integrity Management and P&A rules builds on the highest standards available such as ISO 16530-1 standard, Norsok standard D-010 or the UK Oil & Gas guidelines.

b) The statistics available from publicly available literature (IOGP 434-02) show that for wells that have been properly abandoned there are no records of blowouts. The applicant's policies and standards for well abandonment is in line with the most stringent regulations in the North Sea region and GOM.

c) The process relies on setting cement plugs into the well long enough to provide an effective seal well below the wellhead and the mud line.

Two barriers are installed above any reservoirs for redundancy and cement behind the casing is logged to ensure the final barrier across the well encapsulates any steel into the cement across the well.

d) If gauges are installed into the well for the purpose of downhole monitoring, then the barriers for well abandonment are placed above the installed gauges. The monitoring phase continues for a few days after the well is effectively abandoned and can be achieved across the installed permanent barriers with no impact on the final well abandonment process.

e) The well abandonment is realized deep into the wellbore and below the wellhead installed. The well is deemed properly abandoned only after those barriers have been properly installed and verified.

f) International widely accepted standards are reliant on cement for final abandonment. Mechanical barriers are not accepted as they are bound to deteriorate over time.

g) The wellhead left in place on the sea floor does not have any bearing on the abandonment status since the cement barriers installed are set deep enough below the wellhead to ensure that any flow is stopped well below the surface. The wellhead does not constitute a barrier element of the abandoned well. Keeping the wellhead in place and intact instead of removing it also allows for re-entry into the well to remedy and correct anomalies.

h) The removal of the wellhead is therefore not mandatory for the deepwater environment. This is a requirement only for shallower water depth (< 800 m), if the well is to be permanently abandoned, to avoid damages to fishing nets. Wells suspended for future re-entry will have an over-trawlable trawler protection frame installed above the well; this is in order to avoid damage to either wellhead equipment or fishing nets.

i) For the Block, the exploration well area of application is between 750m - 3 100m of water. The applicant will install a protection frame above the wellhead left in place, in line with local requirements.

2.19.3.11.2. The over-trawlable abandonment cap

a) The statement in the environmental authorisation that the well-head must be fitted with "an over-trawlable abandonment cap, if it is deemed safe to do" is unfortunate. The correct wording is: "Where it is deemed safe, the wellhead will be left in place on the seafloor and fitted with an over-trawlable abandonment cap." If it is not deemed safe for the wellhead to be left in place, it will be removed in situ. The "safety" relates to other users of the sea (i.e. fishing gear) and not to the safety of the wellhead. The well head (whether left *in situ* or removed) has no bearing on the integrity of the well plugging which is done downhole in the well itself at various depths and levels. From this, it is evident that the "safety" relates to whether the well will be capped and left *in situ* or removed. The over-trawlable structure that is placed over the wellhead if left *in situ* is therefore to protect fishing gear from getting damaged and not to protect the wellhead.

2.19.3.12. Vessel strikes:

2.19.3.12.1. During the passage of the drill rig and support vessels to and from the Area of Interest there may be collisions with turtles or marine mammals. The overall sensitivity is **high** based on the potential species that may be affected.

2.19.3.12.2. If a strike occurs, the impact would be of a **high intensity for individuals but low intensity for the population**. Furthermore, the duration of the impact will be **short-term** and restricted to the area of interest and to/from port. The potential of ship strikes is therefore considered to have a **very low** magnitude and a **low significance**.

2.19.3.13. Accidental oil release to sea due to vessel collisions, bunkering and line/pipe rupture:

2.19.3.13.1. In the unlikely event of an operational spill or a spill from a vessel collision, the intensity of the impact would depend on whether the spill occurred in offshore water were encounters with pelagic seabirds, turtles and marine mammals would be **low** due to their extensive distribution ranges, or whether the spill occurred closer to shore where encounters with sensitive receptors will be **higher**.

2.19.3.13.2. Due to the dominant winds and currents in the Area of Interest, a diesel slick would be blown as a narrow plume extending in a north westerly direction. The diesel would most likely remain at the surface for several days with a **negligible** probability of reaching sensitive coastal habitats.

2.19.3.13.3. In offshore environments, impacts associated with a spill or vessel collision would thus be of **low intensity**, regional and over a **short term**. The magnitude of the impact would therefore be **very low**. If the spill is *en route* to the drill area, the spill may extend to MPAs and reach the shore affecting intertidal and shallow subtidal benthos and sensitive coastal bird species, in which case the intensity would be considered **high** but **remaining local** over the medium term. The magnitude would be **medium**. If mitigation measures are implemented, this impact can be reduced to a **low significance**.

2.19.4. It is evident from the above that in most instances, the extent of the impact is considered "**low**", "**localized**" and "**short term**". The appellants have failed to provide adequate evidence to demonstrate that the proposed project will cause significant environmental harm on ecosystems, habitats, species of fish and mammals.

2.19.5. Furthermore, the risk of a well blowout is extremely **low**. In fact, there have been none in South African waters and globally no Surface blowouts for deep offshore drilling since the Deep Water Horizon incident in the Gulf of Mexico (2010). All the examples provided

of oil spills have occurred in other territories and both the technology and mitigation measures have significantly improved since the occurrence of those spills. Furthermore, the appellants have not provided any evidence which demonstrates that a) any of those cases are like the proposed project; and/or b) the fact that there is an extremely low risk of a well blowout at the project is unwarranted.

2.19.6. The impact of the project on migratory pathways is dealt with in detail throughout the ESIA which notes that:

2.19.6.1. There is **no overlap** of the DWOB Licence Block with the northward egg and larval drift of commercially important species, and the return migration of recruits (page xviii and 166 of the ESIA).

2.19.6.2. Small pelagic species generally occur within the 200m contour and thus are likely to only be encountered in the south-eastern inshore portion of the project area. Most of the pelagic species exhibit similar migration between the west and south coasts. The spawning area of most pelagic species are distributed on the continental shelf and along the shelf edge extending from south of St Helana Bay to Mossel Bay on the South Coast. They spawn downstream of major upwelling centres in spring and summer, and their eggs and larvae are subsequently carried around Cape Point and up the coast in northward flowing surface waters. At the start of winter, juveniles of most small pelagic shoaling species recruit into coastal waters in large numbers between the Orange River and Cape Columbine. They recruit in the pelagic stage, across broad stretches of the shelf, to utilise the shallow shelf region as nursery grounds before gradually moving southwards in the inshore southerly flowing surface current, towards the major spawning grounds east of Cape Point. The seasonal snoek and chub mackerel migrations occur nearshore, **inshore of the Area of Interest** (page xxiv and 170 of the ESIA).

2.19.6.3. The fish most likely to be encountered on the shelf, beyond the shelf breach and in the offshore waters of the DWOB Licence Block are the large

migratory pelagic species, including various tunas, billfish and sharks. These large pelagic species migrate throughout the southern oceans and have a highly seasonal abundance in Benguela. Species occurring off western southern Africa include longfin tuna, yellowfin tuna, pelamis tunas, Atlantic blue marlin, white marlin and the broadbill swordfish. The distribution of these species is dependent on food availability in the mixed boundary layer between the Benguela and warm central Atlantic waters. Species of pelagic sharks are also known to occur on the West Coast. Using the Benguela drift in a north-westly direction, it is **likely** that juveniles from the parturition off the south-western Cape would **migrate through the DWOB Licence Block** *en route* to South America (pages 170 – 172 of the ESIA).

2.19.6.4. Satellite tagging of loggerhead turtles suggest that they seldom occur west of Cape Agulhas, however, one has been spotted in the DWOB Licence Block. The migration corridors of leatherback turtles vis-à-vis the DWOB Licence Block are set out on page 176 of the ESIA Report. It is evident from this diagram that the **migratory pathways do not overlap with the Area of Interest**. As a result, the abundance of leatherback turtles in the DWOB Licence Block is expected to be **low**.

2.19.6.5. In respect of marine mammals, the majority of mysticete whale species occur in pelagic waters with only occasional visits to shelf waters. All of these species show some degree of migration either to or through the latitudes encompassed by the broader project area when *en route* between higher latitude feeding grounds and lower latitude breeding grounds. Depending on the ultimate location of these feeding and breeding grounds, seasonality may either be unimodal, usually in winter months, or bimodal, reflecting a northward and southward migration through the area. Northward and southward migrations may take place at different distances from the coast due to whales following geographic or oceanographic features, thereby influencing the seasonality of occurrence at different locations. The

ESIA discusses the migration patterns of the mysticete whales occurring in the broader project area in detail at pages 186 – 190 of the ESIA; and odontocetes whales and dolphins occurring in the broader project area in detail at pages 190 – 195 of the ESIA.

2.19.6.6. Important Marine Mammal Areas (IMMA) (of which migration routes are one of the criteria in recognising such areas) are considered and assessed at pages 221 and 222 of the ESIA. In particular, the Southern Coastal and Shelf Water of South Africa IMMA which covers the sardine run and marine predators that follow and feed on the migrating schools and the South East African Coastal Migration Corridor IMMA extending from Cape Agulhas to Mozambique which serves as the primary migration route for the southern hemisphere Humpback whales.

2.19.6.7. The impacts of helicopter noise on the migration route of the Southern Right whales are considered and assessed at page 310 of the ESIA.

2.19.6.8. The impacts of cutting, drilling fluid and cement discharges on fish migration routes is considered and assessed at page 328 of the ESIA and considered to be negligible.

2.19.6.9. The impacts of cutting, drilling fluids and cement on benthic species including their migration routes are considered at pages 329 – 335 of the ESIA report. The ability for species to migrate vertically through the deposited sediment depends on their ability to migrate faster than the deposition rate of the sediment and whether the sediment is of a similar texture (fine / course) to the receiving environment. The impact on these communities that reside in unconsolidated sediments, the residual impact after mitigation measures is implemented is **low** and in respect of those communities that reside on hardground substrates, should any be present within the affected area, the residual impact after mitigation measures is implemented is **medium**.

2.19.6.10. Impacts of water turbid plumes generated during cutting disposal on phytoplankton and ichthyoplankton production, fish migration route and

spawning areas or on benthic and demersal species in the area is considered at pages 348 – 350 of the ESIA. The impact is considered to be negligible.

2.19.6.11. The impacts of vessel and drilling noise on migratory paths is considered at pages 356 – 361 of the ESIA. The underwater noise modelling predicts that non-impulsive noise from drilling activities could result in behavioural disturbances in cetaceans up to 33.5km. Whales such as humpback and southern rights migrating and/or breeding along the coast are therefore not expected to be affected by the drilling noise. However, whales potentially associated with Tripp Seamount located 25km north of the Area of Interest, may be affected by the vessel and drilling noise.

2.19.6.12. The impacts of lighting from flares on marine fauna is considered at pages 382 – 384 of the ESIA. It notes that migratory pelagic species may be affected while transiting through the Area of Interest. The impact, however, is considered to be very low.

2.19.6.13. The impacts of faunal strikes are considered at pages 424 – 426 of the ESIA. The ESIA notes that for the duration of the project, an exclusion zone will be established around the drill unit which may require an adjustment to the vessel traffic routes. These re-routing changes needs to ensure that whale migration routes or feeding aggregation sites are not compromised and, as a result of the re-routing, increased risk of ship strikes. Although the DWOB Block does not fall within the IMMA, the changes of collisions will increase between June and December when humpbacks and fin whales are known to migrate through the area. The ESIA Report also noted that due to their extensive distributions and feeding ranges, the number of cetaceans encountered by project vessels in the offshore environment is expected to be **low** for much of the year. Bimodal peaks in abundance of species migrating northwards to their breeding grounds and on their return migrations to low-latitude feeding grounds (e.g. Humpback, Southern Right, Fina and Sei whales) and winter distributions of sperm whales may occur.

> Although the intensity of a faunal strike will have a high intensity for the fauna concerned, it will have low intensity for the population of the species. As a result, the ESIA concludes that faunal strikes will be of **low significance** and **very low magnitude**.

2.19.7. From the above it is evident that the impact on the migratory pathways of species is not considered to be material during normal operating conditions.

2.19.8. The applicant refers to the first appellant's averment that the proposed well drilling would result in various forms of disturbance to the seafloor and would result in more than 5 cubic meters of sediment being disturbed and moved, and contends that the application for EA included, and fully assessed the impacts of, Listed Activity 19A of Listing Notice 1: *"The infilling or depositing of any material of more than 5 m^3 into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from: (iii) the sea. ..."*

2.19.9. In response to the fifth appellant's concerns regarding the impact on MPAs, the applicant avers that the oil spill modelling set out in the ESIA report considers the effect of an uncontrolled well blow from Release Point 1 and Release Point 2, being the "worst case" scenario in the event of a well blowout. In respect of Release Point 1, there would be a 90% probability of the Orange Shelf Edge MPA, the Orange Seamount and the Canyon Complex EBSA being affected if the blow out occurred during seasons 3 or 1. In respect of Release Point 2, there would be a 90% probability of the Orange Shelf Edge MPA, the Orange Seamount and the Canyon Complex EBSA being impacted during seasons 3 and 1. However, as set out in the ESIA, the likelihood of a well blow out is extremely low.

2.19.10. It is unclear why the fifth appellant avers that the "magnitude, responsibility and costs" in managing protect species by the Department needs to be reflected in the EA. From the evidence cited and confirmed by the fifth appellant, seismic surveys have not had a negative effect on humpback whales.

2.19.11. With regards to the fifth and eighth appellant's averments regarding the impacts on cetaceans and cumulative impacts, the applicant avers that the impact on whale migration is considered in the ESIA. Whales may experience disturbance within 0.9 km from the drilling unit during VSP operations and since the drilling unit is stationery whales will easily be able to avoid the area; thus, it is unlikely that whale migration will be affected. The applicant avers that cumulative impacts are assessed in each section of Chapter 9 of the ESIA report dealing with operation of drill unit, vessels and helicopters (pages 293 – 321), and the drilling and associated activities (pages 321 – 394). Section 9.4 (Cumulative impacts) of the ESIA report (pages 404 – 416) considers and assesses the cumulative impacts of oil, gas and mining in the South Africa offshore.

2.19.12. The applicant refers to the fifth appellant's citation of the Vermeulen et al. 2020 paper and points out that the same paper is cited in the final ESIA report. It is important to note that Vermeulen et al. 2020 attributes the change in southern right whale demographics to likely spatial and/or temporal displacement of prey due to climate variability, and not seismic surveys.

2.19.13. The applicant refers to the fifth appellant's aspersions regarding the effectiveness of MMO observations in mitigating impacts on turtles, and contends that visual observations by the MMO is not the only mitigation measure proposed to mitigate possible noise impacts on marine fauna (including turtles). Mitigation measures are outlined in section 9.2.3.1.2 of the final ESIA report. With respect to VSP operations, the proposed implementation of "soft-start" procedures would allow for turtles, and other marine fauna, that may not be detected by the MMO to have a flight response and move outside the zone of injury or avoidance of the VSP sounds source once it has ramped up to full power.

2.19.14. The applicant refers to the fourth appellant's averment that a proper process of integrated planning in terms of the MSPA that includes all actors and rights holders must first take place before the project can be approved, and avers that the framework, plans, guidelines

and regulations required to give effect to the objectives of the MSPA will be prepared in terms of a comprehensive public participation process with various stakeholders, including environmental groups, the oil and gas industry and fisheries, and will assist administrators when they are making decisions regarding activities in South African waters.

2.19.15. In relation to the eighth appellant's averment that the exploration activities have been authorised without assurance that they are compatible with other ocean uses and objectives within the marine environment, since the necessary ocean governance framework has yet to be implemented, the applicant states that the eighth appellant's reasoning is flawed and fails to take into consideration the general principles of legal interpretation.

2.19.16. The applicant avers that if the fourth and eighth appellants' interpretation were to be applied, it would have severe consequences for the South African economy and food security. Neither section 3(2) nor any other section of the MSPA suspends any administrator from exercising their powers to grant rights, permits, permissions, licences or authorisations until the marine area plans are approved. If this were the case *inter alia* the following permits and licence could not be issued:

a) the Minister would not be permitted to grant fishing quotas under the Marine Living Resources, 1998 (Act 18 of 1998) (MLRA) which would prevent the commercial and small-scale fishing industries from continuing, which would have a significant impact on food security;
b) the South African Maritime Safety Authority (SAMSA) could not licence vessels;
c) the Minister could not approve applications for marine aquaculture or abalone ranching;
d) the Minister could not approve permits to transport cultured products or marine aquaculture fish and fish products.

2.19.17. The applicant contends that adopting the approach suggested by the fourth and eighth appellants, which would prevent administrators from issuing permits and licences to undertake activities within South African waters until such time as the framework and plans are developed, which would result in absurd consequences. It would be crippling to the economy and would have a material impact on fisheries and small-scale fishers.

2.19.18. Furthermore, the framework and plans in terms of the MSPA will not dispense other regulatory requirements. That is, before any activities can commence for which a permit / licence is required, the applicant would need to comply with the relevant EA application requirements, which will provide the CA with the technical and other information required to inform the administrator on whether or not to grant a permit or licence. The plans in terms of the MSPA are merely an additional tool that administrators will need to consider and do not replace other legislated requirements.

2.19.19. The fourth appellant failed to highlight that, on 10 March 2023, the Minister published a draft for comment of the Marine Spatial Planning Sector Plans, which includes a Marine Offshore Oil and Gas Sector Plan (the Draft MS Plan). The Draft MS Plan confirms that '*finding and mapping concentrations of offshore oil and gas resources that would merit commercial production is…a key priority for the South African government.*' It goes on to state that '*major investment in exploration activity is required before the sector's potential can be realised.*'

2.19.20. The Marine Offshore Oil and Gas Sector Plan requires applicants and holders to undertake environmental impact assessment(s) for the proposed activities and to obtain all mandatory authorisations and permits before any activities are allowed within the EEZ. The current ESIA report therefore fulfils the requirements of, and is aligned with, the Draft MS Plan. In terms of the Draft MS Plan, offshore oil and gas exploration activities are permitted to take place everywhere, unless the spatial regulations of other sector's zones list the activity as consent use or prohibited use. This therefore contemplates that offshore exploration can occur prior to the plans being finalised.

2.19.21. The MSPA does not impose a moratorium on the granting of permits and licences to undertake activities in the marine spatial planning region pending the finalisation of the framework and/or these plans, and in light of the above, the CA was not prevented from granting the EA on the basis that no marine spatial plans had been approved.

2.19.22. Regarding the eighth appellant's averment that the benthic communities in Block DWOB are unknown as sampling beyond 1000m depth has not taken place, the applicant states that to mitigate the impact on any Vulnerable Marine Ecosystems or other sensitive areas the ESIA report specifies that the applicant must undertake pre-drilling site surveys (with ROV) to ensure there is sufficient information on seabed habitats, including the mapping of sensitive and potentially vulnerable habitats within 1 000m of a proposed well site. If sensitive and potentially vulnerable habitats are detected, the applicant must, based on the pre-drilling site survey and expert review of ROV footage, adjust the well position accordingly to beyond 1000m or implement appropriate technologies, operational procedures and monitoring surveys to reduce the risks of, and assess the damage to, vulnerable seabed habitats and communities.

2.19.23. In response to the eighth appellant's statement that the ESIA fails to mitigate for seals which forage in the area, figure 7-32 of the ESIA report illustrates the location of block DWOB in relation to seal foraging areas on the west and south coasts. Based on this data, there is a small degree of overlap with the furthest extent of the recorded foraging range of the West Coast seal population and the area of interest for well-drilling. The applicant contends that given the limited degree of overlap, the mitigation provided for possible impacts on marine fauna is considered sufficient.

Underwater Noise

2.19.24. In order to determine the zones of impact for relevant marine fauna species of concern for the major noise sources associated with the proposed drilling programme, a specialist Underwater Noise Modelling Study was prepared as part of the ESIA.

2.19.25. The predicted zones of impact define the environmental footprint of the noise generating activities and indicate the locations within which the activities may have an adverse impact on marine fauna species, either behaviourally or physiologically, based on noise exposure thresholds (Southwell and Popper) for various species from the scientific literature. This information is then used by the other specialists (e.g., marine ecology, fisheries and social / economic) to assess the risk (likelihood) and significance of potential adverse noise impacts, by combining the acoustic zones of impact with ecological (e.g. habitat sensitivity spawning areas, MPAs, migratory routes, etc.) and social (e.g. key fishing areas, etc.) information in the affected area.

2.19.26. In all the modelling scenarios used for the modelling, the zones of impact were conservatively determined by using the maximum predicted noise level across the water column to determine the zone of impact. Since noise levels vary with depth at any location, there will be areas in the water column within the identified zone of impact that are exposed to lower noise levels than implied by the identified zones of impact, which represent the worst-case scenario.

2.19.27. Regarding concerns that noise impacts may affect sea birds, marine mammals and fish, as there is crossover between noise and the fishing industry and impacts on marine ecology, the impacts of noise are also considered at Sections N (Impact on Fisheries) and M (Other Impacts from drilling operations) of the ESIA. None of the appellants have disputed any of the findings set out in the Fisheries Report, Marine Ecology Report or the Underwater Noise Modelling and Zones of Impact Assessment Report, which assess the potential noise impacts on marine fauna and fishing and determine the zone of impact assessment for relevant marine fauna species of concern for the major noise sources associated with the project. Furthermore, only one of the mitigation measures set out in

the Underwater Noise Report of the Fisheries Report or Marine Ecology Report has been disputed as being inappropriate or inadequate.

2.19.28. Given the significant amount of shipping traffic and relatively strong ocean conditions specific to the area surrounding the DWOB Block, the ambient noise levels are expected to be at least 10dB higher than the lowest level within the higher range of the typical ambient noise levels (i.e. 90 – 130dB re 1uPa for frequency range 10 – 10 000Hz). As a result, shipping noises is expected to be a significant baseline noise in and around the DWOB Block.

2.19.29. Possible crew transfers by helicopters from Cape Town to the drilling unit will generate noise in the atmosphere that may disturb coastal species such as seabirds and seals. Elevated aerial noise levels from helicopters may disturb faunal species resulting in behavioural changes or displacement from important feeding or breeding areas. The helicopter operations would take place in the Area of Interest and along the route between the drill site and Cape Town. Although the area of interest is located approximately 470km offshore at its closest point, the flight path between the Area of Interest and Cape Town would cross over Marine Protected Areas (MPAs), and any sensitive coastal receptors. In addition, migratory pelagic species transiting through the drill area may also be affected.

2.19.30. The taxa most vulnerable to disturbance by the helicopter noise are pelagic seabirds, turtles, and large migratory pelagic fish and marine mammals. Indiscriminate low altitude flights over whales, seals, seabird colonies and turtles by helicopters used to support the drilling unit could have an impact on behaviour and breeding success. The intensity of disturbance depends on the distance and altitude of the aircraft from the animals (particularly the angle of incidence to the water surface) and the prevailing sea conditions and is considered low for the population as whole and the impacts would be of very low magnitude.

2.19.31. With regard to marine fauna, noise sources include continuous noise from vessels and drilling unit thrusters, drilling operations and VSP. Due to the high marine traffic route through or in close proximity of the drilling locations and route between the well locations and the shore, impacts are deemed to be of low significance. The potential noise impacts on marine fauna species includes audibility, detection and masking of communication and other important sounds, behavioural responses and psychological impacts (i.e. discomfort, hearing loss, physical injury and mortality).

2.19.32. The least severe impact is audibility (i.e. a receptor can perceive a noise above the background noise). Audibility depends on the threshold that varies with frequency (an audiogram). Marine mammals and fish are generally more sensitive to mid-range frequencies rather than low or high frequencies. Fish (without a swim bladder) hear relative to motion of water movements. Fish with a swim-bladder will hear through the swim bladder as well as movement of water around the ears.

2.19.33. Masking occurs when a noise is high enough to impair detection of biologically relevant sounds signals such as communication signals, echolocation, clicks and passive detection cues that are used for navigation and hunting. Masking may be reduced due to an animal's frequency and temporal discrimination ability, directional hearing, co-modulation making and multiple gaps in repetitive sounds.

2.19.34. Behavioural responses to noise include changes to vocalization, resting, diving, breathing patterns, mother-offspring relationships and noise avoidance. For behavioural impacts to occur, the sound would need to be significantly higher than the ambient noise and the animal's audiogram. The behavioural response can vary within the population and individuals. The behavioural change can also vary from mild to strong.

2.19.35. Physiological impacts / hearing loss and physical injury are most likely to occur where the auditory system is exposed to high levels of noise for a defined duration, which causes a decrease in the animals hearing sensitivity and an increase in their hearing

threshold (Temporary hearing Threshold Shift (TTS)). If noise exposure exceeds the critical sound energy level, the hearing loss can be permanent (Permanent hearing Threshold Shift (PTS)). Physiological impacts may also include non-auditory physiological effects such as those affecting the vestibular system, reproductive system, nervous system, liver or organs with high levels of dissolved gas concentrations and gas filled spaces. Noise can also damage tissues, have concussive effects, or create the formation of bubbles in the system.

2.19.36. It is expected that the noise generated by the major drilling operation activities can be significantly higher than the natural ambient noise levels. Predicted zones of impact define the environmental footprint of the noise generating activities and indicate the locations within which the activities may have an adverse impact on marine fauna species, either behaviourally or physiologically. This information can be used to assess the risk of potentially adverse noise impacts by combining the acoustic zones with ecological information such as habitat significance and migratory requirements in the affected area.

2.19.37. As part of the project, it (the applicant) will undertake VSP during well logging. VSP is a standard method that may be used during well logging and can generate noise that could exceed ambient noise levels. It should be noted that VSP is not the same as, and must be differentiated from, conventional seismic surveys. For VSP, the volumes of air and the energy released into the marine environment are significantly smaller than what is required or generated during conventional seismic surveys. Furthermore, VSP is done from the stationary drilling unit down the drilled borehole, which means the source is localized and not moving around as the case is with conventional seismic surveys. VSP is a short duration operation, which is done only once at the end of the drilling operations and a typical VSP operation lasts for only up to a maximum of nine (9) hours (around 250 pulses) per well to complete, depending on the well's depth and number of stations being profiled, versus conventional/traditional seismic surveys which can last for up to a few weeks and therefore are more invasive and have a greater impact. If VSP is

conducted for 10 wells, then the up to 9 hours sequences will be separated by few months and not considered cumulative. Therefore, "seismic" used in the EA differs from the other seismic surveys cases.

2.19.38. The zones of impacts in respect of VSP seismic pulses indicate the following:

2.19.38.1. The immediate impact from VSP is predicted to cause physiological impacts (both PTS and TTS) for all marine mammal species adjacent to the VSP source (up to 60m to 120m respectively). Potential behavioural disturbances will occur for marine mammals up to 980m from the source location.

2.19.38.2. The cumulative impacts from VSP pulses are predicted to be the highest for very high frequency (VHF) cetaceans. Under the worst case VSP pulse scenario (i.e. 250 pulses within 9 hours), the zone of impact for PTS-onset and TTS-onset are predicted to be up to 180m and 560m from the VSP source, respectively. For the hearing group cetaceans, the cumulative impact is only predicted to occur at receiving locations of up to 120m and 350m respectively from the VSP source for PTS-onset and TTS-onset.

2.19.38.3. VSP pulses are predicted to cause immediate physiological impacts (both mortality and recovery injury) for fishes, fish eggs and fish larvae species that are directly adjacent to the VSP source (35m). Potential behavioural disturbance from the VSP pulses is predicted to occur for sea turtles up to 2.9km from the source.

2.19.38.4. The cumulative impacts from VSP pulses are predicted to cause mortality within 45m and potential recoverable injury within 75m of the VSP source location for fish, fish eggs and fish larvae. TTS-onset is up to 450m from the source in the worst case VSP pulse scenario (250 pulses in 9 hours).

2.19.38.5. The maximum zones of PTS and TTS due to a single pulse exposure for sea turtles are predicted to be within approximately <10m from the source array. The potential behavioural disturbance from the VSP pulses is predicted to occur up to 130m from the source. Cumulative impact related

to PTS and TTS on sea turtles is expected to be around 15 and 100m, respectively, in the near field relative to the source location (i.e. 250 pulses in 9 hours).

2.19.38.6. For fish, relatively high to moderate behavioural risks are expected at intermediate distances (tens to hundreds of meters). Relatively low behavioural risks are expected at further distances (thousands of meters).

2.19.38.7. Ichthyoplankton drifts in the current and cannot move out of the way. The modelled cumulative zone of impact for potential mortal injury for fish eggs and larvae is 40 m. It is evident that animals would need to be in relatively close proximity to the operating VSP sound source to suffer physiological injury. Although the major spawning areas of key commercial species (e.g., hake, anchovy and sardine) all lie inshore of the Area of Interest and should in no way be affected by the highly localised VSP operations, there is some overlap with egg and larval distribution of these species in the inshore portion of the Area of Interest only. Declines in zooplankton abundance as a result of VSP operations are therefore likely to be negligible.

2.19.38.8. Since the key Southern Right calving and nursing areas off the West Coast and major fish spawning areas fall outside of the maximum threshold distances for TTS, PTS and behaviour, cumulative effects would not be expected and most animals would avoid sound sources at distances well beyond those at which injury is likely to occur.

2.19.38.9. The cumulative impacts from VSP pulses are predicted to cause potential recoverable injury for fish and sea turtle species adjacent to the seismic source (within 80m) and TTS-onset up to 630m from the source in the worst case VSP pulse scenario (250 pulses in 24 hours) for both depth scenarios.

2.19.38.10. Based on the above, the effects of VSP pulses on marine fauna is considered to be of **medium** intensity, with the worst case being possible TTS-onset in cetaceans at 630m from sound source. Effects, however, remain local and short term. The impact of underwater noise generated by VSP is considered to be of **very low magnitude**. Once the mitigation

measures are implemented, the impact is considered to be of **low significance**.

2.19.39. The zones of impacts in respect of drilling operations indicate the following:

2.19.39.1. In the worst-case scenario low frequency and very high frequency cetaceans have the highest impact zones among all marine mammal hearing groups. The PTS-onset zone for these groups is 310m and for TTS-onset, up to 3,6km and 6,7km from the shallow water drilling scenario.

2.19.39.2. Potential behavioural disturbance from the non-impulsive noise emissions is predicted to occur for marine mammals of all hearing groups up to 33,5km from the assessed deep-water drilling location.

2.19.39.3. These potential behavioural disturbances must, however, be seen in context with the high ambient noise expected in the Area of Interest due to its location within the main shipping routes around Southern Africa.

2.19.39.4. With a decreased exposure period, the zones of impact will be reduced.

2.19.39.5. The non-impulse drilling operation noise is not expected to cause physiological impacts on fish and sea turtles. Relatively high to moderate behavioural risks are expected within 2,8km from the source.

2.19.39.6. For sea turtles, the maximum zones of cumulative PTS impact are predicted to range within less than 10m if continuous sound lasts for half an hour or less. The potential behavioural disturbance from non-impulsive noise emissions is predicted to occur up to 180m from the shallowest water drilling modelled location.

2.19.40. The impacts from Multi-Beam Echo Sounder (MBES) pulses are as follows:

2.19.40.1. For sonar surveys, the high-frequency noise emissions from the MBES sources are highly directional, predominantly towards cross-track directions. As a result, the noise impact is predicted to be highly localised from the

majority of marine mammal species. Very high frequency cetaceans are predicted to have the highest zones of impact (320m for immediate PTS and 440m for immediate TTS impacts and 510m for behavioural disturbance immediate impacts). For impacts to cumulative exposure from single MBES pulses, no PTS or TTS impacts are predicted for any marine mammals other than very high frequency cetaceans (115m for cumulative PTS impact and 340m for TTS) from the MBES source location along the cross-track directions.

2.19.40.2. The MBES sources are not expected to cause an adverse impact on fish species. Potential behavioural disturbance from a single MBES pulse is predicted to occur for all fish species up to 770m from the source location.

2.19.40.3. For sea turtles, the maximum zones of immediate impact are predicted to range within 25m for PTA, 45m for TTS and 220m for behavioural disturbances. Cumulative exposure of single pulses is not expected to occur.

2.19.41. In response to the seventh appellant's averment, that the ESIA's conclusion that VSP Acoustic Impacts will be Low is flawed, the applicant states that in order to assess the potential impact of noise on marine fauna and fishing, an underwater noise monitoring study was undertaken, which determined the zones of impact for injury and disturbance. The other specialist assessments considered these zones of impact in relation to various sensitivities (e.g. key feeding and spawning areas, MPAs, key fishing areas, etc.).

2.19.42. Underwater noise reverberation is unique to the source location and season as it arises from scattering within the water column of the ocean and the ocean surface/bottom. To assess this problem, the parabolic equation modelling algorithm RAMGeo was used to solve the range-dependent acoustic problems with fluid seabed geoacoustic properties generated by the use of VSP acoustic sources. The results focus only on maximum distances that may have a direct impact on marine species based on the latest noise criteria. Sound reverberation will continue propagating through the ocean for more

kilometres but without a major impact on marine life. Also, since noise levels vary with depth at any location, there will be areas in the water column within the identified zone of impact that are exposed to lower noise levels than others, with moderate to high impacts in the near-field, and lower in the far-field.

2.19.43. As the VSP will only last 9 hours, there will be no long-term impacts caused by pelagic species moving away from the VSP sound. Noise levels would return to ambient levels once drilling is complete. As a result, noise associated with drilling operations and VSP is not chronic, nor will it result in long term or short-term consequences.

2.19.44. The seventh appellant's statement, that the ESIA underestimates the cumulative effect of acoustic impacts from VSP activities, is not correct. According to the Underwater Noise Modelling Report, the ambient noise levels generally range between 80 and 120dB re 1uPa. However, given the local shipping traffic and relatively strong metocean conditions in the area of the Block DWOB, it is noted that the ambient noise levels will be approximately 10dB higher at each level (i.e. 90 to 120dB re 1uPa). This was considered within the cumulative noise impact model. This is dealt with in Sections 6.2 (Zones of Impact – Cumulative Exposure from Multiple VSP Pulses) and 6.5 (Zones of Impact – Cumulative Exposure from single MBES pulses) of the Underwater Noise Modelling Report. In addition, the cumulative impact of PTS-onset and TTS-onset from impulsive and non-impulsive noise is considered in section 4.2.1 (noise impact criteria for marine mammals), 4.2.2 (noise criteria for fish, fish eggs and fish larvae) of the report.

2.19.45. The seventh appellant's quoted text from the ESIA report is taken out of context. At page 357 of the ESIA report, it indicates that as "the drill area is located on a main marine traffic route and thus is in an area already experiencing increased marine traffic and vessel noise…the sensitivity of receptors to vessel and drilling noise is considered to be medium. It does not state that there will be "no harm" to these species. The ESIA report goes on at pages 357 – 360 to consider and assess the magnitude of the impact of vessel and drilling noise on marine mammals, sea turtles and fish from a physical injury and

behavioural perspective before concluding that as the operations would be short term (3 – 4 months) and local in extent, the potential physiological injury or behavioural disturbances would be of very low magnitude for the proposed 10 wells.

2.19.46. The applicant denies the seventh appellant's statements that the Area of Interest is "near" African Penguin and Cape Gannet foraging and distribution areas, overlaps with the Wandering Albatross' foraging area, and covers the migratory paths of loggerhead and leatherback turtles. The Area of Interest is situated in the northern part of the DWOB Block and does not overlap with these areas, as is evident from pages 65, 70 of the Marine Ecology Report. As indicated at page 65 of the Marine Ecology Report, "Loggerhead turtles are coastal specialists keeping inshore, hunting around reefs, bays and rock estuaries..." The Marine Ecology Report acknowledges that these turtles may be found offshore and one has been identified in the DWOB Block, however, is not considered to be a migratory path.

2.19.47. The findings contained at page 224 of the ESIA report, referred to in the seventh appellant's submission, relate to "seismic noise" and "sub-lethal anthropogenic sounds." The applicant avers that this section of the ESIA report is not dealing specifically with the impact of the project, but is rather setting out the literature review.

2.19.48. The ESIA report concludes that the sound emissions are not considered to be of sufficient amplitude to cause direct physical injury or mortality to marine life, except at close range.

2.19.49. In response the seventh appellant's statement that the ESIA relies on an outdated study in a different environment to conclude that behavioural impacts will not be significant, the applicant contends that ESIAs, by their very nature, predict potential impacts of a project. While baseline acquisition often involves primary data collection, impact assessment typically involves the inference of potential impacts by the EAP and/or specialists using one or several desktop-based methods; including: a) professional experience (the EAPs and specialists have a combined 407 years of experience in their relevant fields, and the

marine ecologist specifically has 27 years' experience, and have undertaken numerous marine based ESIA projects); b) modelling; c) quantitative analysis d) qualitative analysis; and e) literature review (e.g. outcomes of similar projects in other areas – both in relation to the presence and absence of observed impacts).

2.19.50. The Marine Faunal Assessment involved a comprehensive literature review, with 790 references being cited to define the baseline conditions in the area of interest and assess the potential impacts associated with the proposed project. Whereas the Perry 2005 citation may be 15 years old, more recent studies (including references as recent as 2022) were considered in the assessment, which have not indicated that ecosystem wide impacts would be expected for the proposed project. Drilling operations will continue for a short period only and no long-term noise effects on biota are expected. For the seventh appellant to suggest the assessment is flawed due to a dated reference is unreasonable.

2.19.51. Regarding the allegation that the ESIA claims that a quantitative analysis of ecosystem impacts was not possible because data inputs are currently limited while simultaneously implying that no further assessment of ecosystem impacts is needed because there is no evidence of long term negative changes due to seismic survey activities, the section of the ESIA report to which the seventh appellant refers is the literature review of available literature that provided the baseline for the impact assessment and review (page 225 of the ESIA report). This baseline identified the areas where they were required to conduct their own research and reach conclusions to inform the final ESIA report. The second excerpt that is quoted is taken from the final conclusions reached by the specialist after they have conducted their own assessments and review to building on the academic literature. It is incorrect and disingenuous to refer to the literature review conclusions and the final assessment conclusions without also referring to the empirical evidence that was used to build upon the academic literature review. It should further be noted that the ESIA report does not entail seismic surveys.

2.19.52. The seventh appellant has misquoted the ESIA report. At page 225 it states that "quantifying ecosystem-based reference points or thresholds has proven difficult" due to "the multi-dimensional nature of both ecosystem pressures and ecosystem responses." It is noted that the required data inputs for such models is currently limited. However, the specialist (referencing Slabbekoorn et al (2019)) states that "in such cases expert elicitation would be a useful method to synthesise existing knowledge, potentially extending the reach of explicitly quantitative methods to data-poor situations." This is exactly what the specialist/EAP has done in their own assessment of the environmental impacts in the ESIA report.

2.19.53. In response to the seventh appellants statements regarding the impacts on seabirds, the applicant states that the drilling activities would be undertaken in the offshore marine environment, 188 km from the shore at its closest point and thus far removed from any sensitive coastal receptors (e.g. bird or seal colonies), MPAs, and the range of most coastal seabirds. The applicant states that the key species with regard to underwater noise is the African Penguin and that due to the distance offshore there is no direct overlap of the area of interest with general penguin distribution. No permanent displacement of species or their prey is therefore likely. The ESIA report indicates that the impact of underwater noise generated by the drilling activities will be very low before and after mitigation measures are implemented.

2.19.54. The information in the Underwater Noise Modelling study was used by the other specialists (e.g., marine ecology, fisheries and social / economic) to assess the risk (likelihood) and significance of potential adverse noise impacts, by combining the acoustic zones of impact with ecological (e.g. habitat sensitivity spawning areas, MPAs, migratory routes, etc.) and social (e.g. key fishing areas, etc.) information in the affected area. Thus, the impact of underwater noise of sperm whales was considered in the ESIA.

2.19.55. The applicant refers to the seventh appellant's allegation that the ESIA does not consider the cumulative impact of other current or planned adjacent projects, and states that in

preparing the ESIA report, the EAP considered the impact of existing or prospective projects that would explore simultaneously with and/or in close proximity (from both a time and space perspective) to the DWOB Block. Although there are many other rights holders in the offshore West Coast environment (e.g., marine diamonds and gemstones, heavy minerals, precious metals and ferrous and base metals), most of these are located well inshore of the DWOB Licence Block and are not undertaking any exploration activities at present or would be concurrently with the applicant's proposed exploration project. A possible exception is additional proposed exploration well drilling in PEL39, Block 2912 and Block 2913B in Namibia, just north of the DWOB Licence Block. There are also a number of current reconnaissance permit applications being undertaken for proposed seismic surveys off the West Coast (as of September 2022). These potential exploration activities were taken into consideration in the consideration of the cumulative impact. The applicant's Block 5/6/7 exploration project is situated over 460 km away and is not expected to have any cumulative impact on the DWOB area of interest. Any future projects will be required to undertake separate standalone environmental impact assessments and assess the cumulative impacts taking into consideration the applicant's exploration projects, depending on when they arise. This however appears to be unlikely, given the DMRE's current moratorium on the granting of new exploration rights. It is not possible and not appropriate to assess for prospective exploration projects that are not currently known to the EAP and/or the applicant, as it is unknown where the proposed operations will be conducted. As a result, any assessments in this regard would be purely speculative.

