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14 August 2025

**RE: COMMENTS ON THE DRAFT ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED OFFSHORE SURVEY ACTIVITIES IN BLOCKS 9 AND 11B/12B, OFF THE SOUTHERN COAST OF SOUTH AFRICA.**

## INTRODUCTION

1. These submissions are made by Natural Justice and The Green Connection in response to the Draft Environmental and Social Impact Assessment Report (DESIAR) published by SLR Consulting (South Africa) (Pty) Ltd on behalf of Main Street 1549 (Pty) Ltd, for proposed offshore oil and gas survey activities in Blocks 9 and 11B/12B, off the southern coast of South Africa, released for public comment in 14 July 2025.
2. Natural Justice - Lawyers for Communities and the Environment is a non-profit organisation specializing in environmental and human rights law in Africa, with a focus on the pursuit of social and environmental justice for local and indigenous communities. Natural Justice provides legal empowerment, policy advocacy, and research support to communities impacted by extractive, infrastructure and conservation-related developments.

3. The Green Connection is a registered non-governmental organisation that believes economic growth and development, improvement of socio-economic status, and conservation of natural resources can only take place within a commonly understood framework of sustainable development. It aims to provide practical support to both the government and non-governmental/civil society sectors, which are an integral part of sustainable development.
4. These comments are submitted in opposition to the proposed offshore survey activities, in the interests of protecting the marine environment, the customary rights and livelihoods of coastal communities, and South Africa's climate and constitutional obligations. Natural Justice makes these submissions in both the public interest and in the interest of those communities and ecosystems that stand to be adversely affected by the proposed activities.
5. While this submission addresses the DESIAR as a whole, particular attention is given to the legal and procedural inadequacies, the insufficient treatment of cumulative and climate-related impacts, and the failure to ensure meaningful public participation – especially for those most directly affected by the proposed operations.
6. These comments have been drafted based on limited available capacity to scrutinise all aspects of the DESIA, given several other NEMA appeals which have been due within the public participation window – three of which were in respect of EIA processes conducted by SLR – and that comments on the Social and Labour Plan have the same due date. As a result, there may be aspects not covered in this comment which warrant further consideration at a later stage.

**COMMENT ON THE DRAFT ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT**

**A. NEED AND DESIRABILITY**

<u>Failure to contextualise the project within the applicant's pursuit of a Production Right</u>

7. The DESIAR, and in particular the need and desirability assessment, fails to contextualise the proposed development within the context of Main Street utilising the environmental authorisation it seeks to obtain a production right. This project is <u>not</u> just about survey activities – Main Street is actively seeking a production right through the granting of the environmental authorisation for survey activities. Whilst the specific activities to be conducted under the environmental authorisation are surveys, the EA is being pursued in application for a production right. The need for and desirability of the project cannot be divorced from production.
8. In the 13 August judgment of *The Green Connection and Natural Justice v Minister of Forestry, Fisheries and the Environment* (case no. 5676/2024), the found:

"Whilst it is correct that the specific activity for which the EA in this case is granted is exploration and not production, and that the former process will not always result in the latter process, the two processes are intertwined. There would be no point in conducting an exploration activity unless an entity hoped to proceed to the next phase of production. And it is not speculation to conclude that by the time such an entity applies for authorization to conduct the next phase, it is armed with information that places it at an advantage to proceed to the next phase. This is the accumulative, phased process created by the legislation."

9. This relationship between the proposed activities and production operations are even more acute in the current circumstances.

10. Whilst the project background, set out in Section 1.1 of the DESIAR, indicates that the previous joint venture partners "at the time applied for a Production Right (PR) with reference number 12/4/013 PR", it does not clearly indicate that the Main Street seeks the environmental authorisation for the purpose of obtaining its Production Right. The Project Background must be updated to clearly indicate the status of Main Street's production right application, in relation to this project.

11. In Table 2-1, the listed activities triggered by the project are indicated as activity 19A of Listing Notice 1, and activity 20 of Listing Notice 2:

**Table 2-1: Listed activities triggered by this project.**

| Activity | | Description of activity in relation to proposed survey activities |
|---|---|---|
| **Listing Notice 1** | | |
| *19A* | *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…* | The proposed seafloor sampling surveys may result in the moving and/or removal of cumulatively more than 5 $m^3$ of sediment. |
| **Listing Notice 2** | | |
| *20* | *"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."* | The surveys, including: bathymetry and sonar surveys, are undertaken in furtherance of a Production Right application to refine the location, route and installation method for potential future production pipelines and other sub-sea infrastructure. |

12. Although this table indicates that the surveys are undertaken "in furtherance of a production right", it is not clear that the activities are actually production activities, or "any activity … which requires a production right in terms of section 83 of the Mineral and

Petroleum Resources Development Act", or an activity which is "required to exercise the production right".

13. The holder of a production right is required to "continuously and actively conduct production operations in accordance with the approved production work programme" and to commence within one year from the date on which a production right becomes effective. We accordingly request a copy of the production work programme.

14. The DESIAR does not indicate why these additional surveys are sought at this time, when the previous JV partners, including Main Street, were ready to move to production in respect of the same resource. There is no clear reason why the current activities could not have been undertaken during the term of the exploration right. Conceivably, activity 20 may not be triggered by the surveys, and that the environmental authorisation could be sought independently of a production right application.

