



**MINISTER
FORESTRY, FISHERIES AND THE ENVIRONMENT
REPUBLIC OF SOUTH AFRICA**

Reference: LSA 200703/2

APPEAL DECISION

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

Natural Justice, Green Connection,
South Durban Community Environmental Alliance and Groundwork

First Appellants

Weskus Sakekamer (Western Cape, SA)

Second Appellant

Department of Environmental Affairs and Development
Planning, Western Cape

Third Appellant

Karpowership (Pty) Ltd

Applicant

Chief Director: Integrated Environmental Authorisations –
Department of Forestry, Fisheries and the Environment

Competent Authority

Appeal: These appeals are lodged by Natural Justice, Green connection, South Durban Community Environmental Alliance, Groundwork (the First Appellants) and Weskus Sakekamer (the Second Appellant) (collectively “the Appellants”) against the decision of the Chief Director: Integrated Environmental Authorisations (CD:IEA) of the Department of Forestry, Fisheries and the Environment (the Department), taken on 14 November 2023, to grant an Environmental Authorisation (EA) to Karpowership (Pty) Ltd (the Applicant), for the development of a gas to power via Powership Project, within the Port of Saldanha in the Saldanha Bay Local Municipality, Western Cape Province, South Africa.

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1. Background

- 1.1. On 7 July 2020, the Minister of Mineral Resources and Energy (Minister Mantashe) issued a section 34 determination (Determination) under the Electricity Regulation Act, 2006 (Electricity Regulation Act) for the procurement of 2000 MW of energy from a range of technologies, including Liquefied Natural Gas (LNG), which was gazetted in Government Gazette 43547 on 24 July 2020.
- 1.2. On 23 August 2020, the Department of Mineral Resources and Energy (DMRE) issued a Request for Qualification and Proposals (RFP) for New Generation Capacity under the Risk Mitigation Independent Power Producer Procurement Program (RMIPPPP / RMI4P), the objective of which is to alleviate the immediate and future power generation capacity deficit in South Africa. The RMIPPPP forms part of the Energy Strategic Integrated Project No. 20.
- 1.3. The RFP invited bidders to submit proposals for the construction, financing, operation and maintenance of new power generation projects. The RFP succeeded in attracting project proposals featuring a variety of technology combinations including solar PV, wind, liquefied natural gas and battery storage.
- 1.4. On 5 October 2021, the Applicant/ KPS lodged an application for an Environmental Authorisation (EA) with the Chief Director: Integrated Environmental Authorisations (CD: IEA/ Competent Authority) within the Department of Forestry, Fisheries and the Environment (the Department/ DFFE) in respect of the proposed gas to power via powership programme, within the jurisdiction of the Saldanha Bay Local Municipality, Western Cape Province (the Project).
- 1.5. On 6 November 2020 the Strategic Integrated Project (SIP) Steering Committee confirmed that all projects classified with Preferred Bidder status will be regarded as SIP projects to be expedited in terms of Schedule 2 (Section 17(2)) of the Infrastructure Development Act, 2014 (Act No. 23 of 2014) (Infrastructure Development Act).
- 1.6. On 18 March 2021, the Minister of DMRE announced that three projects in which the Applicant is involved received Preferred Bidder status within the RMIPPPP. Accordingly, these projects being SIPs, are to be managed within the requirements of the Infrastructure Development Act.

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- 1.7 On 6 November 2020, the Strategic Integrated Project (SIP) Steering Committee confirmed that all projects classified with Preferred Bidder status will be regarded as SIP projects and are to be expedited in terms of Schedule 2 (Section 17(2)) of the Infrastructure Development Act.
- 1.8 On 18 March 2021, the Applicant was appointed the Preferred Bidder within the RMIPPPP for the present project and for two other projects making up 1200MW of the allocated 2000MW required. In as far as these three projects proposed by the Applicant include various activities listed in the Environmental Impact Assessment (EIA) Regulations per the National Environmental Management Act 107 of 1998 (NEMA), they require Environmental Authorisation (EA) prior to commencement thereof.
- 1.9 The Applicant consequently lodged an application for an EA with the CD:IEA within the Department of Forestry, Fisheries and the Environment (the DFFE/ the Department), and it submitted its final EIA and EMP on 26 April 2021. That application was refused by the CD: IEA on 23 June 2021, due to certain identified information gaps in the EIAR and procedural defects in the Public Participation Process (PPP) conducted. The decision was taken in terms of Regulation 4(2) of the 2014 Environmental Impact Assessment Regulations, 2014 (2014 EIA Regulation) as amended, and NEMA, as amended.
- 1.10 Being dissatisfied with the decision of the CD:IEA, the Applicant lodged an appeal in respect of that decision in terms of section 43 of NEMA, on 13 July 2021 (first appeal). After due consideration, owing to identified gaps in information and defects in the PPP, my predecessor, the previous Minister of Forestry, Fisheries and the Environment, Minister Creecy, was unable to make an informed decision and on 1 August 2022, she remitted the matter in terms of section 46(3) of NEMA to the CD:IEA for the gaps in information and procedural defects to be addressed and for the reconsideration and re-adjudication thereafter of the EA application, provided the time frames prescribed by the 2014 EIA Regulations in respect of the EIA process are adhered to by the Applicant and the CD:IEA.
- 1.11 I pause at this juncture to record that I have taken note that the appeal decision of Minister Creecy to remit the matter to the CD:IEA for reconsideration was not taken on judicial review even though Minister Creecy expressly recorded in her appeal decision that if any party is dissatisfied with any aspect of her decision, they are at liberty to approach a competent court of law to have the decision judicially reviewed in accordance with the provisions of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000)(PAJA).

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1.12 Subsequent thereto, based on his reconsideration and re-adjudication of Applicant's revised EA application, the CD:IEA granted the Applicant an EA for the proposed Saldanha Gas to Power project on 14 November 2023. The Appellants received notice of the CD:IEA's decision to grant the EA to the Applicant on 24 November 2023.

1.13 The procedure for the submission of appeals as contemplated in section 43(1) of NEMA is outlined in Regulation 4(1) of the National Appeal Regulations, 2014, as amended (2014 Appeal Regulations) stipulates that:

"An appellant must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party and any organ of state with interest in the matter within 20 days from the date that the notification of the decision for an application for an environmental authorization or a waste management licence was sent to the registered interested and affected parties by the applicant".

1.14 The due date for submission of an appeal against the decision of the CD:IEA to grant an EA to the Applicant for the proposed Saldanha Gas to Power project was therefore 14 December 2023.

1.15 The Directorate: Appeals and Legal Review within the Department received the following appeals against the decision that was taken by CD:IEA on 14 November 2023 to grant an EA to the Applicant for the proposed Gas to Power Facility in Saldanha as follows:

1.15.1 On 14 December 2023 from the First Appellants;

1.15.2 On 13 December 2023 from the Second Appellant; and

1.15.3 On 13 December 2023 from the Third Appellant.

1.16 On 22 January 2024 the Applicant submitted its comments and responses to the grounds of appeal.

1.17 On 13 February 2024, the CD:IEA submitted his comments on the grounds of appeal.

1.18 The First Appellants submit the following twelve grounds of appeal, which are summarised hereunder together with the responses of the Applicant and the Department's comments:

1.18.1 First Ground of Appeal: Inadequate Consideration of Impacts on the Marine Environment;

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- 1.18.2 Second Ground of Appeal: Inadequate Consideration of Major Hazard Installation Impacts
- 1.18.3 Third Ground of Appeal: Inadequate Consideration of Climate Change Impacts;
- 1.18.4 Fourth Ground of Appeal: Inadequate Consideration of Need and Desirability;
- 1.18.5 Fifth Ground of Appeal: Inadequate Consideration of Alternatives Including the No Go Option;
- 1.18.6 Sixth Ground of Appeal: Inadequate Consideration of Socio-Economic Impacts;
- 1.18.7 Seventh Ground of Appeal: Inadequate Consideration of Cultural and Heritage Impacts;
- 1.18.8 Eighth Ground of Appeal: Inadequate Public Participation;
- 1.18.9 Ninth Ground of Appeal: Inadequate Consideration of Air Pollution and Health;
- 1.18.10 Tenth Ground of Appeal: The EA Conditions and Requirements are Irregular and Unlawful;
- 1.18.11 Eleventh Ground of Appeal: The Comments and Responses Report Has Not Been Made Available to the Public; and
- 1.18.12 Twelfth Ground of Appeal: Failure to Consider the Requirements of the National Environmental Management: Integrated Coastal Management Act.

- 1.19 The Second Appellant submitted 7 Grounds of Appeal, some of which overlap or are substantially the same as those lodged by the First Appellant as listed in the above mentioned twelve grounds of appeal. In addition to these, the Second Appellant raised the following grounds of appeal:

- 1.19.1 First Additional Ground of Appeal: Misinformation;
- 1.19.2 Second Additional Ground of Appeal: Threat to Saldanha Aquaculture Development Zone/ Jobs;
- 1.19.3 Third Additional Ground of Appeal: No Underwater Studies Have Been Done; and
- 1.19.4 Fourth Additional Ground of Appeal: Conflict of Interest

- 1.20 The Third Appellant submitted 5 Grounds of Appeal, some of which overlap or are substantially the same as those lodged by the First Appellant as listed in the above mentioned twelve grounds of appeal. In addition to these, the Third Appellant raised the following additional grounds of appeal:

- 1.20.1 First Additional Ground Of Appeal: Lack of Adequate Consideration of the Policy Context within which the Decision Must Be Made; and
- 1.20.2 Third Appellant's Second Additional Ground Of Appeal: The Failure to Specify the Duration of the Authorisation.

2 GENERAL APPROACH TO THIS APPEAL

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

2.1 Before I set out the submissions made by the Appellants in relation to their grounds of appeal, the Applicant's responses thereto, and the comments thereon by the Department, I deem it appropriate to record that I was guided in my evaluation of each ground of appeal by the principles set out in section 2 of the NEMA (the NEMA principles). 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).

2.2 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 environmental impacts of a project with potential environmental impacts. The directive principles caution decision-makers to adopt a risk-averse and a careful approach, especially in the face of incomplete information."

3 GENERAL POINTS

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

APPELLANT'S GENERAL POINTS

- 3.1 The First Appellants, by way of background, contend that:
- 3.1.1 They have legal standing to bring the appeal not only in terms of section 43 of the National Environmental Management Act, 1998 (Act No.107 of 1998) (NEMA), but also in terms of section 32 of NEMA.
 - 3.1.2 They dispute the legality of the environmental impact assessment (EIA) process commencing in 2022, which has led to the granting of the EA which is the subject of this appeal (the second EIA process).
 - 3.1.3 Karpowership (KPS/ the Applicant) is being allowed to 'fix' its errors even where there have been violations of due process which cannot be remedied after the fact placing a burden on the public, NGOs and marginalised communities, such as the small-scale fishing communities of the West Coast, who have to continually make submissions on the same project. This, they contend, sets a dangerous precedent despite there being a legal framework of what is required when applying for an EA which undermines the purpose of public participation and meaningful engagement and relegates it to a checkbox exercise.
 - 3.1.4 For the sake of brevity, the First Appellants averments relating to the factual background to this appeal are not repeated herein as these are already encapsulated under the heading "Background and Appeal."
- 3.2 The First Appellants contend that the legal requirements applicable to EIAs and decisions to grant an EA are found in NEMA and the Environmental Impact Assessment Regulations, 2014 (2014 EIA Regulations).
- 3.3 NEMA sets out the general objective of integrated environmental management as being to inter alia: "(b) *identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2.*"
- 3.4 NEMA and the 2014 EIA Regulations stipulate the following specific requirements for EIAs:

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- 3.4.1 The 2014 EIA Regulations require that *"An environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include: "... (h) a full description of the process followed to reach the proposed development footprint within the approved site, as contemplated in the accepted scoping report, including ... — (v) the impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts ..."; and "(j) an assessment of each identified potentially significant impact and risk, including ... cumulative impacts [and] ... (ii) the nature, significance and consequences of the impact and risk"*
- 3.4.2 Section 2 of Appendix 3 to the EIA Regulations states that the objective of the EIA process is to *"describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report"*.
- 3.4.3 Under NEMA, an environmental impact assessment must also include an *"investigation of mitigation measures to keep adverse consequences or impacts to a minimum."*
- 3.4.4 NEMA and the 2014 EIA Regulations also require consideration of cumulative impacts of activities. "Cumulative impacts", under the 2014 EIA Regulations, means *"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"* (emphasis added).
- 3.4.5 Section 24(4)(b)(i) of NEMA states that an EIA must include an *"investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity [also known as the no-go option]"*.
- 3.5 The First Appellants refer to Chapter 6 of the 2014 EIA Regulations, which stipulates the processes and requirements for public participation, including the requirements for giving notice to interested and affected parties (I&APs), including *"reasonable alternative methods"*, in instances where a person is unable to participate in the process due to illiteracy, disability or any other disadvantage and that *participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered interested and affected parties are provided with a reasonable opportunity to comment on the application or proposed application"*.