2.19.56. The applicant refers to the seventh appellant's statement that the ESIA offers inadequate mitigation measures, by way of example, that it (the ESIA) calls for industry to limit VSP blasting to daylight, and it calls for good visibility "as far as possible"; this limitation and the use of the words "as far as possible" seek to cater for situations of prolonged periods of poor visibility and/or technical issues which may require starting outside of ordinary times. This is, as the mitigation measure suggests, not the ordinary course of action.

2.19.57. In relation to the seventh appellant's statements regarding the use of PAM, the applicant confirms that PAM will be used if safe to do so. Where for example, due to the risk of the cable being caught up and tangled in the thrusters, it is considered to be too dangerous (in consultation with independent PAM and MMO operators) the risk will be assessed as being unsafe. Therefore, the ESIA states that the use of PAM is based on a risk assessment. Some of the outcomes of the risk assessment is also to assess if there are different ways of using PAM that might be safer. For example, using alternative means whereby PAM can be deployed from a standby vessel rather than the rig. The independent MMO has the authority to request the delay of start-up or temporary termination of sonar/VSP operations, as appropriate. Thus, the MMO will be able to determine whether the period of time that has elapsed since the last period of suitable visibility has been too long to undertake VSP operations.

2.19.58. In relation to the seventh appellant's averment that the proposed 500 m mitigation zone for visual and acoustic monitoring is inadequate, the applicant states that it will not be possible to undertake visual monitoring at more than 500 m. Although impacts may be experienced by marine mammals up to 980 m away, this is limited to a potential behavioural disturbance and not physiological harm, which would occur within 60 – 120 m. The use of visual monitoring within 500 m of the drilling unit together with the implementation of all the other recommended mitigations measures is therefore more than adequate. The applicant avers further that the significance of potential noise-related impacts associated with drilling, vessels or VSP activities are sufficiently low to not require avoidance of certain periods of the year.

2.19.59. The applicant denies the eighth appellant's allegation that the ESIA mentions that the use of explosives will be undertaken during drill, if required. Paragraph 6.5.5.4.5 of the ESIA report states that "the drilling unit will be equipped with a secure store for explosives, plus ignited, booster, detonator and detonating cord". Perforation in exploration wells is a crucial step in oil and gas extraction, establishing a pathway between the reservoir and the wellbore. This is accomplished by deploying a perforating

gun, equipped with specially designed explosive charges, deep into the well. Upon detonation, these charges create tunnels that serve as channels for reservoir fluids to flow from the formation, into the wellbore, and up to the surface. The explosives used in this process are known as shaped charges, engineered to concentrate the explosive energy to puncture a precise hole in the casing or liner. These explosives are deployed deep within the well, and their impact is confined to the well interior, leaving the seafloor unaffected. The use of explosives in this scenario is carefully regulated and controlled to ensure safety and efficiency in the perforation process. It's worth highlighting that the employment of explosives in perforating guns is a common industry practice, adhering to stringent safety regulations. The procedure is meticulously designed to optimize production efficiency while mitigating potential risks. The focus is on low-intensity explosives to ensure a safe and controlled operation. As a result, it was not necessary to consider the impacts of explosives on the marine environment and the mitigation measures provided for the safe handling and storage of these explosives is sufficient.

Oil Spill / Well Integrity / Well Abandonment/ Water Quality

2.19.60. The International Association of Oil & Gas Producers' (IOGP) report 434-02 (2019) defines blowouts as:

Blowout: An incident where formation fluid flows out of the well or between formation layers after all the predefined technical well barriers or the activation of the same have failed.

Surface Blowout: Uncontrolled incidents with surface flow and includes subsea releases, e.g., from topside or subsea wellhead, drill floor or Christmas tree.

Underground Blowout: Underground flow only or with limited surface flow where minor flow occurred and typically the Blowout Preventer (BOP) has been activated.

Kick: During drilling, the drilling mud compensates the reservoir pressure. If the mud density is too low compared to the actual reservoir pressure, or if the well integrity cannot ensure this counterpressure, then hydrocarbons can flow through the wellbore – this

phenomenon is known as a "kick" – and this can quickly escalate into a blowout if not promptly identified and addressed.

2.19.61. It is clear from the definitions above that the term "blowout" does not necessarily infer that this will lead to a major uncontrolled flow of hydrocarbons from the well. In fact, the term blowout relates to the failure of technical barriers when a "kick" is happening in the well. This is important to note with reference to the submitted appeals, as the term blowouts is utilised without defining the type of blowout referred to. The appellants utilise conflicting figures thus conflating the types of blowout referred to in an attempt to incorrectly show that well blowouts are a common occurrence.

2.19.62. Industry standards require that a minimum of two barriers is maintained at all times during drilling. If one of the barriers has technical integrity issues then operations will stop and the issue will be addressed. If a "kick" is detected, the influx will be isolated by closing in the well, thus reducing the probability of a blowout. A heavier fluid will then be introduced into the well to raise the hydrostatic pressure and achieve a balance. Meanwhile, the fluid or gas that infiltrated the wellbore will slowly be evacuated in a controlled and safe manner.

2.19.63. The probability of a well blowout occurring is considered to be extremely low. Offshore South Africa, 358 wells have been drilled to date (based on shapefile data provided by PASA in 2021) and no well blowouts have been recorded to date. The Worldwide offshore well blowout database from 1980 until 2019 maintained by Lloyds Register (and IOGP Blowout frequencies Sept 2019) indicates that the frequency of a blowout for exploration wells is in the order of 1.43 x 10-4 (0.000143)[3] per well drilled.

3 https://www.iogp.org/bookstore/product/risk-assessment-data-directory-blowout-frequencies/.

2.19.64. It (the applicant) is a recognised operator in the offshore and deep offshore drilling industry and has developed a set of methodologies to prevent and mitigate blowouts. It has drilled more than 400 offshore exploration wells since 1980. In South Africa, it has successfully drilled two wells in the Block 11B/12B off the South Coast (Brulpadda, 2019 and Luiperd, 2020) with no incident and is aware of the local conditions and the necessary requirements to operate in these conditions.

2.19.65. It will implement a "multi-barrier" approach to deal with the risk of oil spills. This approach involves defining multiple barriers (Avoidance / Technical Barriers /Mitigation measures) to manage environmental risk. The first step and most important priority in applying the mitigation hierarchy to manage the risk of an oil spill is Avoidance (or prevention). If these preventative technical and control barriers fail or are not effective under certain conditions, then control and response capabilities (mitigation measures) will be in place. In the unlikely event of a spill incident resulting from a blowout, the applicant's emergency response system will be activated to mitigate the consequences of the spill. The size and location of a spill incident will determine the tiered response scenario and actions to be implemented. It will ensure all the required measures are in place to deal with a spill event, including the preparation and implementation of project- and well-specific OSCP and BOCP based on International best practices (IOGP and IPIECA), which will be coordinated with the South African National Oil Spill Contingency Plan and approved by SAMSA, PASA and the DFFE. The "multi-barrier" approach is a follows:

2.19.65.1. Avoidance (or Prevention) of Blowouts

2.19.65.1.1. The drill site is assessed and selected after a shallow hazard survey has been performed to identify all possible constraints from man-made and geological features that may impact the operational or environmental integrity of the drilling and to ensure that appropriate mitigation practices are identified and adopted.

2.19.65.1.2. Wells are designed as per the applicant's rules and industry standards to ensure that casing, sections and design are optimised to withstand the most

stringent pressure profiles prognosed. Well design parameters are peer reviewed by specialists to ensure that a robust well architecture is selected for the drilling operations. Technical integrity detailed engineering and risk assessment studies are then performed to finalise the well architecture and the contingency plans mentioned above.

2.19.65.2. Technical Barriers

2.19.65.2.1. **Casings** (steel pipes cemented in the borehole to ensure integrity) will be designed to withstand a variety of forces, such as collapse, burst or tensile failure. They will be used to prevent caving or fracturation of the rock formations drilled and to provide strong foundations for continued drilling operations.

2.19.65.2.2. **Wellbore pressure and drilling mud weight**: Subsurface pressures above and within the hydrocarbon-bearing well formations will be controlled by the use of drilling mud. Mud Hydrostatic pressure will be higher than formation pressure and lower than fracturation pressure. The hydrostatic pressure (or weight) of the drilling mud in the well will be adjusted to ensure that it is greater than the formation pressure to prevent the undesired influx of fluids into the wellbore (known as a 'kick'). Pressure monitoring will be undertaken during drilling to ensure that kicks are avoided or managed to prevent escalation into a blowout.

2.19.65.2.3. The applicant has trained, competent and certified staff who will design the well and conduct independent sign-off of its design. Before rigs and crews are moved into place to start drilling, a 'Drill Well on Paper' (DWOP) will be performed to brainstorm and anticipate the future well drilling operations. Every unit will have a plan, training and expertise to effectively respond to emergency situations, in order to minimise their potential impact on people, facilities and the surrounding environment. All key personnel are certified under the highest international standards (International Well Control Forum-IWCF certification level 4).

2.19.65.2.4. **Safety critical equipment** will be subject to testing and certification to ensure that it meets design specifications. The well design, drilling and completion plans will go through several stages of review involving experts from TotalEnergies and the drilling contractor prior to the commencement of drilling operations.

2.19.65.2.5. **Drilling barriers and controls during operations** include using a conservative mud weight (Group III Non-Aqueous Drilling Fluid with low to negligible aromatic content) based on the expected pressure profile (Pore pressure, leak off pressure and fracturation pressure) of the well formations. Logging while drilling will also contribute to reduce geological depth uncertainties. Further continuous monitoring systems are used to follow rate of penetration, Mud volumes (in versus out), cuttings. Early kick detection systems and sensors to detect any anomalies with alarms is also used during the well drilling operations. Since 2021 a Real Time Centre monitoring of all those data supports 24/7 the operation team in identifying a well control risk.

2.19.65.3. Blowout control and oil spill response methodology: Usual international good practices

2.19.65.3.1. In the unlikely event that, despite all these preventive barriers, a kick is detected, the first thing that will be done is to control the source of the flow by closing in the well, thus reducing the probability of a blowout. A heavier fluid would then be introduced to try and raise the hydrostatic pressure and achieve a balance. Meanwhile, the fluid or gas that infiltrated the wellbore would slowly be evacuated in a controlled and safe manner.

2.19.65.3.2. If the well control cannot be achieved by increasing the mud weight, the BOP stack will be used to control the pressure through mechanical devices designed to rapidly seal the well (or "shut in") in an emergency. The BOP consists of the following minimum configuration: 2 annular preventers; capability to safely disconnect with Lower Marine Riser Package (LMRP);

blind shear rams and casing shear rams (capable to shear pipes in well in order to shut well in) and 3 pipe rams to seal around drill pipes. The BOP is inspected and certified by OEM prior to contract start-up and this certification is maintained current by rig contractor. The BOP must be regularly tested as per American Petroleum Institute (API) and the applicant's rules.

2.19.65.3.3. Well control procedures and specific well operating guidelines are developed in advance to respond to unplanned events such as well control events. The well control in this case relies on trained personnel and early detection means (with additional remote monitoring) to react and close the well as quickly as possible. The BOP is function and pressure tested on a regular basis and always prior to entering reservoirs to ensure it activates and closes in the well in case of a well control event. Enough redundancies are available in the rig BOP control system to ensure the applicant can shut-in a well at any time (and in case the redundant function is lost then repairs are conducted prior to resumption of operations). The rig contractor BOP is designed to control and prevent the occurrence of blowouts.

2.19.65.3.4. Despite this increased level of confidence, the applicant's and Industry's standards still provide for the mobilisation and deployment of:

a) a subsea dispersant injection kit (SSDI) – the applicant has access to these kits through contracts with OSRL; and

b) a capping stack(s) to cap the well – the applicant has access to various capping stacks including the capping stack stationed in Saldanha Bay.

2.19.65.3.5. All preparations and planning to drill a relief / kill well in the case of a blowout is made in advance and forms part of the BOCP which is developed and approved before drilling commences.

2.19.65.4. Oil spill / slick Monitoring

2.19.65.4.1. If despite all the above-mentioned measures, an oil spill or release occurs, aerial surveillance means would be deployed in order to track and predict the movements of the oil slick.

2.19.65.4.2. Oil slick tracking buoys would be deployed offshore in order to improve tracking and modelling of slick movement through satellite imagery. Modelling forecasts of potential impacts on shorelines / sensitive areas would be used to feed and update the response strategy.

2.19.65.4.3. The oil slick would be sampled and analysed to determine the behaviour and toxicity of the spill. This information would be used to monitor response efforts and advise on additional response measures to be deployed / corrected.

2.19.65.5. Offshore oil spill response (as per specific OSCP)

2.19.65.5.1. Depending on the volume of oil spill or release, various offshore response resources can be mobilised which includes sea and air response means (vessels, airplanes, dispersant deployment kits, containment and recovery kits).

2.19.65.5.2. The applicant has access to various sources of dispersant stockpiles around the globe, which will be mobilised and deployed by vessel and aircraft. This includes access to the global stockpile dispersants from OSRL of which 800m^3 is stored in Cape Town.

2.19.65.6. Shoreline response strategy (as per specific OSCP)

2.19.65.6.1. As part of the OSCP, the applicant conducts a coastal sensitivity assessment and mapping study in order to identify coastal sensitivity to prioritise coastal response strategies together with coastal oil spill response plans. Protection of sensitive areas is prioritised for onshore response strategies and resource deployment during oil spill responses.

2.19.65.6.2. Identification and agreement on waste management which includes, collection of waste (oil, tar balls and oiled response equipment) – temporary

storage of waste – transportation of waste for final disposal and treatment. Facilities for long term storage, treatment and disposal are identified and included in the OSCP.

2.19.65.6.3. Impacted Wildlife management: the operator has contracts with specialized national and international Wildlife response organisations (i.e. SANCCOB, GOWRS – Global oiled Wildlife Response Services - network of which SANCCOB is an active member). Such contracts allow for the setting up of temporary collection, treatment, rehabilitation, care and release back of the impacted wildlife.

2.19.65.7. Compensation and Insurance

2.19.65.7.1. In the unlikely event of an oil spill occurring, a process of determining the economic effects and related compensation would be initiated including engagement and consultation with affected parties in terms of the IPIECA-IOGP guideline document for the economic assessment and compensation for marine oil releases.

2.19.65.7.2. This process typically involves government, insurers, the organisation responsible for the incident, industry organisations and the applicable legal system (including sections 28 and 30 of the NEMA which outline the requirements for Duty of Care, Remediation of Environmental Damage and Control of Emergency Incidents).

2.19.65.7.3. All claims will be submitted to the DFFE, who will take the necessary steps to establish that the claim is adequately substantiated and reasonable. These claims could include loss or damage to property, grazing lands, livestock, fishing nets, loss of livelihood etc., in South Africa, resulting from the discharge of oil from an offshore installation and also damage or loss caused by methods used to clean up polluted areas during a spill.

2.19.65.7.4. Once the details of each claim have been verified, it will be forwarded to the SAMSA Administration Officer for processing.

2.19.65.7.5. The claims are paid from insurance cover to financially manage the consequences of any unplanned event.

2.19.65.7.6. Proof of this financial insurance and assurances must be provided to PASA.

2.19.65.7.7. According to the Exploration Right, the applicable Laws, rules and regulations in the international petroleum industry, the applicant, will procure and maintain the following insurances in respect of Joint Operations for the project. The insurance policy (effective date from the spud date) comprising the following sections:

a) **Operator Extra Expenses Coverage**: the cost of regaining the control of a well under blowout, the cost for well intervention and the cost of pollution clean-up;

b) **Policy Limit**: The policy covers not less than 3 times the cost of the value of the well in accordance to the industry practice;

c) **Third Party liability**: the policy must cover the liability of the partners for damages, injury, death caused to third parties (which includes pollution).

d) **Cargo insurance**: the policy covers the damages to the drilling equipment whilst in transit or intermediate storage.

2.19.65.7.8. In addition, the applicant is further self-insured for any additional funding and gaps related to oil spill / blowout events with a financial solvency equal to and above the largest global insurance companies.

2.19.66. With regard to the oil spill modelling, the Oil Spill Report models oil spills from two release points (Release Point 1 and Release Point 2) within the Block, which represent the worst-case locations in the area of interest. The Release Points were determined based on the distance from the coast, water depth, proximity to marine protected areas and critical biodiversity areas and metocean conditions based on a 5-year dataset (2017 – 2021) which included the orientation of currents and/or winds towards the shore. The chosen Release Points are not related to the location of the wells as these are considered worst case scenarios for the purposes of oil spill modelling only.

2.19.67. The Oil Spill Contingency and Response (OSCAR) modelling tool was used in the current study to estimate the oil spill's interaction with the marine environment. OSCAR computes the fate and weathering of oil, to simulate the oil's drift, concentration and extent, on the sea surface and/or the shoreline. This tool offers the means to quantify potential environmental impacts caused by hydrocarbons spills and to identify the appropriate spill response strategy (dispersants, containment and mechanical recovery). OSCAR uses surface spreading, advection, entrainment, emulsification, and volatilization algorithms to determine the transport and fate of the oil on the surface.

2.19.68. The metocean data was purchased from SAT-OCEAN and used for the OSCAR modelling, which allows statistical modelling that provides insight into how typical oil spill scenarios unfold under a wide range of weather or seasonal conditions which will have an impact on the oil weathering and behaviour during a spill (movement, weathering, slick spread, etc). SAT-OCEAN have developed innovative and exclusive technologies combining in-situ data, satellite sea surface temperature, wind and altimetric data, allowing to generate 3D ocean currents and winds anywhere in the world. In effect, coupled inverse/direct modelling approaches combined with the data allows measurement of these quantities from space with very high spatial (1/32°) and temporal resolutions (3-hour output time step) over the model emprise. SAT-OCEAN merge up to 9 sensor data sets and produce analysed SST (Sea Surface Temperature) fields accurate to 0.3°C on average compared to surface drifting buoys' temperature measurements. Monitoring the ocean's surface at such resolutions yields the ability to compute absolute 3-dimensional currents worldwide.

2.19.69. For purposes of the modelling:

a) Although the hydrocarbon profile is unknown at this stage (crude oil or condensate), crude oil was modelled as a worst-case scenario.

b) A continuous surface blowout rate of 33 375bbls/day and 3.13 MMSm3 of gas/day for a 20-day period was assumed. The blowout rate used for this modelling was

taken from the initial Potential Blowout Rate (PBOR) study performed for Venus-1X well located in Namibia in the same basin as block DWOB.

2.19.70. Based on this information, the Oil Spill report concluded that the impact on sensitive receptors, marine fauna, cultural heritage and commercial fishing and SSF is **very high**.

2.19.71. One of the key recommendations of the ESIA report is that the applicant develop a well-specific response strategy and plans (including OSCP and BOCP), which will need to be approved by SAMSA (responsible for the prevention of pollution by oil), PASA and the DFFE (responsible for protection and clean-up measures to be taken once the oil has been released). The primary objective of the OSCP is to identify all possible spill scenarios, level of response requirements and set in motion the necessary actions to stop any discharge of oil and to minimise its effects. The OSCP thus provides for a comprehensive response to all oil and chemical pollution emergencies in the marine environment.

2.19.72. The structure of the applicant's standard OSCP was presented in the ESIA report. In addition, a copy of the applicant's generic OSCP was uploaded to the EAP's website and a data free website for information purposes.

2.19.73. It (the applicant) will however develop a well-specific OSCP for each well location that identifies the resources and response required to minimise the risk and impact of oiling (shoreline and offshore). This response strategy and associated plans will take cognisance to the local oceanographic and meteorological seasonal conditions, local environmental receptors, and local spill response resources. The final OSCP will be prepared and submitted for approval in accordance to:

a) The Constitution (Act No. 108 of 1996) Section 24 of the Bill of Rights (Chapter 2);
b) Public Finance Management Act 1 of 1999;
c) Marine Pollution (Control and Civil Liability) Act 6 of 1981;

d) Marine Pollution (Prevention of Pollution from Ships) Act 2 of 1986;
e) Marine Pollution (Intervention) Act 64 of 1987;
f) South African Maritime Safety Authority Act 5 of 1998;
g) NEMA;
h) Disaster Management Act, No 57 of 2002;
i) Dumping at Sea Control Act 73 of 1980;
j) Regulations under Section 28 of the Prevention and Combating of Pollution of the Sea by Oil Act, 1981 (Act 6 of 1981);
k) Oil Pollution Preparedness, Response and Co-operation (OPRC) Bill; and
l) Requirements of the National Oil Spill Contingency Plan for South Africa (Volume 1 – Sect 5).

2.19.74. The probability of a well blowout occurring is extremely unlikely. In addition, in the unlikely event that all the preventative measures set out above fail, it (the applicant) will implement various mitigation measures to control the spread of an oil spill, remediate, and rehabilitate the environment and compensate those affected. Given the extremely low risk of an oil spill and considering all of the preventative and mitigation measures that it will employ, the allegations raised by the appellants, in respect of the risk of oil spills and the adequacy of the measures proposed in the ESIA report, should be dismissed.

2.19.75. Some appellants claim that the precautionary principle should have been applied to reject the application for EA as they consider the risks arising from the project are "unknown," "potentially immense" and "unacceptable." The precautionary principle is contemplated in the NEMA in section 2(4)(a)(vii) within the context of the principle of sustainable development. More particularly, it requires that 'a risk averse and cautious approach is adopted which takes into account the limits of current knowledge about the consequences of decisions and actions.' That is, the precautionary principle applies in circumstances where the impacts of actions are unknown due to a lack of information / knowledge. It does not find application where the consequences of decisions and actions are known and have been considered and assessed.

2.19.76. The applicant asserts that a precautionary approach was adopted in the ESIA to ensure that all relevant information was before the CA. In this regard, the following steps were undertaken in the ESIA:

1) The identification of potential impacts through a review of relevant publications, consultation with experts such as SANBI, the Institute for Coastal and Marine Research, etc, as well as issues raised during the public participation process (PPP), and consideration of previous similar activities offshore of South Africa);
2) The description of the receiving (baseline) environment based on various scientific publications, reports and programmes such as the 2018 National Biodiversity Assessment, Marine Spatial Management and Governance Programme and the National Coastal and Marine Spatial Biodiversity Plan (including Critical Biodiversity Areas and accompanying sea-use guidelines), and site-specific data such as the Department's (DFFE) fisheries catch and fishing effort data records;
3) The assessment of the potential impacts of the project through technical and specialist studies based on conservative, worst-case scenarios and assumptions, e.g., proximity of wells to coast or sensitive areas, discharge volumes and emissions, drilling in the austral winter season, etc. The precautionary approach was applied as an integral part of the assessment methodology; and
4) The implementation of precautionary measures to prevent or minimise harm to the marine environment, particularly in respect of the technical and operational measures that the applicant will implement to further reduce the risk of a well blowout (Oil Spill Prevention and Mitigation).

2.19.77. It is denied that the ESIA report is inadequate and/or that the risks arising from the project are "immense" and "unacceptable". Once mitigation measures are implemented, most of the impacts arising from the project are negligible or very low, with the exception of blowouts, the consequences of which are known and have been assessed. Furthermore, the precautionary principle does not apply to the risk of an oil spill, since the nature and

extent of the consequences of decisions and actions arising from an oil spill are known and were considered and assessed in the ESIA report. It is therefore unnecessary for the CA to invoke the precautionary principle.

2.19.78. The third appellant's appeal appears to be related to another project that deals with seismic activities in the Agulhas current, located on the East or South coast of South Africa. However, this application for EA is for exploration drilling on the West Coast.

2.19.79. With regard to the fifth and seventh appellant's averment that the oil spill model is flawed, the applicant notes that the fifth appellant refers to an oil spill model report prepared by Fearon *et al* (the Fearon Report) that it (the fifth appellant) commissioned. The applicant refers to the fifth appellant's claim that the Fearon Report modelled blowout oil spills from the same locations as those set out in the Oil Spill Modelling Report, prepared by HES Expertise Services, and attached as Appendix 8 to the ESIA report. The applicant contends that the Fearon Report was not provided to it during the EIA process or attached to the fifth appellant's appeal. As a result, the applicant is unable to establish:

2.19.79.1. The authors credentials and/or experience with respect to oil spill modelling;

2.19.79.2. The terms of reference upon which the fifth appellant appointed Fearon *et al* to undertake their study;

2.19.79.3. The assumptions relied upon by Fearon *et al*. It is noted in the fifth appellant's appeal submission that Fearon *et al* had "many differences in assumptions" to those set out in the HES Report. As Fearon *et al* presumably had sight of the HES Report (because they knew the discharge points upon which the HES Report is modelled), it is unclear why different assumptions were used. It can only be assumed that if the same assumptions were used, Fearon *et al* would have reached the same conclusions as those in the HES Report. Furthermore, no indication is provided in the appeal that the assumptions adopted in the HES Report were incorrect or inappropriate. Again, it can only be assumed that different

assumptions were used by Fearon *et al* to better suit the fifth appellant's conclusions.

2.19.80. The fifth appellant implies that Fearon *et al* are independent when, in fact, this is not the case. The fifth appellant states "We would like to draw your attention to a team of local and international scientists who recently developed an independent oil spill model for South African waters (Fearon et al. 2023), which presents results for a hypothetical 15-day blowout spill of light crude oil at the same location as Livas (2023)." It does not clarify that Fearon *et al* were appointed by the fifth appellant to conduct this "independent" oil modelling. It is only evident from the list of references to the statement of grounds of appeal (page 8), which indicates that the WildTrust commissioned the Fearon Report. ("*Feron, G, Laing, R., Bracco, A., D. Reich. 2023. An oil spill model for South African waters, trajectory and fate analysis of deepwater blowout spill Scenarios. A report for the WILDTRUST, 64pp*").

2.19.81. The fifth appellant's appeal is prepared by WildTrust marine scientists, Dr Harris, Dr Olbers and Dr Wright, and it does not set out these scientists' academic qualifications or experience, which qualifies them to provide their opinion that the probability of an oil blow out is "moderate" and not "low." The risk of a blowout is in fact extremely unlikely.

2.19.82. The Muehlenbachs *et al* (2013) study relied upon by the seventh appellant relates to incidents during the period 1996 – 2010 in respect of production facilities, not exploration. This distinction is notable because Muehlenbachs *et al* state: "the probability of an incident from exploration appears very low; this is because [the] majority of exploration-related incidents are attributed to drilling rigs (not fixed platforms), which are excluded from this analysis". The Muehlenbachs *et al* study thus confirms the findings in the ESIA report that the risk of an oil spill is extremely low.

2.19.83. In any event, even if the Muehlenbachs *et al* study were relevant, the seventh appellant has mispresented the risk. Muehlenbachs *et al* conclude that "Our estimate strategy does

not demonstrate that there is a causal link between water depth and incident or violations but we do show that there are statistically significant relationships between the variables. In particular, the reported incidents are positively related to water depth. In addition, the production volumes, age, complexity, distance to shore, prior violations as well as the number of platforms managed by the operator are all related to self-reported incidents…"

2.19.84. In respect of the period 1995 to August 2010, the annual data for all major complexes manned 24 hours a day were provided in the Meuhhenbachs *et al* study. It states that the "Incident indicator equals one if there is one or more incident reported on a platform in a given year and zero otherwise….[I]ndicators are zero when no incident occurred in a year." The incident and mean averages for shallow, deep and ultradeep projects demonstrate that the likelihood of blowouts and spill incidents are the same in shallow, deep and ultra deep waters. Therefore, while there may be an increased incident reporting at greater depths, it may relate to incidents other than blowouts or spills.

2.19.85. In addition, the Muelhenbachs *et al* study related to projects in the Gulf of Mexico, which frequently is exposed to hurricanes. This is not something which will affect the project. Therefore, the risks demonstrated in the Muehlenbachs *et al* study are inflated compared to the South African situation.

2.19.86. Since the Deepwater Horizon incident, there has been significant technical and regulatory developments to ensure that the risk of a similar incident is significantly reduced.

2.19.87. With regard to the Muelenbachs *et al* (2013) study relied on by the appellant, Murawski *et al* point out, the concern with drill in deep or ultra deep environments is the pressure and temperature of such oil and gas reserves. Furthermore, "[p]reparations for such accidents must include scenario analyses and training exercise that are informed by sophisticated modelling tools, experimental and field-level data collected under realistic ambient conditions, and deep understanding of the inherent environmental and human risks of drilling such areas in the first place.". It (the applicant) addressed this concern

and recommendations during the public participation process. Page 91 – 92 of the Comments and Responses Table (Appendix 6.8) to the ESIA report states as follows:

"Pressure in a well does increase with increase in drilling depth. However, what is relevant for consideration is the pressure gradient encountered rather than the well depth. This information is used to calculate the fluid type and mix to ensure that the formation is drilled with a fluid that has adequate density / gradient to balance the highest formation pressures to be encountered. The applicant designs the well architecture to have the necessary Working Pressure limitations as defined as per API standards. This includes the required mitigations measure, quality controls and quality checks when the equipment is purchased and conducting the necessary commissioning function pressure tests during installation before the well construction can advance to the next well section. Instrumented downhole tools are used while drilling to provide real time data to monitor well pressure and predict pore pressures by the applicant's specialists. In addition, the applicant has a real time support centre that monitors the operations remotely from France 24/7 and provides early warning and alerts to the rig team to react if there are any early warnings on well pressure / integrity issues. An early "kick" detection system is also installed, which gives early warnings that allows the rig team to detect and react early to any well control warnings.

Although the area of assessment (drilling area) is up to 3 100m deep, the average water depth of prospects the applicant would be drilling in the drilling area ranges between 1 500m -2 500m. Furthermore, the applicant successfully completed and are currently drilling wells in Namibia that are between 3000-3200m water depths."

2.19.88. The seventh appellant refers to the averments relating to Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico prepared by the United States, National Marine Fisheries Service (NMFS) dated 2020, particularly Appendix G: Extremely large spill assessment to support the argument that blowouts are more likely to occur at greater depths with greater spill sizes. Appendix G was prepared

by NMFS, who state in Appendix G that they defer to the US Bureau of Ocean and Energy Management (BOEM) as the "experts on the probability of an extremely large spill." Appendix G provides an assessment of the "contributors to large spill probability" which does not include the drilling depth as a factor. Particular portions of Appendix G were cherry picked to support the argument that deep sea drilling creates a genuine risk of a significant oil spill. The relevant statements made by BOEM that (i) the risk of a large blowout is statistically rare; and (ii) regulatory and technological advances have reduced the risk of a Deep Water Horizon sized event, were omitted. Appendix G also states, among other, that:

2.19.88.1. Based on historical data provided by BOEM, most blowouts will result in non-disastrous loss of well control.

2.19.88.2. BOEM has concluded that an extremely large blowout and uncontrolled release of oil should not be considered an effect of the action because the probability is so low that it is not reasonably certain to occur. According to more recent statistical prediction, a disastrous blowout, subsequent protracted loss of control and resulting oil spill would still be a statistically rare event, but could possibly occur.

2.19.88.3. Considering all the information above, while an extremely large spill is hypothetically possible, NMFS agrees with BOEM that new regulatory and technological advances reduce the risk of another Deep Water Horizon-sized event

2.19.88.4. BOEM and BSEE predicted the return period for an extremely large event due to a well-control incident in the Gulf of Mexico...within the next 165 years with a 95 percent confidence interval between 41 – 500 years. NMFS indicated that they will defer to the BOEM and BSEE analysis for this conclusion based on their expertise in this subject, and accordingly will not carry an extremely large event into their analysis of the effects of the action for the hypothetical occurrence of this low-probability extremely large event.

2.19.89. Based on the above, while there may be a greater risk associated with deep-sea drilling, the evidence provided by the seventh appellant demonstrates that the risk of a significant blow out is "rare" and a blowout resulting in a significant spill ever rarer. The risk was not significant enough for the NMFS to factor such an event into their Biological Opinion. Appendix G therefore further confirms the view in the ESIA report that blow outs are extremely unlikely. The technical and operational measures that it (the applicant) will implement to prevent "kicks" from escalating into a well blow out are appropriate and applicable for both deep and shallow water drilling.

2.19.90. The appellants incorrectly assume that the *consequence* of a well blowout at a deeper well will be greater than a well blowout at a shallower well. This is not the case. The purpose of the oil spill modelling is to identify the worst-case scenario and assess the most severe impact on the environment in the event of a major spill from a blowout, whether in deep or shallow water. The impact is evaluated by considering the worst possible consequences, in the event that a spill has occurred. As the likelihood of a well blowout is considered extremely low for both deep and shallow water due to the undisputed robust technical and operational measures in place, the only differentiating factor between the various drill sites is the consequence it would have on the receiving environment and affected receptors. As a result, the two release points were selected based on the following:

2.19.90.1. Distance from the coast: it will directly influence the travel time and quantities that may be stranded on the shoreline.

2.19.90.2. Proximity of marine protected areas (MPAs) and critical biodiversity areas (CBAs) that might be impacted.

2.19.90.3. Winds and currents that could possibly cause the oil slick to drift ashore.

2.19.91. Based on these factors, the two release points set out in the Oil Spill Drift Modelling Technical Report were identified, as these represented the worst-case scenario. If the deepest drilling point was selected as the release point in the Oil Spill Report, the impact on the receiving environment and sensitive receptors would have been understated. In

light of the above, the ESIA report accurately reflects the worst-case impacts in the unlikely event that an oil spill occurs.

2.19.92. With regard to the seventh appellants averment that the ESIA's assumed capping timeframe if a blowout were to occur is unrealistic, the applicant states that various factors are taken into account in developing capping strategies including:

2.19.92.1. Metocean conditions: Various methods are available to deploy the capping stack if unfavourable metocean conditions exist during capping. It's important to note that the drilling region is not continuously battered by unfavourable metocean conditions, and these conditions are rather "events" that pass through. One method includes deploying the capping stack in a shielded weather pattern location. For instance, the capping stack can be lowered on the backside of the weather using a drillship to cover for wave and wind action. The capping stack can also be lowered into shallower water where the metocean action is not as pronounced, and then the vessel can transit with the capping stack already deployed to the well location.

2.19.92.2. Location: The Licence Block is situated approximately 150km and 188km off the West Coast roughly between Saldanha Bay and Kleinzee. A capping stack is stationed at Saldanha Bay.

2.19.92.3. Equipment availability: a minimum of 3 Capping Stacks are available to the applicant. The applicant has contract agreements with global response companies to use globally advanced capping stacks in the event of a well blow out. One contract is held with Oil Spill Response Limited (OSRL) based in Saldanha Bay and another with Wild Well Contain (WWC), based in Aberdeen. The applicant also has a capping stack in West Africa (Gulf of Guinea). Before a capping stack arrives, an ROV would be deployed to inspect the seabed site for engineers to confirm precisely what equipment is needed. Any debris would then be removed, and the wellhead prepared for the capping stack installation.

2.19.92.4. Blow-out contingency plan: A blow out contingency plan will be prepared for each of the drilling operations. These plans take into account the project specific conditions including the well location, metocean conditions, equipment and resources used in line with applicable national local regulations and guidelines.

2.19.92.5. Technology and regulation: Since the Deepwater Horizon incident, there have been significant advancements in technical and operational controls. These developments provide early warning signs, enabling the adoption of mitigation measures to prevent a blowout. If a blowout is imminent, procedures are initiated to ensure that the capping stack is deployed as quickly as possible.

2.19.93. One of the key technical advancements developed after the Deepwater Horizon event is the capping stack. During the Deepwater Horizon event, today's capping stacks did not exist. Therefore, the Deepwater Horizon event cannot be used as a benchmark for capping stack deployment. In response to the Deepwater Horizon event, major Oil & Gas companies collaborated to develop the capping stack. This collaboration led to setting up agreements with OSRL, which acts as the custodian of the equipment, storing and maintaining the capping stack systems in four international locations. 15 KPSI capping stacks are located in Brazil and Norway, and 10 kpsi capping stacks are located in Singapore and South Africa.

2.19.94. The capping stack, which is the centrepiece of this well containment system, creates a connection and seal to prevent well fluids from escaping. The assembly contains a suite of adapters and connectors to interact with various interface points for the variety of well designs and equipment used by oil and gas operators.

2.19.95. It (the applicant) organizes its well planning and logistics with the objective of being able to cap a well within 20 days. This means that as part of the well preparation studies, it needs to develop contingency plans for blowouts. These plans should identify the

necessary logistical means that need to be in place to cap a well within the 20-day timeframe. It is able to confidently motivate that 20-days is a reasonable and realistic assumption for the installation of the capping stack. The submissions are based on speculation and conjecture, as no expert opinions or advice is provided to support the view that the 20-day period in which the capping stack can be installed is unrealistic.

2.19.96. The allegations that cumulative impacts were not assessed is denied. The cumulative impacts are assessed in each section of Chapter 9 of the ESIA report dealing with the operation of the drill unit, vessels and helicopters (pages 293 – 321), the drilling and associated activities, (pages 321 – 394) employment and procurement of goods (pages 394 – 416). Section 9.4 (Cumulative impacts) of the ESIA report (pages 404 – 416) considers and assesses the cumulative impacts of oil, gas and mining in the South Africa offshore.

2.19.97. The appellants confuse mitigation and likelihood, and the reference in the final ESIA to 358 wells being drilled without a blowout is merely to put regional drilling activity into context based on local experience from the industry. The International Association of Oil & Gas Producers (IOGP) released a report in September 2019 titled "Risk Assessment Data Directory - Blowout Frequencies" (Report 434-02). This report presents frequencies of blowouts and well control incidents and is intended to be applied to well operations worldwide, both offshore and onshore. The report considers worldwide offshore well blowout database from 1980 until 2019 maintained by Lloyds Register (and IOGP Blowout frequencies Sept 2019) and indicates that the frequency of a blowout for exploration wells is in the order of 1.43 x 10-4 (0.000143) per well drilled.

2.19.98. The fact that 358 wells have been drilled in the region and none of these have resulted in a well blow out demonstrates that (i) the technical and operational measures currently employed as best practice are effective in preventing well blow outs; and (ii) the likelihood of well blow out occurring is extremely unlikely.

2.19.99. The averment that the final ESIA fails to analyse the environmental impact of dispersants is denied. The ESIA notes that in the event of a spill, it (the applicant) will obtain DFFE's permission to use low toxicity dispersants. This will ensure that only approved dispersants are utilised. It (the applicant) states that it should also be noted that the circumstances in which a dispersant is required is where an oil spill has occurred, which is already having a significant impact on the environment and the dispersant is used as a mitigation measure to limit or reduce this already significant impact. In support of this, the National Oil Spill Contingency Plan (NOSCP) requires a Net Environmental Benefit Analysis (NEBA) to be conducted in support of decision making on appropriate response strategies – including the use of dispersant or not. NEBA involves consideration and judgement to compare the likely outcomes of using different oil spill response methods in order to provide and recommend the preferred tactics from an environmental sensitivity point of view.

2.19.100. In relation to the averment that the ESIA does not indicate how it will deal with a multiple block simultaneous blowout scenario with all authorised projects relying on the same capping equipment, it (the applicant) will not drill multiple wells simultaneously at Block DWOB, Block 5/6/7 or 11b/12b. As a result, there is no risk that multiple blow outs will occur in respect of the applicant's owned / operated projects. All operators need to submit OSCP and BOCP for approval to PASA, SAMSA and the DFFE. The capping stack in Saldanha is not the sole capping stack available to them and they have access to two capping stacks maintained by OSRL at any one time and further access to their own capping stacks and other capping stacks owned by Wild Well Control. Capping stacks are strategically stationed around the globe to service the global oil and gas industry. The applicant reiterates that the likelihood of a well blowout is considered extremely low, and asserts that the likelihood of two or more well blowouts would be unprecedented.

2.19.101. In response to the seventh and eighth appellant's averments that the ESIA fails to consider the transboundary impacts of an oil spill on Namibia, the applicant acknowledges that section 21(b) of the NEM:ICMA requires the "*organ of state that is*

legally responsible for controlling or managing any activity on or in coastal waters, must control and mange that activity in accordance with the Republic's obligations under international law", however, the applicant disputes that the DMRE is either controlling or managing the exploration activities. Section 21(b) applies in circumstances where the organ of state itself is undertaking the activity. The language "control and manage" is not used in the NEM:ICMA or any other environmental legislation in the context of authorising any activity. If that was the legislature's intention, section 21(b) would read: "the organ of state that is legally responsible for authorising any activity on or in coastal waters, must authorise that activity in accordance with the Republic's obligations under international law."