<u>The DESIAR fails to consider the negative impacts associated with the full lifecycle of oil and gas exploitation</u>

15. The need and desirability assessment focuses on the use of petroleum products to justify the need for the project. Without an intention to produce, there would be no application for the current surveys. The surveys are thus inextricably intertwined with production. However, the negative impacts associated with production are not considered at all.

16. The approach adopted by the DEIAR is flawed because it justifies the need for the project on the assumption that oil/or gas will be produced and that petroleum products will be produced, but excludes an assessment of the negative impacts of such production, processing, transporting and use of oil and gas. The Climate Change Risk Assessment similarly limited its climate change impact assessment to the impact of the project's scope 1 and scope 2 GHG emissions for the survey activities only. No assessment is undertaken in relation to the climate impacts associated with production.

17. Production-specific aspects, including a climate change impacts, cannot be kicked down the road to be considered in detail "if and when, an ESIA is undertaken for Block 11B/12B development". It is also a cop-out to say that the analysis assumes that the applicant is satisfied with the economic feasability of the proposed proiect. The feasability of the project, including the intended production for which the right is being sought, is critical to the examination of need and desirability.

18. In assessing need and desirability, the National Environmental Management Act, 107 of 1998 (NEMA) requires that development be sustainable and that the competent authority "take into account all relevant factors."[1] The Guidelines requires need and desirability assessment to address the impact of planned activities on global and international

[1] 24O(1)(b) of NEMA.

responsibilities relating to the environment, including climate change.[2] From a climate change perspective, we submit the exploitation of oil and gas resources cannot be justified, and consquently, no activities pursued in furtherance of exploitation, such as reconnaissance and exploration, are justified.

19. Recent court jurisprudence regards failure to conduct a full climate change assessment of the proposed project as non-compliance with section 24O(1) of NEMA:[3]

19.1. In *Sustaining the Wild Coast*[4] the court held "... had the decision-maker had the benefit of considering a comprehensive assessment of the need and desirability of exploring for new oil and gas reserves for climate change and the right to food perspective, the decision-maker may very well have concluded that the proposed exploration is neither needed nor desirable." [5]

19.2. In *The Green* Connection, the court held that: "it is incongruous to rely on the long-term benefits of generating electricity and gas – which is a result of production, whilst not considering the cliamre change effects of production. Climate change is relevant to both exploration and production activities. It makes no sense to rely on the positive consequences of production stage for purposes of considering an application at exploration stage, only to resist considering the negative consequences of the production stage when it comes to consideration of climate change."

20. The DESIAR does not contain a comprehensive assessment of the impact of exploration activities on climate change, it reviewed South Africa's climate change policies, and it considered the greenhouse gas emissions associated with survey activities, but it does not include a proper assessment that looks at the entire life-cycle of the proposed project.

21. It is well-established that the climate change 'crisis' demands urgent, swift, and extensive cuts in greenhouse gas (GHG) emissions to limit global warming to 1.5°C. This includes accelerated efforts over the next 5 years to reduce global carbon dioxide emissions by 45% by 2030 compared to 2010 levels, and to reach net-zero emissions by mid-century. In July, the International Court of Justice issued its sweeping and comprehensive advisory opinion on Obligations of States in respect of Climate Change, stating that governments have an obligation under customary international law and treaty law to protect present and future generation from climate change harms caused by the burning of fossil fuels within and beyond their borders, and that countries must take measures to reduce greenhouse gas emissions (GHG) and act with heightened vigilance to enforce these

[2] Paragraph 1.1.8 Page 11 of the Guidelines.
[3] At paragraphs 76-101 of Earthlife Judgment.
[4] At paragraph 125 of Sustaining the Wild Coast NPC and Others v Minister of Mineral Resources and Energy and Others 2022 (6) SA 589;
[5] At paragraph 125 of the Shell Judgement.

measures.[6] Many aspects of the opinion are relevant to South Africa's push to develop its offshore oil and gas resources, and must be considered in the environmental impact assessment.

22. The ICJ also referred in detail to many reports published by the Intergovernmental Panel on Climate Change (IPCC). In August 2021, IPCC, an international organization dedicated to evaluating climate change science, published its 6th Assessment Report (AR6).[7] The International Energy Agency's (IEA) recent report, *"Net Zero by 2050: A Roadmap for the Global Energy Sector,"* states that reaching net zero by 2050 and limiting global temperature rise to 1.5°C above pre-industrial levels "demands a complete transformation of the energy systems" that support the world's economies.

23. The Climate Change Act is itself instructive in requiring that decisions affecting the climate be taken based on "evolving climate change scientific knowledge and decisions which must be based on the best available science, evidence and information".[8]

24. Available scientific evidence and information must therefore form part of assessments intended to form the basis for decision-making. These reports must be considered in the environmental impact assessment process. We have made these and similar points to SLR in many of our comments on oil and gas projects, and yet no consideration is given to them.

25. We note further that the DESIAR fails to assess the cumulative impacts of the several oil and gas exploration projects under consideration in South Africa, and whether these impacts are consistent with South Africa's obligations to reduce its emissions by the highest possible ambition.

26. Responding to the climate crisis is more urgent now than ever before. International and domestic climate goals can only be achieved if no new oil and gas fields are approved for development.