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- 3.6 NEMA and the 2014 EIA Regulations oblige decision-makers, in considering EIAs and granting EAs, to take into account *"all relevant factors"* in considering an application for environmental authorisation, which may include *"any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused"*.
- 3.7 Section 24O of NEMA also requires that the competent authority consider *"where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment"*.
- 3.8 Section 2 of NEMA contains principles that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. Section 2 NEMA requires, for example that *"a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge."*
- 3.9 Under PAJA, a court may judicially review the granting of an EA if the action was taken because *"relevant considerations were not considered"*, the action was taken arbitrarily and capriciously, the action is not rationally connected to the information before the administrator, or the action is otherwise unconstitutional or unlawful, among other provisions.
- 3.10 Lastly, all decisions and actions must be guided by the Constitution of the Republic of South Africa, 1996 ("the Constitution"). Section 24 of the Constitution provides essential context for their appeal. It provides that:
"Everyone has the right –
(a) to an environment that is not harmful to their health or well-being; and
(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –
(i) prevent pollution and ecological degradation;
(ii) promote conservation; and
(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

APPLICANT'S GENERAL COMMENT

- 3.11 The Applicant remarks generally that, it perceives the appeals to be a further attempt by the Appellants to delay and derail the Project as they allege that the Project was subjected to an EIA assessment, to

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assess and avoid or mitigate detrimental impacts on the environment, to optimise positive environmental impacts, and for matters pertaining thereto.

- 3.12 It will address the First, Second, Third and Ninth Ground of Appeal with reference to Specialist input. They have, and intend to show again, that the Eighth, Tenth, Eleventh and Twelfth Grounds have no merit as all applicable legislation and regulations were complied with.
- 3.13 The Appellants failed to consider, in their Fourth, Fifth and Sixth Grounds of Appeal that need, desirability and socio-economic impacts go further than what has been considered by them. The estimated cost of loadshedding is R 900 million per day to the South African economy according to central bank estimates. Eskom's latest energy availability factor (EAF) shows the power utility's performance is rapidly declining, and analysts revealed that Eskom's EAF for the first 19 weeks of the year declined from 58.79% in 2022 to 52.56% in 2023 and is falling. The socio-economic impacts of loadshedding can be noted across South Africa, with KPS attempting to offer a reliable and more cost-efficient energy source to a country crippled by the current energy crisis. The Appellants' consistent effort to derail this Project amounts to vexatious and frivolous litigation. Furthermore, KPS sets out that the alternatives proposed by the Appellants are not the ideal alternative solution to South Africa's energy crisis.

4 GROUND OF APPEAL

FIRST GROUND OF APPEAL: INADEQUATE CONSIDERATION OF IMPACTS ON THE MARINE ENVIRONMENT

FIRST APPELLANTS' SUBMISSIONS ON THE FIRST GROUND OF APPEAL

- 4.1. The First Appellants, under various sub-headings, submit that:
- 4.1.1 The Final Environmental Impacts Report (FEIR) has fundamental flaws that resulted in the underestimation or exclusion of many of the project's significant impacts on the marine environment.
- 4.1.2 The FEIR did not adequately assess how the project would result in harmful effects on local ecosystems through increased underwater noise, cooling water intake and discharges, and destruction of benthic habitats. The measures proposed in the FEIR and EMP are insufficient to mitigate the project's significant impacts, therefore, the CA issued an EA, relying on an unlawful FEIR without considering all relevant

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impacts and will result in significant, unacceptable harm to the marine environment, and therefore was unreasonable, arbitrary and capricious in light of available evidence.

The Powership project will result in irreversible harm to the Saldanha Bay Marine Environment

- 4.1.3 Saldanha Bay is a unique and ecologically important marine ecosystem. The Bay and interconnected Langebaan Lagoon estuary make up *"the largest body of wave sheltered water on the South African coast,"* and host *"ecologically important intertidal mud and sand flats used for foraging by seabirds and [as] an important nursery area for many marine fish and invertebrate species."*
- 4.1.4 The Bay is located within the west coast Benguela upwelling ecosystem, which is *"one of the most productive marine ecosystems in the world."* Because of its unique ecology, the Bay supports a variety of ecosystem services, including productive commercial and recreational fisheries, ecotourism, and mariculture operations. In recognition of its ecological importance, it was incorporated into the West Coast National Park Marine Protected Area (MPA) Network, and the Langebaan Lagoon has been declared an internationally recognised RAMSAR site.
- 4.1.5 Saldanha Bay is also one of South Africa's most vulnerable marine ecosystems. According to the 2018 National Biodiversity Assessment, the *"highest cumulative pressure [on a marine ecosystem in South Africa] occurs in Saldanha Bay."* For this reason, *"all [future] developments within the area ... have the potential to negatively impact ecosystem health."* The Bay may be rapidly approaching a threshold at which it is uninhabitable for many species. The FEIR's Marine Ecology Report states:
"Given the major developments described, the marine space in Saldanha Bay is already limited in terms of space. The addition to the proposed Powership development further reduces the space available to marine organisms that use the environment of Saldanha Bay. Considering this it is reasonable to assume that a threshold will exist where an exceedance of which (in terms of disturbance space) will have substantial negative effects on the marine environment as a whole. Marine organisms will be displaced to elsewhere in the Bay until a lack of available habitat causes significant spatial changes to their distribution i.e., vacation of the Bay entirely."
- 4.1.6 The Bay and Langebaan Lagoon together are roughly 57 km². According to the FEIR, the Powership will reduce available marine space within the Bay by 4.55 km², or roughly 10%. Indirect impacts could reduce habitat even further. Given the already degraded state of the Bay, the proposed project will substantially reduce the area of suitable habitat available to species.
- 4.1.7 The further degradation of Saldanha Bay's marine environment will result in irreparable harm to marine organisms, particularly populations of vulnerable species which depend on the Bay and whose populations have declined to such an extent that they are now internationally protected. [Even small

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reductions in the populations of these species will inhibit their future recovery and increase the risk that they are permanently lost to extinction.]

- 4.1.8 Impacts to seabird species are of particular concern. According to the Marine Ecology Report, the islands of Saldanha Bay support important breeding colonies for the Endangered Bank cormorants, Cape cormorants, Cape gannets, and African penguins. Populations of all these seabird species have declined due to increased human disturbance and reductions in the availability of their principal prey species. For example, the African penguin population has declined and there were only 190 breeding pairs left in Saldanha Bay in 2021. The Marcus Island MPA, located approximately 5 km from the proposed Floating Storage Regasification Unit (FSRU) location, hosts a breeding population of African penguins that utilise the environment near the Powership and FSRU for foraging. Once penguins start breeding at an island, they will not breed anywhere else. Therefore, the penguins of Marcus Island will not be able to escape the Powership's impacts on the local ecosystem.
- 4.1.9 Further impacts on the Bay could also trigger the collapse of local fisheries. There is a long history of fishing in Saldanha Bay, and local fisheries contribute significantly to tourism and the regional economy. The white stumpnose is one of the "*most important species in the fisheries in Saldanha*," and is frequently targeted by both recreational and commercial fishers. However, fish diversity in Saldanha's Big Bay has declined significantly in recent years and "*is considered to be in poor condition*" due in part to a decrease in quality habitat for juvenile fish in the area. The health of the white stumpnose population is precarious after it collapsed in 2019.
- 4.1.10 Any proposed future development in Saldanha Bay should avoid pushing an already overburdened ecosystem to breaking point. The CA approved the project despite major gaps in the FEIR and despite evidence that the Powership will significantly harm the marine environment, including ecosystems and species that are under severe stress from existing pressures. Therefore, the CA's decision was unreasonable and in conflict with the general objectives of NEMA and ICMA.

Failure to fully evaluate the impacts of underwater noise on the marine ecosystem

- 4.1.11 Because of flaws in its approach, the FEIR relied on by the CA does not adequately identify and assess the risks to marine species and ecosystems due to project noise. Specifically, the FEIR fails to evaluate the chronic impacts of project noise, relies on a flawed assessment of baseline noise, and proposes insufficient mitigation measures. The CA's decision to issue an EA based on this inadequate record violates PAJA because it was taken without considering all relevant impacts, it was in contravention of NEMA and its implementing regulations, including the principle of precaution, and it was arbitrary and capricious.

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Failure to Consider Motion and Substrate Vibration

- 4.1.12 The FEIR, relying on Popper et al. (2014) concludes that *"no significant impacts on fish or marine mammals are predicted as a result of the operation of the Powership in the Port of Saldanha."* However, Dr. Popper states *"it is impossible to reach this conclusion based on the data that was considered, which did not factor in potential risks from particle motion and substrate vibration."*

Popper explains, in a report attached as Annexure A, that the FEIR analyses focused on sound pressure, and yet *"many (and perhaps most species [of fish]) do not detect sound pressure,"* so assumptions can no longer be made upon them. However, *"it is now well understood that particle motion is a major issue for fishes."* In addition, Popper points out that substrate vibration, which was also not considered, *"is an issue of major importance."* Popper states that the science has evolved and that *"we need to incorporate [these learnings] into our thinking and into the actions we take, even if detailed knowledge is unavailable."*

Misleading analysis of underwater noise impacts on fish behaviour

- 4.1.13 The Marine Ecology Report (MER) relies on Popper in Table 4-12 to demonstrate the behavioural impacts of underwater noise on fishes at differing distances from the source sound, specifically in the near-field (tens of metres), intermediate-field (hundreds of metres), or far-field (thousands of metres). Popper himself explains in his expert report (Popper Expert Report 2023), Annexure A, that Table 4-12 is "highly misleading" in that it misquotes Popper et al. and erroneously utilises the distances in its analysis. According to Popper, the distances in the paper were meant as the "basis for discussion" and are not absolute. In fact, they are "highly variable" and would fluctuate depending on factors such as species, age of animals, habitat use, etc.
- 4.1.14 Popper explains that the tentative distances to understand fish behaviour in relation to noise used in the Popper et al. (2014) *"were based on sound pressure and not particle motion,"* most recent science makes clear that particle motion is a more relevant analysis as *"most all recent studies of fish hearing make clear that all fishes detect particle motion, and far fewer can also detect sound pressure."* Given these factors, Popper concludes that *"the legend in table 4-12 of Appendix B4 is misleading."*

Failure to consider chronic noise impacts

- 4.1.15 The MER and FEIR recognise that *"[e]xposure to noise for a long period of time, such as is expected of the Powership operations, may cause chronic effects [to marine wildlife], including developmental deficiencies and physiological stress."* These chronic impacts can result in individual and population-level consequences, by impacting important life functions such as *"health and fitness, foraging efficiency, avoidance of predation, swimming energetics, and reproductive behaviour."* Despite this, the FEIR fails to address the effects of chronic underwater noise created by the powership by (1) not analysing chronic

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noise impacts, (2) restricting its analysis on marine species to hearing loss, and (3) wrongfully dismissing the significance of chronic impacts based on the presence of noise from other vessels.