2.19.102. The applicant contends that it is also unclear where the seventh appellant has drawn the assertion that there are "two key obligations with respect to environmental authorisations for coastal activities with transboundary impacts" as no source is provided. The applicant states that in this regard:

2.19.102.1. Section 63 of the NEM:ICMA, which regulates environmental authorisations for coastal activities, makes no reference to the assessment of transboundary impacts. Neither do NEMA nor the 2014 EIA Regulations.

2.19.102.2. There is no obligation in the NEM:ICMA or NEMA requiring applicants for environmental authorisations to consult with interested and affected parties (I&APs) outside of South Africa, where the obligations of the NEM:ICMA / NEMA do not apply. Similarly, the "authority's" obligation to consult with other relevant authorities under section 24K in NEMA, which requires organs of state to consult with other organs of state as contemplated under the Constitution, does not include foreign governments.

2.19.103. The NEMA does not have extraterritorial application. As a result, it would be ultra vires the DMRE's authority under the NEMA for it to consider and assess non-domestic

impacts. There is equally no international legal obligation which required the applicant to engage with foreign authorities.

2.19.104. The project I&AP database included contact persons from the Namibian Benguela Current Commission (BCC), as well as the following Namibian government Ministries: Ministry of Environment, Forestry and Tourism, Ministry of Fisheries and Marine Resources, Ministry of Mines and Energy, Namibian Maritime & Fisheries Institute and Maritime Affairs. In addition to the above ministerial departments, a number of Namibian fishing associations were also included on the project database. All these stakeholders were afforded an opportunity to participate in the ESIA process by attending online meetings and commenting/reviewing the Draft Scoping and ESIA reports.

2.19.105. The *Pulp Mills* case is not precedent for transboundary environmental impact assessments being undertaken in all instances. It is considered "general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context...". As set out above, risk is determined by considering the likelihood of the event arising and the consequence of the impact in the event that it arises. The risk of spill is extremely low and consequently, it is not necessary to assess transboundary impacts.

2.19.106. In relation to the eighth appellant's averment that the ESIA fails to address operational spills and minor spills, the applicant asserts that the impact of minor spills is assessed in in section 10.3 of the ESIA report, which includes the proposed mitigation measures. Based on the high sensitivity of receptors and the very low (offshore) and medium magnitude (nearshore), the potential impact on marine fauna is considered to range from low significance (offshore) to medium significance (nearshore) without mitigation. With the implementation of the mitigation measures, which would reduce the intensity of a nearshore impact to low, the residual impact will be of very low magnitude and of Low significance for both offshore and nearshore spills.

2.19.107. In response to the eight appellant's averment that the ESIA fails to consider North-West winds should a spill occur, the applicant avers that metocean data was purchased from SAT-OCEAN and used for the OSCAR modelling, which allows statistical modelling that provides insight into how typical oil spill scenarios unfold under a wide range of weather or seasonal conditions, which will have an impact on the oil weathering and behaviour during a spill (movement, weathering, slick spread, etc). SAT-OCEAN has developed innovative and exclusive technologies combining in-situ data, satellite sea surface temperature, wind and altimetric data, allowing to generate 3D ocean currents and winds anywhere in the world. In effect, coupled inverse/direct modelling approaches combined with the data allow to measure these quantities from space with very high spatial (1/32°) and temporal resolutions (3-hour output time step) over the model emprise. SAT-OCEAN merge up to 9 sensor data sets and produce analysed SST (Sea Surface Temperature) fields accurate to 0.3°C on average compared to surface drifting buoys' temperature measurements. Monitoring the ocean's surface at such resolutions yields the ability to compute absolute 3-dimensional currents worldwide. The impact assessment was undertaken based on the results of the oil spill modelling, which considers the most likely met-ocean conditions for the four seasons in a year, including the winter periods when the north-westerly winds are more prevalent. The only period with oil reaching the shore is during Season 3 for Release Point 2. The drift towards the coast is due to north-eastward current events in June 2021. For the rest of the year, west to north-westerly currents and south to south-easterly winds dominate, keeping the spill away from the coast for both Release Points.

2.19.108. In relation to the eighth appellant's averments that the ESIA fails to acknowledge the impact, despite the standard mitigations, to pelagic bird populations in the event of a blowout and that the very high significance impacts on the marine environment outweigh the need for the project, the applicant contends that section 10.4.3.1 in the ESIA report deals specifically with the impact of oil spills on marine ecology and the environment (including coastal impacts). Oil spill modelling results are summarised in section 10.4.2.3. Possible impacts on marine and coastal fauna related to a large oil spill are summarised

in Table 10-7 of the report. In considering the sensitivity of receptors, it is stated that "the taxa most vulnerable to hydrocarbon spills are coastal and pelagic seabirds" (page 456 of the ESIA report). With the implementation of the mitigation, the residual impact to seabirds (and other marine fauna) was still deemed to be of very high significance.

CA'S RESPONSE

2.20. In their comments to this ground of appeal, the Competent Authority responds as follows:

Marine Ecology and Avifauna

2.20.1. The proposed activities (sonar bathymetry surveys, drop core sampling and exploration drilling) have potential impacts to the receiving environment. As a result, the applicant applied for an EA and hence the need for an environmental and social impact assessment (ESIA) study. The ESIA process was undertaken in compliance with NEMA and the 2014 EIA Regulations. The environmental impact assessment process involves the identification of impacts, mitigation, and management of potential impacts. Impacts of the proposed activity on marine species was assessed in the Marine Ecology Impact Assessment. Disturbances and behavioural changes of marine species, including avoidance of feeding and breeding areas, were assessed, and found to be as follows:

2.20.1.1. The residual impact significance (after implementation of mitigation measures) of helicopter noise on marine fauna disturbance is low.

2.20.1.2. The residual impact significance (after implementation of mitigation measures) of vessel lighting and flaring on marine fauna disturbance is negligible.

2.20.1.3. The residual impact significance (after implementation of mitigation measures) of remote operating vehicle surveys, coring and drilling on seabed sediments and associated biota disturbance is low.

2.20.1.4. The residual impact significance (after implementation of mitigation measures) of drilling solids discharges benthic and deep-river reef communities' disturbance is medium.

2.20.1.5. The residual impact significance (after implementation of mitigation measures) of vessel and drilling noise on marine fauna (large pelagic fish, seabirds, seals, turtles, and cetaceans) disturbance, behavioural changes, avoidance of feeding and/or breeding area is very low.

2.20.1.6. The residual impact significance (after implementation of mitigation measures) of pre-drilling geophysical surveys and vertical seismic profiling (VSP) on marine fauna (seabirds, seals, turtles, and cetaceans) disturbance, behavioural changes, avoidance of feeding and/or breeding area is low.

2.20.2. Therefore, the residual impacts on marine fauna disturbance ranges between negligible to medium. Furthermore, if vulnerable habitats are identified, the well position will be adjusted, and appropriate mitigation measures will be implemented.

2.20.3. A number of specialist assessments (marine ecology, fisheries, socio-economic, cultural heritage, climate change and air quality) were undertaken to ensure that the planned activity does not cause harm to any aspect of the receiving environment. The ESIA indicates the following:

2.20.3.1. Impacts on the marine ecosystem from planned operations range from negligible to medium significance.

2.20.3.2. Impacts on fisheries from planned operations range from negligible to medium significance.

2.20.3.3. Impacts on the marine ecosystem from unplanned events (faunal strikes, loss of equipment at sea, accidental release of oil at sea and well blowout) range from negligible to very high significance.

2.20.3.4. Impacts on fisheries from unplanned events (faunal strikes, loss of equipment at sea, accidental release of oil at sea and well blowout) range from low to high significance.

2.20.4. Major accidental oil spill is the only identified impact with a very high to high significance. The residual impact of a major oil spill (unplanned event) as a result of well blowout was found to be of very high significance on marine fauna and marine ecosystems, and high with respect to fisheries, but the event is very unlikely to occur, and the impact is partially reversible. A number of mitigation measures are in place in the event of an unlikely oil spill namely, ensuring that personnel are adequately trained to handle, prevent, and respond to accidents, avoiding operations during night/ low visibility periods, avoiding operating when the shoreline oiling for a blowout is the highest and implement the oil spill contingency and blowout contingency plans. The exploration activities will therefore not cause uncontrollable damage to the receiving environment.

2.20.5. All identified and assessed potential impacts will be managed according to the proposed and approved management plans (i.e. shipboard oil pollution emergency, emergency response, blowout contingency, oil spill contingency, stakeholder engagement, waste, emissions and discharge management, hazardous substance management, preventative maintenance, ballast water management, biodiversity management, and corrective action plans).

2.20.6. Disturbance on seafloor and sediment removal is expected on the immediate vicinity (about $30m^2$ for the proposed 10 wells) of the well site and it will be of short duration (about 3 to 4 including physical drilling and testing) on each well area. Therefore, the overall impact on the seafloor and sediment removal is negligible.

2.20.7. The environmental impacts of the drill cutting are described in section 7.1.4 of the ESIA. The impacts include the physical disturbance and or smothering of vulnerable or sensitive benthic communities during spudding and discharge of drill cuttings. The benthic and

pelagic fauna may suffer from indirect toxicity and bioaccumulation effects from leaching of toxic additives. Smothering may also affect benthic and demersal species that spawn, lay eggs and have juveniles on the seafloor. However, no benthic or demersal species are known to spawn in the area of interest, but further inshore on the shelf. Furthermore, the benthic communities in the area of interest are associated with unconsolidated sediments and are classified as least concern. This is because these communities are in abundance and comprise of fast-growing species that can recruit quickly into disturbed area; hence they are regarded as being less susceptible to smothering.

2.20.8. Water based drilling fluids (WBM) will mainly be used during drilling and low toxicity non-aqueous drilling fluids (NADF)(Group iii) will be used if WBMs do not meet safety requirements for drilling risered section. If the NADFs are used, cuttings will be treated to reduce oil content before being discharged overboard.

2.20.9. It is indicated that significant cumulative risk in terms of toxicity effect of sediments would be between 5.6 and 6.6 km west-north west and north -north west from the two discharge points modelled in the drilling discharge modelling report respectively. This shows that the risk is oriented towards the direction of the prevailing current, indicating the influence of the surface currents on drill cutting dispersion and redeposition on the seabed. It should also be noted that the dispersion and deposition of sediments is away from the drill sites and vulnerable ecosystems. Furthermore, vulnerable habitats within 1000m of a drill site will be avoided; this will reduce the chemical impact related to smothering.

2.20.10. Therefore, impact on hardground communities were found to be of medium significance, while impact on benthic communities associated with unconsolidated sediments were found to be of negligible significance.

2.20.11. The Marine Areas Plans are not as yet developed, and the Sector Plans are currently in draft. It is important to note that only the promulgated relevant legislation, policies or strategies are considered during an assessment of any activity. The draft marine sector

plan for each sector was published on the 10 March 2023 for stakeholder comments. This marine sector plan (negotiations must still occur between each sector) will then form a basis for the development of the marine areas plan (this is a cross-sector plan). Thus, considering that the marine sector plan is in draft and the marine areas plan is not as yet developed, these plans cannot be taken into consideration at this stage. Based on the above, the decision to grant the EA was lawful.

2.20.12. In response to the fifth appellant, the CA states that the risks/impacts are assessed in the ESIA report as per the 2014 EIA Regulations, and the content of the EA is prescribed by regulation 26 of the 2014 EIA Regulations, which does not prescribe the acknowledgements of risks in the EA. These are prescribed for the ESIA report as per Appendix 3 of the 2014 EIA Regulations.

2.20.13. Although the licence block overlaps with the Orange Shelf Edge marine protected area (MPA) and the associated Ecologically or Biologically Significant Areas (EBSA), the area of interest where drilling will occur does not overlap with MPAs or any EBSAs, as per figure 7 of the ESIA. Phytoplankton is unlikely to occur within the licence block and the presence of ichthyoplankton is low with respect to abundance as documented in the ESIA report.

2.20.14. A cumulative impact assessment was conducted for this project. Specifically with respect to mining rights along the west coast, these were excluded as they are located inshore from the DWOB block and are not currently active nor would activities occur concurrent with the proposed project.

2.20.15. Although the focus of the JNCC guidelines is on marine mammals, they may also be used for other sensitive marine species such as turtles. The marine mammal observers appointed must be experienced in identification and observation techniques with respect to turtles. The CA notes from the comments and responses that the captive turtle data referred to by the fifth appellant is unpublished.

2.20.16. In response to the eighth appellant, the CA states that it is indeed not known if there would be any vulnerable marine communities within the area of interest, hence there are mitigation measures put in place to ensure that all sensitive and vulnerable communities are avoided. These include the undertaking of the ROV to identify sensitive areas before commencement of drilling. All identified sensitive and vulnerable areas will be avoided by either moving the well site to a less sensitive area or by implementing the 1 000m buffer from the drill site. Seals forage up to 120 nautical miles offshore and are known to be a very mobile species and it is therefore anticipated that they could occur in the area of interest. The impact on these species is therefore assessed in section 9.1.5.1 of the ESIA. The impact on these species is found to be of very low significance.

2.20.17. In terms of operational discharges, the impact of operational discharges such as grey water, galley waste, sewage etc. are assessed during the various phases of the proposed project. Pelagic seabirds were identified as taxa which are vulnerable to these discharges. Ensuring compliance with MARPOL will result in reduced discharges and reduced sensitivity. The residual impact significance of these discharges on the marine ecology is very low. Impacts of an oil spill (well-blowout) on pelagic bird species is assessed in section 10.4.3.1 of the ESIA. It is noted that this taxon is very vulnerable to oil spills. However, the CA is satisfied with the proposed mitigation measures, as they provide for avoidance and minimising of impacts.

Underwater Noise

2.20.18. It is expected that noise generated from the planned operation would range between 190 and 200 Db re µPa. In terms of loud sounds introduced into the ocean, underwater noise sources with respect to the project activities were identified. The activities which will generate underwater noise are as follows:

1. Pre-drilling noise surveys
2. Drilling activities

a. Transit of survey vessels, drilling unit, support vessels to and from the drill site.
b. Operation of the drilling unit, support vessels at the drill site.
c. Vertical seismic profiling (VSP).
d. Helicopters contribute to ambient noise generation.

2.20.19. The Sound Transmission Loss Modelling (STLM) Study included all marine fauna that might be potentially impacted by the exploration operations, characterisation of existing underwater noise environment and site specific metocean conditions, prediction of underwater noise propagation, and assessment of zones of impacts for various marine fauna groups. The STLM adopted a criterion that considered the most relevant guidelines and literature. The criteria included physiological and behavioural impacts on marine fauna, including marine mammals, fish, fish eggs, fish larvae, and sea turtle species. Based on the outcomes of the STLM, Marine Ecology Impact Assessment Report and Fisheries Impact Assessment Report, all the relevant aspects of the receiving environment and marine species were considered and in cases where impacts were found, mitigation measures were proposed and will be implemented during operations.

2.20.20. The assessment indicates that the major noise sources are generated by vertical seismic profiling (VSP), the drilling unit, sonar survey and support vessels, as per the Sound Transmission Loss Modelling report. The study estimated the zones of noise impact as a result of the above noise sources for various marine fauna such as marine mammals, fish (including fish eggs and larvae) and sea turtles. The impact assessment for normal operational activities indicates the following:

2.20.20.1. The residual impact significance of vessel and drilling noise on marine fauna is very low and on commercial fishing is also very low. There is no impact on small scale fishing. The impact is fully reversible upon cessation of drilling operations and confidence is high for marine fauna.

2.20.20.2. The residual impact significance of noise generated by VSP on marine fauna is low and on commercial fishing is a very low. There is no impact on

small scale fishing. The impact is fully reversible after cessation of operations, confidence is high and mitigation potential is medium for marine fauna.

2.20.20.3. The residual impact significance of sonar survey vessel noise on marine fauna is low and on commercial fishing is also very low. There is no impact on small scale fishing. Mitigation potential is medium, the impact is fully reversible, and confidence is high for marine fauna.

2.20.20.4. The residual impact significance of helicopter noise (ambient) on coastal and marine fauna is low. The residual impact is unlikely (avoidance of sensitive receptors) and fully reversible (cessation of helicopter operations).

2.20.21. The conclusion that VSP will have no effect on biologically important spawning areas which lie inshore of the area of interest is motivated by the modelled zones of impacts not extending as far as the said spawning areas.

2.20.22. It is acknowledged in the ESIA report (section 9.4.3 on page 411) that noise associated with the proposed project would have a cumulative effect on marine fauna. Taking into consideration that the licence block is within the main vessel traffic routes and therefore the ambient noise is already elevated, cetaceans and turtles are unlikely to be significantly additionally affected. The Marine Ecology Assessment indicates that faunal behaviour will not be affected beyond the following:

2.20.22.1. 34 km for cetaceans during drilling activities.

2.20.22.2. 0.98 km for cetaceans during vertical seismic profiling (VSP) operations.

2.20.22.3. 0.5 km for cetaceans during sonar surveys.

2.20.23. With specific reference to the humpback and southern right whales, the numbers have increased despite a number of seismic surveys occurring over the past few years. The change in occurrence of the southern right whale in recent years is attributed to prey displacement due to climate variability and not seismic surveys (Vermeulen *et al.*).

2.20.24. Therefore, the residual noise impacts on marine fauna ranges between very low and low significance and noise will not cause detrimental impacts, provided the proposed mitigation measures are implemented. Residual impacts of noise on commercial fishing are also of very low significance and no impact is expected on other sectors including the small-scale fisheries.

2.20.25. It is also important to note that the impact of noise is a short-term impact, and thus once activities are completed the noise levels will return back to the ambient noise levels. Thus, it is unlikely that the project activities will have a permanent impact on behavioural changes of marine species, including avoidance of feeding and breeding areas. The noise generated by the project is therefore not "chronic" i.e. persistent in the environment. The area of interest is located in the main marine traffic area.

2.20.26. The increase in ambient noise resulting from exploration drilling activities is inherently factored into the prediction of received noise levels, and, as this is then a parameter for the determination of zones of impact, the impact of any increase in ambient noise is subsequently assessed through the assessment of the STLM results and its impacts on marine fauna.

2.20.27. The drilling and testing of each well will take approximately three (03) to four (04) months, therefore in total approximately 3 years. The cumulative impact of noise is assessed because the noise assessment considers the ambient noise levels as indicated in the ESIA report. The cumulative impact of noise is assessed, as per section 9.4.3 of the ESIA report.

2.20.28. Section 7.6 of the ESIA report presents an Ecological Network Conceptual Model and discusses potential population-level and ecosystem-wide effects of disturbance and the application of the integrated ecosystem assessment framework for evaluating the cumulative impacts of multiple pressures on multiple ecosystem components. The

reference to the ESIA's claim that a quantitative analysis of ecosystem impacts is required is given context in this discussion where it is explained that, due primarily to the multi-dimensional nature of both ecosystem pressures and ecosystem responses, quantifying ecosystem-based reference points or thresholds has proven difficult and complex numerical modelling is required to evaluate ecosystem reference points and support ecosystem-based management. To that end, data required for such models is limited in southern Africa, however, Slabbekoorn *et al* (2019) is cited for having pointed out that in such cases of data limitations, expert elicitation can be a useful method to synthesize existing knowledge thereby potentially extending the reach of quantitative methods to data-poor situations.

2.20.29. The most reliable gauge of cumulative pressures is provided by Sink *et al* (2019) and Harris *et al* (2022). A map was generated as part of the 2018 National Biodiversity Assessment by undertaking a cumulative pressure assessment in which the impact of both current and historical ocean-based activities on marine biodiversity was determined by spatially evaluating the intensity of each activity and the functional impact to, and recovery time of, the underlying ecosystem types. Based on the severity of modification across the marine realm, a map of ecological condition was generated and from this it can be determined that Block DWOB is located in an area experiencing very low cumulative impacts and that the ecological condition is therefore still natural or near-natural.

2.20.30. Potential future oil and gas projects within the west coast were not considered due to the unavailability of information such as extent, scope, duration and location of current applications. It should be noted that an impact assessment based on a project where the scope of the project is not well defined is a futile exercise, not an excuse not to conduct such assessment (bearing in mind that some projects will not proceed to production). Specifically with respect to mining rights along the west coast, these were excluded as they are located inshore from the DWOB block. Furthermore, there are no active exploration operations at present nor would any be undertaken concurrently with the

DWOB campaign. However importantly to note, inherent in the assessment methodology is the consideration of past and future activities e.g. using the threat status, the environmental baseline and rating the sensitivity of receptors.

2.20.31. The southern right whale moves through the licence block when migrating southwards from feeding areas between April and June. The Humpback whale migrates around September – October and regular encounters within the licence block can also occur during February. Thus, in order to mitigate, activities are planned to occur outside the migratory times and if not possible to avoid, PAM will be used if surveys take place during June- November in order to detect the animals by vocalisation. At least two (2) marine mammal observers (MMOs) will also be onboard for mammal observation. Therefore, activities are planned outside of the migration times, if not possible, mitigation measures are recommended and will be implemented. Cetaceans are highly mobile and would move away from sound sources before any harm may occur. The licence block lies to the western extent of the foraging and distribution area for the Cape Gannet and lies well offshore from the foraging and distribution area of the African Penguin. In terms of the leatherback sea turtle their abundance in the area is not known but expected to be low. The loggerheads are expected to be occasional visitors. As indicated above, at least two (2) MMOs will be present for observation.

2.20.32. The behavioural response to noise sources is to move away from the source. The impact for this type of behavioural response is insignificant to both the individual and pollution level (NRC 2005). The displacement of marine fauna from feeding grounds was identified as a direct impact. However, it is indicated in the ESIA that the impact will be temporary. Based on global literature, the affected marine fauna recovers within three (03) days from the last day of exposure.

2.20.33. Section 4.5 of the Marine Ecology Impact Assessment indicated that the impact of behavioural changes shown by individual species, such as moving a small distance from the source disturbance, is insignificant to the individual species and the population.

However, if the species moves away from an important feeding or breeding ground, then the level of impact could be significant. There has been an increasing number of humpback whales around southern African coasts especially on west coast feeding grounds around summer. This suggests that the noise from surveys and exploration activities undertaken in the past 17 years have not negatively affected the distribution patterns of the humpback whale. Based on this information, the impacts on humpback whales will be of short-term duration and the species is expected to recover within a few days after last day of exposure to the source of disturbance.

2.20.34. The date of a study does not detract from the findings of a study; such an interpretation is not reasonable, unless the seventh appellant can provide findings which disputes the findings in Perry 2005. The context of the licence block in question was taken into consideration for e.g. consideration that the licence block is within the main vessel traffic routes and therefore the ambient noise is already elevated, and cetaceans and turtles are unlikely to be significantly additionally affected.

2.20.35. The impact on seabirds such as the yellow-nosed albatross was assessed as evidenced by the Marine Ecology Impact Assessment. The sensitivity of the receptors (including seabirds) is considered medium for vessel and drilling noise (considering the ambient noise) and high for sonar surveys and VSP.

2.20.36. Mitigations measures are recommended in terms of sonar surveys and drilling activities, which creates underwater noise, such as implementation of the maintenance plan to ensure diesel motors and generators are adequately maintained to minimise noise emissions, appointing at least two (2) marine mammal observers (MMOs) onboard for mammal observation, use of PAM during low visibility and soft start procedure. An MMO will be onboard to perform observations and in low visibility and at night VSP will only be performed when PAM technology is employed (subject to the risk assessment indicating that it is safe to use). In terms of helicopter noise, which creates ambient noise, mitigation measures are in place by implementing a flight path design which avoids the False Bay

and Robbin Island seal and penguin colonies. Avoidance of low altitude coastal flights as far as possible.

2.20.37. In respect of drilling and vessel noise on commercial fish species, the exclusion zone is a safety requirement and therefore other users must be made aware of it and the activities taking place. The only sector affected is the large pelagic longline sector. The duration of the impact is short term i.e. 3-4 months per well. The average annual catch and effort rate in the area is 2.75% and 2.74% respectively, thus the intensity of the impact is low, and magnitude is very low. Thus, the residual impact significance is low. The sector can fish in other parts of their fishing grounds.

2.20.38. It is compulsory for the operator to appoint an environmental control officer (ECO) to monitor compliance with the EMPr and the EA prior to commencement of any activities. The ECO must be independent from the operator and will submit audit reports to the CA. Thus, the operator is monitored with regards to compliance. In addition, the mitigation measures (including the 500m mitigation zone) are aligned with JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys, published August 2017.

2.20.39. The information gaps, limitations and assumptions regarding the marine environment are clearly stated and acknowledged in the Marine Ecology Impact Assessment, Appendix 12 page 2. The existing information gaps are listed and include gaps such as the abundance, distribution, and diversity of benthic macrofaunal, demersal fishing communities and potentially vulnerable species beyond the shelf break, continental slope, and abyssal habitats for example. As a result, the impact assessment adopted a strongly precautionary approach. Thus, the gap in information does affect the integrity of the ecological impact assessment.

2.20.40. Seamounts are identified as one of the environmentally sensitive areas, and therefore the area of interest excludes such area.

2.20.41. The impacts on pelagic fish and sharks, referred to by the eighth appellant, are assessed in various sections of the Marine Ecology Impact Assessment, including section 4.3 under impacts related to operation of the drill unit, vessels and helicopters. The assessed environmental aspects is water quality, which might be altered by discharge of drill cuttings, deck drainage, grey water and sewage etc,. These might affect the marine species by changing their environment and making it impossible for these species to survive in such environment. Residual impact on marine species was found to be of very low significance. Mitigation measures, such as implementation of relevant MARPOL 73/78 standard, are recommended.

2.20.42. There is no reference found in the ESIA that talks to the use of explosives during drilling. However, these together with radioactive devices are used during well testing. This process is controlled by use of high efficiency flare.

Oil Spill / Well Integrity / Well Abandonment

2.20.43. Impacts of drilling on the water column were assessed and found to be negligible and therefore no mitigation measures were put in place.

2.20.44. There will be no oil storage and handling facility, however approximately 10m^3 fuel will be temporarily stored in either the drill rig or support vessels during the flaring period. Potential impacts caused by drilling fluids and other operational discharges were assessed and found to range from low to medium significance. Mitigation and management measures are proposed where necessary.

2.20.45. Impacts from incidental release of oil due to vessel collisions, bunkering accident and line/pipe rapture were assessed and found to be of low significance offshore to medium significance nearshore without mitigation, while the residual impacts are found to be of low significance for both offshore and nearshore spills.

2.20.46. Unplanned oil spills such as blowout were assessed in the specialist reports and ESIA and were found to be of very high significance, however such spills are very unlikely to occur and are partially reversible. A number of controls will be put in place to prevent the occurrence of a well blowout, such as the use of casing designed to withstand a number of forces, the use of a blowout preventer to control the well pressure etc. A number of mitigation measures are in place in the event of an unlikely oil spill namely, ensuring that personnel are adequately trained to handle, prevent, and respond to accidents, avoiding operations during night/ low visibility periods, avoiding operating when the shoreline oiling for a blowout is the highest and implement the oil spill contingency and blow out contingency plans.

2.20.47. All identified and assessed potential impacts will be managed according to the proposed and approved management plans (i.e. shipboard oil pollution emergency, emergency response, blowout contingency, oil spill contingency, stakeholder engagement, waste, emissions and discharge management, hazardous substance management, preventative maintenance, ballast water management, biodiversity management, EMPr and corrective action plans).

2.20.48. In terms of an oil spill due to a well blow-out, the impact significance ranges from high to very high and the confidence ranges from medium to high. It is not clear how the fifth appellant arrived at a probability of medium and the significance of the impact on livelihoods, because the assessment used is not shared. In addition, the modelling was conducted using crude oil as the hydrocarbon source (the hydrocarbon characteristics are currently not known) because it presents the worst-case scenario. Such an unlikely spill involving condensate instead of crude oil would result in less significant potential impacts.

2.20.49. The case of the Deepwater Horizon cannot be compared to any recently planned activity. This is because it is well known that the incident occurred due to various mistakes that

took place and also due to lack of stringent safety measures. The oil and gas sector developed new safety measures for offshore operations to ensure that a similar incident does not occur. The new safety measures that are proposed for the current project, which are used globally, will ensure that major spill incidents are prevented and mitigated should they occur.

2.20.50. The project activities which may result in minor spills are considered and the aspects and impacts were assessed. These include minor spills due to vessel collision (oil tank damage and leakage to sea), bunkering (e.g. small instantaneous spills) incidents and line/pipeline ruptures (hydraulic fluid spills). The assessment acknowledges the immediate impact that such spill will have on the water quality and the toxic effects which can result in mortality. The residual impact significance of small accidental releases of oil/diesel on the marine ecology is low for nearshore and offshore provided that the identified mitigation measures are implemented. The probability of such events is unlikely and is fully reversible.

2.20.51. In terms of operational discharges, the impact of operational discharges such as grey water, galley waste, sewage etc. are assessed during the various phases of the proposed project. The residual impact significance of these discharges on the marine ecology is very low and the confidence level is high.

2.20.52. The oil spill modelling report is a technical report. The objective of the oil spill modelling is to simulate how oil will behave (trajectory and fate) in the event of a well blowout. The information from the modelling was used to inform the Marine Ecology Impact Assessment, which is an impact assessment study. The Marine Ecology Impact Assessment report complies with Appendix 6 of the 2014 EIA Regulations. It is therefore incorrect for the seventh appellant to state that the technical report is non-compliant the 2014 EIA Regulations.

2.20.53. The Muehlenbachs *et al* 2013 paper discusses the impact of water depths with respect to safety and environmental performance in the context of an operating production platform. The scope of this project is with respect to exploration activities and a drill ship. The study used incidents from operators (production related) between 1996 and 2010 (i.e. over 14 years). Importantly the incidents included in the study includes injuries, blowouts and oil spills and not just blowouts. The study suggests a correlation between water depths and incidents i.e. incidents related to production activities. However, the study recommends that further research is warranted to assess the casual link between water depths and production platform risks i.e. there may not be a causal link between water depths and incidents. The activities and duration of a production platform (20-30 years) is different to that of a drill ship (3-6 months) and therefore the risks are different. The two activities are different and thus cannot simply be compared. Importantly, there is currently no evidence that risk increases with water depths as per the referenced paper.

2.20.54. The risk is not minimised in the ESIA study. The residual impact significance of a well blowout ranges from high to very high. It is important to put the probability of such an unlikely event into perspective in order to have a balance perspective of the risk. Offshore South Africa, 358 wells were drilled with no incidence of a well blow-out to date. From a global perspective the frequency of a blow-out event is 1.43 x 10-4 (0.000143) per well drilled.

2.20.55. In the unlikely event of a blowout, the OSCP and the BOCP will be activated. The OSCP will consider modelling studies, guidelines, plans, applicable legislation, and applicable international conventions. Some plans and guidelines utilised during the development of project specific OSCP are as follows:

1. Oil Spill Drift Modelling Report.
2. South African National Oil Spill Contingency Plan and applicable legislation.
3. Oil spill preparedness and response IPIECA-IOGP Good Practice Guide Series.

2.20.56. The oil spill and blowout contingency plans will be developed, submitted, and approved before commencement of authorised activities. The plans will include all other emergency and preventative plans such fire emergency, waste management etc, the plans will also provide details of all considered dispersants. Dispersants must only be used with the permission of the Department (DFFE).

2.20.57. The plans must be submitted to the South African Maritime Safety Authority (SAMSA), the Department (DFFE), and the Petroleum Agency South Africa for approval and review. The South African Maritime Safety Authority Act 5 of 1998 transfers the responsibility of ensuring that appropriate actions are taken to minimise the impact of discharges of harmful substances from ships, tankers, or offshore installations to SAMSA. SAMSA is therefore responsible for the overall coordination of the prevention and combating of an oil spill incident. The personnel will be trained regarding the OSCP, and periodic drills will be conducted with the objective of testing the adequacy of the OSCP.

2.20.58. A Blow-out Contingency Plan will also be developed to set out plans to manage an oil discharge because of a blowout event. In addition, the applicant is contracted with response companies who will provide capping stacks. The applicant has access (via contracts) to three (3) capping stacks, one (1) locally available at Saldanha Bay, one (1) in Aberdeen and one (1) in Gulf of Guinea. The capping stacks are maintained and ready for mobilisation by air or sea. Each holder of a right offshore must ensure that they have contracted with response companies, it is unlikely taking into account the probability of a blowout that multiple blowouts would occur in multiple blocks. Thus, as indicated in Murawski *et al* 2020 mitigation measures were identified and will be implemented during drilling activities. The mitigation measures are not specifically linked to the well depths simulated in the oil spill modelling report.

2.20.59. The Oil Spill Drift Modelling used known available and industry standard numerical modelling methods. The modelling incorporated metocean conditions, environmental sensitivities, properties of oil, geological data etc., into the modelling to come with a

simulation that represents the project area. All reasonably foreseeable impacts were assessed. The simulation period is 60 days, but the first response option which is surface response is within 24 hours. The second response is the injection of subsea dispersant which would have been implemented within 15 days of oil release. The third response option, which is an installation of a capping stack, would be deployed on the 20th day (conservative duration) to stop the release of oil. Therefore, the worst-case scenario would be to install the capping stack on the 20th day and stopping oil release. The applicant indicates that 20 days is required for the installation of a capping stack if the blowout preventer does not shut off successfully (as per Table 10.6 on page 460 of the ESIA). Hence the modelling only ended on the 20th day, but the simulation continued to day 60.

2.20.60. In terms of the chosen well points used for the oil spill simulation study, the location is not based on any particular future well position. These locations were chosen by the specialist as they represented the two worst case locations in the block with respect to the distance from the coast, wind and current direction and proximity to marine protected areas and critical biodiversity. As indicated above, there is no established causal link between water depth and increased risk of a blow-out. Taking into consideration the reasons for the location of the simulated wells, the study is not arbitrary and does not dismiss any additional risks.

2.20.61. The deployment of the aircrafts and vessels for surface dispersants are commitments made by the EA holder. These commitments will ensure that a blowout is well managed and impacts are mitigated. Therefore, the holder is forced to implement these actions, should a blowout occur.

2.20.62. It should also be note that since the Deepwater Horizon, many technological advances occurred and hence it is not an appropriate benchmark to use to inform the number of days required to install the capping stack.

2.20.63. A cumulative impact assessment was conducted for this project as evidenced in section 9.4, page 402 of the ESIA report. Potential future oil and gas projects within the west coast were not considered due to the unavailability of information such as extent, scope, duration and location of current applications. It should be noted that an impact assessment based on a project where the scope of the project is not well defined is a futile exercise. Secondly, the current exploration applications may prove that there is no resource. However, inherent in the assessment methodology is the consideration of past and future activities e.g. using the threat status, the environmental baseline and rating the sensitivity of receptors.

2.20.64. With respect to the seventh appellant's averment that "risk increases with the number of wells drilled and a track record of no blowouts does not diminish the chance of a blowout in the future," this is not what is asserted in the ESIA report. The mere fact that the impact and the probability of the risk of a well blowout is assessed, indicates that the risk is recognised. In addition, the frequency from a global perspective indicates that the risk exists and is realised hence the recommended mitigation measures to prevent a well-blowout and to minimise the impact in the unlikely event. Importantly, there is currently no evidence that risk increase with water depths as per the referenced paper.

2.20.65. The CA is satisfied that all potential impacts were identified and that the impacts are either avoided, minimised, or managed, provided that the recommended mitigation measures as documented in chapters 9 and 10 of the ESIA report are implemented.

2.20.66. The seventh appellant does not qualify why a north-westerly wind direction is relevant nor provides the source for this information. Figure 11 and Figure 12 of the oil spill modelling report presents the seasonal and monthly wind speed direction between 2017 – 2021 for Release Point 1 and Figure 14 presents the same wind data for Release Point 2 indicating that the prevailing wind direction is from SE to S at both release points. These two points were chosen for the oil spill model due to the distance from the coast, proximity to marine protected areas and critical biodiversity areas and winds and current direction

(which could cause the oil slick to move onshore). The consideration of wind and current directions factored in trends relating to these parameters for the period 2017 – 2021 and therefore the immediate effects of climate change are inherently considered in the modelling.

2.20.67. Section 2.2.2 of the final ESIA report explains the reference to Block 5/6/7. Essentially, metocean data used for the oil spill modelling was purchased from SAT-OCEAN which combines in-situ data, satellite sea surface temperature, wind and allometric data to generate 3D ocean currents and wind anywhere in the world. However, there is no on-site measurement available for ocean currents, therefore to demonstrate the validity and accuracy of the 3D model and data that informed the oil spill modelling study, comparisons were made between SAT-OCEAN's results and on-site wind measurements at Luiperd (Figure 76 of ESIA report), and Block 5/6/7 respectively to demonstrate consistency between SAT-OCEAN models and in-situ conditions, and thus, infer the accuracy of the dataset generated for the current oil spill modelling study.

2.20.68. The thresholds used in the post-processing of the modelling results are tabulated in Table 12 page 43 of the Oil Spill Drift Modelling. The ESIA acknowledges the toxic impact of oil on marine fauna and indicates that contact with any marine fauna would have a toxic effect, this would include fish as well. The overall sensitivity of offshore receptors is considered high. The ESIA indicates that large pelagic fish will avoid highly contaminated water, adult free-swimming fish do not suffer long term damage because oil concentrations decline rapidly in the water column and seldomly reaches lethal levels or levels which will cause significant harm. Benthic and inshore species may in rare cases experience mortality when the gills become coated with oil. Other long-term effects could be disruption of physiological and behavioural mechanisms, reduced stress tolerance towards pathogens and accumulation of poly aromatic hydrocarbons by means of ingestion. Thus, as a result of the high significance of the receptor (marine fauna) sensitivity, and the very high magnitude, the impact significance is very high, and the residual impact remains very high.

2.20.69. In terms of water column depths, the water column probability of contamination was a consideration during the oil spill modelling study where a deep contaminated layer and an upper contaminated layer was modelled representing oil that comes directly from the seabed release. It thus represents two different probabilities. This is addressed in section 3.1.2, page 49 of the oil spill modelling report. The assertion that all relevant depths of the water column (these are not qualified by the appellant) must be simulated would be cumbersome and complicate the report and meaning will be lost.

2.20.70. In terms of the impact of dispersants, the use of dispersants may only be used with the permission of the Department (DFFE). A list of approved dispersants is available. Mitigation measures were identified as per the ESIA report, for example using dispersants with low toxicity and which dilutes rapidly to below toxic thresholds and recording amounts used. It should also be noted that dispersants are only used under certain oil spill circumstances and therefore, as stated, part of the oil spill response. In addition, dispersant use is regulated.

2.20.71. The oil spill modelling technical study identified the possibility that oil released into the environment due to a well blowout would travel across the Namibian-South African offshore border thereby resulting in a transboundary incident (all seasons). The assessment indicates that the Namibian coastline can be impacted. The impact of a major oil spill on international waters was also assessed, the study indicates that the oil slick will most likely spread into international waters therefore beyond the EEZ. The commercial fisheries in Namibia and the area of interest were assessed and found to have no overlap. Thus, this evidences that transboundary impacts were considered during the EIA process. The CA is satisfied with the proposed mitigation measures, as they provide for avoidance and minimising of impacts such as, use of trained personnel, ensuring design and technical integrity, use of multiple technical barriers etc, the mitigation measures also provide restoration of impacted environment, such as the

implementation of the oil spill contingency plan. These mitigation measures are in line with NEMA requirements.

EVALUATION (Reasons for Decision)

2.21. I have thoroughly considered the extensive submissions made by the appellants regarding the applicant's alleged failure to assess and consider the risks associated with the proposed project on Marine Ecology and Avifauna, the impacts in relation to noise and in relation to oil spill, well integrity, well abandonment and water quality. I have also thoroughly considered the applicants and CA's responses and comments to these submissions.

Marine Ecology and Avifauna

2.22. In evaluating the grounds of appeal in relation to concerns raised relating to the impact of the proposed activity on marine ecology and marine environment I considered the Marine Ecology report. I note that the highest sensitivities to the proposed drilling activities are as follows:

- Tripp Seamount, which is located ~25km north of the licence block, that potentially supports vulnerable, long-lived benthic invertebrate species;
- Numerous vulnerable and endangered pelagic shark species;
- Leatherback turtles that migrate through the area;
- Endangered, regionally endemic African Penguins, Cape Gannets, Bank Cormorants and Cape Cormorants that breed in the broader project area;
- Sperm whales, which occur in the area year round;
- Humpback and Fin whales, which migrate through the area between May and December; and
- The Orange Shelf Edge MPA, and the Orange Seamount and Canyon Complex EBSA.