<u>The DESIAR fails to consider global decarbonisation and future projections of demand and supply</u>

27. The assessment goes to a lot of detail on the current demand and supply for oil and gas, globally, and in South Africa, but does not consider the global move away from fossil fuels, and what demand and supply may look like in the future, when the project might be ready to produce. It also does not consider the potential extent of the Block 11B/12B resource, what facilities are available processing the resource, and where the product will end up.

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[6] International Court of Justice, Obligations of States in respect of Climate Change, 23 July 2025 Advisory Opinion ("ICJ Advisory Opinion"), https://www.icj-cij.org/sites/default/files/case-related/187/187-20250723-adv-01-00-en.pdf.

[7] Climate Change 2021: The Physical Science Basis, available online at: https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/

[8] Section 7 of the Climate Change Act, 22 of 2024.

This is critical to assessing the risks of environmental harm "in furtherance of production activities".

The DESIAR assumes that gas is a transition fuel

28. The DESIAR makes a number of assumptions that gas is required as a transition fuel in South Africa (see, for example, section 9.1.2 and Table 9-1, relating to pirnciple (3)). However, we submit that gas need not act as a transition fuel.

29. The DESIAR sets out the details of the 2019 IRP, as well as the draft 2023/2024 IRP, but fail to link resource potential to meeting the gas requirements of the IRP. A 2024 analysis of the draft IRP 2023 by Meridian Economics highlights that South Africa's energy system has changed significantly since previous planning in 2019.[9] While some gas may be needed to support the system, especially outside daylight hours, Meridian warns against over-investing in large-scale gas infrastructure, given the high cost and risk of stranded assets. Instead, it supports a limited, carefully targeted role for gas alongside renewables and storage.

30. Moreover, recent independent studies dispute the notion that fossil gas is essential for electricity generation or as a transition fuel, and they confirm that renewable energy, paired with battery storage, can fulfil nearly all of South Africa's energy requirements. However, these studies are not considered in the DESIAR.

31. The International Institute for Sustainable Development's (IISD) report "Gas Pressure: Exploring the Case for Gas-Fired Power in South Africa" (March 2022) highlights that while it was once believed that fossil gas would be essential either during the transition to low-carbon energy or as part of the long-term energy mix for electricity generation, the dramatic reductions in renewable energy and battery storage costs have overturned this perspective. Analysis of South Africa's electricity system indicates that gas supply is not technically needed until at least 2035, if at all. In recent years, the risks associated with gas have either increased or become better understood. As a result, developing a large gas-to-power system now could lead to significant negative consequences for South Africa. The shift toward decarbonization, combined with the declining costs of renewable energy and storage, presents risks for gas investments, which are likely to result in higher consumer costs, challenges for workers during the transition, and losses for investors.[10]

32. 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

[9] Meridian Economics, *Review of the IRP 2023*, page 65 (2024), *available at* https://meridianeconomics.co.za/wp-content/uploads/2024/03/IRP2023-Modelling-Submission-20240318.0.pdf

[10] IISD, *Gas Pressure: Exploring the case for gas-fired power in South Africa*, p. iv (2022), *available at* https://www.iisd.org/system/files/2022-03/south-africa-no-need-for-gas.pdf

direction in South Africa, 'this rests on a 2012 vision which pre-dates dramatic reductions in renewable energy costs and carbon emissions space'.[11] The report further explains that independent analyses from several recent studies indicate that South Africa's power requirements, both now and in the future, can be met with minimal reliance on gas. It states that there is "no evidence to support the large-scale gas envisioned in the GMP, as this is uneconomical even without considering carbon emissions." Meridian highlights that the assumption of gas-fired power generation replacing coal overlooks the fact that other technology combinations are now more effective at replacing coal-fired power than gas, and that gas-fired generation should be compared to these alternatives.[12]

33. The Vital Ambition Report,[13] produced by Meridian Economics in partnership with the CSIR Energy Centre, states that gas for power generation is only justified in South Africa's energy mix if it is needed for low-utilization flexible capacity (peaker plants) to balance the system during peak power demand. The report confirms that there is no need for investments in gas infrastructure for energy production and generation at present or in the near future.[14]

## B. MARINE IMPACTS

<u>The DESIAR fails to explain how the proposed activity is compatible with South African law and policy</u>

34. The proposed survey area overlaps with designated Ecologically or Biologically Significant Marine Areas (EBSAs) and Critical Biodiversity Areas (CBAs). The DESIAR fails to explain how it can conduct petroleum-related activities in these areas consistent with South African law and without harming sensitive marine wildlife.

34.1. The DESIAR acknowledges that the project area will overlap with the south-western Kingklip Corals EBSA.[15] This same area was also denoted as a Vulnerable Marine Ecosystem (VME).[16]This EBSA protects an area which includes a "high number of VME indicator species" and extensive slow-growing deepwater corals, which provide important habitat for ecologically and commercially important fish species.[17]

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[11] Meridian Economics, *Hot Air about Gas – An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa*, page ii (2022), *available at* https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf

[12] *Ibid*, p1.

[13] Meridian Economics, *A Vital Ambition: Determining the Cost of Additional CO2 Emission Mitigation in the South African Electricity System* (2020), *available at* https://meridianeconomics.co.za/wp-content/uploads/2020/07/Ambition.pdf

[14] Gas and peaking resources contribute just 1.1% of total electricity generation in 2025, and 2.4% by 2035 according to the same Meridian report.

[15] DESIAR at p. 130 ("The survey areas intersect a small portion of the southwestern Kingklip Corals EBSA.").