- 4.1.16 The FEIR bases its conclusion that “[a]ny risk to marine mammals or fish will be negligible” on the Underwater Noise Assessment’s findings that calculated noise levels will not reach thresholds for “temporary threshold shift” (TTS). TTS is where a “temporary reduction in hearing sensitivity may occur.” Dr. Michelle Fournet explains in her report commenting on the DEIR, attached as Annexure B, by relying on TTS, the FEIR (which has not changed its analysis from the DEIR) utilizes guidelines intended to examine effects related to discrete exposure to noise and not to chronic noise exposure. Additionally, Popper, and Heidi Weiskel in their reports commenting on the DEIR, (Annexure C) also dismiss the FEIR’s reliance on TTS as “totally irrelevant,” while maintaining that there remain “very substantial issues with regard to anthropogenic sound” concerning the “overall increase in sound levels in the area” or, in other words, chronic noise.
- 4.1.17 Popper, in his 2023 expert report, responded to the FEIR’s argument that “there are few data on potential impacts of chronic noise on fishes, and probably none on invertebrates.” The science on directly examining chronic noise impacts to fishes is limited, but it exists and demonstrates low level sounds can affect systems involved in many life functions. In the face of scientific uncertainty, the FEIR should have employed the precautionary principle to address impacts. Popper found that chronic noise *issue affects humans and other terrestrial vertebrates* and opined that since fish are vertebrates with many of the same hormones and ear systems as terrestrial animals, therefore “it is reasonable to extrapolate from terrestrial data to suggest that low-level chronic noise could have an impact.” The FEIR fails to look at the chronic underwater noise impacts from the powership’s operations for 16.5 hours a day, 7-days a week, for 20 years.
- 4.1.18 The MER acknowledged that noise levels lower than a TTS threshold can still cause many other ecologically significant harms and concluded that noise impacts on marine ecosystems would be of at least Medium-High significance (before mitigation). The medium-high rating underestimates impacts, it is unclear why these harms are considered “significant” and given a scoring of Medium-High and Medium with mitigation within the MER but are dismissed as “negligible” by the FEIR. This arbitrary approach to rating impact is another major deficiency in the FEIR which the CA considered in making the decision to grant the EA.
- 4.1.19 In limiting its analysis to TTS, which encompasses the direct impact of a discrete noise on marine species’ abilities to hear, the FEIR does not take into account the chronic noise effects on marine species. TTS examines hearing loss. However, as Dr. Fournet points out, the FEIR failed to examine the full suite of behavioural effects that can occur beyond hearing loss and masking. Drs Popper and Weiskel reiterate this gap, stating:

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"But what is highly relevant is that there are increases in the overall increase in sound levels in the area. Such increases are much more likely to result in far more important behavioural and physiological effects such as (but not limited to): animals moving from the local area and leaving breeding or feeding sites; masking of sounds of biological relevance to species such as those used to communicate between animals or the sounds of potential predators; and increased stress leading to physiological changes such as in hormonal levels, and numerous other issues. It is also critical to note that without knowing particle motion information and how well fishes and invertebrates make use of particle motion (for which we have minimal data), it is hard to predict what potential effects might be."

- 4.1.20 In its discussion of underwater noise, the FEIR and MER state that some fish and marine mammals are mobile and would swim away from the sound source. Although not all marine species would be capable of doing so, the very act of swimming away is a behavioural change. The MER and the FEIR fail to analyse the impact of this behavioural change of marine species now excluded from habitat in Saldanha Bay for twenty years.
- 4.1.21 The MER concludes that *"there is no expected impact from the noise produced by the proposed Port of Saldanha Powership on marine mammals."* Yet, both Southern Right whales and Humpback whales have been observed in Saldanha Bay utilizing the Bay to support critical biological functions. Southern Right whales use the Bay to feed in the spring and the summer and have even been observed south of the iron ore jetty where the Powership will be moored. Humpback whales have also been observed in the Small bay and Big Bay, including a supergroup of approximately 200 individuals feeding in the mouth of the Bay. The FEIR expects marine mammals to swim away due to the noise, yet it does not analyse that same impact of precluding Southern Right whales and Humpback whales, from their feeding habitat for 20 years on individuals and populations. Similar questions can be raised for the other cetaceans found to be present in the Bay, including Dusky dolphins, the near threatened Heaviside's dolphin, and Killer whales.
- 4.1.22 Another issue the FEIR glosses over is that of fish displacement related to underwater noise. For example, the white stumpnose *"is the most important angling species in the Bay"* for both commercial and recreational fishers and is on a *"declining trend."* Although it is established that white stumpnose use the Bay as a breeding ground and nursery, the FEIR recognises that there exists scientific uncertainty relating to the white stumpnose population and placement within the Bay (gaps in research), which warrants use of the precautionary principle. The FEIR recognises that *"[t]here remains a concern regarding displacement of fish populations"* as a *"result of impacts arising from Powership operations"* and that given the current population and low levels of white stumpnose recruitment within Saldanha Bay, efforts should be made to reduce impacts on juvenile white stumpnose.
- 4.1.23 Lastly, the FEIR downplays the significance of chronic noise impacts because *"the noise levels produced by the ships associated with this project are also not substantially different to the noise levels produced*

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by ships typically using the harbour” and would not create significant disturbance unless a marine mammal was directly adjacent to the ship. The FEIR erroneously equates the chronic, and near-constant noise impacts of the proposed Powerships with those of intermittent vessel traffic. Project operations will generate noise up to 16.5 hours per day for 20 years. In contrast, during the underwater noise assessment taking place over a 48-hour period, only two bulk carry vessels and their associated tugs used the port. Chronic noise presents unique ecological harms different than intermittent noise sources. It is irrational and arbitrary for the FEIR to equate constant noise for 16.5 hours a day with the noise from two transient vessels over a 48-hour period. Noise from intermittent vessel traffic or other intermittent noises from the port will not hide or eliminate the negative consequences of chronic noise from the proposed project, as the FEIR seems to imply.

- 4.1.24 Because of the FEIR's failure to consider the chronic impacts of increased ambient noise in its conclusions, the record relied on by the CA significantly underestimated the magnitude and scope of likely impacts to the marine environment. Any decision based on this deficient analysis violates NEMA and PAJA.

Failure to consider noise impacts on diving birds

- 4.1.25 The FEIR concludes that underwater noise from the Powership will not result in “irreplaceable loss of marine fauna”. A study by Pichegru et al. (2022) referenced in the MER found that an increase in ambient noise from shipping in Algoa Bay, resulted in an 85% decline in the numbers of a nearby African penguin colony. The Powership will result in an even greater increase in ambient noise than the noise from shipping analysed in Pichegru's study, since it will emit noise continuously for 16.5 hours per day. The African penguin population has declined in recent years and is currently at less than 1% of historical levels. Any further decrease in local penguin populations could jeopardize the species' recovery, resulting in irreversible impacts.

Reliance on flawed baseline noise assessment

- 4.1.26 In addition to the flaws concerning the failure to consider potential chronic noise impacts of the KPS, the baseline noise assessment has significant flaws, leading to an underestimation of the harms discussed above.
- 4.1.27 Specifically, the FEIR relies on a study of underwater noise levels conducted by Subacoustech Environmental Ltd, in which 10-second spot recordings were made at multiple locations throughout the Bay and a 48-hour continuous recording was made at one location, all in November 2021. This baseline study formed the foundation for the FEIR's Underwater Acoustics and Marine Ecology impact

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assessments, and underpinned the FEIR's conclusions that project noise would have "negligible" or insignificant impacts on baseline noise levels.

- 4.1.28 Taking 10 second and static measurements over 48 hours is inadequate to give a complete picture of the baseline. As emphasized by bio acoustician Dr. Michelle Fournet, the baseline noise assessment was too short in duration to capture the effects of the project's continuous and chronic noise over its twenty-year life. Among other things, the assessment's sampling methods failed to capture soundscape variation across seasons, which is critical for understanding the impacts of the projects to marine organisms that use the Bay during different times of the year.
- 4.1.29 The specialists who conducted the baseline assessment asserted that its findings should not be used to draw long-term conclusions about noise in the Bay. Repeatedly, the Baseline Noise Report emphasized that the study was an "initial survey" *"before undertaking a comprehensive long-term baseline survey at the site."* Its findings were explicitly *"not intended to represent a long-term or seasonal underwater noise baseline."* Yet, no long-term sound monitoring was undertaken, and the results of this short-term initial survey were used to assess noise impacts over the entire 20-year lifespan of the project.
- 4.1.30 Various clarification notes in the FEIR assert that despite the short duration of data collected, the assessment's findings are sufficient *"to represent a worst-case for any subsequent impact assessment."*
- 4.1.31 It is unreasonable for the FEIR to conclude that its findings are representative of ambient noise levels throughout the year without any basis for comparison. No data is provided to show how often the weather would be "clement" and how the use of the port will remain "reasonably consistent" throughout the year.
- 4.1.32 The FEIR's attempts to downplay its methodological failure flies in the face of good practice in underwater acoustic assessment. The National Physical Laboratory, the national measurement standards laboratory of the United Kingdom that sets and maintains physical standards for British industry, has made several recommendations regarding the length of underwater acoustics measurements. Some relevant excerpts include:

"An important fact to appreciate is that ambient noise levels can show significant variation over time. ... This variation can be in the short-term of minutes and hours, or a medium-term such as a diurnal variation (day to night), variation with tidal flows, or a longer-term seasonal variation."

"Where the objective is to determine the change to the overall background noise caused by the presence of a specific activity... a medium-term deployment of perhaps a few weeks is more appropriate. ... Here, it is important to sample the range of conditions that give rise to the statistical variation in noise levels. As a minimum There should ideally be enough time to cover variation in local shipping traffic."

"Where the objective of the measurements is to comprehensively characterize the ambient noise in specific locations or in specific regions, long-term measurements are required."

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"A relatively short-term measure of the ambient noise should not be used as representative of the ambient noise at that location for any time other than the period of time during which the measurements were undertaken".

- 4.1.33 The underwater baseline assessment is also flawed because, as Fournet notes, "the studies provided insufficient detail on the context of current sound in the project locations to understand the ecologically relevant impacts of adding the ships into those soundscapes."
- 4.1.34 These critical gaps in information did not stop the FEIR finding that *"As the noise levels produced by the ships associated with this project are also not substantially different to the noise levels produced by ships typically using the harbour, no significant disturbance effect outside of the normal operational port is anticipated, except if potentially directly adjacent to the ships."* It is not appropriate to assume without data, as the FEIR has, that vessel and other anthropogenic noise in the harbour would be constant for 16.5 hours a day during the operations over 20 years. Fournet concludes: *"The addition of 16.5 hours a day of noise in these regions may result in continuous chronic noise in the project regions. This consideration – that an additional 16.5 hours may be a dramatic increase in the temporal noise budget resulting in continuous anthropogenic noise – was not included in the studies or the DEIR."*
- 4.1.35 Fournet explains that the baseline for underwater noise should be noise without other ships (the natural baseline) because the powerships will be operating even when other vessels are not. Figure 4.2. in the Baseline Underwater Noise Assessment shows clearly that there is as much as a 40 dB difference in ambient sound levels between periods when there are no vessels present (the natural baseline), and predicted values that were used to calculate the baseline. Dr. Fournet explains that a *"40 dB increase in noise is translated as being 10,000 times louder,"* and opines that *"Without a doubt, the powerships causing the environment to be 10,000 times louder will have significant negative impacts on the marine environment."*
- 4.1.36 As a result of relying on a flawed baseline noise assessment, the FEIR relied on by the CA underestimates the acoustic impacts of the proposed project. Therefore, the CA failed to consider all the significant impacts of the proposed project in issuing an EA.

Impacts of cooling water intake

- 4.1.37 The FEIR underestimates the impacts of cooling water intake on marine wildlife by ignoring the highly significant ecosystem-level consequences of intake operations.
- 4.1.38 The project involves the intake of enormous amounts of seawater from Saldanha Bay to cool the Powership's Steam Turbine Generator. The FEIR estimates that the ship will continuously intake seawater at a rate of 6.61 m³/s, or 6,610 litres per second. This means that roughly 400 million litres of seawater will be circulated through the Powership *per day*. As acknowledged by the FEIR, seawater abstraction

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harms local marine life in a variety of ways. Nearby organisms, including juvenile fish, sharks, and cetaceans, can be caught in the current created by the Powership's intake and trapped against the screens used to prevent debris from entering the pipes. Organisms that are small enough to pass through the debris screens (such as juvenile fish and plankton) will enter the pumps and be exposed to changes in pressure, biofouling agents, mechanical buffeting, and rapid changes in temperature. Studies have found that only a small fraction of entrained organisms survive.