2.23. I note that the report states the following with regard to marine fauna and sensitive areas:

"Due to its offshore location, plankton abundance is expected to be low, with the major fish spawning and migration routes occurring further inshore on the shelf. The dominant fish in the area would include the migratory large pelagic species such as tunas, billfish and pelagic sharks. Seabirds will be dominated by the pelagic species such as albatross, petrels and shearwaters. Migrating turtles in the area would include the leatherback and loggerhead turtles. Marine mammals likely to occur offshore include a variety of baleen whales including humpbacks, Antarctic minke, fin and sei whales. Toothed whales will include sperm and killer whales, as well as a variety of beaked whales and dolphins. The licence block overlaps with the Orange Shelf Edge MPA and the Orange Seamount and Canyon Complex EBSA. The Area of Interest for drilling, however, specifically avoids these areas."

2.24. I further note that the overall impact of marine ecosystems and fauna was considered to be of medium to negligible significance. Although the impacts of an unplanned oil spill have been rated of high significance, this is considered to be highly unlikely and the impact is partially reversible. In this regard, I am satisfied that several operational and technical measures, such as multiple technical barriers and the use of trained personal, will be put in place to reduce the risk of a blowout occurring. In the unlikely event of a blowout occurring, I am satisfied that mitigation measures, such as the OSCP and BOCP, will be put in place to adequately mitigate the severity of the impact.

2.25. My decision is also informed by the fact that the project is of limited scope and short duration. Again, for reasons that I have already traversed, the duration of the project is limited to exploration (prospecting) and not extraction (production).

2.26. In light of the aforementioned I find that this ground of appeal has no merit and is accordingly dismissed.

Underwater Noise

2.27. In evaluating the concern raised in relation to noise, I considered the Noise Impact Assessment study. In this regard I note that the following impacts were assessed:

- Impacts from VSP seismic pulses;
- Impact of drilling operations; and
- Impact from Multi-Beam Echo-Sounder (MBES) pulse(s).

2.28. I note that the noise impact criteria have been established via a review of the most relevant guidelines and literature, and that these criteria include physiological and behavioural impacts on marine fauna, including marine mammals, fish, fish eggs, fish larvae, and sea turtle species. I take note that detailed modelling predictions have been undertaken for noise emissions from identified major noise sources, including impulsive airgun signals from vertical seismic profiling (VSP), single pulse sonar surveying, and continuous noise emissions from different stages of drilling operations (including the drilling unit and support vessels), and that the zones of noise impact from major noise sources have been estimated for different marine faunal species based on comparisons between Sound Transmission Loss Modelling noise levels and noise impact criteria for both shallow-water and deep-water source location scenarios.

2.29. I accept that underwater noise generated from the project activities can impact on the behaviour, communication, feeding, and breeding of marine mammals, fish and birds including endangered species. However, both the ESIA report and the underwater noise impact assessment have considered and assessed these impacts, as well as those on the migratory pathways, and adequate mitigation measures in respect thereof have been proposed. I note that the proposed wells, pursuant to an ROV survey, will be positioned to beyond 1 000m to avoid sensitive areas if detected, or that the applicant will implement

appropriate technologies, operational procedures and monitoring surveys to reduce the risks of, and assess the damage to, vulnerable seabed habitats and communities.

2.30. I am satisfied that the potential noise and impacts of the project on the marine ecology and avifauna and the proposed mitigation measures have been identified and assessed in terms of the worst-case scenario and that overall, the residual impacts are considered to be of low to very low significance. I note further that the duration of the impact is short-term and that mitigations measures will be implemented to minimise the noise impacts of the sonar surveys and drilling activities, including the appointment of marine mammal observers (MMOs) onboard for mammal observation, the use of PAM during low visibility, and soft start procedures.

2.31. I am therefore satisfied that the impacts of noise have been adequately assessed and mitigated to ensure low impacts on the receiving environment. As such, this ground of appeal is dismissed.

Oil Spill / Well Integrity / Well Abandonment

2.32. The probability of a well blowout occurring is considered to be extremely unlikely. I am aware that various oil spill scenarios were modelled for the project, considering a worst-case scenario of crude oil, although both gas condensate and/or oil could be encountered. I note that:

- For Release point 1, modelling results indicate that there is no probability of shoreline oiling, with the slick extending offshore in a WNW and NW direction into Namibian and International waters.
- For Release Point 2, modelling results indicate the probability of shoreline oiling is similarly 0% for all seasons except Season 3 when, with the implementation of the capping response and additional surface response and Subsea Dispersant Injection Kit (SSDI), there is a 4.5% chance of shoreline oiling along 130 km of coastline with a maximum of 355 tons of oil reaching the shore. The coastal area potentially

impacted by oil (with probabilities of 5% maximum) is located in the Northern Cape Province of South Africa, 30 km south of the Groen River to 165 km South of the South African-Namibian border.

- The only period with oil reaching the shore is during Season 3 for Release Point 2, with only 5 out of 90 simulations with a coastal impact (for a simulation starting in June 2021). The drift towards the coast is due to north-eastward current events in June 2021, associated with unusually northward propagating circumpolar low-pressure systems. For the rest of the year, west to north-westerly currents and south to south-easterly winds dominate, keeping the spill away from the coast for both Release Points.
- Namibian waters would be impacted by surface oil during all seasons. For international waters, there is a high probability of surface oil for all the seasons for Release Point 1, and during Seasons 1 and 4 for Release Point 2.

2.33. I take note that a "multi-barrier" approach will be implemented to minimise the risk of oil spills. In addition, various mitigation measures for unplanned events, such as blow-outs are described in the ESIA report. The mitigation measures include, among other, blow-out and oil spill contingency plans, an emergency response plan, a shipboard oil pollution emergency plan, the availability of capping stacks. All of these will be implemented if there is a spill or blow-out. I am satisfied that these contingent plans, properly implemented, will prevent or reduce the impacts of an oil spill or blow-out on the receiving environment. I am also satisfied, after careful consideration, that the recommended mitigation measures satisfy the requirements of the precautionary approach.

2.34. It is my considered view, after reviewing the literature made available to me in the appeal, that the potential impacts on the receiving environment and on marine and coastal receptors have been identified, considered and addressed. I have taken note of the fact that some 358 wells have been drilled off the South African coast without any well blow outs, and that global data maintained by Lloyds Register indicates that frequency of a blowout from normal exploration wells is in the order of 1.43 x 10-4 per well drilled.

2.35. Additionally, I have taken note of the applicant's track record in working in similar environments. I further note the impacts, mitigation measures, contingency plans and responses that will be implemented if such an event occurs. There are important differences between this proposed project and the Deep-Water Horizon project and, indeed, the other oil spill incidents cited by the appellants. They are not comparable to the proposed exploration. Significantly, technology and industry knowledge to deal with such events has advanced since then. I am satisfied that the implementation of the MARPOL standards will result in discharges from the project having a minimal effect on sea water quality, given the low total discharges, which will also be diluted by sea water. I have further noted and I accept the adequacy of the measures to deal with discharges from the operations.

2.36. A wealth of information has been placed before me by the various parties. Some of it is technical. I have reviewed the literature furnished to me. Whilst I accept that my decision in this appeal requires that an equilibrium be struck between a range of competing interests and considerations, I am satisfied that, after careful consideration, there is not enough in the appeal to persuade me to refuse the applicant an EA on the grounds raised by the appellants under this head. The appellants' concerns are adequately dealt with and accommodated. In light of the above, I find that this ground of appeal has no merit and is accordingly dismissed.

Third Ground of Appeal: Cultural Heritage

2.37. The third, fourth, sixth, seventh and eighth appellants submit the following:

2.37.1. The third appellant notes that oceans have critical spiritual importance to many indigenous groups and that these indigenous people also have vast knowledge on ocean conservation and marine life. The third appellant contends that the ESIA report does not at any point acknowledge the value of indigenous people's perspective on the impact that

the drilling may have on the ocean. The third appellant avers that the ESIA report lists public comment as a mitigation strategy for the impact on cultural heritage, however it does not include any notification activities that would directly promote public participation of indigenous groups. The third appellant notes further that the ocean also has significant importance to traditional healers and other religious customs and that ocean water is often used for rituals, initiations, and healing. A common training practice for *sangomas* involves dwelling underwater for long periods of time.

2.37.2. The third appellant avers that the proposed exploration activities could disrupt the sacredness and ritualistic purpose of the ocean for traditional healers and contends that the ESIA report does not include any specific mitigation measures for traditional healers, nor does it make any effort to include traditional healers in its impact assessment. For these reasons, the impact of the proposed exploration activities on cultural heritage was not properly considered in accordance with the NEMA principles.

2.37.3. The fourth appellant notes that the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Convention on Biodiversity (CBD) create an obligation to consider and include indigenous knowledge and cultural rights in all Environmental Impact Assessments (EIAs). They contend that their indigenous knowledge as fishers has not been included in the application for EA. They note that their knowledge was not included in the expert report by the Fisheries Expert, who did not consult with them, and they state that their knowledge of fisheries and its importance to their specific culture is not included in the report.

2.37.4. The fourth appellant notes further that the Cultural Heritage Impact Assessment expert did not consult them and their unique cultural heritage and knowledge, which is tied to their use of the ocean and which has not been documented in any of the expert reports. They aver that the ESIA report only includes very general references to small-scale fishers and indigenous rights and does not cite their specific knowledge as the Aukotowa

fishers of the Northern Cape. They contend that this goes against the United Nations Human Rights, the CBD Agreements of Parties, and their constitutional rights.

2.37.5. The sixth appellant states that their customs and traditions have not been considered. They have a spiritual connection with the oceans and they are a part of the oceans and vice versa. Natural resources are crucially important for indigenous people, and many family members are buried in the oceans. The proposed projects are restricting their access and free movement to the oceans, which results in the loss and destruction of their cultural heritage.

2.37.6. The seventh appellant states that the ESIA failed to assess the cascading impacts on the sense and spirit of place resulting from physical landscape alterations caused by an oil spill. The cultural and heritage impact assessment states that "the sensitivity of this receptor will increase from medium to high if an unplanned event occurs. This is because valuable heritage towns and locations depend on the sense of place to attract visitors, researchers and investors. If the place is negatively impacted by an oil spill, these patrons and researchers will not come to the place, thereby destroying the 'sense' of place". This is an overly simplistic interpretation of sense of place and ignores the potential for significant harm. They state that sense of place is a complex concept that encompasses the emotional, cultural, and psychological connections that people have with their surroundings, and that it is important to note that even if the impacts and their consequences are rated as "very low", they can have a cumulative effect over time. For example, a small oil spill may not have a significant impact on a coastal ecosystem, but a series of small oil spills can have a devastating impact.

2.37.7. The seventh appellant avers that the ESIA fails to assess the impacts to cultural and spiritual identities and practices of coastal communities. The Cultural Heritage Impact Assessment acknowledges the connection of small-scale fishers with the ocean but does not sufficiently assess the potential impacts of the project, particularly of a spill, on some of these aspects of cultural heritage and identity. The Cultural Heritage Impact

Assessment did not adequately assess the cultural impacts of offshore drilling on fishers, including those who are not Khoisan or Nguni peoples. The report focused on the ancestral and ritual practices of Khoisan peoples, and Nguni peoples to a lesser extent, but it did not address the role of the ocean and marine resources in constituting cultural identities, local ecological knowledge, cultural and customary practices, sense of place, and cultural ecosystem values of fishers. As a result, the impact ratings in the report are inaccurate and has a number of material deficiencies including the following:

2.37.7.1. Loss of cultural identity: The ocean and marine resources are an important part of the cultural identity of fishers. Offshore drilling could disrupt fishing activities and lead to a loss of access to these resources, which could damage the cultural identity of fishers.

2.37.7.2. Loss of local ecological knowledge: Fishers have a deep understanding of the ocean and marine environment. This knowledge is passed down from generation to generation and is essential for managing and protecting marine biodiversity. Offshore drilling could lead to the loss of this knowledge, which could have a negative impact on the sustainability of marine ecosystems.

2.37.7.3. Disruption of cultural and customary practices: Fishers have a number of cultural and customary practices that are related to fishing. These practices are important for maintaining social cohesion and cultural identity. Offshore drilling could disrupt these practices, which could have a negative impact on the social and cultural well-being of fishers.

2.37.7.4. Loss of sense of place: The ocean and coastal areas are an important part of the sense of place for fishers. Offshore drilling could disrupt the relationship between fishers and the ocean, which could lead to a loss of sense of place and a decline in well-being.

2.37.7.5. Damage to cultural ecosystem values: The ocean and coastal areas are home to a number of cultural ecosystem values, such as beauty, recreation,

and tourism. Offshore drilling could damage these values, which could have a negative impact on the economy and quality of life in coastal communities.

2.37.8. The ESIA rhetoric has served unjustly as a rationale for halting livelihoods in times of economic difficulty and impacting their marine-related intangible cultural heritage, and that the effects to their intangible heritage and relation to the sea remain, whether impacts occur close or far from shore.

2.37.9. The eighth appellant avers that the CA has not taken cognisance of previous cases and clarification in the Cultural Hertiage Impact Assessment that there is opposition to the project. They state that in the *Christian John Adams & Others (13 applicants) v Minister of Mineral Resources and Energy & Others* (2022, March 1) court interdict to halt the first proposed 2D and 3D surveys, and other articulations of dissent, small-scale fishers and associations, civil society and the public have protested against offshore oil and gas operations.

2.37.10. The eighth appellant asserts that the ESIA fails to recognise the degree of significance of heritage resources through grossly simplistic, reductive mitigation recommendation, which makes a mockery of the spiritual and cosmological value that the sea holds for coastal, fisher, indigenous and First People communities. They refer to the finding in the Cultural Heritage Impact Assessment, which states that "*[t]he proposed mitigation would reduce the intensity and thereby the overall magnitude of the impact. This in turn would reduce the residual impact to medium significance. It is recommended that TEEPSA sustain regular consultation with relevant stakeholders during the operation period, and that ritual event/s of regional and national significance are implemented to permit engagement with ancestral spirits and the spirit of the sea itself – as there are many communities that believe in the agency of the sea and in its existence as a living organism. These actions may alleviate the potential and future negative impacts of non-consultation and poor cultural respect.*" The appellant submits that this poorly defined

approach used by the heritage specialist limits the ability of the CA to make informed decisions by making no distinction between quantitative and qualitative inputs.

APPLICANT'S RESPONSE

2.38. In their comments to this ground of appeal, the applicant responds as follows:

2.38.1. A Cultural Heritage Impact Assessment (CHIA) was undertaken for the proposed project in Block DWOB. The CHIA is informed by anthropological field research conducted from October 2020 to November 2021, and more recent field research conducted in March 2022 – April 2022. As stated on pages 21-22 of the CHIA, the primary objective of the assessment is 'to conduct primary anthropological research in the stated communities within the indirect area of influence to describe, discuss and analyse the receiving environment, specifically key stakeholders' Intangible Cultural Heritage and the prevalence/frequency/commonality of cultural and spiritual reliance on the sea. The cultural heritage to be assessed includes the heritages of indigenous autochthonous and recently settled peoples, their spiritual and religious uses of/connections to the sea and coast and their cultural valuation of these assets.'

2.38.2. The CHIA defines Intangible Cultural Heritage (ICH) as including folklore, ritual practice, beliefs, symbolism, social attachment, as well as associated human sensory engagement with the coast and sea (living waters) and tangible heritage such as archaeological sites and sites of spiritual significance and artefacts. The broad spectrum of receptors who participated in the assessment is referenced in numerous places throughout the CHIA as follows:

2.38.2.1. At page 25, it states that a 'wide cross-section of South Africans and some immigrants" were interviewed, including the descendants of First Peoples (i.e. Khoisan descendants, which included descendants of the Korana and Griqua), as well as Nguni descended peoples, European descendants and

those who still classified themselves in racial terms (i.e. white, black African, coloured or Indian);

2.38.2.2. At page 29, it notes that for 'the Khoisan (First People) descendants, there is a deep connection with the coast and the sea;'

2.38.2.3. At page 31, the report notes that the waterways leading to the sea are described as "living waters" and are believed to play a critical role in spiritual and health management in indigenous (First Peoples and Nguni) groups specifically. It was also noted that the ancestral spirits reside on the sea floor. Regular, consistent and frequent interaction with the coast and the sea by these persons is conducted to secure the guidance and benevolence of the ancestors.

2.38.2.4. At page 32, it notes that SSF were interviewed, who expressed concern that the exploration activities would affect fish stocks.

2.38.2.5. At page 32, interviews with First Peoples resulted in stories, which revealed the cultural and ecological sensitivity of the coastline as well as their cultural values and the reliance by SSF families on these coastlines for subsistence, the role of the coastline in fish spawning as well as studies of aquatic biodiversity;

2.38.2.6. At page 34, it notes that Khoisan live in a symbiotic and holistic relationship with the sea. This is a relationship that must be conserved and is key to the full development of persons who are part of a large, critically based ecosystem. The Khoisan and Nguni peoples regularly and consistently engage with the ocean and nature for healing.

2.38.2.7. At page 34, the Xhosa and Zimbabwean persons interviewed also held the belief that their ancestors resided on the seabed. These ancestors are consulted on matters of health and before life rituals.

2.38.2.8. At page 35, it was noted that tangible cultural heritage in the form of shell middens are located along the coastline, which demonstrate early human occupation around the coastline.

2.38.2.9. At page 36, the report notes that healer-diviners were interviewed who shared the connection of the Nguni people to the sea and coast.

2.38.2.10. At page 36, the report notes that many people of European descent share a cultural relationship with the sea and coast in the form of leisure and strong cultural elements in social grouping, ritual practices and shared histories.

2.38.2.11. At page 37, the role of municipalities and property developers were engaged who are responsible for conserving unique features of tangible cultural heritage.

2.38.2.12. At page 38, it notes that some of the groups such as the SSF demonstrated their cultural proximity to the ocean and coast. They personalized the ocean and coasts more, recognized the agency of the sea itself and the social personalities of marine life. They also more keenly noted human-ocean symbiosis, the reliance of humans on the sea not only for subsistence but for sensory experience and holistic existence. In this regard, the SSF have a cultural heritage relationship with the sea.

2.38.2.13. At page 38, certain persons interviewed who are from the SSF and other community members who identify as Xhosa indicated that they do not use the ocean for cultural purposes but shared fears of offshore exploration. The example was given that fishing can no longer happen at Mossel Bay after the oil and gas activities there.

2.38.2.14. At page 41, it was noted that indigenous peoples also imbibe sea water as part of ritual practices that facilitate contact with the ancestral world.

2.38.2.15. At page 43, a Cape Malay woman spoke of cooking crayfish curry as part of her family's Eid celebrations.

2.38.2.16. At page 43, the SSF's that were interviewed indicated that abalone and crayfish were more sought after than other fish and that fishing for sardine had become more difficult. The SSF also expressed the dangerous nature of open water fishing. They also share stories of being miraculously saved by mythical creatures at sea.

2.38.2.17. At page 44, the report notes that fisher communities have a long-established cultural relationship with the ocean and coast that is expressed in food cultures, memories of the sea, patterns of sociality and seasonal livelihoods.

2.38.2.18. At page 45, it notes how the different genders make use of the sea. Women used it as a provider of physical and emotional healing, while men used it as a location of masculine socialization.

2.38.3. The impacts of both normal operations (e.g. drilling and support vessels) and unplanned events (e.g. a well blowout) and cumulative impacts are considered in the CHIA.

2.38.4. In respect of normal operations, the CHIA concludes as follows:

2.38.4.1. Any impact on the integrity of the coastal and marine ecosystem through disturbance, pollution, noise etc could impact on people's ICH, and the following receptors:

2.38.4.1.1. Ancestry / spirituality: persons being able to communicate with their ancestor or undertake life cycle rituals. As this results in a potentially negative impact, mitigation is required to lessen these impacts in both the natural and cultural world. The impact of normal operations on ancestry or spirituality receptor sensitivity was found to be **low** to **medium.**

2.38.4.1.2. Tangible heritage sites along the coastline. The impact of normal operations on Tangible Heritage receptor sensitivity was found to be **medium** to **low.** Sense of place receptor sensitivity was found to be **low.**

2.38.4.1.3. Livelihoods including small scale fishers, leisure, tourism and sporting events. The impact of normal operations on livelihoods was found to be **medium** because members of the community depend on fish and crayfish for subsistence. These receptors may have a low sensitivity where there is existing commercial fishing and port activities.

2.38.4.1.4. Natural heritage, which includes cultural relations with the ocean and coast. Natural heritage receptor sensitivity is **high** since natural and cultural heritages are interdependent.

2.38.4.1.5. Health in that people use the sea to improve, sustain and restore physical and mental health. Health receptor sensitivity was found to be **medium** as operations take place far from the shore. However, normal emissions may increase the perception of pollution.

2.38.4.2. The impact of normal operations on receptor sensitivity when viewed cumulatively is **low** to **medium**. The **magnitude** of any impacts is considered **low** prior to mitigation due to the moderate intensity, short-duration (3 – 4 month) and regional extent.

2.38.4.3. Based on the medium sensitivity of receptors and the medium magnitude, the potential impact of offshore well drilling activities on ICH is considered to be of medium significance without mitigation and of **low significance** after mitigation measures are implemented.

2.38.5. In respect of unplanned events, the CHIA concluded that:

2.38.5.1. The magnitude of an unplanned event on tangible heritage and ICH is also high because it will be of high intensity, medium duration and regional in extent.

2.38.5.2. Because of the high sensitivity and high magnitude, an unplanned event will have a high significance. As mitigation measures reduce the overall magnitude of the impact, it is reported that the overall significance could be reduced to medium.

2.38.5.3. From a cumulative perspective, the cumulative impacts of diamond mining, commercial fishing, port operations, recreational tourism as well as land-based activities contribute pollution to the sea. As a result, the magnitude of cumulative impacts (unmitigated) taking into consideration existing uses and the proposed project is considered to be medium prior to the project.

2.38.5.4. The Cultural Heritage expert recommends that the applicant should commit to and undertake frequent, regular and sustained public participation, communication and information sharing sessions with affected local communities across all of the identified stakeholder groups. This is a long-term endeavour. These communications must preferably be directly with the relevant stakeholders and not through a representative or NGO.

2.38.6. Furthermore, the CHIA must be read in conjunction with the Fisheries Impact Assessment, which considers the fisher communities and elaborates on the SSF sector as follows:

2.38.6.1. Coastal communities utilizing marine resources have been marginalized through apartheid and previous fishing regimes.

2.38.6.2. These fishers traditionally operate on the nearshore fishing grounds to harvest marine living resources on a full-time, part-time or seasonal basis. Fishing trips are usually of short-duration and fishing/harvesting techniques are labour intensive.

2.38.6.3. Many communities living along the coast have, over time, developed local systems of rules to guide their use of coastal lands, forests and waters. These local rules are part of their system of customary law. Rights to access, use and own different natural resources arise from local customary systems of law. These systems of law are not written down as in Western law, but are passed down from generation to generation through practice.

2.38.6.4. Customary fishers are normally associated with discrete groups (tribes or communities with unique identities and associations with the sea) who may be defined by traditions and beliefs. These traditions are increasingly being challenged as stocks and marine resources have been depleted. This would include, for example, intertidal harvesting of seaweed, mussels, oysters, cephalopods and virtually any species available to these communities. These fishers are generally localized and do not range far beyond the areas in which they live.

2.38.6.5. SSF resources are managed in terms of a community-based co-management approach that aims to ensure that harvesting and utilization of resource occurs in a sustainable manner in line with the ecosystem approach.

2.38.6.6. It sets out the typical fishing methods used by SSF.

2.38.6.7. The SSF communities on the West Coast, with long family histories of subsistence fishing, prioritise the harvest of near shore resources (using boats) over the intertidal and subtidal resources.

2.38.6.8. It details the species traditionally caught by the SSF up the West Coast which include snoek (and other small pelagic species) coast rock lobster, wild abalone, chokka squid and oysters. The Fisheries Report also set out the way in which these species are caught and, where relevant the migration patterns.

2.38.6.9. Based on the distance from key SSF harbours to the area of interest and on vessel clarification (with Class C to E vessels not being allowed to travel beyond 28km of the coast), tuna is caught closer to the coast by SSF (and traditional line fish and recreational fishers) when warmer water moves closer inshore during the summer months.

2.38.6.10. SSF (from the Northern, Western and Southern coastlines) are unlikely to range beyond 20km of the coastline (which is at least 15km inshore of the area of noise disturbance from the project) in terms of SSF rights' covering the nearshore under the Marine Living Resources Act, but it is recognized that cultural practice of the SSF may occur up to 55km offshore. That is, some SSF may target certain species (tuna and snoek predominantly) more than 20km offshore.

2.38.7. On this basis, the appellants' allegations that the CHIA was not sufficient, particularly in respect of SSF, should be dismissed.

2.38.8. Regarding the third appellant's averment that the ESIA report does not acknowledge the value of indigenous people's perspective on the impact that the drilling may have on the ocean, the ESIA report refers to the public participation process which sets out all interested and affected parties' comments including those comments submitted by indigenous people. The impact of the project on cultural heritage is set out in detail at paragraphs 7.10.2 (*cultural heritage and spiritual beliefs*) (pages 280 – 283), 9.1.7 (*impact on intangible cultural heritage*) (pages 318 – 321), and 10.4.3.4 (*impact on intangible and cultural heritage in respect of oil spills*) of the ESIA report (pages 469 – 471). The mitigation measures for impacts on cultural heritage arising from ordinary operations are set out on page 320 of the ESIA and include the following:

2.38.8.1. Implementing a comprehensive, consistent and regular consultation with indigenous groupings and leadership, as well as those who fall outside of this category (including traditional healers). The aim of such engagement should ensure open, direct and consistent communication with stakeholders that may be affected by operations.

2.38.8.2. Implementing, where necessary based on the outcome of the consultation process, a ritual event/s that permits engagement with ancestral spirits and with living communities to alleviate potential and future negative impacts of non-consultation and poor cultural/nature respect. Acknowledge that participation and consultation may not be sufficient to meet community needs regarding mitigation, and that other initiatives that offer the possibility of sustainable development may need to be initiated.

2.38.8.3. Implement a gender sensitive ritual event in each region that recognises gendered coastal cultural heritage to permit all genders to articulate their cultural relation with the sea and coast.

2.38.8.4. A full grievance mechanism must be adopted.

2.38.8.5. In respect of oil spills impacting cultural heritage, the ESIA report contemplates the development of emergency plans and compensating those affected by such an oil spill. In terms of emergency incident

proceedings under section 30 of the NEMA, the applicant would be required to engage with I&APs impacted by an oil spill.

2.38.9. The appellant's allegations that the small scale fishers were not consulted and/or that their knowledge was not included in the ESIA report is denied. The small scale fishers were engaged and their traditional knowledge incorporated into the ESIA report. The fourth appellant is noted to have attended the public participation meeting held in Port Nolloth on 22 May 2023 as evidenced by the list of attendees.

2.38.10. With regard to the seventh appellant's averments that the ESIA failed to adequately assess cultural and heritage impacts, the CHIA discusses cultural heritage in coastal South Africa in detail. The term 'adequately' is a subjective measure, since it is not clear whether it is the appellant (whose qualifications are not known), who can state what constitutes an adequate CHIA, or whether this is the task of the cultural heritage specialist. The CHIA report assesses, in detail, the impacts of offshore drilling on cultural heritage, not only of fishers but a diversity of South Africans. Table 3 of the CHIA notes that more than 200 interviews were done in several coastal locations in South Africa. The CHIA confirms the diversity of South Africans interviewed and engaged for the CHIA, including Small Scale Fishers (SSF) across a diversity of cultural and ethnic groups. The CHIA confirms the importance of marine life to the SSF but also that these marine resources are very diverse.

2.38.11. Regarding the diversity of the marine resources and that people switch from offshore fishing to the collection of various marine life for survival, people who may rely on the sea for food and have SSF 'cultural heritage' do not rely on single species or even solely on fish (i.e., snoek), but these communities do collect and eat a diversity of marine species. This is evident from the field research in Doring Bay, for example. Regarding the cultural ecosystem values used by coastal communities, the research undertaken as part of the CHIA notes the holistic engagement of communities with the ocean. The report states, that there is complex and holistic consideration and valuation of the sea and coast. The

ocean is not merely an asset, it is a living organism and integral part of the global ecological system. For these communities, the whole ocean forms part of a cultural complex in which local, living communities must be consulted and ancestral blessing must be obtained for development to take place. In this regard, the people interviewed consider the whole ocean to be highly sensitive to disturbance and pollution regardless of industrial or other activities happening inshore. Sense of Place is mentioned eleven (11) times in the CHIA report and so is its importance to cultural heritage.

2.38.12. Regarding the seventh appellant's statement that offshore drilling could lead to a loss of cultural identity, the CHIA report indicates that SSF are not a socially and culturally dynamic or a changing group, and that cultural heritage itself is dynamic and is not fixed. Thus, one should not homogenize or primordialise SSF cultural links to the ocean. At the very least, one cannot presume that SSF do not have cultural identity beyond that of being SSF. The data collected for the CHIA clearly demonstrates individuals that have multiple identities and cultural heritages, and that people have a diversity of occupations. The comment presumes the existence of static and slow to change identity and heritage in South Africa and presents a view of all SSF as primordial/unchanging beings with only one source of livelihood and identity.

2.38.13. The CHIA specialist notes that her report considers in detail all of the points raised by the seventh appellant (in relation to the loss of local ecological knowledge, disruption of cultural and customary practices, loss of sense of place, and damage to cultural ecosystem values) and goes further to state the value of cultural heritage to social justice and restoration in South Africa. She goes on to say that the CHIA report considers the voices, views and desires of South Africans beyond SSF. Some of the communities beyond SSF (and some SSF themselves) desire the possibility of economic development for their families and future generations which the proposed project seeks to offer. In this regard, though they value cultural heritage and what it brings to society, they are deeply mindful of present sufferings and social ills, engendered by centuries of oppression.

2.38.14. Regarding claims that the ESIA report fails to recognise the significance of heritage resources and criticizes the mitigation measures provided, the appellant has not provided any specific examples of the manner in which the heritage assessment was deficient and no alternative mitigation measures are required. As a result, the statement is unhelpful, unsupported by any evidence and merely an expression of their opinion.

CA'S RESPONSE

2.39. In its comments on this ground of appeal, the Competent Authority responds as follows:

2.39.1. A CHIA was conducted and it is based on anthropological field research (conducted during October 2020 to November 2021 and March-April 2022). As documented in the findings of the study (section 5.3), the SSF communities interviewed during the study expressed their concerns regarding the impact that seismic and drilling exploration activities could have on fish stocks. Indigenous people who classify themselves as descendants of Khoisan, Korana, Griqua, and Nguni were interviewed. European descendants and those who are classified in racial terms (i.e., white, black African, Coloured and Indians) were also interviewed during the study. It is therefore incorrect to assert that value is not placed on the concerns of indigenous people taking into account the study conducted.

2.39.2. In terms of the value/importance of the knowledge of indigenous people, this is acknowledged in the CHIA as it is described in legislative context, by considering crucial aspects of the Indigenous Knowledge Act, 2019 (Act No. 6 of 2019). These includes human cultural connection with the ocean and coasts, coastal cultural heritage, spiritual/cultural and religious uses of the ocean and coasts etc.

2.39.3. The CHIA acknowledges that the ocean is perceived to be a cultural whole and that the cultural perceptions and beliefs are important to preserving cultural heritage. Thus, this is not disputed or not understood and taken into consideration during the impact

assessment. The proposed project is of short-term duration and the assessment indicates that the application area does not overlap with areas used for ritual activities. However other cultural practices/uses (cultural heritage) may be impacted by the project. It should also be borne in mind that there are already existing activities such as mining, which has already had an impact on uses of the sea.

2.39.4. The CHIA found that the impact on cultural heritage ranges from low to medium provided that the identified mitigation measures are implemented, while the impact significance specifically to an oil spill as a result of a well blow-out for intangible cultural heritage is high, although unlikely. The CA is satisfied with the proposed mitigation measures, as they provide for avoidance and minimising of impacts.

2.39.5. In terms of practices performed by indigenous and various interested and affected (I&AP) groups, the description of cultural heritage in section 5.1 page 30 of the CHIA provides details of practices such as beliefs and ritual practice etc. The research also revealed the revival of identity of the First People thus identifying the cultural and ecological sensitives and value of these coastlines. According to the ESIA, well drilling impacts on intangible cultural heritage, which includes rituals practices, are of medium significance. The CHIA (section 7.8) recommends specific mitigation measures, which includes continuous engagement with the I&APs.

2.39.6. Notifications for the project were sent to registered I&APs via email, post and sms, published on newspapers, aired on radio and placed on site notices. With specific reference to indigenous groups, section 4.2.1 of the ESIA report, indicates that the initial database was also based on engagements with various indigenous groups and communities and the primary anthropological baseline study, thus the initial notification included indigenous groups and communities.

2.39.7. In response to the fourth appellant, the CA states that small scale fishers and indigenous groups were consulted by means of focus group meetings and online and public meetings

held during the EIA process. Thus, a wide cross-section of South Africans (Northern Cape, Western Cape and Eastern Cape) was interviewed. The aim of this field research was to gather and understand coastal heritage in the context of the spiritual, religious and cultural uses of the sea and the coast.

2.39.8. The CHIA indicates that primary data collection occurred at Port Nolloth, and secondary data collection occurred at McDougall Bay, Alexander Bay and Hondeklip Bay. Secondary data collection occurred because of the violence within the Hondeklip Bay area. This limitation is acknowledged in the report.

2.39.9. In terms of sense and spirit of place, the receptor sensitivity is low for normal operations considering that these activities (drilling) would not impact the sense of place/spirit since at the DWOB licence block is offshore. The assessment indicates that the residual impact significance is negligible and is reversible. In the case of an unlikely oil spill, the receptor sensitivity is medium to high because if heritage sites/locations (coastal tangible heritage sites) are impacted/physically altered by a major oil spill it would not attract visitors, researchers and investors. As discussed previously, the probability of a major oil spill is unlikely. One of the mitigation measures is to avoid drilling activities during the austral winters because the modelling indicates that during this season, shore oiling due to a blowout is more likely. Should the drilling occur during the austral winter then the oil spill contingency plan will be adjusted accordingly.

2.39.10. It is not clear whether the issues or concerns raised by the eighth appellant are similar to the issues discussed in the court case, however, it is the CA's view that the case was specific to the process undertaken during the assessment of the exploration right impacts which was brought before the court, and which was different to the process undertaken for the EA in question. The CHIA was undertaken for the project, and it included identified I&APs, which were interviewed. The interviewed I&APs raised concerns about the authorised activities, and the said concerns were addressed in the ESIA. Mitigation measures were also proposed in the CHIA and were incorporated in the ESIA. Other

factors of cultural and heritage importance were sourced from published literature to ensure that all impacts of the authorised activities are identified, assessed, and mitigated. The assessment therefore included all factors of cultural and heritage importance.

EVALUATION (Reasons for Decision)

2.40. I am mindful of the importance of preserving, conserving and respecting cultural heritage of all people within the Republic. I have therefore considered all the submissions made by the appellants with the utmost of gravity. I must however consider these submissions alongside the guiding principles contained in section 2 of NEMA. Moreover, I am guided by the information on record before me.

2.41. I note that a CHIA was undertaken for the proposed exploration activities, and that the CHIA was informed by anthropological field research conducted from October 2020 to November 2021, and more recent field research conducted in March-April 2022. The study indicates that a multigenerational and multilingual team of South African and foreign national researchers, primarily educated in the social and human sciences engaged local coastal participants on the cultural and social meaning of the sea for them, their memories of the sea, their uses of the sea and coast and what it would mean to them if offshore exploration and development activities would have adverse effects on these waters and the seabed.

2.42. The key finding of the CHIA is that while the identified receptors of tangible and intangible cultural heritage may be either moderately or highly sensitive, under normal operations and after the implementation of recommended mitigation efforts, the impacts will be low. However, categorical opposition to normal operations can raise the residual impacts of normal operations to medium. The CHIA therefore advises that the applicant undertake a rigorous communication and participation campaign prior to and during the operations period, to ensure full community participation, as well as stakeholder engagement to

provide information to communities so that I&APs understand the operations process and can provide inputs.

2.43. Having considered the findings of the CHIA, I am satisfied that the potential impacts on potential environmental receptors, including small scale fishers and indigenous persons' intangible cultural heritage, spiritual practices and socio-economic connection with the sea, have been adequately assessed and mitigated to minimise such impacts on the receiving environment.

2.44. Although not raised as a ground of appeal, I have noted that condition 5.5.3 of the EA states that the applicant must undertake a pre-drilling survey at each well site to confirm the presence or absence of any environmentally sensitive features and that, in the event that the survey identifies the presence of archaeological sites or shipwrecks, the holder must notify the South African Heritage Resource Agency (SAHRA) and the Petroleum Agency South Africa (PASA) of the discovery. I deem it appropriate to amend condition 5.5.3 to provide for the possibility that the pre-drilling survey may reveal an archaeological site or shipwreck and that, if it does, the applicant must not only notify SAHRA and PASA of the discovery, but that it must also stop its activity in the area until those two agencies have had an opportunity to consider the impact of the discovery and issue a directive, within their powers, on what they deem is the most appropriate course of action to be taken in the circumstances. This is subject to a caveat that if SAHRA and PASA are inclined to issue a directive upon being notified of a discovery, whatever that directive may be, they must do so within 7 days of being notified of the discovery.

2.45. This ground of appeal is accordingly dismissed.

Fourth Ground of Appeal: Need and Desirability and the No-Go Alternative

2.46. The fourth, sixth, seventh and eighth appellants submit the following:

2.46.1. The fourth appellant avers that it is now internationally recognised by both climate and science experts and indigenous knowledge holders around the world that the planet and all life on the planet cannot sustain further fossil fuel exploration. The DWOB exploration activity is therefore not needed and not wanted, given the damage already done to the oceans and planet. The United Nations has said that there must be no more oil and gas exploration, and in light of South Africa's commitments to the Paris Agreement, there should be a focus on renewable energy resources with no more oil and gas exploration. The country is in the process of developing local plans for renewable sustainable energy policies, and these plans and policies that are now emerging at local and regional level should be considered by government. Renewable, sustainable forms of energy must be promoted. South Africa cannot afford to support short term unsustainable projects that will not lead to long term job creation and that this goes against the National Development Plan as well as against the principle of sustainable development.

2.46.2. The sixth appellant questions the need and desirability of the project since South Africa is not currently complying with its carbon dioxide agreements. There should be no new fossil fuel projects permitted, in order to keep to South Africa's international commitments.

2.46.3. The seventh appellant states that the CA must consider all of the factors listed in section 24O of NEMA, including the need and desirability of the proposed project, any guidelines published under section 24J, and any minimum information requirements for the application according to regulation 18 of the 2014 EIA Regulations. This includes the Department of Environmental (DEA), 2017 Guideline on Need and Desirability (the Guideline on Need and Desirability), which states that "the assessment of "need and desirability" must include considerations of how the proposed activity "may affect the geographical, physical, biological, social, economic, and cultural aspects of the environment".

2.46.4. The seventh appellant states that addressing the need and desirability within the context of ecologically sustainable development should give consideration to the potential impacts of the proposed exploration for new offshore oil and gas resources throughout its life cycle, and not just for the exploration phase.

2.46.5. The seventh appellant avers that the description of need and desirability in the ESIA is deficient because it failed to consider the negative impacts of the full lifecycle of oil and gas exploitation; fails to consider climate change; makes an assumption that gas serves as a transition fuel in terms of the IRP 2019; assumes that the need for natural gas is based on international markets; its reliance on Operation Phakisa as the basis for national planning for economic development through offshore oil and gas exploration is flawed; and it's assessment of energy planning frameworks is inconsistent with international commitments to addressing climate change.

2.46.6. The seventh appellant avers that the only reason that the applicant wishes to undertake exploration is to discover reserves that can be exploited. A balanced and proper assessment of need and desirability requires considering both the positive and negative impacts of the full chain of oil and gas exploration and production. Consequently the ESIA should have explicitly assessed the potential long term negative impacts associated with exploration and production activities, including the downstream activities. The proposed activity will not accrue any real benefits to coastal communities, only risk.