[16] Id.

[17] DESIAR, Appendix G at p. 32.

34.2. The project area will also significantly overlap with areas designated as "Critical Biodiversity Areas" (CBAs), and specifically, Natural CBAs.[18] These areas "indicate irreplaceable/near irreplaceable sites required to meet biodiversity targets."[19] As the DESIAR notes, "[t]he management objectives of Biodiversity Conservation Areas (Natural) are to maintain these areas in a natural or near-natural ecological conditions."[20]

34.3. The draft 2024 Marine Biodiversity Sector Plan, which the DESIAR refers to, does not permit invasive activities to take place within these areas.[21] The DESIAR fails to acknowledge that at least some of the proposed project activities likely fall under the definition of "invasive". For example, the proposed sediment sampling would cause the permanent destruction of any fauna present within the area of contact, since these organisms will be "crushed."[22]

34.4. However, even the project's proposed "non-invasive" activities would not be in accordance with the draft 2024 Marine Biodiversity Sector Plan and sound logic. According to the draft 2024 Marine Biodiversity Sector Plan, "non-invasive petroleum exploratory activities," including "techniques such as geophysical, geochemical or aerial surveys" are not compatible with Biodiversity Conservation Areas.[23] This is because, as the DESIAR's Marine Ecology Report acknowledges, "it is incongruous to allow prospecting or exploration in zones where mining or petroleum production activities are prohibited, and the compatibility of prospecting and exploration activities with biodiversity zones is now associated with the impacts of the 'down-the-line' activities, namely the mining and petroleum production activities."[24] As the proposed activity's sole purpose is to prepare for future invasive activities, including pipeline laying and production drilling,[25] the predecessor non-invasive activities are "Prohibited use"[26], and should *not be allowed* in those areas.[27]

34.5. While the 2024 draft Marine Biodiversity Sector Plan is not itself a binding document, it is described as "a spatial articulation of the requirements embedded in a range of existing legislation and strategies."[28] Abiding by this plan will "ensure necessary biodiversity management and conservation measures … in line with [South Africa's obligations under] Target 1 of the Convention on Biological Diversity's Kunming-

[18] DESIAR at p. 154, Figure 5-20.
[19] DESIAR at p. 151.
[20] DESIAR, Appendix G at p. vii
[21] 2024 Draft Marine Sector Plan at p. 10
[22] DESIAR, Appendix G at p. 121
[23] DESIAR, Appendix G at p. viii
[24] DESIAR, Appendix G at p. 98
[25] DESIAR at p. 1.
[26] 2024 Draft Marine Sector Plan at p. 10
[27] *Id*. at p. 1.
[28] 2024 Draft Marine Sector Plan at p. 6

Montreal Global Biodiversity Framework (GBF)".[29] Therefore, conducting petroleum-related activities within CBA and EBSA areas may violate South African law and its legal obligations under international law.

34.6. The DESIAR states that it will "Avoid the placement/benthic mooring of receivers, instrumentation or buoys within delineated EBSAs" and "Undertake pre-sampling visual assessments" in delineated CBAs.[30] However, this language implies that there is still the possibility for invasive sampling activities to be conducted within these areas. Further, while the DESIAR states that the project will "Avoid surveying in EBSAs," there is no restriction on surveying within CBAs.[31]

34.7. The DESIAR fails to explain how the proposed project can be permitted within CBA and EBSA areas, especially since it involves non-compatible activities that would pave the way for even more harmful non-compatible activities.

35. Additionally, the DESIAR fails to analyse how the proposed activities will impact nearby protected areas.

35.1. The area of interest is roughly 20 km away from the Southwest Indian Seamounts MPA and roughly 16 km away from the Port Elizabeth Corals MPA.[32]

35.2. The DESIAR describes several risks and impacts from the proposed project that could extend further than 16 km, including noise pollution, light pollution, and oil pollution, and therefore impact wildlife within these MPAs.

*a.* *Noise*: The DESIAR's Underwater noise models only evaluated the maximum distances at which PTS, TTS, and behavioural thresholds would be exceeded.[33] It failed to analyse how noise levels are anticipated to change within nearby MPAs as a result of the proposed project. Regardless of whether the noise is below behavioural thresholds (which are characterized by high uncertainty and are likely under-protective of many species), noise could still be at a level that disrupts and degrades carefully protected ecosystems. The DESIAR should include maps of predicted noise level changes in nearby MPAs as a result of project activities.

*b.* *Light*: The DESIAR never modelled the distance at which light from project vessels will be visible, stating "The amount of light spill that will reach the areas surrounding the vessels is unknown."[34] However, it noted that light pollution could spread "hundreds of kilometres from its source."[35] The DESIAR describes a variety of harmful biological impacts from light pollution on practically all marine wildlife,

[29] *Id*. at p. 5
[30] DESIAR at p. 390
[31] DESIAR at p. 387
[32] DESIAR, Appendix G at p. 85.
[33] DESIAR, Appendix E at p. 29
[34] DESIAR, Appendix G at p. 124
[35] *Id*.