- 4.1.39 The powership is located in an area where the entrainment and impingement of wildlife is very likely. Saldanha Bay is a *"highly productive system"* which provides *"important nursery habitat for many species ... that are essential to ecosystem functioning and integrity."* The Marine Ecology Report notes that there will be *"potentially harmful impacts to marine ecology due to the volume and speed of intake."* In fact, the Marine Ecology Report concludes that *"[p]redicted impacts are rated as High significance before mitigation and remain High following mitigation."*
- 4.1.40 However, the FEIR subsequently reduces these impact ratings to "Medium" and "Medium-Low" significance. This downgrading of significance is justified by unsupported statements that impacts will *"be temporary as plankton biomass recovers quickly," "will be reversed once the project infrastructure is removed,"* and would not result in *"irreplaceable loss of marine fauna and flora."* These conclusions are based on a flawed analysis and fail to consider the permanent, ecosystem-level consequences that will likely result from the project's impingement and entrainment of marine wildlife.
- 4.1.41 The FEIR likely underestimates the impacts of seawater abstraction by adopting an inaccurate intake flow velocity of 0.06 m/s⁻¹. As detailed in the expert report by Mr. Tonin, an environmental consultant and former oyster farmer in Saldanha Bay, attached as Annexure D.
- 4.1.42 It is wrong for the FEIR to assume that impacts from reduced plankton biomass will only be "temporary." Changes in plankton abundance can have cascading effects throughout the food web, impacting fish populations that depend on plankton as a food source. While plankton have a relatively quick generation time, this is not enough to compensate for the number of plankton killed through the entrainment of 400 million litres on a daily basis, even if mortality is not 100%. The Powership will kill plankton far faster than they can regenerate.
- 4.1.43 The FEIR's marine ecology report discounts the consequences of plankton mortality.
- 4.1.44 The FEIR also fails to explain how "deleterious effects" from the entrainment and impingement of fish, sharks, and other organisms will result in *"little impact on natural processes."* These effects are concerning, since any fish or fish eggs that are entrained or impinged by the powership will reduce recruitment, with multigenerational impacts on local fish stocks, as described by Mr. Tonin.
- 4.1.45 Entrainment and impingement of juvenile fish and/or fish eggs is very likely, since *"Saldanha Bay and especially the nearshore shallow waters, is an essential nursery habitat for the juveniles of many fish*

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species." For example, the impacts on the local population of the commercially important white stumpnose are at best uncertain, and at worst, catastrophic. As the Marine Ecology Report acknowledges, "[g]iven the current population and low levels of white stumpnose recruitment within Saldanha Bay, efforts should be made to reduce impacts on juvenile white stumpnose. The extent to which juvenile white stumpnose inhabit the area of the proposed Powership needs to be established." South African law requires that these uncertain and potentially highly significant impacts are assessed *prior* to authorizing a project, and not after it is too late.

- 4.1.46 In conclusion, the CA issued an EA in reliance on an unlawful FEIR and without considering the significant, permanent ecosystem impacts that will likely result from the proposed project's continuous intake of seawater. The Minister should reverse the decision to issue an EA for the proposed project.

Impacts of Thermal Pollution

- 4.1.47 The FEIR also underestimates the significant ecosystem-level consequences of the thermal pollution created by powership operations.
- 4.1.48 Powership operations will *"involve the continuous discharge of [hot] cooling water into the sea"* at a rate of 6.61 m³/s, or 23,796,000 litres per hour. As noted by the Marine Ecology Report, this *"discharge of warmed cooling water to the surrounding water body causes temperature changes which generate chronic level effects on biota[, including] alterations in growth, metabolism, respiration patterns and reproduction, and/or influence ecosystem-level processes such as alterations of the amount of oxygen dissolved in seawater, which can be detrimental to marine life."* The discharge of hot water into marine environments can be so harmful to marine wildlife that South Africa has enacted strict regulations for thermal discharges in sensitive marine environments, such as Saldanha. However, the FEIR fails to disclose the likely toxic nature of these discharges, adopts an outdated threshold for marine impacts from these discharges, admits that this under-protective threshold will be *exceeded*, and concludes that the project will nevertheless result in *"[n]o irreplaceable loss of marine fauna or flora"* because somehow *"natural functions should remain unaltered."* This assessment of thermal impacts is fundamentally flawed.
- 4.1.49 First, the FEIR does not disclose the potentially toxic impacts from the processes that it will use to prevent biofouling of its intake pipes. Any operation that involves the intake of seawater must deal with biofouling, or the clogging of pipes from the attachment and growth of marine organisms such as algae, barnacles, and bivalves. Current practices for preventing biofouling involve the use of toxic compounds that can have a cumulatively significant impact on local fisheries and mariculture operations. The FEIR does not contain any assessment of the potential impacts from its anti-biofouling methods. As detailed by Mr. Tonin: *"Biofouling rates in Saldanha Bay are extremely high and biofouling is not limited to a particular season or time of the year. The insides of fixed seawater pipes are extremely difficult to clean, and the restriction*

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of water flow and loss of cooling capacity due to growth of such organisms in the pipes can be catastrophic to the vessel. ... [The proposed Powership's] seawater systems are kept free of fouling using both ultrasound and impressed current systems ... [t]he discharge water from such cooling systems is contaminated to some degree with copper. ... the failure of the EIA process to identify and analyse this risk constitutes a fundamental flaw in the study."

- 4.1.50 Thermal discharges may also include harmful levels of overly salty water, or "brine." As explained by Mr. Tonin:

"The MER states (p4) that 'Total brine discharge is less than 1% of total sea water outlet hence brine outlet is neglected and assumed Zero.' This assumption is based on information supplied by the client as presented in the WBA. However, the WBA presents system information showing the presence of seven freshwater generators which collectively receive $840\text{m}^3\text{h}^{-1}$, yet only produce $14,6\text{m}^3\text{h}^{-1}$. This would indicate either that the freshwater generators are extremely inefficient, or that the data presented are incorrect. The latter possibility is supported by information available on Karadeniz Holdings' own websites and brochures, which claim that their powership can generate up to 10,000 cubic metres of fresh water per day, or $416.7\text{m}^3\text{h}^{-1}$. This volume of freshwater generation would generate a brine volume which may pose significant environmental risks which are not considered in the MER.

The inconsistencies and improbabilities of information on fresh water and brine generation in the WBA have either not been detected or have been disregarded by the authors of the MER and FEIR."

- 4.1.51 The FEIR's analysis of thermal impacts is based on an outdated threshold for marine discharges issued by the Department of Water Affairs ("DWA") and Department of Environmental Affairs ("DEA"). According to this threshold, temperature deviations from ambient conditions due to discharges may not exceed 1°C beyond the "initial mixing zone," which the FEIR describes as 100 m from the Powership. The FEIR's Marine Ecology Report notes that it was aware of guidelines published by the DEA in 2018, and even more recent guidelines were published in 2022. However, the FEIR ignored these latest guidelines because they "have not been formally gazetted," and instead relied on water quality guidelines set by the DWA in 1995. According to DFFE, the 1995 Water Quality Guidelines adopted by the FEIR are outdated, not in line with best practice, and not sufficiently protective of the marine environment. Specifically, the 2022 Guidelines state that the 1995 Guidelines' *"[s]pecifications for temperature [are] not in line with current international practice inasmuch as these are expressed as fixed ranges ... [and] a range above or below average ambient condition is likely to be meaningless."*

- 4.1.52 The 1995 Guidelines are inadequate for assessing the likely marine impacts of powership operations. The FEIR should have adopted *"the site-specific" approach as DFFE recommends, in which "guideline values must be derived from a reference system (data set) that is appropriate to the discharge locality and should be determined as the range defined by the 20th and 80th %iles of the seasonal distribution ... for the*

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reference system." It was unreasonable for the CA to authorize a project which fails to abide by the Ministry's own recommended water quality guidelines.

- 4.1.53 Incredibly, the project will exceed even the outdated and under-protective 1995 water quality threshold. The FEIR's thermal report found that "the thermal plume exceeds the recommended guideline by 0.1°C." Though this finding was relied on by the Marine Ecology Report, the thermal report's modelling results suggest even greater impacts that conflict with the FEIR's conclusions. In particular, Figures 5-1 and 5-2 show water temperatures increasing by at least 1°C as far as 300 m away from the Powership. Because the Marine Ecology Report assumed that temperatures would not increase significantly outside of the 100 m mixing zone, the true ecological impacts of the project's thermal discharges were never analysed.
- 4.1.54 The Marine Ecology Report dismisses the significance of the project's thermal impacts by arguing that temperature shifts will not exceed biological thresholds, benthic organisms will not be impacted, impacts will only last the duration of the project, and no ecologically sensitive habitats are within the impact area. As explained, each of these claims is unfounded.
- 4.1.55 The FEIR relies on studies from the 1960s and 1990s. These studies present the "*upper limit[s] of thermal tolerance*" and "*lethal temperatures*" for species, and do not account for sublethal harms. These studies are also based on species found in completely different ecosystems: Heinle (1969) studied copepods in the U.S. Chesapeake Bay, and Bamber (1990) and the British Energy Estuarine and Marine Studies (BEEMS) framework focused on species found in British waters. Given the unique and ecologically important species found in Saldanha Bay, the Marine Ecology Report should have assessed thermal impacts on *local* wildlife based on the best available science before concluding that no impacts are anticipated.
- 4.1.56 Regarding the claim that benthic ecosystems will not be harmed, the FEIR concludes that benthic organisms will not be impacted because the thermal plume will "float" to the surface. However, the Powership will be located in waters only 8-10 m deep, and water will be discharged at a depth of 8 meters. Mr. Tonin explains that after factoring in the width of the discharge pipes and available depth data, thermal discharges will likely occur at the seafloor and may even require significant dredging to accommodate the vessel's height.
- 4.1.57 Warm water will be discharged from the vessel either at or directly above the floor of the Bay, where impacts on benthic organisms are very likely. Numerous studies have found that thermal discharges from power plants can have significant impacts on benthic biodiversity, even where warm water is discharged meters above the seafloor. For instance, Jie Lin et al. (2018) found that thermal discharges that did not significantly increase temperatures at the bottom still "*significantly affected the phytoplankton and zooplankton communities*" in the water column, which "*induced community succession, resulting in decreased species diversity and increased dominance.*" Impacts to benthic biodiversity are likely

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significant and should have been analysed by the FEIR. In each of these studies, discharges would be expected to rapidly "float" to the surface as the FEIR describes, and yet benthic environments were still significantly impacted. Therefore, the FEIR should not have dismissed impacts to benthic diversity as none-existent.

- 4.1.58 Regarding the claim that impacts are only temporary, it is irrational for the FEIR to assume that the ecosystem will immediately recover after being inundated by daily thermal discharges for 20 years. However, the FEIR never considers how species distributions and abundances will change in response to thermal pollution, nor how these impacts will reverberate throughout the ecosystem. Without this broader analysis, the FEIR cannot conclude that impacts are only temporary.
- 4.1.59 Finally, the FEIR's claim that there are no ecologically sensitive habitats within the area of impact is unsupported because no baseline field surveys have been conducted for the project site. The Marine Ecology Report dismisses the need for a dedicated baseline assessment by claiming that *"the Saldanha Bay environment is well described, and dedicated field surveys to add to these data were considered unnecessary for this marine specialist study."* To the contrary, the Marine Ecology Report later notes that there is considerable uncertainty surrounding which benthic ecosystems are present at the project site, including that *"the extent of the calcrete reef in Big Bay and the benthic assemblages associated with it are not known as it is a largely unstudied habitat within Saldanha Bay,"* but that previous data from nearby locations suggests that reefs could extend to beneath the project location. The FEIR and CA cannot conclude that calcrete reef ecosystems will not be affected without first confirming that these reefs are not present in the area impacted by the project's thermal pollution.
- 4.1.60 The FEIR severely underestimates the likely marine impacts of thermal pollution from the powership's discharge of cooling water. The CA failed to consider all relevant impacts, relied on an unlawful record, and unreasonably authorized a project that will result in irreparable harm to the local marine ecosystem.

Failure to Abide by the Precautionary Principle

- 4.1.61 The CA failed to abide by the precautionary principle in issuing an EA despite considerable uncertainty surrounding the extent of sensitive calcrete reef ecosystems in the vicinity of the proposed project. This failure to exercise caution in the face of scientific uncertainty is especially problematic given the potential for highly destructive, permanent impacts on calcrete reef habitats.
- 4.1.62 South African courts have held that environmental decision-makers are bound by the precautionary principle, concluding that South African law requires *"a risk averse and cautious approach' to be applied by decision-makers ... taking into account the limitation on present knowledge about the consequences of an environmental decision."*

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- 4.1.63 The CA was aware of considerable scientific uncertainty surrounding the extent of ecologically important and highly sensitive calcrete reefs. The biodiversity found on these calcrete reef formations provides an important food source and valuable habitat for fin fish and diving birds. An "extensive" platform of calcrete rock exists throughout much of Big Bay, and *"may occur in the vicinity of the proposed FSRU and gas pipeline."*
- 4.1.64 The FEIR notes that no recent surveys have been conducted of the seafloor near the proposed project, and hence "the present-day extent of the calcrete reef in Big Bay and the benthic assemblages associated with it are not known as it is a largely unstudied habitat within Saldanha Bay." The FEIR acknowledges that further surveys are needed to confirm this data.
- 4.1.65 The CA was also aware that harmful impacts to calcrete reef habitats were likely. According to the Marine Ecology Report, "installation of the [powership's] pipeline will transform the seabed," and *"[c]onstruction impacts on the reef could impact the local fisheries, and so should be avoided. The FEIR concludes that lasting damage to the benthic community and irreplaceable loss of benthic fauna are unlikely only as long as 'calcrete reef habitats are avoided as far as possible.'"*
- 4.1.66 The Marine Ecology Report and FEIR both recommended (but did not mandate) that "high resolution bathymetry and side scan surveys should be conducted *before* the gas pipeline is installed to confirm that there are no important, potentially sensitive habitats along the pipeline route." Assessment of the benthic environment at the proposed project site should have been incorporated into the EIA process to inform its assessment of the project's impacts. However, the EA did not include any conditions requiring benthic surveys before harmful activities commence. While the EA includes a condition requiring that the *"benthic infauna ... in the area surrounding the Powership, FSRU and pipeline locations must be monitored for any signs of change that may be linked with direct, indirect or cumulative impacts associated with this project,"* this contemporaneous or post-hoc monitoring is useless without a baseline understanding of the environment to serve as a basis for comparison. The EMPr and EA do not require comprehensive mapping of these reefs prior to this construction, thereby leaving open the possibility that the pipeline would damage this unique habitat. In short, the CA has allowed the project to proceed with the substantial risk that sensitive habitats will be damaged.
- 4.1.67 The CA issued an EA for a project with risks that are both highly detrimental and uncertain. This decision is contrary to the precautionary principle and thus in conflict with the mandates of South African law.