2.46.7. The seventh appellant states that the ESIA does not discuss the potential climate impacts should exploration move to production, or the potential harms to communities' food security and livelihoods, which are all material deficiencies. The applicant and CA cannot have it both ways by praising the alleged and unsubstantiated benefits for the country of exploiting oil and gas as a means to justify the need and desirability of the project, but then refusing to consider the negative impacts of long-term oil and gas production and what climate impacts from production could mean for government policies. The impacts of production should be considered, at least in a general sense, in determining whether

exploration activities are needed or desirable. It is not their argument that the applicant needs to conduct full EIAs to assess the potential impact and mitigation measures in respect of any activity for which it has not yet sought authorization, even though it may one day seek to do so.

2.46.8. The seventh appellant takes note of the Minister's position in her appeal rulings on the applicant's exploration applications for Block 5/6/7 and for Searcher Geodata UK, is that the Makhanda Judgment is being taken on appeal, that rule 18(1) of the Uniform Rules of Court automatically suspends the operation of the order pending the finalization of the appeal, and that the applicant is only required to assess the potential impact and mitigation measures in respect of the activity for which it sought an authorisation. They (the appellants) presume that the Minister is referring to section 18 of the Superior Courts Act, 2013 (Act 10 of 2013) (SCA), which states that "the operation and execution of a decision, which is the subject of an application for leave to appeal or of an appeal, is suspended pending the decision of the application or appeal."

2.46.9. The seventh appellant contends that when considering the intervening parties' review ground, the court's judgment interpreted the existing law. It is only the operable and executable order of the court that is suspended in terms of section 18 of the SCA. Consequently, the Minister is obliged to consider those relevant parts of the judgment of the High Court. The ultimate outcome of the project cannot be justified, then the competent authority should refuse authorisation for any activity that causes environmental and/or social harm, and which serves as a precursor to the ultimate undesirable activity.

2.46.10. The seventh appellant re-iterates that climate change considerations are particularly relevant for assessing and determining need and desirability because it is impossible to determine whether the proposed exploration activities are necessary and desirable without knowing: (1) what the full lifecycle GHG emissions of the activities (including

production) could be; and (2) what these GHG emissions could mean for SA's obligations (domestic and international) to limit GHG emissions.

2.46.11. The seventh appellant avers that it is misleading and incorrect to paint a picture that gas is needed as a transition fuel in South Africa. The final ESIA acknowledges that South Africa has developed a promising renewable power programme, which has been very successful, but points to grid constraints in high yield wind and solar areas restraining further development in the Northern and Western Cape and recycling the outdated argument that wind and solar cannot provide dispatchable energy, and that battery options are not yet viable, or are unproven at very large-scale for protracted periods. The ESIA concludes that as a result, there is a potential role for natural gas fired power generation at least as a transition fuel. It also refers to government's continuing view that any existing oil or gas resources should be developed and makes this statement despite the ESIA also acknowledging the many domestic and international policies that require the urgent phase-out of fossil fuels.

2.46.12. The seventh appellant states that in any event, the CA is not bound by any policy but must independently satisfy itself that a policy is appropriate to the circumstances of the particular case. This was confirmed in Earthlife Johannesburg and Another v Minister of Energy and Others, the court found that policy instruments developed by the Department of Energy cannot alter the requirements of environmental legislation for relevant climate change factors to be considered. The CA cannot elevate principles or policies into rules that are considered to be binding with the result that no discretion is exercised at all.

2.46.13. In this respect, the seventh appellant points out that recent independent studies challenge the view that fossil gas is necessary for electricity generation and as a transition fuel, and they also confirm that renewable energy with battery storage options can meet almost all of South Africa's energy needs:

2.46.13.1. The International Institute for Sustainable Development's (IISD) Gas Pressure: Exploring the case for gas-fired power in South Africa (March 2022) report points out that while there used to be a rational view that fossil gas would be necessary either during a transition to low-carbon energy or as part of the long-term energy mix for electricity production, the analysis of the South African electricity system shows that gas supply is not technically necessary until at least 2035, if ever.

2.46.13.2. Meridian Economics' 'Hot Air about Gas – An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa' (June 2022) report points out that while South Africa's large-scale use of gas appears to be central to current energy policy direction in South Africa, this rests on a 2012 vision which pre-dates dramatic reductions in renewable energy costs and carbon emissions space, and that there is no evidence to support the large-scale gas envisaged in the Gas Master Plan (GMP); this is uneconomical even before carbon emissions are considered. The report points out further that the assumption that gas-fired power generation would replace coal ignores the fact that other technology combinations are now better at replacing coal-fired power than gas, and it is against these technologies that gas-fired generation should actually be compared.

2.46.13.3. The Vital Ambition Report by Meridian Economics in collaboration with the Council for Scientific and Industrial Research (CSIR) Energy Centre (Vital Ambition Report) states that gas to power is only justified in the South African energy mix in so far as it is required for low-utilisation flexible capacity (peaker plants) for balancing the system during peak power demand. The report confirms that no investments in gas infrastructure for energy production and generation is needed now or in the near future.

2.46.14. The seventh appellant states these studies have not been integrated into the assessment. Instead, the ESIA cherry-picks parts of the IPCC report and skews its analysis towards justifying an on-going role for oil and gas.

2.46.15. The seventh appellant avers that furthermore, the 2019 IRP will likely need to be updated in the foreseeable future to align with South Africa's 2021 Nationally Determined Contribution under the Paris Agreement and to keep pace with quickly evolving science and significant reductions in price for solar and wind energy. In any event, even the 2019 IRP, which is rooted in an outdated and scientifically and economically unsound understanding of the necessity for any gas in the energy mix, only projects the collective contribution of gas and diesel to the 2030 energy mix to be 1.3% combined. The fundamental outcome of the need and desirability assessment should not be centred on the determination of whether gas technology will ensure security of supply for electricity. Instead, due to the climate crisis, the assessment should be centred on whether South Africa needs, or should rely on, gas to provide security of supply of electricity and whether alternative technologies could meet the same supply objectives with less harm and risk.

2.46.16. The seventh appellant notes that the ESIA states that gas import initiatives for South Africa will be contingent on international market developments, and that geopolitics (such as the recent events in Russia and Ukraine) could impact on the demand for natural gas import initiatives, that could fuel a developmental boom for South Africa, should it prioritize the development of its gas production. The ESIA relies heavily on the assumption that the availability of new Floating Storage and Regasification Units (FSRUs) is contingent on a motivated European market. It does not consider other global factors, potential shifts in energy priorities, or emerging markets that could impact the supply and demand for FSRUs. The statement mentions that import gas supply for South Africa will depend on the country's terminals offering a compelling destination for gas but lacks a thorough examination of South African market dynamics, regulatory frameworks, and economic considerations that could influence the competitiveness of the country as a destination for gas. This heavy reliance on a motivated European market also assumes

that South Africa's gas supply opportunities are contingent on external factors, overlooking alternative opportunities or risks such as South Africa's material exposure to "external" climate transition risk; the viability of domestic demand for investments in new gas resources; increased competition from low-carbon alternatives such as renewable energy and the rising long-run gas prices; and the weaker sovereign credit ratings of South Africa as a developing country, with public finance less suited to absorbing the impacts of climate risk, as opposed to developed countries who are existing producers of gas.

2.46.17. The seventh appellant notes that as part of its motivation for need and desirability, the ESIA refers to Operation Phakisa as a policy designed to unlock the economic potential of South Africa's oceans through the advancement of offshore oil and gas exploration. This referral and subsequent reliance on the objectives of Operation Phakisa lack mention and analysis of specific details on the economic viability of pursuing offshore oil and gas exploration, and states that a comprehensive examination of potential returns, costs, and long-term economic benefits is imperative to facilitate a more informed analysis and to assess the actual need and desirability of the project. While Operation Phakisa sets a target of drilling 30 exploration wells in ten years, the reference to Operation Phakisa in the ESIA does not elaborate on the rationale behind this specific target nor provide a nuanced understanding of how achieving this goal will contribute to South Africa's economic growth and energy security. The referral to Operation Phakisa in the ESIA is limited solely on offshore oil and gas exploration as the priority sector for economic growth; the analysis lacks a broader discussion on diversifying the energy portfolio and exploring alternative, sustainable energy sources, which is crucial for long terms environmental economic sustainability.

2.46.18. The seventh appellant submits that while the ESIA references the IRP as a foundation for endorsing the implementation of this specific project, the analysis overlooks the potential risks and subsequent impacts associated with gas exploration, notably the release of methane, a potent greenhouse gas. They state that the exclusive emphasis

on gas exploration for immediate gains, driven by policies favouring gas, fails to adequately assess the long-term viability of gas as a primary energy source, and that this oversight occurs despite the existence of an overarching policy directing attention towards maximizing renewable energy sources—a critical component for achieving a sustainable and low-carbon future. They submit that a more comprehensive and balanced approach is needed within the evaluation of need and desirability, ensuring that the project aligns not only with immediate energy development goals but also with the broader vision for a sustainable and low-carbon future.

2.46.19. The seventh appellant states that while the need and desirability assessment refers to South Africa's Economic Reconstruction and Strategy plan as a basis to support the assertion that the gas exploration project will achieve the priority intervention in energy security, the assessment fails to describe in any detail how the project will contribute to the strategies and commitments regarding job creation, especially in the context of the economic recovery plan. They further aver that in assessing the need and desirability of this exploration project, there is a notable absence in explicitly addressing the critical aspect of social equity. The assessment falls short in providing insights into how the proposed project ensures equitable distribution of benefits among diverse segments of the population, thereby preventing the exacerbation of existing inequalities.

2.46.20. The seventh appellant refers to the 6th Assessment Report (AR6) released by the Intergovernmental Panel on Climate Change (IPCC) in or during August 2021; the International Energy Agency's (IEA) recent report, "Net Zero by 2050: A Roadmap for the Global Energy Sector"; and the report by Dr Dan Calverley and Professor Kevin Anderson of March 2022, titled 'Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets' published by the Tyndall Centre for Climate Change Research", and point out that all of these reports call for a rapid phase out of fossil fuels (i.e. no new oil and gas fields approved for development). To comply with the carbon budget for a 50:50 chance of not exceeding 1.5°C of global warming. Despite this, the ESIA concludes that the proposed pathway to net-zero emissions is just one possible

pathway to achieve net-zero emissions by 2050, not necessarily the only path and that it highlights some key uncertainties, including the speed with which demand and behaviours adapt, the real level of energy efficiency, the pace at which new decarbonisation technologies (such as hydrogen and carbon capture and storage) scale up, etc. While the ESIA acknowledges alternative pathways and key uncertainties, the analysis lacks a detailed assessment of the uncertainties.

2.46.21. The eighth appellant avers that the ESIA failed to logically consider, and adequately assess, the need and desirability of the project by confusing the direct outcomes of the exploratory project with commercial production. The exploratory wells are specifically described to be non-production wells and so will not add to the "diversification of the South African energy mix", nor will they result in "decreased reliability (sic) on importation from other countries". These are all potential impacts that would depend on the commercial development of the field and, as such, are beyond the parameters that were established for the ESIA. They would be suitable for an ESIA directed at the commercial exploitation of the field; however, all the other impacts would have to be assessed using the same parameters and criteria. There is at least a 50% chance of advancing from exploration to production, and that production processes must therefore be precautiously considered as sequential to exploration due to the massive potential impacts of the latter as a primary cause of global warming. They argue that given the already observed effects of global warming and the highly likely consequences of continued GHG emissions, the development of new oil and gas reserves is, arguably, unconstitutional and inconsistent with South Africa's binding commitment to the Paris Accords.

2.46.22. The eighth appellant argues further that the ESIA makes much of the "dispatchability" of offshore gas to the energy grid (despite the focus of the project being exploration and not production), however not even the Brulpadda and Luiperd finds are dispatchable yet, neither is the infrastructure to support gas-to-power ready to be engaged. The Brulpadda and Luiperd quantities should also suffice to meet the IRP gas requirements until 2050,

eliminating the need and desire for further destructive exploration and the production of unburnable reserves.

2.46.23. The eighth appellant contends that the ESIA presents gas as a 'bridge technology' to substitute coal, but severely overlooks the gas lock-in potential of a large-scale carbon-intensive infrastructural build, which could undermine long-term climate goals and delay a climate neutral energy system; and underestimates the life cycle emissions of natural gas. The ESIA erroneously conflates by implication the applicant's oil and gas exploration with a Just Transition, 15 times. The appellant's dispute the claim that gas will, or should, "play a major role in South Africa's path to net-zero emissions" without reliably establishing all relevant information about a potential fossil gas sector through a robust modelling tool. They submit that this modelling has not been conducted.

2.46.24. The eighth appellant submits that, as Just Share (2022) argued, a large portion of government planning and policy-making in relation to gas (including the Justification of the need and desirability with South African Economic Reconstruction and Recovery Plan, and the Gas Master Plan Base case Report) does not support low carbon development, but appears to be tailored towards preserving Sasol's role in the economy and substantiating the demand for gas, regardless of the implications for national climate commitments, human health, environmental sustainability and national competitiveness. They support Just Shares view that the claims and projections made by those with vested interests must be carefully and objectively interrogated and compared and contrasted with independent analyses.

2.46.25. The eighth appellant avers that the ESIA is flawed in its conflation of the applicant's oil and gas exploration with sustainable development. They (the appellants) refer to "Bonneuil, C., Choquet, P. L., & Franta, B. (2021). Early warnings and emerging accountability: Total's responses to global warming, 1971–2021. *Global Environmental Change, and state"* and avers that it has been shown that the applicant's *"personnel received warnings of the potential for catastrophic global warming from its products by*

1971, became more fully informed of the issue in the 1980s, began promoting doubt regarding the scientific basis for global warming by the late 1980s, and ultimately settled on a position in the late 1990s of publicly accepting climate science while promoting policy delay or policies peripheral to fossil fuel control." As such, the ESIA adds to the applicant's litany of denial and deflection of attention away from the wilful global endangerment by promoting fossil fuel products.

2.46.26. The eighth appellant states that the ESIA fails to define how discovered gas will prove competitive to South Africa's energy market. The CA has failed to consider that the project has the potential to put the $8.5bn Just Energy Transition Partnership and future critical concessional loans, designed to support SA's just transition from fossil fuels, at risk. The South African economy is particularly vulnerable to trade-related climate change risks arising from measures aimed at transiting to low-carbon pathways considering a) the country's carbon-intensive energy system; b) poor energy efficiency performance; and c) the key role played by energy-intensive industries in SA's economy. They aver further that the CA failed to take cognisance that the ESIA lists the risk of accidental release as having *very high socio-economic significance*, plus the fact that there are 10 opportunities for blowout in this project, and that this is a very serious red flag, given the project has limited social license to operate, and stands to produce paltry socio-economic benefits.

2.46.27. The eighth appellant submits that ESIA has failed to adequately present the Need and Desirability of the project in that the project has been represented in a biased manner that deprives stakeholders and the CA from understanding the full dimensions of the project and the implications thereof.

2.46.28. The eighth appellant states that considering the social impacts of a spill reaching the coast is potentially of very high magnitude and very high significance, insufficient attention has been given to full-cost accounting. There is no Cost Benefit Analysis in the ESIA. The final ESIA fails to appraise the full ecological and socio-economic cost,

including hazard and externality costs, and fails to evaluate whether there is a need for this project in the context of this total cost, but instead promotes the assumed "benefits" of the project.

2.46.29. The seventh appellant states that section 24O and 24(4) of NEMA, and Appendix 3 of the 2014 EIA Regulations, require an environmental impact assessment to consider all feasible and reasonable alternatives to the proposed project through a procedure which includes an investigation of the potential impacts of the alternatives to the activity on the environment and the significance of those impacts. They state that in their reasons for the decision, the CA provides the following analysis of alternatives:

"Project Alternatives: The site/location, timing/scheduling, no-go, design and technology, rehabilitation and offsetting alternatives were identified and briefly assessed. However, due to the nature of proposed exploration operations, no in-depth assessments were carried out. The preferred location (AOI) within the Block was selected to avoid all Marine Protected Areas (MPAs) and Ecologically or Biologically Significant Areas (EBSAs). The operations are scheduled to avoid the Austral Winter, where the likelihood of shoreline oiling for a well blowout is highest. If the operations cover this period, the spill response plan will be enhanced. The no-go alternative was not preferred due to the preclusion of the opportunity for the development of potential future oil and gas resources and associated economic and social benefits that may be derived."

2.46.30. The Guideline on Need and Desirability requires the consideration of need and desirability to consist of a primary description of the relevant considerations in relation to feasible and reasonable alternatives. The guidelines states that 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.

2.46.31. The seventh appellant states that reasonable and feasible alternatives include the option of not implementing the activity. They (the appellants) note that the implications of the

no-go alternatives are described at paragraph 5.8 of the final ESIA, however they state that it starts with one paragraph setting out that the impacts of the activity will not occur in the absence of the project, while the next 12 paragraphs are devoted to setting out why the project should go ahead, in that the benefits it associates with the project (in terms of downstream use only) would not materialise if it did not. The ESIA fails to identify any benefits that might accrue from not implementing the activity and fails to provide a balanced consideration of the no-go alternative.

2.46.32. The seventh appellant contends that the option of not implementing the activity has accordingly not been adequately assessed in the ESIA. A proper assessment of the No-Go alternative should have identified and assessed the potential ecological and socio-economic benefits of the no-go option for small-scale fishers and fishing dependent communities. The seventh and eighth appellants submit that the assessment should have also included a consideration of alternative means to generate energy and provide sustainable feedstocks for associated industrial applications, including renewable energy alternatives that do not pose a significant inter-generational ecological and socio-economic risk.

2.46.33. The eighth appellant states that the ESIA fails to indicate the parameters used to make the No-Go alternative assessment (i.e. the time frame and assumption of commercial development of the field), neither does it provide any justification for the different criteria used to assess the environmental and other impacts versus that of the No-Go alternative. This shift in the assessment criteria makes the ESIA unreliable. A true, realistic assessment of the No-Go Alternative would only look at the impacts of the exploratory drilling project which the ESIA already describes as having a minimal impact on employment (almost no local jobs will be created during this phase) and no impact on the energy mix or reliance of SA on imported hydrocarbons.

2.46.34. The eighth appellant submits that the ESIA has inadequately considered the no-go option in that it has only dealt with the potentially negative economic impacts thereof. This is a

biased and one-sided approach, particularly when the No-Go alternative will ensure no pollution, no catastrophic spill, no climate impact, no impact on fisheries, no socio-economic impact, no increased violent conflict and militarization, no human rights abuses and no harm to the marine environment associated with offshore oil and gas exploitation. The CA did not give due regard to the three court cases related to offshore oil and gas, which requires the Minister of Mineral Resources and Energy and the Minister of Forestry, Fisheries and the Environment to engage the 'No-Go' option to stop development before it starts, namely:

- *South Durban Community Environmental Alliance et al. V Minister of Environment, Forestry and Fisheries & Others, (2021, June.14) Case No. 29433/21 in the High Court of South Africa Gauteng Division, Pretoria;*
- *Sustaining the Wild Coast NPC and Others vs. Minister of Mineral Resources and Energy and Others.* (2021, December 28) Case No. 3491/2021 in the High Court of South Africa Eastern Cape Division, Makhanda/Grahamstown; and
- *Christian John Adams & Others v Minister of Mineral Resources and Energy & Others.* (2022, March1) Case No. 1306/22 in the High Court of South Africa Western Cape Division, Cape Town.

APPLICANT'S RESPONSE

2.47. In its comments to this ground of appeal, the applicant responds as follows:

2.47.1. Under Appendix 3 to the EIA Regulations, the ESIA Report is required 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..." Neither the NEMA nor the 2014 EIA Regulations define the term "need and desirability." According to the Guideline on Need and Desirability, '"need and desirability" highlights the need to increase economic growth and promote social inclusion', while at the same time, ensuring that such growth is ecologically sustainable. The Guideline refers to the National Growth

Path and the National Development Plan, both of which are highlighted in Chapter 4 (Need and Desirability) of ESIA Report.

2.47.2. In terms of the New Growth Plan, the Guideline notes:

'the need to focus on facilitating growth in sectors...able to create employment on a large scale, while not neglecting advanced industries that are crucial for sustained long-run growth, and encouraging stronger investment by the private and public sectors to grow employment-creating activities rapidly while maintaining and incrementally improving South Africa's core strengths in' various sectors including mining."

2.47.3. The Guideline then quotes a section from the New Growth Plan:

"In essence, the aim is to target our limited capital and capacity at activities that maximize the creation of decent work opportunities. To that end, we must use both macro and micro economic policies to create a favourable overall environment and to support more labour-absorbing activities. The main indicators of success will be jobs (the number and quality of jobs created), growth (the rate, labour intensity and composition of economic growth), equity (lower income inequality and poverty) and environmental outcomes."

2.47.4. These sentiments are reiterated in the National Development Plan 2030 and accord with the general principle of sustainable development espoused in section 24 of the Constitution and endorsed in the NEMA, that there must be a weighing up of economic, social and environmental considerations in selecting a development option.

2.47.5. On this basis, the Guideline states that whether a development option 'is needed and desired...should primarily be strategically and democratically determined beyond the spatial extent of individual EIAs. The strategic context for informing need and desirability may therefore firstly be addressed and determined during the formulation of the sustainable development, goals and objectives of Municipal Integrated Development

Plans (IDPs) and Spatial Development Frameworks during the collaborative and participative processes play an integral part.'

2.47.6. Pages 72 – 83 of the ESIA Report sets out the policies that guide the democratically elected Government's overarching strategy for South Africa. These policies have different goals and objectives that may be classified as economic, social, and environmental. These policies need to be considered and interpreted cohesively if sustainable development is to be achieved. As set out in the ESIA Report these policies govern inter alia the development of South Africa's oil and gas resources and exploitation of gas resources (White Paper on the Energy Policy of South Africa; the IRP 2019; Operation Phakisa; Draft Integrated Energy Plan; South African Gas Masterplan), economic development (New Growth Plan; NDP 2030; South African Economic Reconstruction and Recovery Plan (SAERPA), job creation (NDP 2030; SAERPA; Just Transition Plan) and climate change (Paris Agreement; South African NDC; Just Transition Plan).

2.47.7. Considering these competing interests, it is not so simple, as the appellants submit, that climate change considerations must trump all over competing strategic objectives. A more nuanced approach is required which considers that:

2.47.7.1. South Africa is currently experiencing an energy crisis which is hampering economic development and job creation;

2.47.7.2. The South African government has committed to reduce its reliance on coal-based power generation, which will remove the baseload source of power that currently ensures grid stability and can be dispatched quickly particularly during peak times; a baseload that cannot be substituted with current renewable energy and storage technology;

2.47.7.3. The South African government is seeking to reduce GHG emission and move towards a low carbon economy while increasing development and decreasing unemployment, poverty and inequality;

2.47.7.4. The South African government is seeking to attract foreign direct investment; and

2.47.7.5. The COVID-19 pandemic has deepened the economic crisis in South Africa and as a result, inequality is expected to widen and poverty to deepen.

2.47.8. At a national level it may be more difficult to balance these broad competing and conflicting objectives. At a local government level, the role of oil and gas from both an energy and job creation perspective becomes much clearer in the IDPs for the coastal municipalities in the Area of Interest. It is telling that the IDPs for the municipalities affected by the Project and, consequently, the views of the majority of the coastal community members (including *inter alia small scale fishers (SSF)*), mostly express support for oil and gas projects, as follows:

2.47.8.1. The draft Namakwa District Municipality IDP (2022 – 2027) it notes that the municipality will also continue to support the development of the upstream gas industry, as it holds huge potential for job creation and broader economic development IDPs for the Municipalities in the Area of Interest.

2.47.8.2. The West Coast IDP states that "the single most important development that will take place in the Saldanha Bay municipal area over the next 10 to 20 years is the establishment of the Saldanha Bay Industrial Development Zone (SBIDZ) as the primary oil, gas and Marine Repair engineering and logistics services complex in Africa, servicing the needs of the upstream Oil Exploration Industry and Production services companies operating in the oil and gas fields. The SBIDZ will create opportunities for economic growth and employment for the people of Saldanha Bay.

2.47.8.3. The City of Cape Town Five-Year Integrated Development Plan (July 2022 – June 2027) indicates that the priorities and foundations underlying the IDP are generally aligned with national and provincial strategies including the National Development Plan, Integrated Urban Development Framework and the Provincial Strategic Plan 2019 – 2024 and Recovery Plan 2021.

2.47.8.4. The IDP sets out "the major way in which each if the IDP priorities and foundations will make it easier for people to participate in the economy and benefit from economic growth." This includes "access to the basic services critical for health and dignity. Residents experience less disruption of the services needed to access job opportunities and operate a business effectively, particularly electricity." One of the key objectives of the IDP is the development of well-managed and modernised infrastructure to support economic growth which includes reliable access to *inter alia* electricity. These objectives are aligned with the Western Cape Recovery Plan which states that the recovery focus areas include "diversifying the regional energy mix and reduce energy intensity by promoting the natural gas sector and promoting and enabling photovoltaic installations and energy efficiency by businesses and households."

2.47.9. The Marine Spatial Planning Act, 2018 (Act No. 16 of 2018) (MSPA) seeks to provide a framework for marine spatial planning and the governance and use of the ocean by multiple sectors with the intention of coordinating the ocean space and optimising sustainable economic growth. To give effect to the objectives of the MSP Act, a marine spatial planning framework must be developed whereafter knowledge information systems must be created to house information that will be utilised to create marine area plans (the MAPs) and sector plans. On 10 March 2023, Minister Creecy published draft Marine Spatial Planning Sector Plans, which includes a Marine Offshore Oil and Gas Sector Plan (the Draft MS Plan). The Draft MS Plan confirms that 'finding and mapping concentrations of offshore oil and gas resources that would merit commercial production is...a key priority for the South African government.' It goes on to state that 'major investment in exploration activity is required before the sector's potential can be realised.' It states further that to give effect to the government's Operation Phakisa (which sought to drill 30 exploration wells within 10 years of its inception), it is essential to have a "stable, certain and predictable regulatory environment in order to attract both domestic and foreign capital-intensive investments."

2.47.10. The Draft MS Plan goes on to state that 'securing the future of the upstream oil and gas sector will confirm its position as a strategic and indispensable part of South Africa's Integrated Resource Plan, giving opportunity to diversify South Africa's energy production portfolio, address energy challenges and secure low carbon emissions in the future through gas resources. It can therefore be said that the sector offers significant potential for contributing to the country's socio-economic development.

2.47.11. The minimisation of the environmental impacts associated with exploration and production activities offshore is a fundamental concern for the South African government. To preserve the environment while efficiently maximising hydrocarbon recovery, exploration and production activities have to be undertaken as per the prescribed regulatory framework.' The Draft MS Plan then sets out the various Acts with which an applicant would need to comply including the MPRDA and the NEMA.

2.47.12. The Marine Offshore Oil and Gas Sector Plan proposes the following guidelines (amongst other) to guide decision-makers in offshore oil and gas:

2.47.12.1. "The South African government will work with the industry and other relevant stakeholders to maximise offshore hydrocarbon exploration and production whilst ensuring that the level of environmental risks associated with these activities are regulated to achieve minimal impact on the marine and coastal environment. In this regard, applicants and holders are required, where applicable, to undertake environmental impacts assessment(s) for the proposed activities and obtain all mandatory authorisations and permits before any activities are allowed within the EEZ".

2.47.12.2. "Offshore oil and gas regulatory authorities will ensure that adequate risk reduction measures are in place, and that operators have sufficient emergency response and contingency strategies in place." One of the key recommendations of the ESIA Report is that the applicant develop a well-

specific response strategy and plans (including Oil Spill Contingency Plan (OSCP) and Blowout Contingency Plan (BOCP), which will need to be approved by the South African Maritime Safety Authority (SAMSA), Petroleum Agency of South Africa (PASA) and the DFFE. The primary objective of the OSCP is to identify all possible spill scenarios, level of response requirements and set in motion the necessary actions to stop any discharge of oil and to minimise its effects. The OSCP thus provides for a comprehensive response to all oil and chemical pollution emergencies in the marine environment.

2.47.12.3. In terms of the Draft MS Plan, offshore oil and gas exploration activities are permitted to take place everywhere, unless the spatial regulations of other sector's zones (in MS Plans and eventually the MAPs) list the activity as consent use or prohibited use. This therefore contemplates that offshore exploration can occur prior to the MAPs being finalised.

2.47.13. It appears from the policies and regulations above that:

2.47.13.1. Development of the oil and gas industry is considered necessary to spearhead economic development and job creation;

2.47.13.2. Oil and gas can assist in ensuring energy security in South Africa;

2.47.13.3. Gas can be used as a baseload energy source which will replace coal-based energy. As natural gas emits less GHG emissions than coal, it is more closely aligned with South Africa's GHG emission targets; and

2.47.13.4. Mitigation measures and suitable contingency plans and strategies can be adopted to ensure adequate risk reduction.

2.47.14. Considering the above, the principle of sustainable development, underlying a need and desirability assessment, recognizes that development of the oil/gas sector can fulfil economic and employment objectives and, simultaneously, nudge the economy into a lower-carbon environment.

2.47.15. The objectives of need and desirability set out above contemplates the production, processing, transporting and use of oil/gas. That is not the subject of this proposed project, as it only seeks to investigate whether oil/gas reserves exist, whereupon it will be possible to determine if production, processing, transporting and use of oil/gas is feasible and viable. Therefore, to understand if future oil and gas development is in fact possible, exploration is needed to obtain information regarding the nature and extent of the oil/gas reserves. It is desirable to obtain this information because:

2.47.15.1. It deepens and expands the knowledge base of available resources in South Africa's Exclusive Economic Zone (EEZ). This knowledge would be useful for making strategic decisions regarding South Africa's future energy mix. For example, the nature and extent to which coal-based energy can be replaced by a combination of natural gas and renewable energy.

2.47.15.2. Knowledge of oil/gas resources is important to understand South Africa's reliance / independence on trading parties for a non-coal-based energy resource.

2.47.15.3. If viable resources are identified, strategic decisions can be made around project development and associated economic development of these resources. All these options are contingent upon information and knowledge that can only be generated through exploration.

2.47.15.4. It can be obtained (as has been demonstrated in the ESIA Report) with low environmental impacts and low risk of harm.

2.47.16. Considering the above, the proposed project is needed and desirable to generate knowledge that is needed to make informed strategic decisions regarding where feasible and viable oil and gas in South Africa exist and to give effect to South Africa's key policy objectives. On this basis, it is considered that the proposed project is aligned with national policy objectives.

2.47.17. It is unclear to which specific local and regional plans for renewable sustainable energy the fourth appellant is referring, and that there is, however, no legal obligation to consider such plans, particularly if they have not yet been promulgated or accepted.

2.47.18. If it is correct that a full life-cycle assessment were to be conducted for both exploration and production of the project, which is denied, it would be necessary to consider both negative and the positive impacts associated with exploration and production. The appellant correctly points out that the ESIA report does not provide an assessment of the "real benefits to coastal communities" arising from production. It is impossible to meaningfully consider and assess the employment opportunities and socio-economic development that may arise from production activities, without first determining the extent of the resource reserve and the viability of extracting the resource. Similarly, it is impossible to determine the downstream GHG emissions without this information. The EAP could have speculated what these positive and negative impacts may be. There is, however, no value in speculation. In any event, once exploration is completed and information is available, accurate assessments regarding the positive and negative impacts of production can be considered and assessed.

2.47.19. Despite saying that a full life-cycle assessment is required, the seventh appellant backtracks in paragraph 151 of their appeal and states that the EAP mischaracterises their comment in relation to need and desirability. The seventh appellant acknowledges that the 2014 EIA Regulations contemplate separate processes for exploration and production activities and states that it is not their argument that an EA should be sought for exploration and production activities at the same time, however from a need a desirability perspective, the impacts of production should be considered, at least in a general sense, in determining whether exploration activities are needed or desirable. This is exactly what the EAP has done in Chapter 5 of the ESIA report, as follows:

2.47.19.1. Paragraph 5.1 provides a description of the use of hydrocarbons in South Africa;

2.47.19.2. Paragraph 5.1.2 provides a description of the use of fossil fuels in South Africa along with a description of the South African Energy Sector and energy mix, including renewables and battery storage and natural gas;

2.47.19.3. Paragraph 5.2 provides a comprehensive list of government policies and laws governing the energy sector in South Africa. This includes those policies and laws which support or promote the use exploration and production of oil and gas (the White Paper on Energy Policy, the National Development plan, Operation Phakisa, Integrated Resource Plan, South African Economic Reconstruction and Recovery Plan, South African Gas Masterplan, Draft Offshore Oil and Gas Sector Plan, NEMA Principles) **and** those that promote climate change considerations and reducing reliance on fossil fuels (National Climate Change Response White Paper, Western Cape Climate Change Response Strategy, the Paris Agreement, South Africa's Low-Emission Development Strategy, South Africa's NDC, International Energy Agency: Net Zero by 2050, Just Transition and Climate Pathways Study for South Africa, Climate Change Bill, UN IPCC Reports, South Africa's Just Energy Transition Investment Plan, NEMA principles).

2.47.20. In granting the EA, the CA was required to consider all of these competing policies in deciding, "in a general sense" if the project should be approved.

2.47.21. It is incorrect and misleading to paint a picture that gas is needed as a transition fuel in South Africa. It is clear from the various policies contained in section 2 of the ESIA report that gas is recognised as a transition fuel in terms of South African policy. The applicant wishes to highlight that the agreements, laws, policies and plans merely "identify the need to reduce" and not eliminate fossil fuels.

2.47.22. While authorities are not bound by policy, good and consistent decision-making requires that administrators are guided by policy. As set out in the ESIA report, there are numerous policies with various objectives that the competent authorities must consider and weigh

up in making their decision and that some of these policies have competing objects. Based on this, the CA has not blindly or rigidly applied any particular policy in this case.

2.47.23. It would be problematic if administrators abandon government policy to follow reports or conclusions of studies which have not been developed in line with Government's strategic goals and which may be based on methodologies or assumptions that are not relevant or appropriate for the South African context. This would render administrative processes uncertain which, in turn, would reduce investor confidence in South Africa.

2.47.24. Studies, such as the ones proposed or cited in the seventh appellant's appeal, may be used to influence development in government policy and strategic objectives but should not be relied upon as a sole basis for administrative decision-making.

2.47.25. In response to the seventh appellant's contention that the assumption on the need for natural gas is based on international markets, the purpose of including the Russia-Ukraine war in the ESIA report is that many European countries are / were supplied with gas from Russia and, following the start of the war, these countries may look to diversify the gas suppliers so as not to be beholden to one country. According to Reuters, the global gas market was "tight" before the Russia-Ukraine war broke out. As a result of the war, some European plants were required to resort to coal for energy while seeking out new sources of gas. This resulted in a number of African countries (such as Nigeria and Egypt) putting up their hand as a supplier. This could be an opportunity for South Africa if the exploration of this project (and others) yield viable reserves. If reserves exist, there may be more impetus by potential purchasing nations to overcome some of the obstacles or difficulties cited by the seventh appellant.

2.47.26. It is not necessary, at this stage to delve into the macroeconomic possibilities of gas supplies. The first step is to determine if there are oil and gas reserves, and that this is what the applicant is seeking to do through this EA. The arguments raised by the seventh appellant are generated from one source, or are not referenced at all.

2.47.27. In relation to the seventh appellant's averment that the reliance on Operation Phakisa as basis for national planning for economic development through offshore oil and gas exploration is flawed, many of the issues raised by the seventh appellant would be considered during a production ESIA and not an exploration ESIA.

2.47.28. In respect of the eight appellant's statement that the ESIA fails to adequately assess the need and desirability of the project, the following applies:

2.47.28.1. While the project relates only to the exploration of oil and gas resources, it is necessary to explain why it is necessary to explore for these resources. By necessity, this requires an explanation of the uses of oil and gas. None of the positive or negative impacts of production are considered and assessed in the ESIA report. These will be considered and assessed in an environmental impact assessment report for a production EA, should this arise.

2.47.28.2. The 2014 EIA Regulations listed activities do not require an assessment of production related impacts, based on the probability that an exploration project may potentially proceed to production activities in future. This arises only where an applicant applies for an EA to produce.

2.47.28.3. The concept of fossil fuel lock-in potential is not a necessary consideration for exploration activities, which merely seek to assess the nature and extent of possible reserves. The project has no ability to lock users into unsustainable fossil fuel use. The very nature of exploration activities is that they only continue for a short period, following which the wells are plugged and abandoned (either permanently or temporarily until utilised for potential future production, if the necessary authorisations and rights are obtained). As a result, there is not risk of "large-scale carbon intensive infrastructural builds, which could undermine the long-term climate goals."

2.47.28.4. The 2014 EIA Regulations do not require an applicant for an EA to undertake an assessment into the competitiveness of gas in the energy market in South Africa.

2.47.28.5. While the eighth appellant may dispute the role that gas plays in the just transition, South Africa's most recent policies recognise its importance in reducing the country's reliance on coal and/or overcoming structural inequalities, unemployment and poverty. This is in line with South Africa's NDC. Government policies and plans have different goals and objectives. Inevitably these policies and plans may conflict with one another and/or have competing objectives or targets. These policies need to be read together in accordance with the principles of sustainable development, focusing on development that is environmentally sustainable and promotes socio-economic development. As a result, the Economic Reconstruction and Recovery Plan cannot be discounted or ignored because its objectives do not completely align with climate change policies. One of the core objectives of this plan is to achieve social development (i.e. reduction of poverty) through economic development. Economic development, in turn, is contingent upon a reliable energy source.

2.47.29. In relation to the eighth appellant's averment that there is no cost benefit analysis, the principle of undertaking a Cost Benefit Analysis (CBA) is fine for a project that is delivering a series of costs and benefits over time (as for a production project), but not for a once off exploration project (such as that proposed), to see if there a domestic resource exists. This is difficult without knowing the likelihood of oil/gas resource, yields, etc. At present, all that is known is a set of private costs. The costs will be borne by the applicant, and from a South African perspective, there is no opportunity cost. The South African government is not subsidising this project.

2.47.30. The benefits would depend on (a) finding oil/gas in payable quantities and (b) an EA is obtained to extract it. It is at this stage that undertaking a CBA would make more sense.

The external costs that are considered in the ESIA report are related to the unlikely event of a large oil spill (blow-out). The external costs related to climate change from the proposed exploration project are likely not an issue. The volumes of oil/gas involved would be infinitesimal by local and global standards. All potential impacts related to both normal operations and unplanned events (e.g. oil sills) of the proposed project are assessed in Chapter 9 and 10 of the ESIA report, respectively.

2.47.31. The no-go option in the ESIA report reflects all of the potentially lost opportunities that will arise if the project does not proceed and/or if, as a result of the project, no viable oil and gas reserves are identified. If the project is not authorised, the status quo will remain. That is, there will be no positive or negative impacts. The no-go alternative is considered and assessed in detail at paragraph 12.5 of the ESIA report.

2.47.32. It (the applicant) denies that the no-go alternative should have assessed the ecological and socio-economic benefits for small-scale fishers and fishing dependent communities. The impact on these stakeholders would have remained unchanged.

2.47.33. The alternatives to be considered during the EIA phase assesses the alternatives in the development footprint. The only possible alternative energy source that could be implemented offshore is offshore wind turbines. However, as expressed in the ESIA Report, the difficulty with renewable power is its inability to dispatch power in peak demand times. It is, at present, not a true alternative to gas.

CA'S RESPONSE

2.48. In its comments to this ground of appeal, the Competent Authority responds as follows:

2.48.1. In terms of the needs and desirability, the project is aligned with government policies, such as the Integrated Resources Plan (IRP) gazetted in 2019 which recognises the need for South Africa to employ a diversified energy mix to meet the country's electricity

requirements. Natural gas is considered to meet this objective, to provide the flexibility required to complement renewable energy sources and as a lower carbon option compared to coal. The IRP 2019 policy is in place and therefore applicable until such time it is amended. Furthermore, the Integrated Energy Plan recognises natural gas as a required source to produce electricity and direct thermal energy. It acknowledges its role in contributing towards maintaining base-load electricity and peak -load electricity. It is also recognised as a tool to transition South Africa towards a lower carbon economy. Importantly the Plan notes that the current use of natural gas in South Africa exceeds production rate and that the majority gas demands/needs are met by Mozambique. Thus, the need for South Africa's own natural resources is important for future energy security and to transition the country towards a lower carbon economy.