including fish, birds, plankton, and turtles.[36] This makes the fact the fact that the DESIAR never attempted to evaluate the distance at which this light would be visible particularly concerning. The DESIAR implies that this analysis was not necessary because "the area is already impacted by increased anthropogenic light [because] the AOI is located along a main marine traffic route."[37] However, this assumption that the project will not pose harm in addition to existing light pollution fails to take into account the cumulatively harmful impacts of light pollution from existing marine traffic in addition to the project vessels. Further, it also fails to consider differences in the nature of vessel activity that may make light pollution from the project *more* harmful. For instance, the vessels conducting the surveying and sampling activity are likely to be moving slower and remain within the area for a longer period of time than transiting shipping vessels. Without considering these effects at all, let alone on marine protected areas, the DESIAR has no basis for concluding that the impacts will be "of the short-term duration and small extent."[38]

c. *Unplanned Fuel Spill*: The DESIAR recognizes that the proposed project carries the risk of accidental oil spills, particularly from a vessel collision. It notes that a fuel spill would have devastating consequences for marine wildlife, stating: "Being highly toxic, marine diesel released during an accidental spill will negatively affect any marine fauna in which it comes into contact. These could range from mortality (due to toxicity or suffocation) to sub-lethal physiological damage and long-term effects including disruption of behavioural mechanisms, reduced tolerance to stress, and incorporation of carcinogen into the food chain."[39] Despite this risk of immense harm, the DESIAR never modelled the scope of potential oil spills. Therefore, it had no basis to conclude that the spill is "unlikely to reach the shore," and thus "coastal MPAs and any sensitive coastal receptors".[40] The DESIAR's failure to model oil spill impacts also means that it never assessed possible risks to nearby offshore MPAs, which could be inundated by oil and subsequently impacted by clean-up efforts.

<u>The DESIAR's Underwater Noise Modelling appears to be significantly flawed and inadequate.</u>

36. The Underwater Noise Modelling report (Appendix E) relied on by the DESIAR contains several apparent flaws and inconsistencies that suggest its results are inaccurate. Specifically, the predicted distances for TTS and Auditory Injury do not match the graphics showing the model results in the report; the models generated the same results even

[36] *See* DESIAR, Appendix G at pp. 123-124
[37] DESIAR at p. 124
[38] DESIAR Appendix G at p. 124
[39] DESIAR at p. 285
[40] DESIAR at p. 286

when significantly different thresholds were applied; the models conflict with NMFS's suggested guidelines and methodology; and the models relied on inaccurate sediment data.

36.1. The figures showing the extent of noise impacts in Appendix E suggest far greater impacts than the model results presented in the summary tables. For example, according to NMFS guidelines, cumulative thresholds for TTS for non-impulsive sources range from 161 for very high-frequency cetaceans to 181 for high frequency cetaceans.[41] The modelled results indicate that cumulative impacts over 24 hours would not exceed 500 meters.[42] However, Figure 7 on p. 17 of Appendix E shows noise levels above 160 dB at depths over 1000 m and at horizontal distances of over 4000 m.[43] The extent of noise impacts should also be reflected in the noise level contour maps.[44] However, these figures do not show distance from the source, the South African coastline, or even the survey area boundaries, so it is incredibly difficult for a reader of the DESIAR to understand how far noise from the proposed project will travel. The figures seem to indicate, however, that noise will travel farther than the modelling report concluded.

36.2. In addition to the internal conflict with the DESIAR's figures, the noise model results also do not make logical sense. The thresholds for TTS and Auditory Injury represent the noise levels at which marine animals will experience hearing loss or injury. If the threshold is lower, then the animal will experience hearing loss or injury at a lower noise level, and harm can be expected at further distances from the sound source. Similarly, an animal exposed to loud noise for a long period of time is more likely to experience hearing loss or injury than an animal exposed to the same level of noise for a very short period of time (such as a single pulse).[45] Therefore, one would expect for noise impacts for a 24-hour period to extend further from the sound source than noise impacts from a single pulse. For the proposed project, one would expect larger distance results for lower thresholds, louder sources, and longer durations. However, the table of modelling results (shown on Appendix G, p. 105) show nearly identical results across different animal groups, different thresholds, and different noise durations. All of the results are very low, despite high source-level volumes and high overlap with the hearing ranges of most of the evaluated species. Without additional information on the model inputs and assumptions, it is hard to know the reason why these results are so anomalous.

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[41] DESIAR, Appendix E at p. 3
[42] DESIAR, Appendix E at p. 13
[43] *Id.* at p. 17
[44] *See, e.g.*, DESIAR, Appendix E at p. 19, Figure 10
[45] *See Hearing Loss in Mammals*, Discovery of Sound in the Sea (last visited Aug. 9, 2025), https://dosits.org/animals/effects-of-sound/potential-effects-of-sound-on-marine-mammals/hearing-loss-in-mammals/ ("The animal can hear sounds that are above its threshold without impairment until a certain combination of intensity and duration is reached.").