Inadequate Mitigation Measures and Undervalued Significance of Impacts

- 4.1.68 Without meaningful analysis identifying the true impacts to the marine ecosystems, the FEIR cannot consider responsive and meaningful mitigation.

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- 4.1.69 Just as with the assessment of the pipeline and mooring impacts on littoral and benthic communities, the MER, and in turn the FEIR, repeatedly reduce the significance levels of the impacts they identify based upon mitigation measures. Yet there is no assurance that these mitigation measures would either 1) be practically realizable; or 2) truly reduce the significance of the impact if they were realized, particularly where they lack specificity or trigger levels. These uncertainties mean that the significance of the project's impacts to the marine environment are likely understated in both documents, and that the decisionmaker was relying on these inaccurate values in reaching their decision.
- 4.1.70 The significance of entrainment and impingement resulting from cooling water intake falls from Medium to Medium-Low in the MER based on the application of mitigation measures that have been entirely unexamined.
- 4.1.71 The primary discharge water mitigation measure, requiring discharge at 8m depth is, as noted in Mr. Tonin's report, likely a physical impossibility in the place where the boat would be moored. Even if it were possible to discharge water at this depth, the proximity of the discharge to the sea floor result in scouring that could amount to dredging and would have significant benthic effects that are entirely ignored in the MER and FEIR. Thus, this mitigation measure would either be impossible or would have terrible and unevaluated consequences, meaning that the reducing of the thermal plume's impact from medium-high to medium as a result of this measure is incorrect.
- 4.1.72 The mitigation measures proposed for the acoustics are inaccurately framed as though they would reduce the significance of the underwater acoustic impacts of the project from Medium-High to Medium. In reality, all of the measures proposed are already incorporated into the assumptions of the acoustic studies, as they are legal requirements of the project stipulated elsewhere. For example, the ships are not permitted to run more than 16.5 hours a day according to their PPA, nor produce more than 320 MW (contracted capacity) despite the ship having a 415 MW capacity. Thus, the following mitigation measures, "*The Powership shall not be operational for 24 hours a day,*" "*Maximum power output from the Powership should be avoided,*" and "*In the case that a marine mammal is in the near vicinity,...the Powership should not operate at maximum power output*" provide no benefits beyond what would have been the baseline impacts assessed in the acoustic studies. The further requirement for the LNGC to "not move at maximum speed" when "moving in and out of the port" is also hardly a helpful measure, as no specific speeds are provided, and no vessel should ever be moving at a maximum speed within a port for safety reasons alone. These along with a requirement to monitor – without any specific trigger levels or consequences for the monitoring – are the only mitigation measures proposed to reduce the impact of the underwater acoustics, and arbitrarily lead the significance of these acoustic impacts to fall to "Medium."
- 4.1.73 In addition, the FEIR miscalculates the impacts of underwater noise on marine ecology during operations. This results in the environmental harms both before and after mitigation to be underestimated. This

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underscores the fact that the operations of the vessels for 20 years in Saldanha Bay will have severe impacts on the marine ecosystem that have not been effectively addressed through the FEIR.

- 4.1.74 The FEIR applied an erroneous rating category in calculating impacts relating to duration. Not only was the duration misapplied for noise impacts, but it was also misapplied for every other impact in the FEIR except for the cumulative impacts section. In assessing the impacts of increased noise on the marine ecology, the FEIR rates the duration impact as a "3." The FEIR's own scoring indicates a "3" project should be one of a duration of "3 months to 1 year." This is not the case for the KPS project in Saldanha Bay which has a "20-year lifespan." Therefore, and by its own scoring system, these impacts should have a duration rating of 5, which is for activities "beyond 10 years/Permanent." This correction alone would shift the overall environmental significance rating from medium-high to high. Although this was the most egregious of the mistakes, this was not the only rating error in the FEIR.
- 4.1.75 The FEIR also incorrectly marked three other categories: 1) severity – marking it a 2 as opposed to a 3 indicating "significant/slightly harmful"; 2) spatial scale – marking it a 2 as opposed to a 3 which includes spaces "within business unit area or responsibility", i.e. the port; and 3) probability of impact – marking it a 2 as opposed to a 5 which would include "daily/highly likely/definitively" probability of the underwater noise having impacts on marine ecology. The collective result of these errors makes the overall significance high even with the mitigation the FEIR proposes.
- 4.1.76 The mitigation measures proposed are vague and not tied to protection of biological functions of the marine species they are meant to protect. For example, the FEIR "expects" that the Powership will operate for 16.5 hours a day in order "to reduce chronic exposure of noise to marine organisms." Such a mitigation measure incorporates an underlying assumption that biological functions will be restored during the 7 ½ hours that the Powership will not be operating to produce power. However, this "mitigation" bears no relation to the biological needs of the marine species that utilize Saldanha Bay, in timing of the day or seasons when such a reprieve might be beneficial, or in the length of time required for marine species to recover biological functions lost during the 16 ½ hours of operations.
- 4.1.77 Lastly, the FEIR relies on the fact that these impacts are reversible. As noted by Dr. Fournet, the FEIR makes the statement that the chronic noise impacts generated for 16.5 hours a day for 20 years are reversible with no research to support it. This concern on reversible effects is echoed by Dr. Popper who assesses this suggestion of irreversibility as making "no scientific sense whatsoever." Popper goes on to explain that any way you slice it, fish and invertebrates are impacted. They will either move out of the area of impact as a result of the sound pressure, particle motion, and/or substrate vibration, or they will remain in the area which could have a range of effects on the animals including increased stress and changes in fecundity.

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- 4.1.78 The mitigation measures proposed for reducing the impacts of the project on dynamic coastal processes are even more confused, as the specialist undertook the analysis of these impacts with the powership located in a completely different location than that currently proposed. The ship is supposed to be moored east of the iron ore jetty, as per all maps in the FEIR and MER (e.g., MER p. 8). Yet within the section describing dynamic coastal process impacts (Sec 4.5.1), the MER states, "With the proposed location of the Karpowership west of the ore jetty, within the existing inner Port of Saldanha, its proposed operation will not add to the existing and historic impact on sediment movement caused by the construction of the Port and its piers." The MER also states, "*The proposed location of the Karpowership west of the ore jetty within the existing and protected inner Port of Saldanha with its lack of wave action and currents, implies that any impact will be addressed as part of the Environmental Management / Climate Change mitigation planning undertaken by the Transnet Ports Authority, in respect to all shipping activities associated with the Port*". Thus, it seems that the impacts of the ship in its current location on dynamic coastal processes have gone entirely unexamined, and that mitigation measures proposed therefore are out of step with where plans currently state the ship will be moored.
- 4.1.79 The significance of the impact of the project on coastal pollution is stated as falling from "High" to "Low" simply as a result of "mitigation" measures that are really only accident reporting and very basic actions that are already legal requirements, e.g. training emergency response teams and requiring that "all solid waste must be removed to an appropriate disposal facility." These hardly seem the type of requirements that should reduce the significance of coastal pollution from "High" to "Low." This "Low" significance therefore understates the risk of pollution from the project, particularly considering that posed by LNG Carriers that often run on fuel oil being moored in the more unprotected part of the Bay, which is experiencing increasing swells per Mr. Tonin's report.
- 4.1.80 Moreover, the baseline monitoring requirements that will inform the impacts of the project and the mitigation measures and triggers for future monitoring should have been completed as part of the EIA process, rather than included as EMPR requirements. This study would have been a critical piece of understanding the impacts of the project, and the failure of the EIA process to include such a study is therefore a fatal flaw.

APPLICANT'S RESPONSES TO THE FIRST GROUND OF APPEAL

- 4.2 **In response to the submissions under the first ground of appeal, the Applicant avers as follows:**
- 4.2.1 Section 32 of the NEMA applies to "*any breach or threatened breach of any provision*" of the NEMA and is therefore not applicable in this instance.

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- 4.2.2 All activities were undertaken within the prescripts of NEMA and 2014 EIA Regulations. Karpowership (KPS) asserts that the Appellants' arguments regarding the alleged EIA expiry and time periods associated with the EIA process have already been considered by the DFFE in previous objections raised by the Appellants and have been found to be without merit. The allegations regarding the timeframes adhered to in the EIA have already been considered by the Honourable Minister in the appeal decision LSA 233259 dated 22 July 2023, were found to have no merit and were dismissed.
- 4.2.3 The Appeal Authority, in upholding the record of refusal, specifically referred the EA to the CA for it (KPS) to address the perceived shortcomings. The Appellants had an opportunity to provide their comments, which the CA considered when providing its approval.
- 4.2.4 The DFFE has applied its mind and taken all relevant factors into consideration in granting the EA.
- 4.2.5 It (KPS) has fully complied therewith I concur that the CA applied its mind in granting the EA.
- 4.2.6 This ground of appeal alleges that the FEIR and the Marine Impact Assessment did not adequately assess the impacts on the marine environment and fundamental flaws in its analysis that resulted in the underestimation or exclusion of many of the project's significant impacts on the marine environment, which allegations the applicant rejects.
- 4.2.7 The Marine Ecologists, Anchor Environmental, led by Dr. Barry Clark, has been working collectively with the Saldanha Bay Water Quality Forum Trust (SBWQFT), a voluntary organization representing various organs of State, local industry and other relevant stakeholders and interest groups to produce the annual "State Of The Saldanha Bay And Langebaan Lagoon Report" since 2008. Their knowledge and expertise as it pertains to the marine environment in Saldanha Bay is beyond question.
- 4.2.8 In addition, the SBWQFT supported work that KPS and the independent specialist have undertaken as part of the comprehensive EIA. The applicant submitted that the CA sufficiently scrutinised KPS's application and that its decision was reasonable and not in conflict with any applicable legislation and regulations.
- 4.2.9 There were no fundamental flaws in the specialist studies or the FEIR. The Appellants contention that the marine impacts of the project have been underestimated as information has been excluded is rejected.
- 4.2.10 With regard to the First Appellants' assertion that the FEIR did not adequately assess how the project will result in harmful effects on local ecosystems through increased underwater noise, cooling water intake and discharges, and destruction of benthic habitats and that the measures proposed in the FEIR and EMPr are insufficient to mitigate the project's significant impacts. The applicant submits that the MER and impact assessment was informed by the best available literature and specific project modelling reports at all times. The marine consultants have extensive experience working in Saldanha Bay, having undertaken monitoring of the marine ecology of the Bay, and its surrounds, for almost 20 years . The authors are therefore well informed regarding its sensitivity, ecological significance. Saldanha Bay is also a significant

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area for industry and exploitation and the introduction of KPS has been assessed with this in consideration.