2.48.2. The impact assessment process considers the factors prescribed in section 24O of the National Environmental Management Act, 1998 as amended (NEMA). These factors include compliance with NEMA, impact assessment, identification of mitigation measures, applicants' ability to implement mitigation measures and comply with prescribed financial provision and considering comments from organs of state to name a few. The EIA process considers relevant legislation, policies and strategies to ensure that the project activities are undertaken in a sustainable manner. Specific Environmental Management Acts (SEMAs) such as the National Environmental Management: Air Quality Act (NEM:AQA), 2004, National Environmental Management: Waste Act (NEM:WA), 2008, and the National Environmental Management: Protected Areas Act(National Heritage Resources Act, 1999 etc.,) are considered in the context of the project.

2.48.3. The ESIA process considered the impacts that the project activities will have on the environment. Specialists' studies were conducted to assess the projects impact on the marine ecology, socioeconomics, air quality, climate change, fishing industry and cultural heritage. The residual impact significance as a result of normal operations ranges from no impact to medium. The residual impact significance as a result of unplanned events

ranges from negligible to very high (blow-out incident) however it is an unlikely event. The need and desirability guideline was also used during the assessment of the project's need and desirability. The manner in which the project considered the NEMA principles were incorporated throughout the EIA process as evidenced in section 5.3 page 83 of the ESIA. Consideration of these factors is necessary to ensure that section 24 of the Constitution is upheld. Thus, the EIA process followed provides for protective mechanisms that ensure that project activities are undertaken in a sustainable manner, and the impacts of the proposed project and NEMA principles were considered and are not merely policy in the decision-making process.

2.48.4. The EA is with respect to the exploration of oil and gas only i.e. not production activities. The scope of the proposed work is to drill up to ten (10) wells with the main objective being to confirm the presence or absence of petroleum. It includes the collection of information such as the extent, type of petroleum (gas, condensate and oil) and the economic feasibility of the reservoir for extracting the potential petroleum resources if present. This information will assist the country in planning the development of petroleum resources. The planning therefore includes future production activities, which are not authorised in the EA or assessed in the ESIA. Assessment of the impacts of potential production activities is not a requirement of the applicable legislation considering that this is an application for exploration activities related to an exploration right.

2.48.5. Should the results be favourable, an impact assessment with respect to production activities will be conducted. Because currently no details regarding the type/scope of production activities are known if successful (i.e., the nature of the petroleum (gas, oil, condensate); the extent and duration; which type of platform/production facility would be required by the project; and the required downstream activities) it would be difficult to assess the impact without unacceptable uncertainties. This would result in a highly speculative exercise (assumptions and uncertainties) and hence decision making cannot be based on such.

2.48.6. With specific reference to the climate change impact of this project, the assessment outcome indicates that the residual impact is of low significance provided the mitigation measures are implemented. The project will only contribute a maximum of 0.17% towards the 2017 South African energy sector and 0.14% towards the South African National GHG Inventory. It should also be noted that the objective of this project is to gather more information (i.e., regarding the extent, petroleum type and exploitation feasibility) on the potential petroleum resources, and the project has a short duration and is localised. It is important to note that the outcome might be that there are no hydrocarbons present (dry well) or, if present, the resource is not economically viable. It is not a given that production actives will proceed nor that an EA will be granted for production activities.

2.48.7. The impacts of a gas to power plant are outside the scope of the proposed project and therefore an assessment of such is not required nor are its impacts relevant to the EA.

2.48.8. The discussion regarding geopolitical risk with respect to natural gas supply is used to highlight the risk should South Africa not evaluate its indigenous resources and not be able to exploit such, should exploration projects yield positive results. There is no other means of determining the existence and extent of petroleum resources but by exploring.

2.48.9. The discussion around infrastructure investment and gas pricing is outside the scope of this project because this is an exploration project and investment decisions forms part of the final investment decision which occurs after all authorisations for a project are obtained.

2.48.10. The Needs and Desirability of the final ESIA report discusses Operation Phakisa under section 5.2 of the report titled 'Consistency with Local, National and International Policy and Planning Frameworks.' The title of this section is self-explanatory in understanding why this discussion is included in the final ESIA report. Operation Phakisa aims to unlock the economic potential of South Africa's oceans with one of the four sectors identified as a new growth area in the ocean economy being offshore oil and gas exploration.

Therefore, this project, exploration for oil and gas, aligns with the objects of Operation Phakisa. This alignment is the object of discussing Operation Phakisa within the context of the needs and desirability of the project.

2.48.11. All identified potential impacts were identified and the impacts are either avoided, minimised, or managed through implementation of recommended mitigation measures as documented in chapters 9 and 10 of the ESIA report.

2.48.12. As indicated in the socio-economic assessment, the project will create local jobs for 177 people per well drilling campaign, thus, the impact is not significant compared to the population of Cape Town and Saldanha Bay municipality areas. This is due to the technical nature of the project. The optimisation of employment of local people will be managed by the applicant's local content commitments.

2.48.13. The project motivated its needs and desirability based on South African and other related legislative instruments. It is also committed to adhere to all relevant legislative requirements that support the Just Transition Initiative. The Just Transition is supported by South African policy i.e., Integrated Resource Policy, 2019. The needs and desirability motivation for a production application or a downstream project will be conducted within the scope of that particular application for EA and is not applicable for consideration for this EA application.

2.48.14. The CA is satisfied that the needs and desirability assessment was conducted as per the DFFE guideline on need and desirability (GN R891 of 20 October 2017) and the 2014 EIA Regulations.

2.48.15. There is no South African legislation or policy that prohibits authorisation of oil and gas exploration activities. However, the guiding legislation requires consideration, identification, assessment, and mitigation of environmental impacts that might emanate of the undertaking of authorised activities. The requirements of the said legislation were

met; hence the EA was authorised. Furthermore, various mitigation measures are provided, such as regular maintenance of all diesel motors and generators, reducing burning of waste, use of high-efficient burner for flaring etc., The holder is also required to undertaken required monitoring and reporting in line with national policy.

2.48.16. The ESIA only describes the benefits that might be derived from the positive outcomes of the exploration phase in terms of economic viability of oil and gas resources. Brulpadda and Luiperd wells are not part of the EA and the findings on such wells cannot be used to make assumptions about the outcome of the authorised activities. There is no production infrastructure in place because no production activities will be undertaken. Production of natural gas is not authorised in the EA.

2.48.17. It is the CA's view that proving the competitiveness of the discovered gas is out of scope of the required assessment for the authorised activity.

2.48.18. All the referenced policies are relevant to the proposed project. However, the objectives of some of the policies may be achieved after completion of the exploration phase and if the outcomes are positive. Section 5.2.10 of the ESIA indicates that the objectives of the South African Reconstruction and Recovery Plan, 2020, could be supported by ongoing exploration of oil and gas to determine the nature and extent of potentially viable offshore petroleum resources.

2.48.19. The ESIA does not rely on the Gas Master Plan Base case report. The ESIA considered findings of various technical, specialists reports, and peer reviewed articles as indicated in the ESIA. Furthermore, the purpose of the base case report is to establish baseline information for the natural gas sector in South Africa as well as outline the Gas Master Plan roadmap. Such baseline information includes an overview of the gas value chain and regulatory framework. The report also sets the scene for the Gas Master Plan development process. It is the CA's view that the plan is still a consultation document, and it might still change.

2.48.20. The CA is unable to respond to political allegations related to gas exploration or production.

2.48.21. It is the CA's view that the operations will be undertaken in a sustainable manner. This is because the impact assessment process met the minimum requirements of NEMA and set necessary mitigation measures to be implemented during operations.

2.48.22. It is not clear how the project will put Just Energy Transition at risk as alleged by the eighth appellant. The project motivated its needs and desirability based on South African and other related legislative instruments. It is also committed to adhere to all relevant legislative requirements that support the Just Transition Initiative. With respect to energy intensity, no production activities were assessed nor authorised for the EA.

2.48.23. In terms of the 2014 EIA Regulations, alternatives are interpreted as different means of meeting the general purpose and requirements of the activity, which includes the option of not implementing the activity i.e. No-Go alternative. Alternatives for the project were assessed including the no go option i.e. not exploring for oil and gas as evidenced in section 6.7 page 130 of the ESIA report. Section 5.8 of the ESIA report provides a detailed motivation for why the no-go alternative was not considered. The motivation includes the country's energy and development needs. The motivation also shows the need for the country to move to are more carbon neutral energy, in order to prevent continuous carbon emissions. This will also assist the country in planning for meeting the 2025 carbon neutrality goal.

2.48.24. The application for EA is with respect to exploration activities with the objective of gathering more information regarding the extent, petroleum type and exploitation feasibility. Thus, the suggested renewable energy project assessment as an alternative to the proposed exploration project is not aligned with the NEMA definition i.e. different means of meeting the general purpose and requirements of the activity. No fatal flaws

were identified in the EIA study to prefer the no-go alternative. The no-go discussion, section 9.7 on page 83-84 of the ESIA report discusses the implications of the no-go alternative if the EA application is not authorised. In terms of the positive impacts, if the project is not authorised the status quo remains i.e. there will be no negative nor positive impacts and the current status quo would remain for small scale fishers. The CA is therefore satisfied with the motivation provided.

EVALUATION (Reasons for Decision)

2.49. The central issue for determination under this ground of appeal relates to the need and desirability of the proposed project.

2.50. Regarding the appellants' averments that South Africa is not currently meeting its international commitments on carbon emissions and that South Africa should therefore not permit any new fossil fuel projects; South Africa is committed to implement a Just Transition to net zero emissions by 2050. Moreover, South Africa's commitment to reduce its emissions is reflected in the NDP which records 2030 as the time that South Africa is working toward to reduce its dependency on carbon, natural resources and energy. However, South Africa's transition to a low-carbon, resilient economy and society is a multidimensional process that requires careful phasing of strategic planning. The appellant's take an oversimplistic approach to this issue.

2.51. I have noted that Chapter 5 of the ESIA report discussed the needs and desirability of the project which covers the context of the oil and gas industry, applicable policies and planning frameworks (local, national, and international) and broad societal needs and public interest. I note too, that the project is in alignment with government policies and plans such as the IRP (2019) which recognises the need for South Africa to employ a diversified energy mix to meet the country's electricity requirements. I have furthermore considered the Guideline on Need and desirability as well as the No-Go alternative. I am

satisfied that the no-go alternative was assessed, as indicated in sections 5.8, 9.5, 12.5 of the ESIA.

2.52. I am therefore satisfied that the criteria for the need and desirability for the project has been demonstrated by the applicant, in particular that the project accords with legislative requirements and government policies and plans, including the IRP (2019), the NDP and the draft Marine Spatial Planning Sector Plans, which includes a Marine Offshore Oil and Gas Sector Plan (the Draft MS Plan). The IRP and IEP recognise natural gas as a required source to produce electricity and direct thermal energy. It acknowledges its role in contributing and maintaining base-load electricity and peak-load electricity and is also recognised as a way to transition South Africa towards a lower carbon economy providing the flexibility required to complement renewable energy sources and as a lower carbon option compared to coal.

2.53. As stated above, the project is in respect of exploration only, not production, and therefore the issue of cross border carbon taxes does not arise.

2.54. I furthermore find that there is no legal requirement that the MSPs and MAPs should be finalised before environmental authorisation can be granted and that a moratorium on exploration operates until such time as these instruments are in place.

2.55. I am cognisant of the fact that section 6 of the National Energy Act has not yet come into effect. I therefore determine this ground of appeal has no merit, and it is accordingly dismissed.

2.56. I have been advised by the legal officials within the Department on the appellants' interpretation of section 18 of the Superior Courts Act, 2013 (Act 10 of 2013) (SCA) that even if I were to agree with the appellants' interpretation of section 18 of the SCA, nothing turns on this issue, because, as set out in detail under my assessment of the first ground of appeal, the matter at hand can be differentiated from the facts in the Makhanda

judgment because the MPRDA itself distinguishes between the processes to followed during each phase of the life-cycle relating to oil and gas development in South Africa. The applicant is therefore only required to assess the need and desirability of the activity for which it seeks an environmental authorization, in this case listed activity 18. It need not assess the need and desirability of an activity for which it may in the future seek an environmental authorisation.

2.57. Having regard to the fact that EA granted to the applicant is specifically only in respect of drilling exploratory wells in the area of interest, I am satisfied that the applicant was not required to consider alternatives regarding alternative energy sources or technologies. The applicant was also not required to consider relevant alternative energy generating options. Neither was the Competent Authority and nor am I in this appeal.

2.58. I determine that this ground of appeal has no merit and is accordingly dismissed.

Fifth Ground of Appeal: Strategic Environmental Assessment (SEA)

2.59. The eighth appellant submits as follows:

2.59.1. There is no Strategic Environmental Analysis in the ESIA.

APPLICANT RESPONSE

2.60. In its comments on this ground of appeal, the applicant responds as follows:

2.60.1. Sections 24(1) and 25(5) of the NEMA require that the "*potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on*" to the relevant authority for purposes of obtaining an EA in accordance with the procedures developed by the Minister. These procedures are the 2014 EIA Regulations and associated listing notices, as amended.

2.60.2. In terms of the 2014 EIA Regulations, an ESIA process is identified by the Minister to consider, investigate, assess and report the potential consequences of the proposed drilling exploration project. It is not a requirement under the NEMA or the 2014 EIA Regulations that a Strategic Environmental Assessment (SEA) must be conducted before individual exploratory drilling EA applications can be considered and assessed.

2.60.3. There is precedent for this conclusion in the recent appeal decision by the Minister in respect of the proposed exploratory drilling by Eni South Africa B.V. and Sasol South Africa Limited, the Minister confirmed that "the lack of an SEA cannot be used as a legally valid ground of appeal." In support of this conclusion, the Minister stated the following:

2.60.3.1. "[T]he EIA process is not considered inadequate in the absence of and/or if not preceded by a SEA process...It is apparent that an EA process was required for the proposed project, which process has been complied with....Section 24(5) of the NEMA deals with the procedures of a SEA and states the Minister, or a MEC with the concurrence of the Minister, may make regulations for laying down the procedure to be followed for preparation, evaluation, adoption and review of prescribed environmental management instruments, including (ii) strategic environmental assessments...

2.60.3.2. [A] decision has not yet been made regarding the need for SEA of the oil and gas Sector in South Africa...It must however be noted that even if a SEA for offshore oil and gas exploration and development can be commissioned, project level assessment of environmental impacts would still be required (unless some of the provision for exclusion from obtaining an EA are adopted). The SEA would most likely not inform stakeholders and decision-makers about the "full dimensions of individual projects."

2.60.3.3. Further to the above, I note that section 24O of NEMA deals with the criteria to be taken into account by CAs [competent authorities] when considering

applications for EAs. Section 24O(1) states that if the Minister, the Minister responsible for mineral resources or an MEC must (a) comply with NEMA; (b) take into account all relevant factors, which may include: "(vii) any guidelines, departmental policies, and environmental management instruments that have been adopted in the prescribed manner by the Minister or MEC, with the concurrence of the Minister, and any other information in the possession of the Competent Authority that are relevant to the application."

2.60.3.4. As described above, there are no environmental management instruments (i.e. SEA) that have been adopted in South Africa regarding offshore oil and gas developments. Therefore, if such has not been gazetted and adopted yet, then it naturally cannot be considered by the CA in the consideration of the current EA application. Of importance, in that both NEMA and the EIA Regulations 2014 do not state that if a SEA or any other environmental management instrument has not been gazetted or adopted at the time of considering the EA application, then a decision cannot be made until such a SEA or any other environmental management instrument has been adopted, in my view, the decision made by the relevant CA to grant an EA, in the absence of a SEA for offshore oil and gas is not irrational.

2.60.3.5. In this regard, the lack of a SEA cannot be used as a legally valid ground of appeal."

2.60.4. The applicant asserts that an SEA is not a jurisdictional fact for the consideration and granting of an EA for exploration drilling.

CA'S RESPONSE

2.61. In its comments on this ground of appeal, the Competent Authority responds as follows:

2.61.1. The legislation guiding environmental impact assessment does not require a strategic environmental analysis, hence it was not undertaken for the application for EA.

EVALUATION (Reasons for Decision)

2.62. The absence of an SEA or MSP is not an impediment to the granting of an EA. Neither NEMA nor the EIA Regulations prohibit the undertaking of oil and gas projects in areas where there is no SEA or MSP.

2.63. I find that this ground of appeal is without merit and is accordingly dismissed.

Sixth Ground of Appeal: Socio-economic, Tourism and Fisheries

2.64. The third, fourth, fifth, sixth and seventh appellants submit the following:

2.64.1. The local factories and fishermen's livelihoods may be negatively impacted, if access to traditional fishing grounds is restricted by the drilling rigs, safety zones, or exclusion zones, and the town may suffer long-term economic repercussions from business impacts on the local fishing sector that is located on the land to be developed. Fish are the main source of income along these Bay areas and everything has either an immediate or indirect link to the nearby fish industry, for example seasonal fishing (snoek), tourist-oriented seafood restaurants, and local beaches. The region's sustainability and economic viability may be impacted by modifications to the quality of the fish, interruptions to fishing operations, and a fall in tourists because of environmental concerns. The ESIA report should include an accurate and detailed assessment of the employment opportunities to be created by the activities, including: the skill level required for any employment opportunities; whether South Africans will be given priority for these employment opportunities, the duration and long term impacts of the positions, and the details of skills transfer and training of unskilled or less-skilled persons the persons to be recruited.

2.64.2. The fourth appellant contends that the applicant and CA have not made a through case that the indigenous coastal fisher community will benefit from the exploration activities in terms of employment and sustainable job creation and there is very little evidence that the project will lead to sustainable jobs for South Africans. As such, it does not make sense to approve the project and risk their livelihoods. There is now sufficient evidence that continuing with oil and gas exploration is against the best available science, which calls for a stop to such activities, would constitute a violation of this right in terms of section 24 of the Constitution and of the Marine Living Resources Act, 1998 (Act No. 18 of 1998) (MLRA), which requires the Minister to take a precautionary approach and protect the marine living resource environment and the ocean ecosystem for the wellbeing of all lives and livelihoods.

2.64.3. The fifth appellant contends that there remains a stark void of an existing full economic and social impact analysis on scenarios from catastrophic spills to minor operational spills, and their associated risks to South Africans and coastal communities in particular.

2.64.4. The sixth appellant avers that oil and gas drilling will heavily impact on the fish and marine species as well as their habitat and biodiversity, and that the small-scale fishers (SSF) are suffering because the catches are getting smaller each season and there is a lot of uncovered cost in the search for fish because of migration. The Constitution protects SSF and the environment, and the relevant authority must ensure that these rights are not neglected for the sake of business, which does not advance the interest of the indigenous communities and does not create jobs for locals.

2.64.5. The seventh appellant states that the socio-economic impacts of the project were not adequately assessed, in accordance with the NEMA requirements, for the following reasons.

2.64.5.1. *The ESIA failed to adequately account for a number of key risks, including risks to the fishing and tourism sectors, the economic risks associated with a spill, and transition risks*

2.64.5.1.1. The appellant defines transition risk as the risk that the value of assets and income are less than expected because of climate policy and market transformations, such as the transition away from fossil fuels. Transition risk includes the problem of stranded assets, negative impacts on trade and competitiveness; the risks of taxes being imposed on carbon-intensive products, for example the carbon border adjustment mechanism (CBAM); the risks of legislation (e.g. the Climate Change Bill) coming into effect which poses limits on the GHG emissions from the project and potentially imposes additional constraints and costs on the project proponent; and the physical risks of climate change itself. All these factors should have been considered in a proper economic impact assessment and prior to investment in non-renewable resource extraction, particularly since these factors have become increasingly important when analysing or insuring projects, and because such risks are seen by the world's central banks as one of the biggest threats to global financial stability. The appellant states that none of these risks have been considered in the SEIA.

2.64.5.1.2. The seventh appellant states that although the authorised exploration activities are for a limited duration and are not production activities, the SEIA and the Need and Desirability section of the ESIA specifically opts to focus on the longer-term trajectory of oil and gas development in South Africa. The SEIA takes a forward-looking approach that purports to consider the economic impacts of oil extraction from the project yet fails to consider the transition risks (a key economic impact) associated with the lock-in to a carbon-intensive fossil fuel within the next decade. This is a material omission. On this basis, the transition risks associated with the longer-term potential production aspects of the project ought to have been considered,

particularly as such an assessment is key to informing whether exploration ought to proceed in the first place. The Climate Policy Initiative analysed South Africa's transition risk in 2019 and found that the country faces transition risk of more than R1747 billion in present value terms between 2013 and 2035. It notes that South Africa's trade-offs associated with a low-carbon transition are particularly acute because of high levels of unemployment and inequality, together with a strong reliance on fossil fuels.

2.64.5.1.3. The seventh appellant states that the socio-economic impact assessment (SEIA) acknowledges that the fishing industry employs a number of people in the Western Cape and along the West Coast, and that the agriculture, forestry and fishing sector contribute the most to employment within the municipality. The SEIA recognises that the potential significant impacts and high risk of physiological injury from seismic sound sources is for species with swim-bladders (e.g. hake and other demersal species targeted by demersal longline and demersal trawl fisheries, small pelagic species targeted by the midwater and purse-seine fisheries), however, the SEIA concludes that "*the project will have negligible economic impact on the commercial sector identified and small scale fisheries will not be impacted under normal operation.*" The SEIA also acknowledges that the coastal communities and activities along the West Coast coastline (key area affected) are considered to be of very high sensitivity to major oil spills and that, even with mitigation measures in place, the residual impact remains of very high significance. However, the SEIA concludes that the impact of an oil spill, although of very high significance, is considered to be unlikely and partially reversible.

2.64.5.1.4. Because of the material deficiencies in the assessment of acoustic and oil spill impacts, the socio-economic risks that the proposed activities pose for the fishing sector are understated and the conclusions drawn, unfounded.

The conclusions in the SEIA that the project will have negligible economic impact on the commercial sector, and that the small-scale fishers will not be affected at all therefore cannot be relied upon. In addition, a number of small-scale fishers have raised numerous concerns in relation to the proposed project and their concerns have not been substantively addressed. The offshore areas surrounding the region contribute to the social and economic values that shape the sense of place of the fishers and are crucial for their well-being, livelihoods and way of life. A catastrophic oil spill would have a devastating impact on the fishing industry and would destroy fishing grounds, kill fish, and contaminate seafood. This would lead to job losses, economic hardship, and a loss of way of life for coastal communities and commercial and small-scale fishers." None of these potential impacts have been quantified or adequately weighed against the alleged benefits of the project activities.

2.64.5.2. *The ESIA relies on unsubstantiated and incorrect assumptions on economic benefits of the project.*

2.64.5.2.1. The seventh appellant notes that the final ESIA and the SEIA states that there will be very limited, if any, local employment benefits from the project activities due to the short term nature of the project and the specialised services and skills required, and that the project may even give rise to negative employment impacts such as in-migration of work seekers from other areas and job losses. This impact has not been assessed. The SEIA acknowledges that the exploration activities will have limited economic benefits, if any, yet it seeks to rely instead on the further anticipated production activities for alleged socio-economic benefits to justify the project. The scope of the assessment ought to, by the project proponent's own approach, be limited to the activities applied for (exploration). In any event, and to the extent that the impacts of production are considered, the assumption that the production of domestic oil and gas would be beneficial

for South Africa and its transition to a low-carbon economy is unsubstantiated and is incorrect for the following reasons:

1) It disregards the high (negative) economic risks of developing a domestic oil and gas sector.
2) The 2021 National Business Initiative "*Just Transition and Climate Pathways Study*" is relied on in the SEIA because it concludes that a *"lack of gas supply threatens South Africa's decarbonisation strategy because the synfuels, power and industrial sectors would rely on carbon-intensive fuels (e.g., coal and diesel) for longer.*" However, this position is not correct and has since been superseded by subsequent recommendations by South Africa's National Business Initiative to import liquified natural gas over developing a domestic market, in order to minimise the risks associated with a potential carbon lock-in.
3) It is misleading to state that South Africa will continue to rely on exports if this project does not proceed. Firstly, because Renergen is currently producing gas in South Africa and secondly because it ignores the current plethora of proposed oil and gas projects, some of which belong to the applicant, which are all putting themselves forward as the only solution to develop a domestic gas market, without which they claim South Africa SA would be dependent on exports. This is a false narrative.
4) Given that production would be anticipated to commence only within the next decade, any oil and gas produced from this project would in any event not meet short-term energy needs for South Africa, nor would it be capable of filling any demand gap caused by the high European demand, as this is only anticipated (by the SEIA) to last until 2028.

5) It is wholly incorrect that the development of an oil and gas sector is needed in South Africa or that it would assist in the transition to a low carbon economy.

2.64.5.3. *The ESIA failed to adequately take into account external costs of the project activities to society.*

2.64.5.3.1. The seventh appellant states that the ESIA has failed to consider a number of key external costs that the project activities would impose on society, such as the social cost of carbon and costs of the negative impacts of the activities to ecosystems and ecosystem services, which are economically important because they provide goods and services that make important contributions to the well-being of individuals, families, communities, and society as a whole. Economists around the globe have recognised that, to understand the overall consequences of fossil-fuel projects, decision-makers and the public must have the results from an analysis that provides a full, unbiased assessment of the external costs. Most importantly, the final ESIA fails to assess the external health, environmental and social costs that would be associated with a potential oil spill.

2.64.5.3.2. The seventh appellant notes that the ESIA states that the ramifications of an actual unplanned events (including oil spills) in terms of social impacts are beyond this scope of the social impact assessment, however, the legal, financial and reputational risks are likely to be substantive. The appellant avers that in their comments on the draft ESIA, they stated that the assessment of the extensive long-term damages and costs caused by oil spills is lacking in the socio-economic impact assessment. These concerns have not been addressed in the final ESIA. The failure to even provide some cost estimates is a material omission in the SEIA. These external costs are fundamental considerations that need to be factored into the final ESIA and weighed against any suppositions around the economic benefits of the

proposed project. This is particularly important, given that local economic benefits are already anticipated to be medium to low, meaning that any alleged benefits to the local coastal communities are significantly outweighed by the negative high costs that will have to be borne by these communities in the ordinary course of the project activities, and especially in the case of an unplanned event.

2.64.6. The seventh appellant submits further that the ESIA failed to account for the positive socio-economic impacts if the activity is not authorised.

2.64.7. The seventh appellant states that the NEM:ICMA requires the CA to take account of specific factors when deciding whether or not to grant the EA for "coastal activities", including whether or not the proposed project "would be contrary to the interests of the whole community." This requires an eco-centric consideration of the impacts of the proposed project in an area that must be afforded a particularly high standard of protection given the natural functioning of the dynamic coastal processes. In response to their (the seventh appellants) comments on the draft ESIA, the final ESIA was updated to explicitly set out these requirements in terms of section 63 of NEM:ICMA, however, despite this, the CA failed to give effect to NEM:ICMA in that it firstly, fails to consider the extent to which the applicant has in the past complied with similar authorisations, secondly, that the socio-economic impacts of the activity have not been adequately considered, and thirdly, that granting authorisation is not in the interests of the whole community.

2.64.8. The seventh appellant states that the ESIA indicates that closure audits and reports in respect of the applicant's previous drilling in Block 11B/12B were submitted to the CA, which demonstrates that the applicant materially complies with its environmental authorisations, however, these reports are not included in the final ESIA documents, and there is no indication that they were taken into account by the CA. The CA appears to have relied on a number incorrect suppositions around alleged benefits of developing oil

and gas resources in making the decision to grant the authorisation, and, consequently, the CA has not taken into account the full economic impacts of the activity, in contravention of section 63(1)(e) of NEM: ICMA.

2.64.9. The seventh appellant states that 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, and in accordance with the State's obligations under international law. The risk to marine life and coastal communities associated with the proposed exploration activities is unacceptable, and consequently, granting the EA is not in the interest of the whole community, and violates the State's obligations under sections 12 and 21 of NEM:ICMA.

2.64.10. The seventh appellant states that small-scale fishers and fishing-dependent communities are particularly vulnerable to the negative impacts of a large uncontrolled oil spill which could (among other things) be impacted by the trajectory and fate of any surface or sub-surface plume and which could lead to a depletion in the fish stocks upon which the livelihoods of commercial and small-scale fishers and fishing communities depend. This, in turn, has implications for commercial fishing, marine mammals, prey abundance, and the preservation of species of special concern, such as endangered species. The adverse impacts on these aspects can have significant implications for the food security of small-scale fishing communities and have lasting consequences for future generations. The cascading impacts of the project of food security involves understanding how changes or disturbances caused by the exploratory well drilling and potential oil spill can ripple through the food web, affecting different species and ultimately disrupting the overall functioning of the ecosystem, particularly where the area supports concentrations of key species.

2.64.11. The seventh appellant takes note of the statement in the Fisheries Impact Assessment, that the temporary exclusion of vessels from operating within 500m of the well drilling unit is likely to present a localised and short term impact on only the large pelagic longline

sector, which is active within the proposed area of interest for well drilling particularly during the winter months of May, June and July, and on the fisheries research surveys routinely conducted within the inshore portion of the area of interest for well drilling. The report assesses the impact of exclusion on these sectors to be of overall LOW significance after the implementation of mitigation measures. The appellant submits that this finding in the study suggests the adoption of a narrow scope, focusing primarily on the large pelagic longline sector and fisheries research surveys, overlooking broader ecosystem impacts on other fishery sectors and other species that are targeted to secure access to food for artisanal, small-scale and traditional fishing communities, and that the consideration of a temporary exclusion period may not account for potential cumulative impacts over time, especially if drilling activities continue in subsequent spawning and recruiting seasons.

2.64.12. The seventh appellant submits further that the emphasis on the winter months by the fisheries assessment is very likely to overlook the potential impacts on marine life during other seasons, neglecting the year-round ecological dynamics of the proposed drilling area.

2.64.13. The seventh appellant states that the Fisheries Impact Assessment indicates that the spatial mapping of catch, and effort was conducted concerning the identified impacts. However, there are limitations to relying solely on the spatial mapping of fisheries catch derived from government records, primarily completed by commercial sector skippers, and this raises concerns about the oversimplification of the intricate interactions in the marine ecosystem, potentially overlooking indirect or cumulative impacts not captured through spatial analysis alone, as well as concerns about the accuracy of the data due to potential errors in electronic data capturing.

2.64.14. The seventh appellant states that the Fisheries Impact Assessment raises concerns as it notes the absence of studies assessing the effects of underwater sound on local species off the South-West Coast. This is concerning given the critical role of pelagic fish,

like sardines and anchovies, as a primary food source for small-scale artisanal fishing communities. Most research on spawning and recruitment of commercially important species was completed in the 1990s to early 2000s, with no follow up studies to see if these patterns may have changed considering the changes in ocean temperature and chemistry brought on by climate change. This raises concerns about the relevance and reliability of older research in the current climate induced context. Drilling activities are likely to impact species that spawn far offshore, closer to proposed drilling sites than near the onshore areas. If these species are affected, it could have cascading effects on fishing communities that rely on them for food, impacting their ability to secure a vital food source.

2.64.15. The vulnerability of the line fishery, particularly in the Western Cape, is highlighted, but the Fisheries Impact Assessment fails to address whether the same vulnerability applies to other key species. This oversight questions the assessment's consideration of the likely impact on these vulnerable species (snoek, Cape bream, geelbek, kob, and yellowtail), given external threats such as underwater noise, oil spills, and waste disposal.

2.64.16. The seventh appellant states that the Fisheries Impact Assessment estimates that drilling and vessel noise will generate a roughly 80 km^2 behavioural disturbance zone for commercial fish species, but it does not analyse how this displacement will impact fish populations or the ecosystem as a whole. Additionally, the only mitigation measure that the assessment offers related to vessel and drilling noise pollution is to communicate with "the various sectors allowing them to focus fishing in other areas." They submit that this mitigation measure should have been accounted for in the Marine Faunal Assessment, as it will inevitably increase fishing pressure and vessel traffic in other areas.

2.64.17. The seventh appellant notes that the Fisheries Impact Assessment states that fishing effort is primarily coastal, in coastal waters shallower than 100m, and that it finds fishing efforts at this outer limit to be sporadic with no overlap with the licence block; however, this finding lacks a comprehensive analysis of the potential impacts of fishing efforts in

waters near the DWOB license block. The sporadic nature of fishing efforts and the varying operating ranges need a more-in-depth examination to assess their compatibility with the proposed drilling activities. The exclusive focus on the absence of overlap of fishing areas with the license block, area of interest and noise disturbance zone is insufficient to determine the overall impact on fishing activities and by virtue, food security, and a more nuanced understanding of the spatial dynamics, considering the broader marine ecosystem and potential indirect impacts, was necessary.

APPLICANT'S RESPONSE

2.65. In its comments on this ground of appeal, the applicant responds as follows:

2.65.1. It (the applicant) notes that the concerns raised by the appellants in relation to socio-economic impacts are related to the impacts on fisheries (particularly SSF) during normal operations and during an unplanned event (i.e. a surface well blowout); the economic benefits to the community arising from the project, including the jobs generated by the project; and the implications on tourism arising from the normal operations of the project and an unplanned event.

2.65.2. These objections were phrased in very broad terms and without any substantiation and none of the appellants challenged the findings or the mitigation measures contained in the Socio-Economic Impact Assessment attached as Annexure 14 to the ESIA Report. As a result, the findings and mitigation measures in the Socio-Economic Impact Assessment remain unchallenged and the appeals raised by the appellants appear to be "in principle" objections to the proposed project. If, based on the results of the project, it (the applicant) decides to in the future apply for a production right and associated EA, it will develop a social and labour plan in accordance with the MPRDA.

2.65.3. During the **normal operations** of the project, the impacts (both positive and negative) will be limited because of the short term over which the project will be conducted.

2.65.4. There will be limited local job and business opportunities outside of the use of local service providers for logistics, supply base, helicopters, refuelling, catering, goods, accommodation, waste management etc. It (the applicant) will look to hire local skills, and expertise are locally available. However, this will likely be contracted to established businesses and bulk suppliers. As a result, there are only likely to be restricted benefits to Small Medium and Micro Enterprises (SMMEs) outside of incidental expenditure. This was made clear in the ESIA report so as not to create any unrealistic obligations regarding local job and business opportunities. The limited opportunities were identified by the appellants in submitting their appeals in respect of these issues.

2.65.5. Although the employment and local business opportunities are limited, the project is expected to inject up to US$90 million into the regional South African economy (based on the applicant's 2019 and 2020 combined exploration campaigns off the south coast), which will largely be directed to bulk suppliers and logistics support.

2.65.6. With respect to the potential impacts on tourism, the Socio-Economic Impact Assessment concluded that both Cape Town and Saldanha Bay have well-developed ports and adequate facilities exist to support the proposed exploration activities. Thus, the presence of the support vessel at Cape Town or Saldanha Bay is not likely to garner any particular interest, given that numerous vessels of this size and larger operate from the port. In addition, the project will take place 188km offshore on the West Coast, at its nearest point. As a result, the Socio-Economic Impact Assessment concludes that the project will have a negligible impact on tourism and sense of place given the remote location of the Area of Interest.

2.65.7. The primary concerns raised by appellants regarding the fishing industry relate to the impact that the normal operations and unplanned events of the project would have on the fisheries industry, particularly those persons who rely on the industry for their livelihoods including small-scale fishers (SSF) (particularly in respect of snoek, tuna, hake and West

Coast Rock Lobsters) and the abalone farmers. A Fisheries Impact Assessment was prepared to consider and assess the impacts that the project may have on fisheries.

2.65.8. None of the appellants objected to any of the findings or mitigation measures in the Fisheries Impact Assessment. Their primary concern is that the project will impact on fisheries and those whose livelihoods (directly or indirectly) rely on the fisheries industry. This is considered in detail in the Fisheries Impact Assessment. In particular, the following findings were made:

2.65.8.1. The impact of temporary or permanent exclusion from fishing grounds in each fishing sector based on the type of gear used and the proximity of fishing areas in relation to the proposed activities. The temporary exclusion of vessels from operating within 500m of the well drilling unit is likely to present a localized short-term impact on the large pelagic longline sector which is active in the proposed well drilling area. The impact was assessed to be of overall **low significance** to the large pelagic longline sector once mitigation measures are implemented. There would be no impact on any other sector, including the SSF.

2.65.8.2. The abandonment of wellheads is not expected to impact the demersal trawl fishery sector as the area of interest is located outside of the current spatial trawl footprint of the sector.

2.65.8.3. The most significant impact of discharge of drill cutting, the deposition of material around the wellhead and the suspension of fine particulate matter in the water column is the smothering of benthic organisms and bio-chemical effects due to the settling of drill cuttings on the seabed. The resulting plume and depositional footprint would, however, not be expected to coincide with spawning areas for any fisheries sector. The major fish spawning areas for commercial species, such as hake and kingklip, occur

further inshore on the shelf to the south of the Area of Interest and beyond the deposition / dispersion footprint. Due to the short-term, localised extent of the impact, the overall significance of the impact on fisheries is considered to be **negligible**.

2.65.8.4. Noise during drilling may affect catch due to behavioural responses of fish to increased noise levels within the modelled zone of impact. The large pelagic longline sector is the only sector that operates within the Area of Interest for well drilling. Based on the modelled noise levels of the affected area to fishing grounds, and short-term duration of the impact, it is unlikely that significant changes in catch rates would be experienced for any of the fisheries assessed. The overall noise impact due to vessel and drilling noise was assessed as very low significance on the large pelagic longline sector once mitigation measures are implemented. The noise impacts of the VSP and sonar surveys were also assessed to be of **very low significance**. The primary mitigation measure is to co-ordinate drilling with fishing operations so that fishing operations are directed away from the drilling activities for the short duration of the drilling activities.

2.65.8.5. As set out above, the Area of Interest at its closest point is 188 km offshore. There is no anticipated overlap with the SSF sector, as SSF is defined in the Small-Scale Fishing Regulations as being "near-shore", meaning "the region of sea (including seabed) within close proximity to the shoreline". SSF communities are thus unlikely to operate beyond a range of 20 km from the coastline, well in shore of the Area of Interest. This is supported by there being no overlap between the Area of Interest and traditional line fish (including snoek and tuna) and small pelagic purse-seine (sardine and anchovy) fishing grounds.

2.65.8.6. Snoek is targeted by SSF during the snoek seasonal migration (between April and June), during which time they shoal nearshore and are, therefore, available by handline. Snoek then move offshore into deeper waters to spawn in July and August, and are not available to line fishers during these times as the fish are beyond the depth range of surface line fishers.

2.65.8.7. The SSF are also currently not permitted to target tuna species as it is not listed in the basket of species for SSF exploitation, although they are allowed to catch up to 10 tuna per day. Based on the distance from key SSF harbours to the Area of Interest and on vessel clarification (with Class C to E vessels not being able to travel beyond 28 km from the coast), tuna is caught closer to the coast by the SFF (and traditional line fish and recreational fishers) when warmer waters move closer inshore during the summer months.

2.65.8.8. In respect of the impact of an oil spill on fisheries specifically, the Fisheries Impact Assessment assesses the impact to have a very high significance and an overall high significance even once mitigation measures are implemented.

2.65.9. While the probability of a major oil spill happening is **extremely small**, the impact would be very significant on the marine and coastal environment on both commercial and SSF and tourism. There would be a reduction in recreational small-scale and commercial fishing in the impacted area, including the near-shore and offshore fishing. Large-scale effects on fishing operations would include area closures and exclusion of fisheries from areas that may be polluted or closed to fishing due to contamination of surface waters by oil or the chemicals used for cleaning spills. Based on the possible extent of surface oiling (including major fish spawning and nursery areas), the intensity of the impact on most commercial fisheries would be **high**. There would also be a reduction in income for secondary and tertiary sectors that support commercial fishing, as well as a reduction in

income and livelihoods impacts on those dependent on SSF. As a result, an oil spill will have a **very high** significance on the marine and coastal ecology and nearshore users (including SSF). The residual impact on offshore fishing would have a high significance.

2.65.10. From the above, it is evident that potential impacts arising from the project have limited, if any, impacts on fisheries. Those sectors where there are impacts (specifically the large pelagic longline), can be suitably mitigated. None of the appellants are representatives of the large pelagic longline sector. In respect of a surface well blowout, it (the applicant) reiterates that while the impacts are considered very high, the risk of a well blowout is **very low**. The Fisheries Impact Assessment provides mitigation measures which must be included in the well-specific oil spill contingency plan to be developed for each well. Compensation would also be available to those persons affected by such an oil spill.