36.3. It appears that the DESIAR's Underwater Noise Modelling Report (UNM Report) did not abide by NMFS suggested methods, despite relying on their threshold values and weighting functions. The UNM Report states that it applied auditory weighting functions "to the predicted noise levels for each frequency prior to calculating the distances to the weighted hearing group-specific thresholds."[46] However, NMFS guidance clearly states that, for narrowband sources such as sonar, the proponent should choose appropriate weighting factor adjustments "based on the specified frequency."[47] It is not clear from the UNM Report what numerical weighting factor adjustments were made for each sound source and hearing group; the UNM Report only states that it relied on NOAA specified frequency weightings.[48] In the next version of the UNM Report, the EAP should include the weighting factor adjustments adopted for each sound source, frequency, and hearing group so that stakeholders can clearly see the assumptions made in modelling impacts. Further, the updated NMFS noise thresholds included a spreadsheet tool that can be used to calculate impact distances for marine mammals for different source levels, frequencies, and types. The UNM Report should have provided the inputs and results from using this spreadsheet tool (because this tool is associated with the thresholds and frequency weighting formulas that the Underwater Noise Modelling report adopted). If these results differed from the UNM Report's own models, the ESIAR should explain the reasons behind this discrepancy. This is especially important because inputting the project source information into the NMFS spreadsheet tool results in worse impacts for some hearing groups than what Appendix E predicts. For example, the conflicting results for the HiPAP Positioning System are presented below. The NMFS spreadsheet tool resulted in an estimated isopleth to threshold for very high-frequency cetaceans over 38 times greater than what the DESIAR predicted.

**Figure A:** Results from inputting HiPAP Positioning System specifications into NMFS User Tool

| Hearing Group | Low-Frequency Cetaceans | High-Frequency Cetaceans | Very High-Frequency Cetaceans | Phocid Pinnipeds | Otariid Pinnipeds |
|---|---|---|---|---|---|
| $SEL_{cum}$ Threshold | 197 | 201 | 181 | 195 | 199 |
| AUD INJ Isopleth to threshold (meters) | 0.9 | 3.6 | 380.0 | 10.5 | 2.9 |

**Figure B:** DESIAR's sound model results for the same AUD INJ SELcum Isopleth estimates[49]

[46] Appendix E at p. 7
[47] NMFS, Manual for Optional USER SPREADSHEET Tool (Version 2.2, December) for: 2018 Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Dec. 2020) at p. 5.
[48] Appendix E at p. 6
[49] Taken from DESIAR, Appendix E at p. 13, Table 8

| Hearing Group | Low-Frequency Cetaceans | High-Frequency Cetaceans | Very High-Frequency Cetaceans | Phocid Pinnipeds | Otariid Pinnipeds |
|---|---|---|---|---|---|
| **SELcum Threshold** | 197 | 201 | 181 | 195 | 199 |
| **AUD INJ Isopleth to threshold (meters** | **<10** | **<10** | **<10** | **<10** | **<10** |

36.4. As the DESIAR's Underwater Noise Modelling Report (Appendix E) notes, "Sound propagation is influenced by the geoacoustic properties of the sediment that comprises the seafloor."[50] This sediment type is a key input parameter for the noise models used by the DESIAR. The DESIAR modelled sediment geoacoustic parameters based on "Silty Sand" and "Sand Half Space" seafloors.[51] However, the DESIAR states that "most of the Survey Area is a mosaic of both rocky reef and areas with sparse sediment cover, with the northern area characterized by hard sediment and a narrow layer of unconsolidated sand that sits atop a denser clay layer," and "along the eastern half of the South Coast, the seabed is predominantly rocky reefs."[52] Therefore, the Underwater Noise Modelling Report should have modeled noise propagation based on rocky and hard seafloor types

37. Further, the UNM Report is inadequate because it fails to assess underwater noise from vessel activity.

37.1. The DESIAR's Marine Ecology Report (Appendix G) estimates that noise from project vessels will range from 160 to 220 dB re 1 µPa at 1 m and at frequencies of 5 to 500 Hz.[53] This noise is at a level and frequency sufficient to cause injury to marine mammals located within the vicinity of the vessels. However, the DESIAR never estimates the scope of these impacts because they were never modelled. As a result, the DESIAR ignores a potentially significant source of harm for marine animals.

37.2. Instead, the DESIAR implies that noise from vessels will not be harmful because "[t]here is significant local shipping traffic and relatively strong metocean conditions in the general vicinity of the AOI."[54] However, the DESIAR has no basis for assuming that ambient noise levels will be high without conducting any ambient noise measurements at the project site. In fact, a recent study of noise levels within the Santa Barbara Channel found median noise levels of less than 75 dB, and 95$^{th}$

[50] DESIAR, Appendix E at p. 10
[51] *Id*.
[52] DESIAR at p. 116
[53] DESIAR, Appendix G at p. 119
[54] DESIAR, Appendix G at p. 119

percentile noise levels of 80 dB.[55] The Santa Barbara Channel likely has even *higher* vessel traffic than the project area, because it is located near two of the busiest shipping ports in the United States: the Port of Los Angeles and the Port of Long Beach[56] Given this and the assumptions made in the DESIAR, it is likely that noise impacts from vessel traffic has been underestimated.

37.3. Even if ambient noise levels from shipping were high, this would not reduce the risk of injury and behavioural effects from vessel noise from the project vessels. This is because the vessels will generate noise at levels significantly louder than ambient noise levels. Therefore, the impacts on marine wildlife need to be analysed. This is particularly important because the DESIAR notes that "Some of the western Survey AOI does pass through the small southwestern corner of the Kingklip Corals EBSA."[57] The DESIAR never considered whether vessels transiting to-and-from the survey area could potentially overlap with other MPAs or sensitive near-shore receptors.