- 4.2.11 The joint area of the Bay and Langebaan Lagoon appears to be disputed in the literature, with a wide range of areas being reported. For example, Monteiro and Largier (1999) report the Bay area (Small Bay and Big Bay, not the lagoon) as 56.5 km², Henrico (2021) reports the area as 85 km², Shannon and Stander (1977) report the area of the bay and the lagoon together as 135 km², and Parker et al (2017) report Saldanha Bay as 115 km² (unclear if this includes the lagoon). It is clear that the Bay and Lagoon together cover more than 57 km², meaning that the calculation of area in the report of a reduction in space of approximately 5% is more accurate, not 10%.
- 4.2.12 For sensitive receptors including fish, marine mammals, seabirds, benthic communities and other marine organisms found within Saldanha Bay, an exhaustive body of data and literature on life histories, distribution, population health and behaviour were reviewed and considered when undertaking the impact assessment. The authors are in agreement regarding the important role Saldanha Bay plays in the maintenance of many key marine species found in South Africa. The proposed KPS installation location is in a heavily developed and altered area of Saldanha Bay, a significant distance from the Langebaan Lagoon, offshore islands and other areas of known importance for marine ecology. The KPS project and perceived impacts to sensitive receptors during construction and operation was assessed with this in mind. Assessments were guided by in situ data collected from previous surveys in addition to modelling of associated impacts from KPS.
- 4.2.13 Where potential negative impact on the marine environment and sensitive receptors were identified, impacts were rated in line with an international accepted rating methodology. KPS acknowledge the current status of many marine species in Saldanha Bay, and indeed around South Africa, to be lower than historical levels and recovery of these species is required. However, the addition of Karpowership into the heavily developed Saldanha Bay, is not considered to be as detrimental as the Appellants suggest, considering the available data and current understanding.
- 4.2.14 Popper et al. (2014) refers to noise effects on fish. Chronic effects can only possibly affect a receptor if they are present for extended periods over the long term. As many marine mammals are transient, they cannot be subject to chronic noise exposure, thus any impacts will be relatively short-term although the noise will be present for extended periods, the receptors will not.
- 4.2.15 There is no question that chronic exposure has the potential to impact fish, which may well remain in the vicinity of the ship for long periods. To provide any quantitative assessment, there is no better source than Popper et al. (2014), and there are no good resources for assessment of chronic exposure. All the references presented in reference to fish do not provide any way of quantifying this chronic effect, which

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will require the level of a detailed academic study for every species that may be present and outside of the reasonable scope of an assessment such as this.

- 4.2.16 In the absence of this, KPS has used available science and extensive experience to assess the noise in context. The Powership produces noise of a similar level to a ship, in an area where ships and this level of noise are present regularly. As a Powership does not stand out especially in terms of noise or character, other than being present constantly instead of intermittently arriving, leaving and being replaced by another, then the bay as a whole will not change. However, the noise in the immediate vicinity of the ship will certainly be affected. At most, this is likely to be within a radius of 1km.
- 4.2.17 Popper has written numerous articles propounding the need for inclusion of particle motion and substrate vibration in impact assessments, however, this is not yet possible. In Popper et al. (2014) it is stated against all sound types: *"All criteria are presented as sound pressure even for fish without swim bladders since no data for particle motion exist."* (Fish without swim bladders are known to be more sensitive to particle motion metric of a sound wave.) Although there is more data available now, there are still no suitable thresholds or criteria to refer to. Any measurements of particle motion could theoretically be stated in the report, and then have no way to determine whether that would be biologically significantly adverse or not. The same situation exists for substrate vibration. Until there is a valid, accepted method for assessing these, we default to the data and thresholds which do exist.
- 4.2.18 Regarding particle motion, Popper and Hawkins (2019) state "There is also a lack of information on the responses to particle motion, rather than sound pressure. It is evident that there are so many information gaps that it is almost impossible to come to clear conclusions on the nature and levels of anthropogenic sound that have potential to cause changes in animal behaviour, or even physical harm... Since there is an immediate need for updated criteria and guidelines on potential effects of anthropogenic sound on fishes, we recommend, as do our colleagues in Sweden (Andersson et al., 2017), that the criteria proposed by Popper et al. (2014) should be used."
- 4.2.19 It (the Applicant) notes the correction from Dr Popper and asserts the marine ecology specialists relied on the Underwater Noise Report for this information and did not know that the distances mentioned were not absolute. However, in their assessment, the marine specialists used available measures to inform their assessments where possible and in the absence of directly applicable science and research.
- 4.2.20 The impact of increased noise on the marine ecology was rated as "Medium-High". The Marine Ecology and Fisheries report discussed that although the powership is not anticipated to cause direct harm to marine organisms, it may have negative effects on them to sufficiently warrant this impact rating. An interpretation of "no significant impacts" on fish or marine mammals is not correct and a misrepresentation of the impact rating.

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- 4.2.21 It (KPS) agrees that *'The science in directly examining chronic noise impacts to fishes is limited but demonstrates low level sounds can affect systems involved in many life functions.'* The assertion by Dr Popper making the link between human and fish is fair, however, in the absence of published literature such as the 2023 expert report, there is no sound scientific basis as to conclude such a link, as equally, the converse might be true, and the effects on fish are not directly comparable, in light of limited research in this area and the fact that this project assesses underwater noise and not noise in air.
- 4.2.22 Regarding the effects of chronic noise, the modelling study showed that this was highly localised near the vessel and that the likely behavioural response would be avoidance. The scale and severity of impacts of avoidance by marine receptors e.g., reduced available grounds for fish to live, were assessed accordingly.
- 4.2.23 A ship will be introduced to a port and will remain there for the long term. It will have no significant effect on marine mammals, which will not be present for any significant period. It is likely to affect fish in the vicinity of the ship's location, although only if the noise is noticeably in excess of the existing baseline. This proposed development will increase the underwater noise levels within a few hundred metres of it, which has the potential to impact local fauna. This effect cannot realistically be quantified or guaranteed. Outside these immediate areas, the Powership will be inaudible and therefore any effect negligible. Fish were seen swimming freely and unconfined directly adjacent to the operational Powership in Ghana. This is anecdotal, but evidence that adverse impacts are not necessary and automatic.
- 4.2.24 The noise from transiting ships provides the context that Saldanha Bay is already exposed to these levels of noise. The immediate vicinity of the Powerships will be subject to increased noise over the long-term, which may, cause a disturbance to some species of fish which are resident, these noise levels are not unusual. The noise from a passing ship will be the greatest source of noise near to it. Near to the Powership, the Powership will be the greatest source of noise to a receptor. As identified in the Assessment and using the only quantifiable criteria available any fish would need to be directly adjacent to a ship (much less than 50m) for at least 12 hours to have any risk of TTS. At this range, the effect of another vessel 100m+ will be negligible and not contribute to the overall exposure.
- 4.2.25 Noise can have an impact on marine mammals. This noise under consideration is chronic, localised, and only critical if the marine mammals under consideration completely rely on the limited area around the proposed Powership location and are likely to spend days, weeks or months in this limited space only. This is considered highly unlikely.
- 4.2.26 Chronic noise is already present from the Port activity. The industrial ports in all bays are constantly operational and represent chronic noise sources, which have been present for many years and will continue to be so. Cargo ships will dock, unload, load, leave, be replaced. With the exception of the limited area directly around the proposed Powership position the noise is representative of the levels to which the port, and all species present in it, have been exposed for years, and will continue to be. The Powership

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is not being introduced to a pristine, undeveloped site. If there were any effects as noted, they are likely to have already occurred. If a Powership represents a beneficial power supply for the local area, then there is no better place to position it than an existing port.

- 4.2.27 The conclusion that underwater noise will have "no impact" considered the effect on the bay(s) as a whole. As the noise output from the Powership was found to be similar to static ships directly measured in the port(s), then one more ship in a port was not deemed to materially affect the existing noise climate and therefore would be No Impact. There will however be localised increases, as is made clear in the report. The Marine Ecology took it further and considered the direct_impact on species, which led to the determination of a Medium-High significance, reduced to Medium with mitigation. This is what the assessment is based on.
- 4.2.28 Impacts of noise and vibration during the construction and operational phases of the project on marine biodiversity (all marine organisms including prey species) was addressed in Section 4.4.4 of the Marine Ecology & Fisheries report and impacts on commercially important fish species were addressed in Section 4.4.5 of the same report (Impact 5). Impacts on prey species specifically were taken into consideration in the assessment of impacts on commercially important species as outlined in Section 4.4.5. of the report.
- 4.2.29 In view of the fact that increased noise levels of more than 2 dB, which is barely audible, are only predicted within the order of hundreds of metres of the Powership location, then unless the marine mammals of concern rely almost exclusively on the area of less than 1-2 km² around the Powership in a bay of around 50 km², and a noise level similar to that of the ships regularly using the port (even over the long-term) would cause them to avoid it, which is not guaranteed.
- 4.2.30 The duration of these impacts was taken into account during the impact assessment and scored accordingly. The severity of the behavioural change in the context of the species, its life history, status and distribution are also assessed. Furthermore, given that noise from the vessel is restricted to its immediate vicinity, this will not result in fish moving out of the bay but rather to another area in the bay.
- 4.2.31 The large majority of marine mammal sightings have occurred away from its (KPS') site and zone of influence although some sightings have occurred near the iron ore jetty so suggest the wording of the report be changes from 'no' to 'negligible'. The severity and intensity of underwater noise impacts on mammals are assessed accordingly and the effect is expected to be minimal.
- 4.2.32 It (KPS) interpreted the noise results accordingly for their assessment, which shows very low noise levels when moving away from the ship. The argument is whether this low-level continuous noise is worse than much louder intermittent noises from other vessels, operations and construction. Based on modelling results and best available science on underwater noise impacts, the applicant rated the impacts accordingly. Intermittent vessel traffic noise was merely used for context. The severity, duration and intensity of underwater noise was understood and considered in the impact assessment.

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- 4.2.33 Nesting and feeding waterbird populations will not be impacted by underwater noise based on the noise modelling results. The birds inhabit islands and surrounding waters outside of the noise interference (and largely outside of Saldanha Bay) area from proposed KPS.
- 4.2.34 The baseline monitoring captured two full diurnal periods, and although some variation in noise is expected over seasons it will not change the outputs of the noise sources at each site, primarily cargo vessels at the ports, nor the noise output of the Powership, and thus will not change the overall conclusion of the assessment, which remains valid.
- 4.2.35 The baseline noise monitoring report acknowledges the duration, and the timescales limited the scope of the time available. Monitoring over a limited time offered an indicative, existing baseline; long, academic-type studies were not possible, and even when they were, would be highly unlikely to change the ultimate conclusions.
- 4.2.36 The background noise was measured over 48 hours and include day and night and tidal effect. The Project will not be operating for 24 hours a day, unlike the existing port.
- 4.2.37 The Appellants tend towards the most extreme but equally, least likely: an absolute "cessation" is the greatest possible effect, and this doesn't help to see the scenario in context. The degree of impact of masking is impossible to quantify completely, within the reasonable scope of this sort of assessment, which cannot study many individual species and their specific responses. While the risk of masking exists, it will not affect all species, it can only affect species within the zone of audibility around the Powership and is not of such a level that should prevent the approval of the application.
- 4.2.38 The Appellants note the statement that the Powerships will not change the existing soundscape of the Bay but does not dispute this or give reason why it is not relevant. The assessment makes it clear that although there is a risk of masking and behavioural change near the Powership, the introduced noise is commensurate with levels of noise that any species in the port already experience. This is not an arbitrary finding: the introduction of a noise source into an existing industrial area rather than an undeveloped environment will clearly lead to a different outcome.
- 4.2.39 The sound frequencies associated with the Powership is expressed in Figure 4-4 in the Underwater Noise Report, with no significant tonality. Almost all sound energy is within 50-500Hz bands, typical of vessels and other common industrial and construction noise sources, and any very high frequency elements are unlikely to affect most species of fish and attenuate to background quickly. On this basis, the 'overall' dB value gives a good indication of the perceived noise by typical fish species and can be compared to the generally accepted quantitative impact thresholds, where available, which also use this value.
- 4.2.40 Southall et al. (2019) refers to noise effects on marine mammals, and Popper et al. (2014) refers to noise effects on fish. A major attempt to discredit the Underwater Noise Assessment rests on Southall et al. not being suitable for assessing long-term impacts. Chronic effects can only possibly affect a receptor if they

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are present for extended periods over the long term. As any marine mammals are transient, they cannot be subject to chronic noise exposure, thus any impacts will be relatively short-term. Although the noise will be present for extended periods, the receptors will not.