2.65.11. It denies the averment that the socio-economic impacts of the project were not adequately assessed.

2.65.12. The seventh appellant has provided incomplete quotations from the ESIA with respect to physiological impacts on commercial fish species from seismic sound, and its associated economic impacts on the fishing sector. Because of the risk of physiological injury to species with swim bladders, the large pelagic longline sector is considered to be of high sensitivity. All other sectors fall outside the zones of impact disturbance. The impact is considered to be low significance in respect of large pelagic long-line and negligible significance in respect of the tuna pole-line sectors given that the Area of Interest does not overlap with the fishing grounds of the midwater trawl, demersal longline, small pelagic purse-seine, large pelagic purse-seine, tuna pole-line, linefish, west coast rock lobster or small scale-fishers. In addition, as there will be an exclusion line for 2km around the drilling vessel, the impact on large pelagic and tuna pole-line sectors will be localised and short term.

2.65.13. The seventh appellant's claim that they act on behalf of local and indigenous communities and/or coastal communities, including small-scale fishers, that do not have the capacity or resources to institute the appeal proceedings, is not supported. The seventh appellant does provide any detail of the specific communities or members thereof which they represent. Furthermore, no evidence is provided that they have the authority to represent these communities in submitting this appeal. It is therefore denied that the seventh appellant has the authority to lodge an appeal on behalf of the unknown communities that they purport to represent.

2.65.14. Regarding the second appellant's statement that the ESIA does not consider the transition risks associated with the project, transition risks arise where there is a change in the regulatory landscape during the currency of an activity, which may render that activity no longer viable or feasible and could lead to stranded assets. While the regulatory landscape concerning climate change and GHG emissions is dynamic, there are unlikely to be drastic overnight changes in the regulatory landscape which would place the project under a transition risk. This is because:

2.65.14.1. The project has a short lifespan which can run from a couple of months to a few years;

2.65.14.2. It (the applicant) is not obliged to drill all 10 proposed wells. If the regulatory landscape changes significantly, it can elect not to drill any further wells;

2.65.14.3. The project does not require any permanent infrastructure to drill the wells. This is all done from vessels. As a result, there will be no assets that would need to be decommissioned;

2.65.14.4. There are no off-take agreements as no oil and gas products are being produced. As a result, there will be limited risks of contractual penalties if the exploration project ceases;

2.65.14.5. The legislative process in South Africa moves slowly, which means that the applicant will be aware of any legislation aimed at stopping exploration or production activities long before these laws come into effect.

2.65.14.6. The Climate Change Bill and associated regulations do not and will not outlaw fossil fuels.

2.65.15. Based on the above, the argument that the project is exposed to a transition risk is not realistic and must be dismissed.

2.65.16. Regarding the seventh appellant's contention that the ESIA and the CA rely on unsubstantiated and incorrect assumptions on the economic benefits of the project, the ESIA is clear that the project will provide limited job opportunities for unskilled persons. Persons that migrate to the Western Cape to find employment will not be seeking out employment from the applicant exclusively. The same argument could be used in respect of any industry including renewable energy projects in the Western Cape. The socio-economic impacts of the project are not overstated and relate solely to exploration. Possible production has not been assessed; however it is necessary to provide information regarding the uses of oil and gas should a reserve be located in order for people to understand why exploration is necessary. The arguments posed by the seventh appellant are in respect of production activities which are not relevant to the EA.

2.65.17. Regarding the seventh appellant's averment that the grant of the EA is not in the interests of the whole community in accordance with the requirements of the NEM:ICMA, the NEM:ICMA was enacted to regulate coastal public property, including the activities that are conducted within coastal public properties. The applicant contends that NEM:ICMA does not prohibit activities within this area or insist that conservation supersedes all other rights. Like all environmental legislation, activities in coastal waters must be interpreted and applied using a sustainable development filter. That is the social, economic and environmental interests of the "whole community" which includes *inter alia* local communities, conservation groups, mining companies, oil and gas companies, recreational water users, commercial fisheries, small scale fisheries, electricity generators, manufacturing and users of oil and gas products, persons looking for employment, persons employed by businesses that support oil and gas development and

operation, fisheries and other commercial endeavours. The "whole community" cannot be narrowly construed to represent one group. To do so, is contrary to the principle of sustainable development.

2.65.18. The ESIA report considers the impact that the project will have on the broader interpretation of "the whole community", as is evident from *inter alia*:

2.65.18.1. The Fisheries Impact Assessment which considers the impact of the project on commercial fishers and small-scale fishers across various sectors.

2.65.18.2. First People and persons descended from the Nguni as well as persons that classify themselves as white, black African, coloured or Indian, and traditional leaders as set out in the Cultural Heritage Impact Assessment Report.

2.65.18.3. The impacts on businesses and employment as considered and assessed in the Socio-Economic Impact Assessment Report.

2.65.18.4. The comments and responses table attached as Appendix 6.8 to the ESIA Report, which is 283 pages including comments from *inter alia* heritage resource agencies, municipalities, individuals in their personal capacities, environmental / conservation groups, traditional councils, women's movements, fishing companies and associations, academics, community groups and government departments.

2.65.19. It is evident that the "whole community's" view is canvassed in the ESIA report, which evaluates each of the issues that they have raised in considering and assessing the project in accordance with the principle of sustainable development, which is not contrary to objectives of the NEM:ICMA.

2.65.20. In relation to the seventh appellant's averment that the ESIA fails to consider the impacts of the project on food security, it is acknowledged in the ESIA report that should a large, uncontrolled oil spill occur, it will have a high impact on the receiving environment,

however the likelihood of a large uncontrolled oil spill occurring is extremely low. The food security risk is thus also considered to be of a low likelihood.

2.65.21. With regard to the seventh appellant's statement that the finding on page iv of the Fisheries Impact Assessment suggests the adoption of a narrow scope, focusing primarily on the large pelagic longline sector, it should be noted that the particular focus on the pelagic longline sector in the cited paragraph is due to the fact that it is the only sector that directly overlaps with the Area of Interest.

2.65.22. With regard to the seventh appellant's statement that there are limitations to relying solely on the spatial mapping of fisheries catch, derived from government records primarily completed by commercial sector skippers, the fisheries data used by the fisheries specialist to analyse the likelihood and extent of any impacts on fishing was sourced from the DFFE, to whom fishermen must report all catches. The most recent catch data available at the time of report compilation was used in the fisheries assessment, which provides a good baseline of where fishing takes place, what species are caught and the fishing effort. In addition to the above, although all the relevant fisheries association were included on the project I&AP database and thus provided with an opportunity to comment, no comments were received from these associations indicating that the reported catch and effort was incorrect.

2.65.23. With regard to the averment that the ESIA raises concerns because of the absence of studies assessing the effects of underwater sound on local species off the South West Coast, these knowledge gaps have been identified and acknowledged, a precautionary approach has been taken in the assessment of impacts. An impact assessment, by its nature, predicts potential impacts of a project based on existing experience, and impacts can never be predicted with certainty. As such, the risk-averse and cautious approach required in terms of NEMA Section 2 (4) (vii) implies that the EAP and specialists critically interrogate the available data and determine whether it allows for an assessment of

impacts with sufficient confidence. In this regard, the following steps were undertaken in the assessment:

2.65.23.1. Identification of potential impacts: The identification of potential impacts included a review of relevant publications, consultation with experts (e.g., SANBI, Institute for Coastal and Marine Research, etc.), and consideration of previous similar activities in the South Africa offshore and other operated countries, as well as issues raised during the public participation process.

2.65.23.2. Description of the receiving (baseline) environment: Overall the description of the receiving environment was based largely on various scientific publications, reports and programmes (e.g., the 2018 National Biodiversity Assessment, Marine Spatial Management and Governance Programme and the National Coastal and Marine Spatial Biodiversity Plan). Where possible, site-specific data were also used to define the receiving environment, e.g. fisheries catch and fishing effort data was sourced from the Department records. It is important to highlight that the ESIA report and specialist studies considered the National Coastal and Marine Spatial Biodiversity Plan, which presents a spatial plan for the marine environment (including Critical Biodiversity Areas and accompanying sea-use guidelines) designed to inform planning and decision-making in support of sustainable development.

2.65.23.3. Assessment of potential impacts: A precautionary approach was applied as an integral part of the assessment methodology. Species sensitivity is taken into consideration in the assessment of impacts. For example, when rating the sensitivity of the receptors, the current and foreseeable status of the receiving environment (benthic ecosystem threat status, protection level, protected areas, etc.) or threat status of individual species are also taken into consideration. (e.g., the IUCN conservation rating is determined based on criteria such as population size and rate of decline, area of geographic range / distribution, and degree of population and distribution fragmentation).

2.65.23.4. Technical and specialist studies were based on conservative, worst-case scenarios and assumptions.

2.65.23.5. Implementation of precautionary measures: Where there is uncertainty about the potential impact or if the potential consequences are significant, precautionary measures will be implemented to prevent or minimise harm to the marine environment (consideration of the mitigation hierarchy).

2.65.24. Regarding the statement that drilling activities are likely to impact species that spawn far offshore and that the impacts on such species "*could have cascading effects on fishing communities*;" the appellant has failed to indicate which species is being referred to, Without any specific detail, no comment can be made to verify that impacts on such species could have cascading effects on fishing communities.

2.65.25. It is denied that there was an oversight in the Fisheries Impact Assessment's consideration of the likely impact on inshore catch of other key species like Cape bream, geelbek, kob, and yellowtail. The specific focus on snoek was as a result of the numerous comments received from SFFs, which specifically target snoek for their livelihoods. The Marine Fauna Report includes an assessment of the potential impacts on fish species as a result of project-related activities.

2.65.26. Regarding the statement that the Fisheries Impact Assessment recommends only one mitigation measure for the impact of noise on commercial fish species, which will allegedly increase fishing pressure and vehicle traffic in other areas, the Fisheries Impact Assessment notes that the cumulative impact of drilling activities assumes that the marine species are constantly exposed to the noise source at a fixed location for the entire operational period. It is unrealistic that this would arise as marine mammals, fish and sea turtles would move away from the noise unless they are attached to a particular breeding/feeding area or are immobile (e.g. plankton). As a result, the study provides the worst-case scenario. The 78.5km^2 disturbance area will impact fishing industries that overlap with the Area of Interest or this behavioural impact area. To mitigate impact on

fisheries, the applicant will notify fishers of their proposed drilling so that they can fish in alternative areas during this period. As a result, this expected to have a very low impact on catch rates.

2.65.27. The fisheries specialist calculated a behavioural disturbance zone of 78.5 km^2 due to drilling and vessel noise based on a conservative radius of 5 km from the drilling location. This zone is equivalent to 0.81% of the total extent of the Area of Interest for well-drilling (9 711.21 km^2) and would represent an insignificant percentage of the overall extent of the West Coast ecosystem as a whole. Thus, it was not deemed necessary to consider the possible displacement within this footprint at an ecosystem level.

2.65.28. With regard to the seventh appellant's averment that the ESIA lacks a comprehensive analysis of the potential impacts of fishing efforts in waters near the DWOB license block, as highlighted in Figure 3.51 of the Fisheries Impact Assessment, there is no traditional linefish effort "*in waters near the DWOB license block.*" Fishing activities can continue outside of the 500 m safety zone around the drilling unit. Given that the linefish fishing grounds are located well outside of the licence block (and even further away from the 78.5 km^2 behavioural disturbance zone), it is expected that traditional linefish activities would not be inhibited by normal drilling operations.

CA'S RESPONSE

2.66. In its comments on this ground of appeal, the Competent Authority responds as follows:

2.66.1. A socio-economic impact assessment was conducted during the ESIA process, and the residual impacts for normal operations were found to range from negligible positive significance to low significance. The residual impacts for unplanned events were found to be of very high significance. Although the residual impact significance of a major spill (unplanned event) remains high to very high due the magnitude, it is important to put the probability of such an unlikely event (well-blowout incident) into perspective to have a

balanced perspective of the risk. Offshore South Africa, 358 wells were drilled with no incidence of a well blow-out to date. From a global perspective the frequency of a blow-out event is 1.43 x 10-4 (0.000143) per well drilled. In addition, the oil spill modelling was conducted using crude oil as the hydrocarbon source because it presents the worst-case scenario. Such an unlikely spill involving condensate instead of crude oil would result in less significant potential impacts. The CA is therefore satisfied that the stipulated requirements of section 63 of NEMA were duly considered during the reviewing process.

2.66.2. In terms of impacts on commercial and small-scale fisheries, the impact assessment found the following:

2.66.2.1. The residual impact significance (after implementation of mitigation measures) of discharges (cuttings, water-based muds and cement) on commercial fisheries is negligible.

2.66.2.2. The residual impact significance (after implementation of mitigation measures) of the drilling unit and support vessel operation on site and in transit on commercial fisheries is very low and on small scale fisheries there is no impact.

2.66.2.3. The residual impact significance (after implementation of mitigation measures) of the VSP on commercial fisheries is very low and on small scale fisheries there is no impact.

2.66.2.4. The residual impact significance (after implementation of mitigation measures) of the sonar surveys on commercial fisheries is very low and on small scale fisheries there is no impact.

2.66.2.5. There is no impact on demersal trawling as a result of the presence of subsea infrastructure.

2.66.2.6. The residual impact significance of an accidental release of oil into the sea due to for e.g. vessel collision on small scale fishing is low for both offshore and nearshore.

2.66.3. Therefore, according to the Fisheries Impact Assessment, impacts on fisheries industry due to normal operational activities ranges from no impact to very low significance. The residual impact of a major oil spill as a result of well blow-out is found to be of high significance on commercial fisheries, marine fauna and coastal and near shore users, but the event is very unlikely to occur, and the impact is partially reversible. The fisheries impact assessment undertook the impact assessment from the standpoint of winter as a worst-case scenario. This is due to the likelihood of shoreline oiling following the unlikely event of a blowout during the austral winter.

2.66.4. The ESIA acknowledges the toxic impact of oil on marine fauna and indicates that contact with any marine fauna would have a toxic effect, this would include fish as well. The overall sensitivity of offshore receptors is considered high. The ESIA indicates that large pelagic fish will avoid highly contaminated water. Adult free-swimming fish do not suffer long term damage because oil concentrations decline rapidly in the water column and seldomly reaches lethal levels or levels which will cause significant harm. Benthic and inshore species may in rare cases experience mortality when the gills become coated with oil. Other long-term effects could be disruption of physiological and behavioural mechanisms, reduced stress tolerance towards pathogens and accumulation of poly aromatic hydrocarbons by means of ingestion. Thus, as a result of the high significance of the receptor (marine fauna) sensitivity and the very high magnitude, the impact significance is very high, and the residual impact remains very high.

2.66.5. The exclusion zone is a safety requirement and therefore other users must be made aware of it and the activities taking place. The average annual catch and effort rate in the area is 2.75% and 2.74% respectively, thus the impact of the exclusion zone on fisheries and local tourism during operations is found to be of low significance and very low significance respectively. No impact is identified for small scale fishers. The ESIA indicates that only the large pelagic longline sector and the fishing research sector will be affected by the exclusion zone. The duration of the impact is temporary/short term in total 3-4 years (3-4 months per well i.e. 10 wells) and the sector may still continue

operations outside of the exclusion zone. As indicated in section 7.4.3.1.3, on page 166, of the ESIA report, the DWOB licence block does not overlap with egg and larval drift of commercially important fish and the recruits.

2.66.6. Figure 3.51 of the ESIA presents an overview of the spatial distribution of catch taken by the traditional linefish sector in relation to the DWOB license block and the area of interest for the proposed drilling. It indicates that there is no overlap between the license block and the area of interest. Therefore, the assessment of potential impacts of the fishing efforts for the linefish sector is not applicable. Only one sensitive receptor, namely the large pelagic longline sector, was identified within the area of interest.

2.66.7. Baseline information used to assess the impact of the proposed project on small scale fishers was obtained from government records of fisheries data. The possibility of errors due to capturing the information into electronic format is appreciated by the specialist and therefore, as indicated in the report, the study assumed a 10% error with respect to the data. The error is primarily related to fishing position. It is important to note, as indicated in the fisheries impact assessment report (section 2.3 on page 18), that the validity of the finds is not affect by the assumptions and limitations. According to Popper et al. high to moderate behavioural risks are expected at tens to hundreds of metres from source; low behavioural risks at thousands of metres. Because of the gap in knowledge for local fish species, a conservative distance of 5km (5000m) was used to calculate the catch and effort within the zone of noise disturbance.

2.66.8. The major spawning areas of commercially important fish such as hake, pilchards, horse mackerel and anchovy lie inshore of the area of interest and are thus unlikely to be impacted by the noise generated by the project. Commercial line fishery is a nearshore boat-based activity. The other species are acknowledged in the fisheries impact assessment. References ranging up to 2021 are used in the fisheries impact assessment report e.g. recruitment survey done in May 2021.

2.66.9. In terms of job creation, it is acknowledged in the Socio-economic Impact Assessment report that the economic benefits are limited for local service providers, this is because of the highly technical nature of the project, the drill ship and survey vessels are procured internationally and are crewed by technical specialist (i.e. they form part of the vessels and drill ships contract) and the short-term nature of the project. The majority of activities require highly specialised staff, which will come with the drilling unit. Service provider opportunities are limited. There will be local content and employment demand for logistics, supply base, helicopters, refuelling, catering, basic goods, crew accommodation, waste management etc., during exploration well drilling operations. Up to a total of 177 local people may be employed on the project for up to six (6) months. It is estimated that about USD 90 million will be injected into the economy of South Africa, which will be directed to suppliers and logistics. This is addressed in section 9.3.1.1 on page 393 of the ESIA report. Impacts on local economic sectors, including tourism, were assessed and found to be of negligible significance before and after implementation of mitigation measures. The optimisation of employment of local people will be managed by the applicant's local content commitments. Thus, the impact is not significant compared to the population of Cape Town and Saldanha Bay municipality areas. This is due to the technical nature of the project.

2.66.10. In terms of in-migration, one (1) of the mitigation measures recommended for the impact on local economic drivers is to manage the community's expectation on local employment opportunities.

2.66.11. The impact assessment process considers various factors prescribed in section 24O of NEMA. These factors include compliance with NEMA, impact assessment, identification of mitigation measures etc. The EIA process considered relevant legislation, policies and strategies to ensure that the project activities are undertaken in a sustainable manner. Consideration of these factors is necessary to ensure that section 24 of the Constitution is upheld. Thus, the EIA process followed provides for a protective mechanism that ensures that project activities are undertaken in a sustainable manner.

2.66.12. The outcomes of the Underwater Noise Impact Assessment, Marine Ecology Impact Assessment Report, and Fisheries Impact Assessment report found that noise will not cause detrimental impacts, provided the proposed mitigation measures are implemented. This information was used by the socio-economic specialist during the assessment process.

2.66.13. The socio-economic impact assessment was based on the scope of the project i.e. proposed exploration activities. The legislation guiding environmental impact assessment does not require a cost benefit analysis, hence it was not undertaken for the application for EA. In addition, a cost benefit analysis is not advisable nor possible for an exploration project as indicated by the specialist. This is because to conduct a cost benefit analysis, one would require a number of successive costs and benefits over a time period as would be the case for production activities (the scope of potential production activities related to this exploration right is not known and therefore an impact assessment would be a futile exercise due to an unreasonable level of assumptions and uncertainties). The exploration activity is considered short term (approximately 3-4 years) when compared to production activity (approximately 30 years). However, impacts on both fisheries and marine fauna were assessed in the fisheries and marine impacts assessments and the outcomes were deemed satisfactory. In terms of the cost of carbon, this project does incur carbon liability. All costs will be private costs for the applicant and there are no opportunity costs. The scope of the proposed work is to drill up to ten (10) wells with the main objective being to confirm the presence or absence of petroleum. It includes the collection of information such as the extent, type of petroleum (gas, condensate and oil) and the economic feasibility of the reservoir for extracting the potential petroleum resources if present. It should be noted that no resources may be found i.e. a dry well is drilled, if economically feasible resources are found then a cost benefit analysis would be done for an EA application for production.

2.66.14. The needs and desirability section of the socio-economic impact assessment discusses the long-term trajectory, assuming a viable resource is discovered, for oil and gas development in the region due to this being a focus of most public concern. However, the report also acknowledges that the proposed exploration project, itself, would not result in the production of oil and gas, but rather the generation of information on possible indigenous resources. By gaining a better understanding of the extent, nature and economic feasibility of extracting these potential resources, the viability of developing indigenous gas resources would be better understood. The Integrated Resources Plan (IRP) that was gazetted in 2019, recognises the need for South Africa to employ a diversified energy mix to meet the country's electricity requirements. The IRP 2019 policy is in place and therefore applicable until such time it is amended. This exploration project is aligned with the approved IRP.

2.66.15. Carbon-intensive product taxes is not applicable because this is an EA application with respect to explorations. As such, information is the output of the project, not products for sale. The Climate Change Bill will become effective once enacted and thus currently not applicable. In terms of stranded asset, this is not a production application and hence not applicable.

2.66.16. The SEIA study does not rely on the socio-economic benefits/positive impacts of oil and gas production. The study assesses the impacts related to the proposed exploration project.

2.66.17. The probability of a major oil spill is unlikely. Section 8.8 of the Socio-economic Impact Assessment report addresses the potential impact of an unlikely oil spill as an unplanned event and recognises several indirect negative impacts. The residual impact significance based on the very high sensitivity of receptors and the very high magnitude is very high. All impacts (normal operations and unplanned events) identified during the ESIA were assessed as evidenced in Chapter 9 and 10 of the ESIA report.

2.66.18. In terms of a major oil spill, the applicant subscribes to International Petroleum Industry Environmental Conservation Association (IPIECA) - International Association of Oil and Gas Producers (IOGP) Good Practice Guide Series, which includes guidelines on assessment of economics and compensations. These guidelines together with stakeholders' (e.g. government and industry organisations) inputs will be used in the unlikely event of a major oil spill to determine the applicants' responses. The applicant's insurance will include compensation to third parties. Thus, provision for compensation in the unlikely event of an oil spill before commencement of the authorised activities will be in place. Proof of such insurance will also be submitted to the regulator.

2.66.19. The stipulated requirements of section 63 of the NEM: ICMA were considered during the reviewing. In terms of the requirements a comprehensive public participation process was conducted as per the applicable legislative requirements. The applicant was previously awarded with a similar authorisation and the drilling activities were conducted without any adverse environmental impacts (Block 11B/12B). In terms of marine protected areas, EBSAs and critical biodiversity areas; the area of interest (where proposed drilling will occur) does not overlap with any marine protected areas and EBSAs.

2.66.20. It is not clear how the project will put Just Energy Transition at risk, as alleged by the seventh appellant. The project motivated its needs and desirability based on South African and other related legislative instruments. It is also committed to adhere to all relevant legislative requirements that support the Just Transition Initiative.

2.66.21. Section 3 of the MPRDA clearly states that minerals and petroleum resources are the common heritage of all South Africans and that the State is the custodian of the minerals and petroleum resources for the benefit of all South Africans. Thus, the State may through the Minister of Mineral Resources and Energy, grant various permits and licences provided the required environmental impact assessments are conduct and indicates no detrimental harm will occur (where applicable).

2.66.22. The CA is satisfied that all identified potential impacts were identified and that the impacts are either avoided, minimised, or managed through implementation of recommended mitigation measures as documented in chapters 9 and 10 of the ESIA report. The EIA process was conducted in compliance with the 2014 EIA Regulations. In addition, the CA monitors compliance to the EMPr to ensure that the recommended mitigation measures are implemented by the operators thus fulfilling section 21 of the NEM:ICMA.

2.66.23. The CA is satisfied with the proposed mitigation measures as they provide for avoidance and minimising of impacts such as, use of trained personnel, ensuring design and technical integrity, use of multiple technical barriers etc. The mitigation measures also provide for restoration of impacted environment, such as the implementation of the oil spill contingency plan. These mitigation measures are in line with NEMA requirements.

EVALUATION (Reasons for Decision)

2.67. Having considered the grounds of appeal and the applicant's and Competent Authority's responses thereto, I am of the view that the potential impacts and mitigation measures in respect of the project and environmental receptors have been adequately identified, considered and addressed in the ESIA, the Socio-Economic Impact Assessment, the Fisheries Impact Assessment, and the Cultural Heritage Impact Assessment.

2.68. I note that the project, being of short duration and of limited scope, is not expected to provide many job opportunities. I am satisfied, however, that the socio-economic impacts and mitigation measure on inter alia, tourism, marine fauna, small-scale and commercial fishing have been considered and addressed. The Social Impact Assessment concludes that the social impacts related to the proposed exploration project are considered to largely be of negligible or low significance with mitigation. Virtually all negative impacts may be mitigated via the adoption of suitable management measures and advanced planning. Social impacts will be substantive in the case of catastrophic events; however such events are unlikely.

2.69. Moreover, as the Area of Interest for drilling is located 188 km from the coastline at its nearest point, no human health impacts are expected as any emissions generated will have dispersed before reaching any communities. I note, too, the applicant's financial arrangement, plans and grievance procedure to be implemented to compensate affected persons in the event of an oil spill and well blow-out.

2.70. Many of the comments made by the appellants were made on the assumption that the impacts associated with production had to be considered, not just those associated with exploration. For reasons that I have already advanced, which reasons were acknowledged by the applicant and Competent Authority, that is not the correct way of approaching this matter. In this appeal, I have only considered the impacts of exploration which are far less significant and far less invasive than they will be if extraction and production takes place. As has been a recurring theme in this appeal, this is not the time to consider the possible impacts of a project that is not yet planned. I therefore concur with the applicant and appellant that a Cost Benefit Analysis is more suited to production activities and not the proposed exploration activities.

2.71. In respect of the seventh appellant's allegation that the CA failed to consider the extent to which the applicant has in the past complied with similar authorisations, I am of the view that the Competent Authority was not entitled to anticipate future/ potential non-compliance by the applicant and pre-emptively refuse EA on that basis. Nor can I. An applicant is legally bound to comply with the conditions as set out in the EA. Non-compliance with any condition(s) of the EA or approved EMPr is an offence in terms of section 49 A(c) of NEMA.

2.72. That being said, I am concerned about the plight of small-scale fishers and the communities that they belong to. I appreciate that for some of them, this project presents a cause of concern and anxiety. For example, the fourth and sixth appellant raises the potential for long-term harm to the environment and the living resources that their

livelihoods depend on, as well as the fact that their community will not have an income if something, however remote the risk may be, goes wrong and there is harm to the environment and the fish stocks that they rely on. Whilst I accept that the applicant may be liable to compensate them if this happens, the promise of compensation does not always remove fears and anxiety. Sometimes it is a fear of the unknown, possibly arising from matters not fully understood. For these communities, the well-being of the sea, fish stocks and the environment is crucial to their own physical and emotional wellbeing. As the sixth appellant says, the project could result in the loss and destruction of their cultural heritage. Their connection with the sea is strong. Whilst I am satisfied that communities were consulted and that their concerns were taken into account, I nevertheless take the view that the applicant needs to do more, on an ongoing basis, to allay fears and anxiety. This can be done if the communities have an open channel of communication with the applicant. Thus, if they have concerns that arise from, for example, things that they may see or hear about that worry them or cause them anxiety, they should be able to raise these with the applicant and the applicant should spend time investigating the source of the fears and anxiety to allay them or otherwise address them. For that reason, I am including a new condition as paragraph 5.5.9 of the EA, requiring the applicant to appoint a liaison officer who must be available to the affected communities. The communities must have access to the liaison officer who, in turn, must keep them informed of the activities at regular intervals and be available to answer any questions that they may have. This will go a long way to allying fears and anxiety. This is separate from the grievance procedure.

2.73. Save for including the new condition creating a liaison officer, I find that the grounds of appeal have no merit and are accordingly dismissed.

Seventh Ground of Appeal: Insufficient Public Participation Process

2.74. The second, fourth, sixth, seventh and eighth appellants submit as follows:

2.74.1. The second appellant alleges that she was not informed or included in the public participation comment period for the application for EA and that the invitation to attend public meetings and the notification of the availability of draft ESIA report for comments was not provided to her, although she is a registered I&AP for the proposed project.

2.74.2. The fourth appellant states that the Constitution requires government to consider international legal frameworks and policies that South Africa is party to. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) urges the government to recognise the rights of indigenous persons to natural resources, lands and waters and to grant them the right to Free, Prior, Informed Consent to developments that impact on their lands, resources and waters. The fourth appellant demands that their rights in terms of UNDRIP be respected. The fourth appellant does not support oil and gas exploration and does not consent to the proposed development. In addition, the fourth appellant states that existing legislation and policy at national and international level protects their rights as a local, indigenous fisher community, to a safe and healthy environment, and an environment that is protected for their children and future generations.

2.74.3. The fourth appellant states that they have the right to participate fully and effectively in the integrated planning of South Africa's oceans. They contend that in this regard, they have not been properly consulted and that government does not have all the information about small-scale fishers before them to make an informed decision and consider all the facts.

2.74.4. The sixth appellant avers that the EA did not take into consideration meaningful public participation, as consultation was not adequately undertaken with the small-scale fishers and the indigenous communities along the West Coast. The appellant states that their livelihood depends on the ocean and any process that affects or impacts on the food chain needs to take their inputs into consideration.

2.74.5. The seventh appellant avers that the PPP did not achieve meaningful, equitable and effective public participation, particularly by vulnerable and disadvantage persons, as per the requirements of NEMA, the 2014 EIA Regulations and the DFFE's Public Participation Guideline, for the following reasons:

2.74.5.1. Coastal communities and the general public have been overwhelmed with the number of offshore oil and gas related applications running in parallel processes, particularly those which may impact the south-west and west coast of South Africa as well as the legislative PPP for the Upstream Petroleum Resources Development Bill and the draft Marine Spatial Plans during a similar period. The EAP in the current application has been appointed to conduct three of these parallel EIAs. Participants were confused about the project they were being asked to comment on, and this is evident in the Comments and Responses Report of the ESIA.

2.74.5.2. The chosen meeting venues were very far from areas where disadvantaged I&APs live and this issue was raised by I&APs during the meetings. The EAP was requested to make use of community halls nearer to affected communities and to schedule meetings at times convenient for everyone, but the responses from the EAP was that venues near the affected communities were not available on the dates preferred by the EAP and that there are EIA timeframes which the EAP must meet. The EAP refused to make use of alternative measures that accommodate disadvantaged, illiterate and disabled people.

2.74.5.3. I&APs present at the meetings were constantly referred to the EAP's written responses to comments. This is problematic as the EAP is legally required to make use of alternative methods that accommodate illiteracy, and disabilities. Section 2(4)(f) of NEMA requires that people be given an opportunity to develop an understanding, skills and capacity necessary for achieving

equitable and effective public participation. Refusing to schedule meetings at appropriate times and venues, and provide people with sufficient information about the exploration, is a contravention of this section. The assumption that meeting NEMA's minimum requirements for public participation is sufficient, is not only a tick box exercise, but it is also extremely incorrect because minimum requirements for public participation are derived from various sources (including NEMA, Court jurisprudence, etc.), and the circumstances of I&APs must be considered in each application. Failure to arrange a PPP that complies with the jurisprudence on the minimum requirements for public participation, result in failure to meet the minimum requirements for a meaningful consultation.

2.74.6. The seventh appellant avers that there is nothing (including EIA timeframes) that prohibited the EAP from organising more meetings for those fishing communities that requested that meetings be scheduled during times (August to September for most fishers including trawlers) that also accommodate them. NEMA and the EIA Regulations anticipate such circumstances where EIA processes may take longer periods than required. In particular, Regulation 3(7) of the 2014 EIA Regulations provides that:

"*In the event where the scope of work must be expanded based on the outcome of an assessment done in accordance with these Regulations, which outcome could not be anticipated prior to the undertaking of the assessment, or in the event where exceptional circumstances can be demonstrated, the competent authority may, prior to the lapsing of the relevant prescribed timeframe, in writing, extend the relevant prescribed timeframe and agree with the applicant on the length of such extension.*"

2.74.7. The seventh appellant states that the EAP's response that a request for meetings to be scheduled between August and September to accommodate fishers including trawlers, will result in the EIA process going beyond the prescribed timeframes, is therefore not a

valid reason to exclude illiterate and disadvantaged I&APs whose livelihoods may be impacted by the exploration.

2.74.8. The seventh and eighth appellants aver that the applicant/EAP failed to make the Oil Spill Contingency Plan and the Blowout Contingency Plan available for public comment and that this is procedurally unfair. They state that whilst a separate oil spill modelling report is contained in final ESIA, it does not include an Oil Spill Contingency Plan, an Emergency Response Plan, or a Blowout Contingency Plan. The seventh appellant states further that condition 5.5.2 of the EA requires the applicant to submit the Shipboard Oil Pollution Emergency Plan, the Emergency Response Plan, the Blowout Contingency Plan, the Oil Spill Contingency Plan, amongst others, to PASA. The EA does not require these plans to be approved by PASA or any other authority, or require them to be subject to any public consultation.

2.74.9. The seventh appellants assert that documents should deal with specific equipment that will be available (including any offshore drilling equipment should a relief well need to be drilled), as well as the logistics informing actual response time etc, such as – but not limited to - transport or shipping requirements for both the Saldanha Bay and Aberdeen capping stack mobilisation scenarios, implications of attempting to install a capping stack at a deep sea location in potentially adverse and challenging weather conditions, implications of having to drill a relief well should capping fail, and associated time requirements for all scenarios. They contend that these plans are essential mitigation measures, the details of which are necessary to inform the impact assessment, and without the details of which, the EAP cannot reasonably evaluate the significance of an impact post mitigation. The appellants submit that these plans are therefore crucial to the environmental impact assessment process and should have formed part of the EIA documents commented on by I&APs.

2.74.10. The seventh appellant submits the ESIA recognises the possibility of a transboundary oil spill which could spread into Namibian and international waters, but the ESIA does not

include any evidence to support that relevant foreign authorities were consulted in the development of the ESIA or EMPr, as required by South Africa's international obligations. They aver that in addition, South Africa and Namibia are a signatory to the Benguela Current Convention (BCC) and the Abidjan Convention, both of which would require meaningful consultation if marine ecosystems are potentially threatened. As a signatory, South Africa is obligated to promote a coordinated regional approach to the conservation and sustainable use of the Benguela Current Large Marine Ecosystem, including the territorial waters of Namibia.

2.74.11. The seventh appellant states that in their comments on the draft ESIA, they pointed out that there is no evidence of such consultation or notification in the record, which constitutes a flaw in the consultation process and a violation of South Africa's international obligations. They note the EAP's response to these comments was that the initial project I&AP database compiled for the project included various contact persons from the Namibian Government and various Namibian commercial fishing associations, and that these stakeholders have been afforded an opportunity to review and comment on all available project documentation to date.

2.74.12. The seventh appellant states that, according to the public participation section of the ESIA, the notice letters and SMS messages sent to Namibian authorities only contained a generic invitation for public comment, the same request sent to the general public. The appellant contends that this vague statement does not specify who in the Namibian Government was part of the database, whether and how they were contacted, and what process was set in place to facilitate notice and good faith consultation. They state that the letters did not provide any indication that impacts could extend to Namibian or international waters, giving Namibian authorities no reason to think that they should be interested in the proposed project and that the letters did not provide a method for Namibian or international officials to engage in the ESIA process aside from an invitation to participate in the same public meetings and public comment procedures available to all stakeholders. The appellant avers that granting an EA for a project with transboundary

impacts that was developed without any effort to meaningfully consult with the relevant authorities is in direct conflict with South Africa's international commitments.

APPLICANT'S RESPONSE

2.75. In its comments on this ground of appeal, the applicant responds as follows:

2.75.1. A comprehensive PPP was undertaken as part of the ESIA in that it significantly exceeded the requirements set out in Chapter 6 of the EIA Regulations and the DFFE's and PASA's Guidelines on Public Participation. The PPP included additional measures to ensure I&APs, including First Nations, small-scale fisheries (SSF) and vulnerable and disadvantaged communities, were notified of the proposed project and application for EA, and afforded an opportunity to participate in the ESIA process. The nature and extent of the process was based on the process followed for another application made by the applicant for Block 5/6/7, for which the EAP received recognition by the EAP industry association. The EAP made efforts to ensure that the PPP was open and transparent, and that all potential I&APs had an opportunity to register and participate.

2.75.2. The public participation process is described in detail in Chapter 4 of the ESIA report. A brief summary of the key actions taken by the EAP are summarised below:

Scoping Phase

2.75.2.1. Public Participation Plan: Although the Disaster Management Act, 2002 (Act No. 57 of 2002) Regulations regarding measures to address, prevent and combat the spread of COVID-19 had been withdrawn prior to the commencement of the pre-application notification and disclosure phase and a Public Participation Plan was no longer a requirement, a plan was prepared to meet good practice requirements and to demonstrate adherence to the principles contained in the NEMA Public Participation Guidelines. This plan was submitted to PASA for information purposes

2.75.2.2. I&AP Identification: A preliminary I&AP database was compiled based on the applicant's existing databases for its South African offshore licence blocks, including Block 5/6/7, which have been subject to previous ESIA and PPP, stakeholder mapping undertaken by the EAP, NMA Effective Social Strategists (the independent public meeting facilitator) and the applicant, input from the Commercial Fisheries Specialist (CapMarine) to ensure the fisheries sector database was comprehensive and up to date, input from the DFFE regarding the SSF and interim relief representatives, input from Civil Society Organisations (CSO), engagements with various indigenous communities and groups; and data from the primary anthropological baseline study undertaken as part of the Cultural Heritage Impact Assessment. An initial 885 stakeholders, who were pre-identified to be directly or indirectly affected by the project, were registered on the project database. This database was updated during the ESIA process based on registration and correspondence received, attendance at meetings, and *ad hoc* discussions with stakeholders. At the time of compiling the final ESIA report there were 1 869 registered I&AP on the project database.

2.75.2.3. Pre-Application Meetings with PASA: A meeting was held with PASA on 6 September 2022 to provide notification of the proposed project and the applicant's intent to apply for the EA, as well as to consult on the ESIA process (including associated public participation strategy) and PASA requirements.

2.75.2.4. Notification and Registration Letters: All I&APs included on the initial project database were notified of the proposed project, the application for EA and the ESIA process by means of a notification / registration letter (available in English, Afrikaans, Setswana and IsiXhosa).

2.75.2.5. Advertising: Newspaper advertisements were placed in six (6) local and three (3) regional newspapers in English, Afrikaans, Setswana and IsiXhosa (20 adverts in total).

2.75.2.6. Site notices: Site notices were placed at 27 locations in 11 coastal towns / cities between Alexander Bay and Yzerfontein on the West Coast (refer to final Scoping Report for location details) and Hout Bay in the City of Cape Town. The placement of the site notices targeted locations used for small-scale and recreational fishing and coastal tourism. Site notices were erected in English, Afrikaans, isiXhosa and Setswana. The placement of

the site notices targeted locations used for small-scale and recreational fishing and coastal tourism.

2.75.2.7. Radio Announcements: Radio adverts were aired to notify coastal users, including vulnerable and disadvantaged communities, of the proposed project, ESIA process, planned public meetings and I&AP registration process. The notices were aired multiple times per day on 4 stations in four different languages (English, Afrikaans, Setswana and IsiXhosa) over a period of three days.

2.75.2.8. Availability of draft Scoping Report:

The draft Scoping Report was released for a 30-day review and comment period from 4 November to 5 December 2022, which was then extended until 14 December 2022 (40-days in total) based on a request from I&APs for an extended comment period.

The report (in English) and Non-technical Summaries (in English, Afrikaans, Setswana and isiXhosa) were made available on the EAP's website, a data free website (no data costs to I&APs), and at various public venues. The objective of the Non-Technical Summary was to provide I&APs, especially those persons with low literacy and those with less technical understanding of the proposed project, with adequate, easily understood and meaningful information regarding the key impacts and mitigation, for them to determine their interest in further participation in the ESIA process. The Non-Technical Summary was also available in audio format (in English, Afrikaans, and isiXhosa) on the EAP's website and a data free website.

Notification letters were sent via e-mail to all I&APs registered on the database together with the Non-technical Summary (in English, Afrikaans, Setswana and isiXhosa).

As part of a mobilisation effort to notify additional members of the public, copies of the Non-Technical Summary and comment form were handed out and / or placed at various locations between 14-18 November 2022.

In order to facilitate engagement during the Scoping Phase and access to the draft Scoping Report, a cell phone number was provided in all notifications indicating that the EAP can be contacted via SMS and/or WhatsApp messaging.

2.75.2.9. Public and Focus Group Meetings: Eleven public and one focus group meetings were held during the draft Scoping Report review and comment period. The focus group

meeting was made available to registered members / participants of the key group that had an interest in the proposed project (e.g. First Nations representatives) in addition to other open public meetings. All the issues and questions raised at these meetings were responded to at the meeting and notes of each meeting (which formed the record of what was said at the meeting) appended to the Scoping Reports. All issues and questions received in writing were included in the comments and responses annexure to the Scoping Reports.