37.4. Additionally, the DESIAR did not consider whether vessel noise impacts from the project vessels will be different from shipping vessels transiting through the AOI. Presumably, surveying vessels will move slower and remain within a smaller area for a longer period of time than shipping vessels, which would change the nature of noise impacts. For example, if vessels engaged in sediment sampling activities will be required to use stabilizers, this could be an additional and significant source of noise that should be evaluated by the ESIAR. Further, if marine animals are simultaneously exposed to vessel noise from both project vessels and from passing shipping vessels, this could lead to cumulative harms that are even more significant than impacts from the project's vessel activity alone.

37.5. In addition to evaluating the potential for injury from vessel noise, the ESIAR should consider the project's contribution to elevated ambient noise levels during the duration of the project, and whether these higher ambient noise levels could lead to chronic stress, habitat displacement, or changes in important biological behaviours that could lead to population-level effects.

<u>The DESIAR relies on deficient mitigation measures.</u>

38. The DESIAR reduces the significance of all its predicted impacts to Low, Very Low, or Insignificant on the basis of several mitigation measures.[58] However, many of these measures are not sufficient to prevent, or even reduce, harm to marine wildlife. For example, the project relies on deficient mitigation measures for protecting marine

[55] Vanessa M. ZoBell et al., *Comparing pre-industrial and modern ocean noise levels in the Santa Barbara Channel*, 202 Marine Pollution Bulletin 116379 at Fig. 5.
[56] *Id*.
[57] DESIAR, Appendix G at p. 119
[58] DESIAR, Appendix G at pp. ix-x

mammals and other species from underwater noise impacts, for protecting benthic ecosystems from sampling impacts, and protecting the marine ecosystem from invasive species.

38.1. *Underwater Noise Measures*:

a) The proposed project will only implement a 500 m radius "mitigation zone" that will be monitored to confirm the absence of cetaceans, turtles, penguins and shoaling large pelagic fish prior to commencing surveying activities.[59] However, the DESIAR never considers the possibility that animals may be present within this zone, but not vocalizing and/or not visible from the surface. For example, a sperm whale may be sleeping directly underneath the project vessel, but would not be detected by either a marine mammal observer or PAM. This possibility should have been factored into the DESIAR's impact rating and analysis.

b) The DESIAR only requires termination of the survey "if any marine mammals show affected behaviour within 500 m of the survey vessel or equipment until the mammal has vacated the area."[60] Based on this measure, the survey will only be terminated if a marine mammal is: 1) observed by a marine mammal observer and 2) the observer determines that the mammal is showing "affected behaviour" (which the DESIAR never defines). The DESIAR never discusses the risk or possibility that marine mammals are impacted by the survey noise but are not seen by marine mammal observers. For example, studies have found that beaked whales respond to sonar noise by diving longer and deeper in the water column.[61] These marine mammals will still be susceptible to injury. However, the DESIAR reduced predicted impacts for cetaceans to "Insignificant" on the basis of this measure.

c) The DESIAR does not propose any shut-down or termination requirements for any non-marine mammal species. This means that sea birds, sea turtles, and shoaling fish could be present, and even observed, within the vicinity of the survey source and surveying would still continue. Yet the DESIAR reduced impacts for sea turtles from Very Low to Insignificant and for fish from Medium to Low.[62]

38.2. *Benthic Measures:*

a) The DESIAR's Marine Ecology Report "strongly recommended that moored instruments be deployed outside of [delineated Proposed Strict Biodiversity Conservation Zone areas in Block 9], to fully prevent direct disturbance and potential mortality of benthic habits [sic] and species in these areas."[63] However, the DESIAR permits mooring and sampling within these areas, so long as "pre-

[59] DESIAR at p. 238
[60] DESIAR at p. 238
[61] Erin A. Falcone et al., *Diving behaviour of Cuvier's beaked whales exposed to two types of military sonar*, 4 Royal Society Open Science (2017).
[62] DESIAR, Appendix G at p. ix
[63] DESIAR, Appendix G at p. x

sampling visual assessments for sensitive benthic habits [sic]" are conducted "within a distance of 30 m of the planned sampling area, where mooring systems or seabed sampling will be located/undertaken."[64]

b) The DESIAR never specifies the methods used for these pre-sampling visual assessments; whether they will be ROV surveys or drop camera assessments as the Marine Ecology Report recommends[65] or some other method. It also states that if "sensitive benthic habits [sic] are detected, [they will] adjust the sampling site to avoid these areas of sensitivity."[66] It is not clear if this means that the operator will select a different sampling site (conducting a new visual inspection) or merely choose a location near the original site that would not come into direct contact with areas of sensitivity. If the latter is allowed, this would allow for sediment sampling incredibly close to sensitive, vulnerable, and protected deep-sea marine ecosystems. For this reason, the DESIAR should instead commit to not conducting any sediment sampling within Strict Biodiversity Conservation Zones, as the Marine Ecology Report strongly recommended.

38.2.1. *Biofouling:*

**C.** The DESIAR predicted that impacts from biofouling would be of Medium significance without mitigation.[67] With mitigation, these predicted impacts were reduced to "Low."[68] However, the only mitigation measure proposed to address biofouling was to "Ensure all infrastructure (e.g. moorings) that has been used in other regions must be thoroughly cleaned before deployment."[69] The DESIAR never defines what it means for equipment to be "thoroughly cleaned," nor how the operator will ensure that equipment is sufficiently cleaned before it is deployed. Without this clarity, the DESIAR does not provide enough assurance that biofouling impacts will be "Low."