- 4.2.41 In no proposed locations in South Africa are there any resident marine mammals within 1km of the ships' positions. No chronic exposure is possible. If this is the source of the alleged 'fatal flaw' in the assessment, then that allegation appears to completely ignore reasonable context. The assessment demonstrates that the presence of the Powership is highly unlikely to lead to any impacts that can be reasonably quantified, except in the highly unlikely event that a marine_mammal chooses to remain very close to the ship for a lengthy period.
- 4.2.42 Transient vessels were not included in the baseline, to keep the baseline level low. A low baseline enables a worst-case comparison – including short-term, discrete transiting ships would make the assessment appear better, and could be misleading. Inclusion of the transiting vessels in the report provides context on the level of noise that is a feature of the existing environment and recognising that does not downplay it.
- 4.2.43 It is acknowledged that the text should read "[p]redicted impacts are rated as Medium significance before mitigation and reduce to Medium -Low following mitigation." The marine specialists also based its assessments on the 0.06 m/s-1 figure provided. Phytoplankton biomass recovers quickly due to short generation times (~0.3/day), and populations are quickly replenished via tidal mixing processes from the wider port water body and the adjacent continental shelf. Additionally, it has been shown that the mortality rate from thermal and mechanical stress of phyto- and zooplankton entrained is not 100%. Survivors are returned to the host environment.
- 4.2.44 The thermal impact does appear to be a major factor in zooplankton mortality entrained during in the cooling processes (Choi et al. 2012), however, in contrast to this, other studies have found no detectable effects of cooling water discharge on plankton abundance beyond the actual discharge point (Carpenter et al. 1974, Jordan et al. 1983). Choi et al. concluded no detectable reduction in plankton abundance is found between the intake and discharge waters, even though plankton mortality in cooling systems ranges from 3 to 39%. This is likely due to local populations being quickly replenished via tidal mixing processes from adjacent natural populations, there will likely be limited thermal impact on local populations (Melton et al. 2000, Poornima et al. 2005, Choi et al. 2012).
- 4.2.45 The marine specialists were guided by information provided by the EAP according to the Project specifications. It was stated that "no biocides, brine or chemicals such as chlorine will be discharged with the cooling water". Total brine discharge is less than 1% of total sea water outlet hence brine outlet is neglected and assumed Zero (GCS Ref – 20-0909_WB1. Water Balance Assessment for the Proposed KPS Project – Coega Bay Port Final Rev 2).

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4.2.46 The following was provided by the PRDW 2022 Saldanha Bay – Integrated Dispersion Modelling of Thermal Plumes from Powerships and FSRU specialist study. Generic ecological thresholds for thermal discharges include the following:

- $\Delta T = 3^{\circ}\text{C}$ at the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors, and assimilative capacity – World Bank/IFC guidelines for Liquefied Natural Gas facilities (World Bank Group, 2017).
- $\Delta T = 1^{\circ}\text{C}$ at sensitive receptors or the edge of the mixing zone – South African Marine Water Quality Guidelines (DWAF, 1995).

4.2.47 The 2021 marine ecology assessment for this project has recommended the following site-specific threshold for the Powerships in Saldanha Bay:

- $\Delta T = 1^{\circ}\text{C}$ at 100 m from the discharge (Anchor 2015, Lwandle, 2021).

4.2.48 The model results have thus been presented at a distance of 100 m from the Powerships. Since a distance of 300 m has been recommended in other ports, the results at a distance of 300 m from the Powerships are also presented but are not applicable in Saldanha Bay.

4.2.49 The modelling results presented do not show temperature increases up to 300 m away from the powership. As with a number of comments it appears an older version may be being assessed by the Appellants.

4.2.50 It (KPS) agrees that the benthic impacts section should be updated on account of the shallow nature of Saldanha Bay. Information on vessel draft was not supplied when writing the MER and mitigation measures should be adjusted accordingly to avoid direct discharge onto the benthic habitat. The mitigation measure to discharge at depth (8m) was taken from the recommendations in the modelling report (PRDW 2022).

4.2.51 However, the MER states that southern African estuarine and nearshore organisms, including plankton, are typically eurythermal as they are faced with quite high temperature variability in their natural habitats; such as Saldanha Bay. The degree to which community composition changes with thermal input depends on the initial ambient temperature. According to DeNicola (1996, in Oliver and Fidler 2001), increases in temperature in environments near $25\text{--}30^{\circ}\text{C}$ usually cause greater changes in community structure than in environments $<25^{\circ}\text{C}$; and community structure usually recovers rapidly (<1 year) when temperature stress is discontinued. If temperature changes are beyond the adaptive range of resident communities, sub-lethal effects may occur, such as metabolic inefficiencies, increased susceptibility to disease and toxic effects of pollutants changed behavioural patterns, intra- and inter-specific competition, predator-prey relationships, community composition and parasite-host relationships.

4.2.52 The sub lethal effects associated with thermal plumes and discharge were considered by the specialists and documented in the MER which was informed by the modelling outputs we state deleterious effects

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within the Zone of Initial Dilution (ZID) are expected, but these should be limited to non-acute levels. Therefore, the probability of damage to marine ecology if guidelines are met is "extremely low" outside of the ZID but could be "low" within the ZID in that community structure may be changed, but ecological function should continue. These 'low impacts included considerations of acute behavioural changes to marine receptors in response to elevated water temperatures around the immediate vicinity of the discharging vessel. Impacts were therefore rated accordingly.

- 4.2.53 The MER was supported by the best available data to determine the presence of sensitive habitats within the area of impact. The statement *"the Saldanha Bay environment is well described, and dedicated field surveys to add to these data were considered unnecessary for this marine specialist study"* is stated as justification for the specialist study to be a desktop exercise without the need for further study. However, as with all specialist studies, supporting data can always improve the understanding of a particular site or marine receptor, but that should not inhibit the development of specialist studies. The MER and specialists suggest a bathymetric and baseline ecological survey of the potentially impacted area to be conducted before proceeding with the proposed project.
- 4.2.54 These additional surveys were highlighted as a necessary next step. The presence of calcrete reef nearby results from previous surveys of the area undertaken by the marine specialist, identifying sensitive habitats previously unknown. This data was used to inform the MER accordingly, both in its description of the environment and assessment of potential benthic impacts from Karpowership. The unknown extent of this reef habitat justifies the need for further survey.
- 4.2.55 The previous surveys (for a different project) which identified the nearby presence of calcrete reef habitats informed the MER, both for mitigation measures and need for additional bathymetric survey. Impacts were rated on the assumption that mitigation proposed would be followed.
- 4.2.56 Mitigation, in all cases, was based on or informed by the marine specialists' expertise, global best practice, South African legislation, and feasibility was considered throughout this assessment. Where mitigation cannot be achieved the marine specialists worked on the assumption comparable mitigation can and will be developed and implemented.
- 4.2.57 There is a broadly accepted rule that water extraction velocities should not exceed 0.15 m/s to minimize debris and marine life impingement (Fedorenko 1991).
- 4.2.58 The specialists support the implementation of further mitigation measures. These measures are considered feasible and applicable to the KPS project. These follow global best practice (Methodological guide guidance on underwater noise mitigation measures, Seventh Meeting of the Parties to ACCOBAMS 2019):

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- Ensure vessel is fitted with PAM technology (one or more hydrophones), which detects animals through their vocalisations, should it be possible to safely deploy PAM equipment. This acoustic monitoring is to be used as the main monitoring tool.
- Employ the soft start protocol:
 - Noise emissions should begin at low power, increasing gradually until full power is reached
 - The soft start procedure should be of 20 min duration at least.
- Installation of low noise propeller: many models with higher efficiency or reducing cavitation on the blades. Coupled with regular propeller/hull cleaning and other conventional maintenance. All of which improve efficiency and reduce vessel noise generated.
- Regulating ship speed to reduce risk of whale-ship strikes; atmospheric gas emissions, fuel consumption, delivery time, navigation duration, etc.; the concept of Smart Steaming is being developed to address the trade-off among environmental and economic drivers. Smart steaming offers the potential for significant cost savings, reduction in GHG emissions and increased reliability in global shipping operations.

Marine Mammal Observation Protocol

- 4.2.59 The marine specialists do not agree with the impacts being rated as high on account of the information provided and assessed in the MER. The impacts of marine ecology are rated in accordance with modelling outputs in each case.
- 4.2.60 The Appellants have not considered the impact assessment methodology used in the MER, which was guided by that specified by Triplo4 and adapted by Coastwise and Anchor Environmental. In this case, severity was marked as a 2, which is described as "Site-specific and wider natural processes and functions are slightly altered". Spatial scale was rated as a 2, described as "Within the broader Port" and not beyond the Port. The Probability of impact was rated as 2, described as ">5 – 25% chance of occurring (possible)", partly due to the uncertainty around whether noise impacts would occur. The duration was rated as a 3, described as '2-20 years.' These ratings contribute to an overage significance rating of "Medium-High", which sufficiently described the potential impact of underwater noise on the marine ecology, based on our understanding of the assessment presented in the Underwater Noise Report. Furthermore, this impact assessment was given a "medium" confidence rating, due to the uncertainties around the impacts of underwater noise on marine life, particularly on those organisms for which there has been little research done.
- 4.2.61 The marine specialists do not assume biological functions will be restored during the 7 ½ hours. The entire operation of KPS was assessed when assessing impacts on marine ecology and the length of time was considered in this assessment, further prescription of when the 16.5 hours of operation should be

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employed in respect to the marine environment and minimizing impacts. The marine specialists advise that operations should be focused on the night-time, to reduce potential impacts, regardless of how negligible, on mammals, birds and other marine receptors. Many marine organisms, particularly those relying on sound for communication or navigation, may be less affected by noise at night.

- 4.2.62 This was an oversight and in both instances the sentences should read 'east' and not 'west'. The MER was undertaken with the correct mooring information as of 2022. Big Bay experiences greater wave action which confirms this was a typo and not misinterpretation.
- 4.2.63 International and national guidelines and legislation were consulted in the development of mitigation measures regarding pollution. These best practice guidelines are well documented to be effective at reducing the likelihood of marine pollution from vessel such as LNG carriers and were interpreted correctly when assessing impacts, i.e. likelihood.
- 4.2.64 The MER recommended that such a baseline study should be undertaken, and the Marine Ecology and Fisheries specialists agree that this should be part of the EIA.

DEPARTMENT'S COMMENTS ON THE FIRST GROUND OF APPEAL

- 4.3 **The Department commented on the averments made in relation to the first ground of appeal as follows:**
- 4.3.1 Department did not '*allow KPS to fix errors*' without due process. At every stage of the process, I&APs were provided time and opportunity to comment on draft reports. In the Department's view, comments from I&APs were responded to by the EAP.
- 4.3.2 The study confirms that The Saldanha Bay/Langebaan Lagoon complex makes up the largest body of wave sheltered water on the South African coast. The islands in the bay (Malgas, Jutten and Marcus Islands) provide breeding habitat for several seabird species, including Cape gannets (*Morus capensis*), bank cormorants (*Phalacrocorax neglectus*), kelp gulls (*Larus dominicanus*) and African black oystercatchers (*Haematopus moquini*). Parts of the Bay and the Lagoon have been incorporated within the West Coast National Park Marine Protected Area (MPA) Network. Langebaan Lagoon was declared a RAMSAR site in 1988, and the area eastwards of the North and South Heads is a rock lobster reserve in which no rock lobster may be caught. Despite the high conservation importance and sensitivity of the Bay, Saldanha Bay has been developed as a commercial port, comprising of an Ore Terminal, Oil Jetty, and Multi-purpose Terminal.
- 4.3.3 The Bay is also home to a small craft harbour, several marinas, mariculture farms and several fish processing factories. Extensive industrial and residential development has been established on the

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periphery of the Bay, and pollutants and wastes find their way into the Bay from a range of activities and developments, including port operations, shipping, ballast water discharges and oil spills, export of metal ores, municipal (sewage) and industrial discharges, biological waste associated with mariculture and storm water runoff. Urban and industrial developments have encroached into the coastal zone in many places, and this has resulted in the loss of coastal habitats and has affected natural coastal processes, such as sand movement.

- 4.3.4 The following impacts were identified by this study: (a) The effects of gas pipeline construction and installation and vessel mooring on the littoral and benthic community; (b) The effects of the intake of cooling water on marine organisms in the surrounding water body; (c) The effects of the discharge of cooling water on the marine ecology in the receiving water body; (d) The effects of increased noise and vibration levels on the marine ecology; (e) The effects of impacts on ecosystem services; (f) Impact on dynamic coastal processes, and (g) Impacts of coastal pollution.
- 4.3.5 Impacts associated with the construction and operational phases of the project were evaluated in this study as ranging from Medium-Low to High prior to mitigation, and some remain at a Medium level even after mitigation. None of the direct or indirect impacts associated with the project were identified as anything other than highly localised in nature.
- 4.3.6 The cumulative impacts of superimposing the KPS project on this environment were rated as high. None of these impacts were identified as being a fatal flaw, however, and thus should not prevent the project from going ahead provided the identified benefits and positive impacts associated with the project are shown to be at least as high or higher than the negative impacts identified in this study. In the CA's view, impacts on the marine environment were sufficiently assessed.
- 4.3.7 An underwater noise impact assessment was undertaken. The assessment was based on requirements that arose from the Minister's Appeal decisions dated 01 August 2022 and comments received from I&APs during the initial EIA phase (2021), in order to address the environmental impacts of noise by the project in both the marine and terrestrial environments. The effect of noise in the terrestrial environment is dealt with in a separate report.
- 4.3.8 Ideally, an assessment of project noise would measure noise impacts of an actual Powership, FSRU and associated vessels operating in the Port of Saldanha Bay. As there are no Powerships and FSRU's in operation (none can be established before obtaining EA) at the Port of Saldanha Bay and in order to provide a scientifically reliable report on which an assessment of project noise impacts on the environment can be determined by environmental specialists, I&APs and the DFFE, the specialist has employed the following internationally accepted study protocol for projects of this nature, to assess the noise impacts of the project in the Port of Richard's Bay:

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- Conduct a study of the existing underwater noise soundscape (baseline) in the Port of Saldanha Bay.
- Conduct an underwater noise study and assessment of a Powership of a similar class to that intended for deployment to the project in Saldanha Bay, at a Port where such a Powership is in operation and where port conditions are comparable.
- Conduct an assessment of an FSRU in terms of its noise outputs based on the FSRU equipment specifications; and
- Extrapolate the results using established scientific methods to account for differences in the port specifics at different power output levels, from studies 1, 2 and 3 above to the Port of Saldanha's Bay to predict how actual noise effects from the project will interact with the existing sound levels present in the Port of Saldanha Bay.