2.75.2.10. Additional Information provided to I&APs during the comment period on the draft Scoping Report: In the recently completed ESIA process for similar activities in Block 5/6/7, the applicant received various requests for additional information to inform I&APs' comments. Similar information was proactively uploaded to the EAP's website and a data free website for information purposes to assist I&APs during the review and comment period.

2.75.2.11. I&APs comments and responses: All issues raised by I&APs during the PPP were consolidated and responded to in a Comments and Responses Report, which was attached as an appendix to the final Scoping Report, which was uploaded to the EAP's website and data free website for information purposes.

2.75.2.12. I&APs notification of final Scoping Report: All registered I&APs on the project database were notified that the final Scoping Report had been submitted to the CA for acceptance and that the report was available for download.

ESIA phase:

2.75.2.13. Availability of draft ESIA report:

The draft ESIA report was distributed for review and comment from 12 May to 12 June 2023 (31 days). The objective of this review and comment period was to ensure that I&APs were given a reasonable opportunity to provide comments on the findings of the impact assessment and proposed mitigation.

The ESIA report (in English) and Non-Technical Summary (in English, Afrikaans, Setswana and isiXhosa) were made available on the EAP's website, a data free website,

and at various public venues. The Non-Technical Summary was also available in audio format on the EAP's website and data free website.

Notification letters and comment forms (in English, Afrikaans, Setswana and isiXhosa) were sent via e-mail to all I&APs registered on the database. SMS or WhatsApp messages were sent to those without email addresses.

In order to facilitate engagement during the Impact Assessment Phase and access to the draft ESIA Report, a cell phone number was provided in all notifications indicating that the EAP can be contacted via SMS or WhatsApp messaging.

2.75.2.14. Advertising: A second round of newspaper advertising was undertaken during this phase to ensure additional I&APs (not already registered on the project database) were notified. Newspaper advertisements were placed in three regional and 5 local newspapers in English, Afrikaans, Setswana and IsiXhosa (18 adverts in total).

2.75.2.15. Radio announcements: A second round of radio announcements were broadcast during the ESIA phase to ensure additional I&APs (not already registered on the project database) were notified. Radio announcements were aired to notify the public of the proposed project, the ESIA process and draft ESIA report comment period and associated meetings. The notices were aired multiple times per day on three radio stations in four different languages (English, Afrikaans, Setswana and IsiXhosa) over a period of three to five days.

2.75.2.16. Community in person notification: The applicant appointed Site Liaison Officers (SLOs) in the Namaqua and West Coast Districts as well as the City of Cape Town as part of its long-term strategy for community engagement outside the ESIA process. The purpose of these SLOs during the ESIA was, amongst other things, to help notify community members of the proposed project, public meetings and draft ESIA report review and comment period, as prepared by the EAP. Their notification approach included the placement of posters, handout of non-technical summaries and flyers (in English, Afrikaans, Setswana and isiXhosa) in high human traffic areas such as tuck shops, taxi ranks and harbours. Additionally, the SLOs assisted with transport arrangement for I&APs who indicated interest to attend meetings but lack of financial or other means to access the venues.

2.75.2.17. Public and Focus Group Meetings: Eleven public meetings and two focus group (traditional/indigenous and SSFs) meetings were held during the draft ESIA report review and comment period. The purpose of these meetings was to provide an overview of the project proposal and ESIA findings, and to provide I&APs with the opportunity to raise any grievances, issues, concerns or comments. The focus group meetings were in addition to the public meetings.

2.75.2.18. I&APs Comments and Responses: All issues raised by I&APs during this phase of the PPP were responded to in the meeting minutes and Comments and Responses Report, which are attached as Appendix 6.7 and 6.8 to the final ESIA Report, respectively.

2.75.2.19. Stakeholder Database Consolidation: The database of registered I&APs was updated based on the comments received and attendance at meetings. At the time of compiling this final ESIA report there were 1 869 registered I&APs.

2.75.2.20. I&APs notification of final ESIA report: All registered I&APs on the project database were notified that the final ESIA report had been submitted to the CA for decision-making and that the report was available for download.

2.75.3. The applicant recognises the importance of public consultation and engagements throughout its operations. It is also an important requirement of the EMPr to engage with I&APs and other stakeholders in respect of cultural and heritage issues, and oil spills (in the unlikely event that they occur), commercial fishers and SSF. In this regard *inter alia* the following consultation obligations during the operation of the project are noted in the ESIA report:

2.75.3.1. In terms of the EMPr included in Chapter 11 of the ESIA Report, the applicant shall develop a stakeholder engagement plan which shall:

2.75.3.1.1. provide the framework for engagement with stakeholders and detail the way information is disclosed and stakeholders are engaged, and regulate grievance mechanisms and procedures;

2.75.3.1.2. include a public information and disclosure programme to ensure that stakeholders are informed of exploration activities aimed at facilitating engagement and the identification of issues of concern;

2.75.3.1.3. require that notification to stakeholders is provided prior to and after each drilling campaign;

2.75.3.1.4. require that notification during drilling is effected via navigational warnings; and

2.75.3.1.5. arrange meetings with stakeholders as required.

2.75.3.2. A database of stakeholders must be developed. This will include persons who request to be included on the database, parties that participated in the PPP, and organs of state.

2.75.3.3. The applicant will disclose project information (unless such information is private or sensitive) containing all the relevant facts in a truthful and transparent manner. This information should be readily available with hard copies being placed at public venues and municipal officers. These documents should be in English and key documents translated into the primary official languages.

2.75.3.4. A grievance mechanism will be developed in accordance with the United Nation Guiding Principles on Business and Human Rights.

2.75.4. Through the social performance team, the applicant will undertake targeted engagement prior to commencing with drilling activities with communities on the cultural, heritage and spiritual impacts, the fisheries sector (including SSF), tourism businesses and other stakeholders who may be directly affected by the drilling schedule or negative impacts resulting from the operations. These engagements are aimed at *inter alia*:

2.75.4.1. further education of stakeholders about the potential impacts of the operations on the technical and non-technical aspects;

2.75.4.2. discussions on the drilling schedule, grievance procedure, equipment of concern and livelihoods compensation;

2.75.4.3. identifying measures that need to be put in place, which may include performance of ceremonies to inform ancestors and spiritual beings to offer blessings/spiritual passage for operations to commence;

2.75.4.4. obtaining their input into procedures that should be followed in the unlikely event of an oil spill, gas leak, gas flares, effluent, and waste discharge to be included in the response and management plan, which may include the identification of traditions and customs rooted in nature to help protect the environment where biodiversity has sacred significance.

2.75.5. Irrespective of the size of the impact, in the unlikely event of an oil spill, incidences will be transparently communicated to the authorities and the public by the applicant. The communication will include the response and management plan that has been deployed by the applicant. The response plan will be facilitated by a highly trained communication team with defined roles and responsibilities to ensure efficient flow of information utilising both top-down and bottom-up communications strategies. Additional communications will include thorough engagements with directly affected stakeholders. The grievance procedure will also be publicised prior to the commencement of operations.

2.75.6. With regard to the second appellant's averment that she was not notified of the availability of the draft ESIA for comment or the public meetings, the applicant states that a copy of the draft ESIA report was sent to all I&APs including the second appellant via the email address JoubertA@bergmun.org.za.

2.75.7. With respect to the fourth appellant's demand to the right to Free and Prior Informed Consent (FPIC), the applicant avers that NEMA endorses public participation; it does not require FPIC. Similarly, the Constitutional Court has not endorsed FPIC in the case of *Bengwenyama Minerals (Pty) Ltd v Genorah Resources (Pty) Ltd* [2010] ZACC 26, which is considered the *locus classicus* on the requirements for consultation with I&APs in extractive industries. The applicant avers that it is evident from paragraphs [65 -66] of the

judgment that free, prior, informed *consultation* is required. This is less than consent. This does not mean that FPIC is not relevant in South Africa or does not have a place.

2.75.8. FPIC was deemed relevant in the case of *Baleni and Others v Minister of Mineral Resources and Others* under the auspices of the Interim Protection of Informal Land Rights Act (Act No. 31 of 1996) (IPILRA). This case is distinguishable from the present case in that the applicants in that case were deprived of the land that they occupied in terms of customary law in terms of the IPILRA pursuant to the granting of a mining right. In the present case, the affected communities are not deprived of their land or displaced. They will continue to be able to exercise their land rights and practice their customary practices as they have in the past.

2.75.9. FPIC is considered in the Protection, Promotion, Development and Management of Indigenous Knowledge Act (Act No. 6 of 2019) in terms of which FPIC is required where traditional knowledge or practices are going to be commercialised. In these instances, agreement must be sought to ensure that these communities are compensated for their knowledge. The present matter does not seek to commercialise any traditional knowledge in conducting the exploration activities.

2.75.10. Based on the above, the applicant contends that it is evident that consent or FPIC from indigenous persons is not required. All that is required is that parties are afforded a reasonable opportunity to participate in the public participation process. The applicant asserts that all I&APs were provided ample opportunity to participate and many did participate.

2.75.11. The applicant refers to the sixth appellant's averment that the indigenous community of the West Coast was not consulted and contends that it is unclear which indigenous communities and small-scale fishers the West Coast Guriqua Council and Paramount Chief represents. The applicant contends that no evidence is provided demonstrating that the representative for the sixth appellant is authorised in accordance with customary law

and/or practices to represent the "indigenous communities" and "small scale fishers" whom he states were not consulted. The ESIA indicates that two focus group meetings were held (one in-person meeting with the small scale fishers located in Elands Bay and one online meeting with representatives of tractional / indigenous groups). A total of 278 people (excluding the project team) attended these meetings. In addition, 11 community meetings were held in Hout Bay, Saldanha Bay, Langebaan, St Helena Bay, Yzerfontein, Port Nolloth, Hondeklipbaai, Doringbaai, Elands Bay, Lamberts Bay and an online meeting.

2.75.12. The applicant therefore submits that any allegations that the PPP was deficient, incomplete, non-compliant or not meaningful are without merit.

2.75.13. In relation to the seventh appellant's averments that the ESIA was developed without meaningful consultation with the Namibian Government with regards to transboundary impacts, the applicant states that there is no obligation under either the Benguela Current Convention or the Abidjan Convention to notify the Namibian Government of an application for an EA for a project which has a low risk of a well blowout. The applicant states as follows with regards to the Benguela Current Convention:

2.75.13.1. The Benguela Current Convention applies to 'all human activities, aircrafts and ships under jurisdiction or control of a Party to the extent that these activities or operations of such aircraft or ships result in or are likely to result in adverse impacts.' The applicant reiterates that the likelihood of a blowout occurring is very low.

2.75.13.2. It is impractical and unreasonable that the South African government must notify the Namibian government of every possible event (irrespective of whether such event is remote) that may cause pollution to Namibian territorial water. If this were the case, the South African government would need to notify the Namibian government of all ships or aircraft passing through or over its territorial waters for risk that the ship/aircraft may have an accident which causes an oil spill.

2.75.13.3. If such well blowout was to occur, there may be, at that stage, and depending on the oil spill modelling, an obligation to notify Namibia of the potential risk. There is no obligation under the convention itself to notify the other Member States.

2.75.13.4. The obligations on South Africa under the convention are to 'take all possible steps to prevent, abate and minimise pollution and take the necessary measures to protect the marine ecosystem against any adverse impacts.'

2.75.13.5. The South African government has done exactly this by requiring that the applicant conduct an ESIA and obtain an EA and impose conditions regulating the drilling and operation of the exploration activities, as well as developing and implementing mitigation measures associated with a blowout should this occur.

2.75.13.6. In addition, there are other regulatory requirements with which the applicant must comply, including obtaining approval for the OSCP (amongst other approvals) before drilling commences and, in the unlikely event of a well blowout, the South African government can issue directives to the applicant in terms of South African environmental legislation to take measures to prevent pollution or environmental degradation.

2.75.14. The applicant states as follows with regards to the Abidjan Convention:

2.75.14.1. The relevant article of the convention is article 8: Pollution from activities relating to exploration and exploitation of the seabed. Under this article, "*The Contracting Parties shall take all appropriate measures to prevent, reduce, combat and control pollution resulting from or in connection with activities relating to the exploration and exploitation of the sea-bed and its subsoil subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction.*"

2.75.14.2. This requirement obliges the South African government to ensure that persons undertaking exploration of the seabed take "appropriate measures"

such as conducting an ESIA, identifying risk and implementing mitigation measures aimed at preventing pollution or, where such pollution arises, to combat and control those measures.

2.75.15. The applicant submits that neither the Benguela Current Convention nor the Abidjan Convention prevent South Africa from authorising the project or require South Africa to notify Namibia of the Project.

2.75.16. In relation to the seventh appellant's averments that the ESIA did not achieve meaningful consultation, the applicant points out that the preamble in NEMA requires that the law should establish procedures and institutes that "facilitate and promote" public participation. The law does not require that mechanisms are established which compel or oblige participants to participate.

2.75.17. The applicant states that section 2(4)(f) of NEMA requires that the participation of I&APs must be "promoted" and they must have an "opportunity" to participate. This principle therefore requires that mechanisms are made available to persons so that they can participate should they wish to do so.

2.75.18. The applicant states that its obligation, through the EAP, is to provide an opportunity for I&APs to participate. The EAP provided ample opportunity for I&APs to participate, far in excess of what is required in the NEMA and the 2014 EIA Regulations. It would be unnecessarily onerous to the applicant if its application for EA was refused or overturned in circumstances where legitimate and extensive opportunities to participate were not taken up by I&APs. A decision accepting such an approach would encourage I&APs to strategically avoid participating to frustrate legitimate applications for EAs.

2.75.19. The applicant states that the confusion by certain I&APs regarding which projects they were being invited to comment on was not due to any ambiguity in the ESIA report, any of the public notices, or any of the public meetings. Where there was confusion or

uncertainty, this was clarified and resolved by the EAP. Where comments were received for the applicant's Block 5/6/7 project, these were forwarded to the relevant EAP.

2.75.20. In relation to the seventh appellant's averments regarding the location of the public meeting venues, the applicant states that two emails were received by the EAP regarding the venue for the public meetings. The one complaint by a representative from the West Coast Indigenous Council objected that the meeting was held in the town away from the ocean, where the project will take place. He requested that the meeting be held in Vredenburg for the Saldanha community. Another individual also indicated that community halls could be used for public meetings. The EAP indicated that other venues were not available on the day for the public meeting and for that reason, the meetings were held in the town. The EAP indicated that there are other ways in which participants can participate by providing comments if they cannot attend the meetings through the WhatsApp/sms number, postal address and via email. The applicant denies the seventh appellant's allegations that the public participation process was merely a tick box exercise, or that the EAP refused to schedule meetings at convenient times and venues or failed to provide I&APs with sufficient information. There is no evidence to suggest this.

2.75.21. In relation to the seventh appellant's averment that the I&APs present at the meetings were constantly referred to the EAP's written responses to comments (which they contend is problematic as the EAP is legally required to make use of alternative methods that accommodate illiteracy, and disabilities), the applicant states that the non-technical summary was available in an audio format in various languages, a telephone number was available for sms / WhatsApp, and various Site Liaison Officers (SLOs) were appointed to notify community members about the process and assist I&APs in preparing comments and submissions. Transportation was also provided to those persons who could not attend meetings for logistical reasons.

2.75.22. The applicant contends that the request that meetings be held in August / September to accommodate fishers would effectively postpone the public participation process by three months. They aver that such a request is not reasonable and would not be accepted by the CA as sufficient to meet the very high standard of "exceptional circumstances" required by regulations 3(7) of the 2014 EIA Regulations. The applicant asserts that there were various other ways in which fishers and trawlers could participate if they could not attend the public meetings. The I&APs chose not to make use of these opportunities. The applicant denies that the public participation process was procedurally unfair as it went well beyond the requirements of NEMA and the 2014 EIA Regulations.

2.75.23. In relation to eighth appellant's averment that the CA has not taken cognisance of previous cases and clarification in the CHIA that there is opposition to the project, the applicant states that mere opposition to a project by I&APs is not a viable basis for an application for EA to be refused. Furthermore, the CA is required to assess each application for EA on its own merits. The fact that I&APs were successful in obtaining an interdict in respect of other seismic cases on the basis that public participation processes were insufficient cannot be imputed to this application. The applicant asserts that the EAP undertook extensive public participation process that far exceeded the requirements of the 2014 EIA Regulations, to ensure that I&APs had an opportunity to participate in the process. This included small scale fishers and indigenous communities. The applicant avers that the eighth appellant has not provided any evidence to demonstrate that this is not the case.

2.75.24. In relation to the seventh and eighth appellant's contention that the Oil Spill Contingency Plan and the Blowout Contingency Plan were not made available for public comment and that the EA does not require these plans to be approved by PASA or any other authority, or require them to be subject to any public consultation, the applicant states that, as indicated in the ESIA report, the exact position of well and final well architecture has not yet been determined at the time of the ESIA. Only once the exact well location has been determined can the OSCP, ERP and BOCP be prepared because these documents are

site and well specific and must be designed specifically for each well, taking into account the project conditions, service contracts and well architecture for that well. For this reason, these documents could not be included in the ESIA report. The applicant avers that as the BOCP and OSCP contain confidential information, such as trade secrets and technological information, they cannot be disclosed to I&APs for comment.

2.75.25. The applicant states that while the EA does not expressly require SAMSA, PASA and/or the Department's (DFFE) consent for the OSCP, the final OSCP will be prepared and submitted for approval in accordance with:

- The Constitution (Act No. 108 of 1996) Section 24 of the Bill of Rights (Chapter 2).
- Public Finance Management Act 1 of 1999.
- Marine Pollution (Control and Civil Liability) Act 6 of 1981.
- Marine Pollution (Prevention of Pollution from Ships) Act 2 of 1986.
- Marine Pollution (Intervention) Act 64 of 1987.
- South African Maritime Safety Authority Act 5 of 1998.
- National Environmental Management Act 107 of 1998.
- Disaster Management Act 57 of 2002.
- Dumping at Sea Control Act 73 of 1980.
- Regulations under Section 28 of the Prevention and Combating of Pollution of the Sea by Oil Act 6 of 1981.
- Oil Pollution Preparedness, Response and Co-operation (OPRC) Bill.
- Requirements of the National Oil Spill Contingency Plan for South Africa (Volume 1 - Sect 5).

2.75.26. The applicant states that as there is already a legal framework and requirement for OSCPs to be approved as stated above; there is no need for the EA to specify this requirement explicitly as it is not required to explicitly refer to all relevant legislation related to this project. The applicant states further that there is no obligation, and it is not current practice, for emergency response plans (ERPs) to be submitted to these

authorities for approval. The applicant avers that the OSCP and BOCP must be aligned with the requirements of the South African National Oil Spill Contingency Plan and must be approved by SAMSA, PASA and the DFFE. Consequently, they are under the scrutiny and assessment of three authorities with the skill and expertise to ensure that these plans comply with industry best practice and standards and local laws, before drilling may commence.

2.75.27. In response to the seventh appellants statement that the BOCP, OSCP and ERP contain essential mitigation measures, without which the EAP cannot reasonably evaluate the significance of the impacts post evaluation, the applicant states that as these plans must align with the South African National Oil Spill Contingency Plan, which sets out the minimum requirements and measures and best practice, the EAP is suitably aware of the mitigation measures that will be included in the OSCP and BOCP.

CA'S RESPONSE

2.76. In its comments on this ground of appeal, the Competent Authority responds as follows:

2.76.1. Part of the environmental impact assessment process is the requirement to conduct public participation as per the requirements of NEMA. Notifications regarding the project was sent to registered I&APs via email, post and SMS, published on newspapers, aired on radio and placed on site notices.

2.76.2. With specific reference to indigenous groups and small-scale fishing communities, section 4.2.1 of the ESIA report on page 48, indicates that the initial database was also based on engagements with various indigenous groups and small-scale fishing communities (derived from the primary anthropological baseline study) thus the initial notification included indigenous groups and communities. Small scale fishers and indigenous groups were consulted by means of focus group meetings and online and public meetings held during the EIA process. However, the attendance records for the

focus group meetings for indigenous groups and small-scale fishing communities indicates the following:

2.76.2.1. The EAP conducted a number of public meetings during the scoping phase (between 21 -28 November 2022) and one (1) online meeting on 17 November 2022. A focus group meeting was held with Traditional Authorities on 12 August 2022. The ESIA report indicates that 27 people were invited but only 13 attended thus only 48% attendance.

2.76.2.2. During the environmental impact assessment phase, a total of eleven (11) public meetings were held (15 May- 9 June 2023). Two (2) focus group meetings were held one with traditional/indigenous groups and one with small scale fishing group. Only one (1) person attended the focus group meeting dedicated to traditional/indigenous groups and 31 attend for the small-scale fishing focus group meeting as evidenced in section 4.3.1.10 page 63 of the ESIA report.

2.76.3. It is therefore not understood why the fourth appellant asserts that they were not consulted and why the sixth appellant asserts that the PPP was inadequate with respect to indigenous groups and small-scale fishing communities in light of the planned focus groups and poor attendance.

2.76.4. As indicated in the minutes of the meeting, consultation with each and every I&AP would not be possible due to constrained timeframes of the EIA process and fishers are not the only I&APs. The EIA phase consultations took place between 12 May- 12 June. The request was to extend the process by a further 2-3 months in order to consult other fishers. Unfortunately, EIAs cannot be arranged around the seasons of the fishers as there are also other I&AP who need to be consulted.

2.76.5. The CA is satisfied that the public participation process was conducted in line with the 2014 EIA Regulations.

2.76.6. The ESIA report indicates that reports and notifications were placed in three locations in Velddrift. Furthermore, notifications were aired on radio (Radio Namakwaland, which has coverage in Velddrift) and published on newspapers, while posters were placed on various locations along the coast. It is believed that with all the above efforts to notify the I&APs, the second appellant should have seen or heard the notifications.

2.76.7. In terms of the Free, Prior and Informed Consent, referred to by the fourth appellant, the UN Declaration defines indigenous people's ownership rights to culture, ceremonial expression, identity, language, employment, health, education, etc. It supports their full participation in matters which concern them and their right to remain distinct. It also includes their right to peruse their own visions of socio-economic development. The applicant is obligated to regularly and consistently engage with indigenous groupings and leadership which give effect to the UN Declaration on the Rights of Indigenous Peoples. This is addressed on page 508 of the ESIA report.

2.76.8. In addition, section 3 of the MPRDA clearly states that minerals and petroleum resources are the common heritage of all South Africans and the State is the custodian of the minerals and petroleum resources for the benefit of all South Africans. Thus, the State may through the Minister of Mineral Resources and Energy, grant various permits and licences, provided the required environmental impact assessments are conduct and indicates that no detrimental harm will occur (where applicable).

2.76.9. As indicated in the comments and responses report, the Namibian authority was notified of the project and were thus provided with an opportunity to comment on the project. Effort was therefore made to consult with the Namibian authority. The public participation process was conducted according to the 2014 EIA Regulations.

2.76.10. The Department's (DFFE) Public Participation Guideline was used as the guiding document in conjunction to the 2014 EIA Regulations during the EIA process, as evidenced by section 4 of the ESIA Report.

2.76.11. The purpose of the public participation process is to explain and allow I&AP to raise their issues/concerns/seek clarity/contribute during public consultations. It is therefore expected that I&APs would seek clarity regarding the details of the project.

2.76.12. The seventh appellant's assertion that the EAP refused to schedule meetings at venues closer to the community and at different times is incorrect. The minutes of the meeting indicate the challenges that the EAP was faced with in selecting the venues (venues being booked) was communicated and that the EAP indicated that the EIA process occurs within a legislated time frame. In addition, in order to mitigate such situations, the applicant appointed Site Liaison Officers (SLO) for corporate community engagements outside of the EIA process. Where communities expressed an interest in attending, the applicant, via the SLO, facilitated attendance of community members. Communities from Hout Bay, Saldanha Bay and Dooring Bay were assisted to attend the engagements. It is thus evident that where such requests were made, they were fulfilled i.e. facilitating community members to reach venues arranged. The SLO also directed communities to where information could be obtained regarding the project, assisted with registration and also went door to door, thus, accommodating vulnerable communities. It is not the aim of the public consultation meeting to gain approval for the project and I&APs are encouraged to raise their concerns\issues and questions.

2.76.13. Audio recordings of the meetings were uploaded on the EAP's website and a free data website, thus, enabling illiterate and disabled persons to listen to the presentations, comments and responses. The non-technical summary was also in audio format.

2.76.14. A non-technical summary (English, Afrikaans, isiXhosa and seTswana) was made available to I&APs (emailed, WhatsApp, hardcopy on request and audio format). They were also distributed by SLOs. It was also made available on the EAP's website and a free data website and at various locations as documented in the ESIA report. The aim of the non-technical summary is to describe the key items, the project. and the EIA process

in a non-technical manner. Thus, effort was made throughout the process to explain matters in a non-technical manner.

2.76.15. There is no legislative requirement for the development of the Oil Spill Contingency Plan (OSCP) during the ESIA study and therefore for reviewing by I&APs, however, the applicant's generic OSCP was included in section 11.3.7.4, Box 11.2 on page 480 of the ESIA report for the reviewing by I&APs. In addition, each OSCP and BOCP is developed separately from the ESIA process and is a project specific plan. The plan considers factors such as metocean conditions and well locations. The OSCP will consider several modelling studies, guidelines, plans, applicable legislation, and applicable international conventions. Some plans and guidelines utilised during the development of project specific OSCP are as follows:

2.76.15.1. Oil Spill Drift Modelling Report. The oil spill modelling was conducted by an independent specialist and was peer reviewed.

2.76.15.2. South African National Oil Spill Contingency Plan and applicable legislation.

2.76.15.3. Oil spill preparedness and response IPIECA-IOGP Good Practice Guide Series.

2.76.15.4. It must be submitted to the South African Maritime Safety Authority, the Department (DFFE) and the Petroleum Agency South Africa for approval and review. The personnel will be trained regarding the OSCP, and periodic drills will be conducted with the objective of testing the adequacy of the OSCP.

EVALUATION (Reasons for Decision)

2.77. In relation to the contention that there was not adequate consultation, I deem it appropriate to highlight that regulation 3(8) of the 2014 EIA Regulations affords registered I&APs a 30-day period to make written comments/representations in respect of all reports and/or plans relevant to the aforesaid application. Regulation 41(6) of the 2014 EIA Regulations further stipulates that the person conducting the PPP must ensure that all

potential or registered I&APs are provided with a reasonable opportunity to comment on the application or proposed application. These provisions are written in peremptory terms.

2.78. The purposes of the public participation provision, among others, is to afford I&APs the opportunity to express their views on matters affecting them. This principle was reiterated by the Constitutional Court in the case of *Fuel Retailers Association of SA (Pty) Ltd v Director General, Environmental Management Mpumalanga and Others Case* CCT 67/06 (2007) ZACC 13.

2.79. I have taken note of pages viii to x and 48 to 63 of the ESIA report as well as the allegations and responses made in this appeal. In the first instance, I wish to make the point that this is an appeal in the wide sense, meaning that shortcomings in the PPP can and usually are rectified on appeal. However, I am of the view that a thorough PPP was followed at the various stages of the process.

THE SCOPING PHASE

- Stakeholder Identification

  A preliminary I&AP database was compiled based on TEEPSA's existing databases for its South African offshore licence blocks, input from the Commercial Fisheries Specialist, the Department (DFFE) and Civil Society Organisations, and additions from engagements with various indigenous communities and groups and the stakeholder pre-application notification and registration process.

- Notification and Registration Letters

  All I&APs included on the initial project database were notified of the proposed project, application for environmental authorisation and ESIA process by means of a notification / registration letter (available in English, Afrikaans, IsiXhosa and seTswana).

- Advertising:

  Newspaper advertisements were placed in six local and three regional newspapers in English, Afrikaans, IsiXhosa and seTswana (20 adverts in total).

- Site notices

  Site notices (in English, Afrikaans, isiXhosa) were placed at 27 locations in 11 coastal towns / cities between Alexander Bay and Yzerfontein. The placement of the site notices targeted locations used for small-scale and recreational fishing and coastal tourism.

- Radio Announcements

  Radio adverts were aired to notify coastal users, including vulnerable and disadvantaged communities, of the proposed project, ESIA process and I&AP registration process. The notices were aired multiple times per day on four stations in three different languages (English, Afrikaans and IsiXhosa) over a period of a few days (refer to final Scoping Report for radio station details).

- Availability of draft Scoping Report

  The draft Scoping Report was released for a 30-day review and comment period from 4 November to 5 December 2022, which was then extended by 10 days until 14 December 2022.

  - Reports (in English) and Non-technical Summary (in English, Afrikaans, IsiXhosa and seTswana) were made available on the EAP website, a data free website (no data costs), and at various public venues.
  - Notification letters were sent via e-mail to all I&APs registered on the database together with the Non-technical Summary (in English, Afrikaans, IsiXhosa and seTswana). The Non-technical Summary was also available in audio format on the EAP's website and a data free website.
  - Additional copies of the Non-technical Summary and Comment Form were handed out and / or placed at various locations (refer to final Scoping Report for location details).

- In order to facilitate engagement during the Scoping Phase and access to the draft Scoping Report, a cell phone number was provided in all notifications indicating that the EAP can be contacted via SMS or WhatsApp messaging.

- Public Information-Sharing Meetings

  Eleven public information-sharing meetings were held during the draft Scoping Report review and comment period.

- Online Focus Group Meeting

  One online focus group meeting was arranged with representatives of the indigenous communities and Traditional Authorities that are located within the project Area of Influence during the draft Scoping Report comment period.

- Extension of Comment Period on Draft Scoping Report

  During the comment period on the draft Scoping Report (4 November to 5 December 2022), the EAP received several requests from I&APs for an extension of the comment period on the draft Scoping Report as they did not receive the original notification sent on 4 November 2022. Thus, the comment period on the draft Scoping Report extended from 4 November to 14 December 2022 (40-days).

- I&AP comments and responses

  All issues raised by I&APs during the public participation process were consolidated and responded to in a Comments and Responses Report, which was attached as an appendix to the final Scoping Report.

- A summary of the key issues raised during the PPP appears on page 57 of the final ESIA report.

IMPACT ASSESSMENT PHASE

- Availability of ESIA Report

  The draft ESIA report was released for review and comment from 12 May to 12 June 2023 (30-days). The objective of this review and comment period was to ensure that I&APs were given a reasonable opportunity to provide comments on the findings of the impact assessment, proposed mitigation and EMPr.

  - Reports (in English) and Non-Technical Summary (in English, Afrikaans, IsiXhosa and seTswana) were made available on the EAP's website, a data free website (no data costs), and at various public venues.
  - Notification letters via e-mail were sent to all I&APs registered on the database with the Executive Summary and Non-technical Summary (in English). The Non-technical Summary was also available in Afrikaans, IsiXhosa and seTswana, as well as in audio format on the EAP's websites.
  - In order to facilitate engagement during the ESIA phase and access to the draft ESIA Report, a cell phone number was provided in all notifications indicating that the EAP can be contacted and comments can be submitted via SMS or WhatsApp messaging.

- Advertising

  Newspaper advertisements were placed in various local and regional newspapers in English, Afrikaans, IsiXhosa and seTswana (18 adverts in total).

- Radio Announcements

  Radio announcements (in English, Afrikaans and IsiXhosa) were aired to notify the public of the proposed project, ESIA process and draft ESIA report comment period and associated public meetings. The notices were aired multiple times per day on three radio stations in three different languages (English, Afrikaans and IsiXhosa) over a period of a few days.

- Notices

  Notices (in English, Afrikaans, IsiXhosa and seTswana) were placed at various locations in the direct area of influence. These notices provided information of the availability of the draft ESIA Report for review and comment and details of public meetings.

- Additional Community Notification

  The applicant appointed Site Liaison Officers (SLOs) in the Namaqua and West Coast Districts, as well as the City of Cape Town as part of its long-term strategy for community engagement outside the ESIA process. The purpose of these SLOs during the ESIA was to help notify community members of the public about the proposed project, draft ESIA report review and comment period and public meetings. Their notification approach included the placement of posters in high human traffic areas such as tuck shops, taxi ranks and harbours. They also distributed flyers door-to-door and assisted those wanting to be registered as I&APs on the EAP's database. Where community members expressed an interest to attend public meetings but lacked the financial means to attend, they were supported with transportation facilitated through the Site Liaison Officers. Transport was provided on request to disadvantaged communities in Hout Bay, Saldanha Bay and Dooring Bay.

- Public and Focus Group Meetings

  Eleven public meetings (ten in-person meetings and one online meeting) and two focus group meetings (one in-person and one online) were held during the draft ESIA report review and comment period. The purpose of these meetings was to provide an overview of the project proposal and ESIA findings, and to provide stakeholders with the opportunity to raise any grievances, issues, concerns, or comments.

- I&AP Comments and Responses

  All issues raised by I&APs during the public participation process have been consolidated and responded to in the meeting minutes and a Comments and Responses Report which is attached as Appendices 6.7 and 6.8 to the final ESIA report, respectively.

- Stakeholder Database Consolidation

  The database of registered I&APs has been updated based on the comments received and attendance at meetings. At the time of compiling this final ESIA Report there were 1869 registered I&APs.

2.80. I note that a copy of the applicant's generic Oils Spill Contingency Plan (OSCP) was uploaded to the EAP's website and data free website for public review. I am cognisant that the well-specific OSCP and BOCP will be developed for each well location, and that they could not be made available to I&APs, given that they are site- and well-specific, and consequently can only be prepared after the exact well sites in the Area of Interest, service contracts, and well architecture have been selected.

2.81. In summary, there is nothing before me to suggest that the applicant did not conduct an adequate PPP or that the appellants were denied an opportunity to participate in the application process. Moreover, those people with grievances made them in their appeal submissions, which were responded to and I considered those.

2.82. I am accordingly satisfied that the PPP carried out in respect of the proposed project met and complied with the requirements for PPP, as outlined in the 2014 EIA Regulations.

2.83. There was no need for the applicant to have consulted with the Namibian Government, however I note that the project I&AP database included contact persons from the Namibian Benguela Current Commission (BCC), and that Namibian authorities were given an opportunity to comment on the ESIA.

2.84. This ground of appeal relating to the PPP is dismissed.

Eighth Ground of Appeal: Inadequacy of the ESIA Report

2.85. The seventh, twelfth, thirteenth, and fourteenth appellants submit as follows:

2.85.1. The seventh appellant states that the methodology of the impact significance rating is flawed and has been criticized for potentially misleading decision-makers by underplaying the impacts of certain events or developments. They state that this is often done by assessing these impacts as low probability, and consequently, rendering them low significance in their overall rating, even if the potential impact would be devastating. This approach has been highlighted as a concern in the literature, as it may lead to an underestimation of the true risks and impacts associated with certain projects or activities. They state that research has shown that the current methodology may not fully capture the potential for high-impact, low-probability events, leading to an underestimation of their significance in the decision-making process. Furthermore, the current EIA methodology's focus on probability-based assessments may not adequately account for the full range of potential impacts, especially those with low probability but high consequence. They aver that this has raised concerns about the ability of the current approach to provide decision-makers with a comprehensive understanding of the potential risks and impacts associated with such proposed activities. The seventh appellant asserts that the CA has followed the same approach, authorising the proposed project, despite the catastrophic impacts of an oil spill. The seventh appellant submits that there is a need for a more comprehensive and nuanced approach to EIA that takes into account the full range of potential impacts, regardless of their probability, to ensure that decision-makers are not misled by an incomplete assessment of potential risks and impacts.

APPLICANT'S RESPONSE

2.86. In its comments on this ground of appeal, the applicant responds as follows:

2.86.1. The applicant notes that the seventh appellant takes objection with the ESIA process as a way and means to assess environmental impacts and provide decision-makers with sufficient information to enable them to make informed decisions in approving or rejecting an application for an EA. The basis of this objection is an academic paper compiled in 2012, which generally considers Environmental Impact Assessment methodology, but does not specifically consider the impact assessment methodology used in this ESIA process.

2.86.2. The applicant avers that the methodology that the seventh appellant challenges was included in the Plan of Study for EIA section of the draft Scoping Report, which was previously made available for review and comment. At the time, the seventh appellant did not raise any objections to the proposed impact assessment methodology. The requirement to consider 'probability' in the impact assessment process is legislated in the NEMA and the 2014 EIA Regulations, which prescribes the manner in which environmental impacts must be considered and assessed. The EAP, in preparing the ESIA report, has complied with this requirement. However, it is pointed out that the methodology utilised in the assessment does not use 'probability' to determine the significance of impacts.

2.86.3. The applicant states that in deciding whether to approve or refuse an application for EA, the CA needs to assess *risk*. That is, they need to balance potential *impact* with the *likelihood* of that impact arising.

2.86.4. No application for an EA is risk free. Competent authorities, who are tasked with evaluating and scrutinising these risks on a daily basis, are best placed to understand, criticise and assess the validity of risk-ratings provided in ESIA reports. If they do not agree with the risks suggested in the ESIA report, they are able to refuse an application for an EA.

2.86.5. The applicant avers that even the academic literature cited by the seventh appellant confirms that it is statistically rare for well blow-outs to occur, particularly in light of the technical and operational measures employed to prevent and provide early notification and, where necessary, shut down the well before spills occur. On this basis, it would be unjustifiable to refuse an EA on the basis that a very high risk is extremely unlikely to materialise.

CA'S RESPONSE

2.87. In its comments on this ground of appeal, the Competent Authority responds as follows:

2.87.1. It is evidenced in the EIA process that the seventh appellant's assertion (that the EIA methodology is flawed in that potential risks which have a lower probability "downplays" the risk) is untrue. As the significance of the residual impact of a well blowout incident is rated high to very high because of the magnitude that such a major oil spill would have on the environment, this is not downplayed. However, part of risk assessment is not just assessing the impact but also considering the probability of the risk realising itself. Thus, despite a well blow out being rated as unlikely, its high impact significance remains.

EVALUATION (Reasons for Decision)

2.88. Appendix 3 of the 2014 EIA Regulations states that one of the objectives of the EIA process is to, through a consultative process, determine the following:

"(i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and

(ii) degree to which these impacts-

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources, and

(cc) can be avoided, managed or mitigated;"

2.89. I have had regard to the impact assessment methodology in Chapter 3 and Appendix 5 of the ESIA report and I am satisfied that the impact assessment methodology complies with the requirements of Appendix 3 of the 2014 EIA Regulations. Moreover, I am satisfied that the impacts of the oil/gas exploration activities, including the cumulative impacts, have been fully identified, assessed and mitigated. In this regard a precautionary approach has been adopted.

2.90. Having considered the above, I determine that this ground of appeal has no merit and is accordingly dismissed.

3. DECISION

3.1. In reaching my decision on these appeals, I have taken the following information into consideration:

3.1.1. The EA dated 23 October 2023;

3.1.2. The appeals submitted by the eight appellants during the period of 27 October 2023 to 16 November 2023;

3.1.3. Responding statements submitted by the applicant on 06 December 2023;

3.1.4. Comments submitted by the CA on 16 November 2023 to 14 December 2023; and

3.1.5. The information contained in the project file TEEPSA 12/3/343 with specific reference to the final ESIA report, together with relevant specialist studies annexed thereto.

3.2. In terms of section 43(6) of NEMA, I have the authority, after considering the appeal, to confirm, set aside or vary the decision, provision, condition or directive or to make any other appropriate decision.

3.3. Having carefully considered the appeals and responses to them, together with all other relevant information, I have decided as follows:

3.3.1. The applicant's environmental authorisation dated 23 October 2023 is confirmed with the same conditions of authorisation, however, I have amended the special condition in paragraph 5.5.3 of the EA as discussed above, and I have included a new condition, also discussed above, as paragraph 5.5.9 of the EA, requiring the applicant to employ a liaison officer who must be available to the affected communities. The communities must have access to the liaison officer who, in turn, must keep them informed of the activities at regular intervals throughout the process and be available to address any questions and concerns that small-scale fishers and their communities may have. This will go a long way to allying fears and anxiety.

3.4. In arriving at my decision, it should be noted that I have not responded to each and every statement set out in the appeals and/or responses thereto. I have, however, considered all of them. Where a particular statement is not directly addressed, the absence of any response thereto should not be interpreted to mean that I agree with or abide by the statement made.

3.5. Should any party be dissatisfied with my decision, it may apply to a competent court to have my decision judicially reviewed. Judicial review proceedings must be instituted within 180 days of notification hereof in accordance with the provisions of sections 6 and 7 of the Promotion of Administrative Justice Act No.3 of 2000.

MS B D CREECY, MP

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

DATE: 24/4/2024