## D. INTEGRATED COASTAL MANAGEMENT

39. The DESIAR fails to give due consideration to the requirements of the National Environmental Management: Integrated Coastal Management Act, 24 of 2008 (NEM:ICMA). The Act confers a special legal status on coastal public property, recognised by the High Court in *The Green Connection*. The survey activities, and intended production, are located in coastal waters, which is coastal public property. It is therefore incorrect to conclude that "It is not expected that the surveys will affect areas within the coastal public property, coastal protection zone or coastal access land".[70] Whilst a summary of

[64] DESIAR at p. 244
[65] DESIAR, Appendix G at p. xi
[66] DESIAR at p. 244
[67] DESIAR at p. 249
[68] *Id*.
[69] *Id*.
[70] Page 16 of the DESIAR.

NEM:ICMA is contained in section 2.2.1.8 of the DESIAR, and the section 63 factors are set out in the same section, the assessment of these factors is only cursory. Due consideration must be given to the state's obligations relating to coastal public property, and a comprehensive assessment of the section 63 factors is needed in in this context.

40. Further, whilst the DESIAR indicates that the Operator has not undertaken similar work in South Africa, it does not indicate whether it has undertaken similar work in other jurisdictions, and its history of compliance in those contexts. This information should be included in the DESIAR.

## E. DEFICIENCIES IN THE PUBLIC PARTICIPATION PROCESS

41. South Africa's legal framework mandates meaningful public participation in environmental decision-making. This obligation arises from NEMA, which requires that decisions must reflect the needs, interests and values of all interested and affected parties (I&AP) and that participation must be equitable and inclusive.[71] The MPRDA also requires that applicants must consult landowners, lawful occupiers and I&APs during the application process for mining rights.[72] Furthermore, the Promotion of Administrative Justice Act, 3 of 2000, guarantees procedurally fair administrative action, including the right to be heard.[73] The recent Climate Change Act,[74] mandates a just transition and inclusive climate governance, emphasizing the rights of vulnerable communities to participate in climate-related decision-making.[75]

42. Several regional and international legal instruments bind South Africa and reinforce the duty of meaningful participation, including the Paris Agreement, which affirms the importance of public participation in climate action.[76] The recent International Court of Justice (ICJ) Advisory Opinion[77] on climate change obligations confirms that states have binding duties to prevent significant environmental harm, cooperate internationally and uphold procedural right in environmental governance. The court found that these duties are owed to all states, peoples and future generations.[78] This is supported by the African Charter on Human and Peoples' Rights which provides for the right of all peoples to a general satisfactory environment favourable to their development.[79]

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[71] NEMA, sec 2(4)(f)
[72] Mineral and Petroleum Resources Development Act 28 of 2002, secs 16; 22; and 27 (MPRDA).
[73] Promotion of Administrative Justice Act 3 of 2000. (PAJA).
[74] Climate Change Act 22 of 2024.
[75] Climate Change Act, secs 5, 6 and 7.
[76] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) UN Doc FCCC/CP/2015/10/Add.1, art 12. (Paris Agreement).
[77] International Court of Justice, Obligations of States in respect of Climate Change (Advisory Opinion) [2025] ICJ Rep 23 July 2025 https://www.icj-cij.org/case/187/advisory-opinions accessed 14 August 2025. (ICJ Advisory Opinion)
[78] ICJ Advisory Opinion, para 115 - 173.
[79] African Charter on Human and Peoples' Rights (1986), art 24.

Observations on the ESIA Public Open Days

43. The public consultation format adopted during the open days where NJ and TGC representatives attended raises some concerns discussed below.

44. The EAP representing the Applicant presented the DESIAR to the public at respective community halls in Mossel Bay, George and Knysna during the open days, and made several observations worth noting in respect of the obligation of the Applicant to conduct meaningful public consultations in terms of the MPRDA.

45. Section 2(4) (f) NEMA requires that decisions must inform the needs, interests and values of all interested parties, and that participation must be meaningful. The fragmented 'conveyer belt / booth' setup format adopted by the EAP in consulting the public undermines the collective agency of communities. It prevented attendees from hearing each other's concerns, building solidarity, or formulating collective responses to the presentations. This format divides participants along linguistic and racial lines, reinforcing existing social inequalities and disparities in the region.

46. Language, race and spatial apartheid legacies remain key barriers to inclusive development. The EAP format failed to acknowledge these barriers, nor to create a safe, inclusive space for dialogue. The space did not facilitate community-led engagement. This is particularly concerning in areas where historical exclusion and economic marginalisation persists.

47. Both the Constitution and the PAJA require that administrative processes must be procedurally fair. The format used limited oral expression, it isolated concerns as individual, rather that community concerns or needs.

48. The use and distribution of simplified information materials, such as pamphlets in local languages, the presence of comment templates and drop boxes at the public open day venues, and visual-audio tools can be positively appreciated as part of the Applicant's statutory obligations.

49. Despite some positive and innovative practices, the format and setup of the consultations observed during the open days limited collective engagement and solidarity, this 'booth-style, conveyer-belt' format while efficient and convenient for the consultants, fragmented the community along linguistic and racial lines and discouraged open dialogue.

50. The absence of facilitated plenary discussions undermines the ability of communities to form shared positions, influence each other and build solidarity around common concerns. Such an approach is inconsistent with the principles of NEMA, the requirements of the EIA Regulations for meaningful participation, and the constitutional imperative of inclusive, equitable administrative processes.