4.3.9 The specialist visited the Port of Saldanha Bay from 05 to 07 November 2021 to sample an indicative underwater noise baseline in both Big Bay and Small Bay, on either side of the Iron Ore Jetty. The Sekondi Naval Base, Ghana, was also visited from 03 to 06 September 2022 to sample underwater noise around an operational Powership, selected for its similarity with those proposed to be deployed (sister ship) in South Africa. Based on the maximum power output of the Osman Khan (470MW), the harbour design and technical parameters considered, this Powership is of the same design class to study, in order to determine relevant noise information for the South African project. Noise aspects of an FSRU, typical to that which will be used by the project in the Port of Saldanha Bay was also assessed.

4.3.10 The study concluded that based on this assessment, no significant underwater noise impacts on fish or marine mammals are predicted as a result of the operation of the Powership in Port of Saldanha Bay as it will not materially change existing underwater noise associated with the port. No additional noise mitigation is deemed necessary, and this project is thus supported from an underwater noise assessment perspective.

Cumulative impacts

4.3.11 The measurements taken during the baseline monitoring exercise at Port of Saldanha, demonstrates that the noise levels shown (that represent the effect of Powership operations) will be exceeded by a transiting container or bulk carrier vessel moving into or out of the port, since noise levels from those existing operations were measured to be higher. The cumulative effect of these passing vessels will be negligible due to their distance from the operational Powership and auxiliary vessels. Any risk to marine mammals or fish will be negligible.

4.3.12 The lower order of effect defined in the guidelines, temporary threshold shift (TTS), would only occur when marine mammals of the most sensitive species (VHF cetaceans, i.e. porpoises) remained within 700 m of

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the Powership operating at maximum capacity for a full 24 hours. This condition of extended presence of marine mammals close to the ships in the port and maximum output is highly unlikely to occur in practice, especially considering that the Powership operations are only permitted for 16.5 hours per day. The most sensitive species of fish would need to remain directly adjacent to the Powership for the same full 24-hour period.

- 4.3.13 In the CA's view, impacts of underwater noise on the marine environment were adequately assessed.

EVALUATION AND DECISION

- 4.4 The nub of this ground of appeal is that the Marine Impact Assessment Report did not adequately address the projects impacts on the marine environment. In arriving at my decision on this ground of appeal, I considered the First Appellants' submissions under this ground of appeal as well as the subcategories thereunder. I have furthermore had regard to the responses by the Applicant, the comments of the Department and the documents at my disposal.
- 4.5 I note, inter alia, that the specialist reports document no flaws in the reports or in the FEIR. I further note the assertions of the department that despite the importance of Saldanha Bay, it has been developed as a commercial port "comprising of an ore terminal, oil jetty and multipurpose terminal. In addition, the Bay is also home to a small craft harbour, several marinas, mariculture farms and fish processing facilities. Furthermore, "extensive development has been established on its periphery from which pollutants flow into the harbour. Such pollutants include those from port operations, shopping ballast water discharges and oil spills. In this regard, the location of the KPS is a significant distance from the Langebaan Lagoon, offshore islands and other areas of known importance for marine ecology.
- 4.6 Although there is more data available concerning particle motion, I note that presently there are no suitable thresholds or criteria to refer to in order to determine whether that would be biologically significantly adverse or not. The same situation exists for substrate vibration.
- 4.7 I am satisfied that the EIA in assessing the impacts of the project on the Marine Environment as set out by the Appellants' appeal as well as the subcategories) took into account the legislative requirements, policies and guidelines for the proper assessment and consideration as well as for the proposed mitigation measures.

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- 4.8 In light thereof, I find that these grounds of appeal to be without merit and the appeal is accordingly dismissed.

5 SECOND GROUND OF APPEAL: INADEQUATE CONSIDERATION OF MAJOR HAZARD INSTALLATION (MHI) IMPACTS

THE FIRST APPELLANTS' SUBMISSIONS ON THE SECOND GROUND OF APPEAL

5.1 The First Appellants make the following submissions on the second ground of appeal:

- 5.1.1 They (the First Appellants) provide a critique of the FEIR and major hazard installation (MHI) impacts and allege that the Risk Assessment contains erroneous information and fails to consider critical risks and pertinent issues that increase the dangers of the project, thus making the project seem less hazardous than it would be. It therefore does not meet the requirements of NEMA and the EIA Regulations and could not have informed an adequate decision by the Chief Director as required by section 240 of NEMA.
- 5.1.2 These issues include: the use of incorrect wind stations in the assessment; the misreading of the conclusions of those wind roses; the failure to consider the impacts of wave action on the installations; the failure to consider the shallow depth of the powership and pipeline; and the failure to consider interactions between the LPG and LNG activities in the Bay.
- 5.1.3 In their December 2022 comments, they (the Appellants) highlighted the assessment of the risks of the project as a MHI is fatally flawed in that the risks of a pipe burst where it traverses land is not considered. Furthermore, the potential cumulative impact of a major accident in the vicinity of large scale planned liquid storage and industrial activity areas is not assessed, notwithstanding the inherently dangerous environment of a port, and the duty to consider all potential impacts. These concerns have not been adequately addressed in the FEIR.
- 5.1.4 The MHI mischaracterises the meteorological conditions of Saldanha Bay, stating, "*Saldanha Bay has a mild temperate climate... The wind is most often from the north-northwest (13.7% of the time), north-west (10.4% of the time), and east (3.8% of the time). The wind is least often from the east-southeast (2.5% of the time).*" This is a complete misreading of its own wind rose on the following page, which shows that the dominant winds are from the southwest and that strong winds predominate. However, this wind rose also shows the climate to be milder than it is in fact, as it is based on data from a station some 13 km inland from where the ships would be installed.

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- 5.1.5 The Saldanha Port Control wind station would have been the correct station for the MHI to use for an accurate reflection of nearshore wind patterns. Figure 1 below shows a wind rose from that Port wind station that was used in a CSIR study of the marine conditions for LNG at Saldanha from 2014. One can see from this rose that, contrary to the conclusion of the MHI, the wind at the port comes from due south, south-southeast and south-southwest most often and regularly exceeds 10 m/s. As Tonin notes in the expert report, the CSIR analysis concluded that the weather would result in "*between 50 and three days per annum*" in which LNG operations could not go forward. This is hardly the mild picture that the MHI paints.
- 5.1.6 The fact that the entire MHI assessment is grounded in entirely incorrect meteorological data from the start is worrying, particularly as that error underplays the wind, and by extension the waves, that would increase the risks of these hazardous installations.
- 5.1.7 The MHI also fails to consider the depth of the project components and the hazards that these present. As noted elsewhere in this appeal, and thoroughly explained by Mr. Tonin, there will be very little, if any, space between the moored powership and the seabed. This means that any significant wave action could lead to an unsafe circumstance in which the ship could be in danger of scraping the bottom, hitting the jetty, knocking a pipeline, or worse. The shallow depths of the pipeline also present risks that it could be knocked by other ships, releasing methane. Moreover, with wave heights in the Bay steadily increasing, as Mr. Tonin notes – some 50% over 60 years – the FSRU, the Powership, and the LNG carriers will all be at growing risks over time in the Bay of becoming unmoored. However, the MHI considered none of these factors that shape the project's risks.
- 5.1.8 The proximity of the FSRU and LNG carrier to the Sunrise Energy LPG installation and the crossing of the gas and LPG pipelines present particular risks that have not been considered in the MHI. While methane, lighter than air, rises rapidly if released, LPG is heavier than air and lighter than water, so would spread out atop the water in the case of a spill or accident. The proximity of several other installations and other boats could present ignition sources for this floating LPG which, if close enough to the FSRU, LNG Carrier, or even the powership, would create a catastrophic outcome. The crossing of the LPG and LNG pipelines present similar concerns, especially given that long parts of them are in very shallow waters and could be knocked by a vessel, particularly in inclement weather. The MHI assessment fails to consider any interaction between these extremely hazardous installations and must therefore be redone if a decisionmaker is to consider the project with the correct information before them. On this basis alone, the project should not have been authorised.

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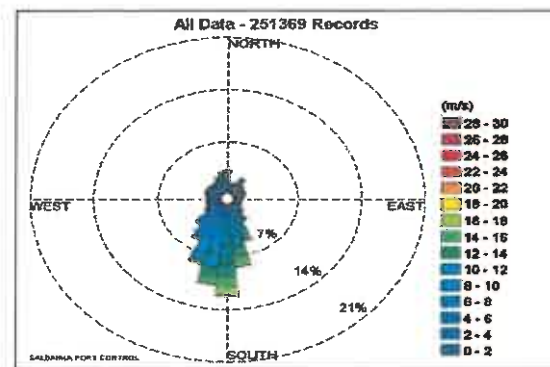
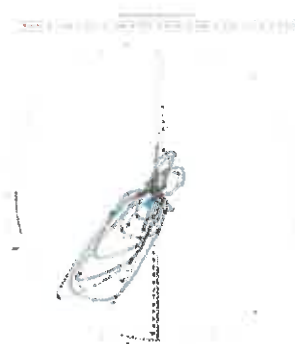


Figure 1: Nearshore wind rose from Saldanha Port Control

APPLICANT'S RESPONSES ON THE SUBMISSIONS MADE UNDER THE SECOND GROUND OF APPEAL

5.2 The Applicant responds to the submissions made under the second ground of appeal as follows:

- 5.2.1 The information in the Risk Assessment is as required by SANS 1461 and the MHI Regulations, once these are met the risk averse and cautious approach required by NEMA (and the relevant factors required by Section 240) and the EIA Regulations are also met. All the Critical Risks as per the MHI Regulations were considered. The conclusions therein are based on information required by MHI Legislation and SANAS.
- 5.2.2 It was determined during a SANAS Accreditation meeting that the only acceptable wind station to be used must be the closest S A Weather wind station, which is at Langebaan Road.
- 5.2.3 Natural gas is lighter than air and will dissipate in strong winds and unstable weather conditions. The 'dangerous zones' formed by a loss of containment will be during calm and stable weather conditions. Calculations using different wind roses were computed and the results were similar.
- 5.2.4 The Risk Assessment considered the length of the pipeline including where it traverses land. A 25mm pipe leak and a pipe shear was modelled.



5.2.5 The wind rose information is put into the modelling program using the information supplied by SA Weather data, as shown below, and cannot therefore be 'misread'. The interpreted weather details in the report are general information and not used as input data for calculations.

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5.2.6 Information regarding wave action, depth of pipelines etc is built into the calculation's failure frequencies as per SANS 1461 and 'Bevi'. According to the MHI Regulations an assessment must be made on domino effects that this installation could have on existing neighbouring installations. This was done and this installation could not impact on an installation 1km away.

Station: 0061290 E - LANGEBAANWEG AWS
Year: 2014 - 2019
Time Range: 6 7 8 9 10 11 12 13 14 15 16 17 18

Frequency Distribution (Count)						
Wind Direction (Blowing From) / Wind Speed (m/s)						
	0.5-2.5	2.5-3.5	3.5-5.5	5.5-8.7	8.7-10.7	>10.7
Tot	22	21	43	61	10	3
N	35	23	52	41	3	0
NE	19	12	1	0	0	0
E	8	1	1	0	0	0
SE	4	1	0	0	0	0
S	2	1	2	0	0	0
SW	18	0	9	0	0	0
WSW	10	11	13	2	0	0
W	21	12	24	0	3	0
WNW	48	42	103	119	116	94
SW	60	75	155	336	156	12
WSW	62	67	141	54	0	0
W	35	25	40	1	0	0
WNW	19	7	17	0	0	0
WSW	19	7	25	2	0	0
W	12	12	22	2	0	0
Tot	346	307	650	626	258	107

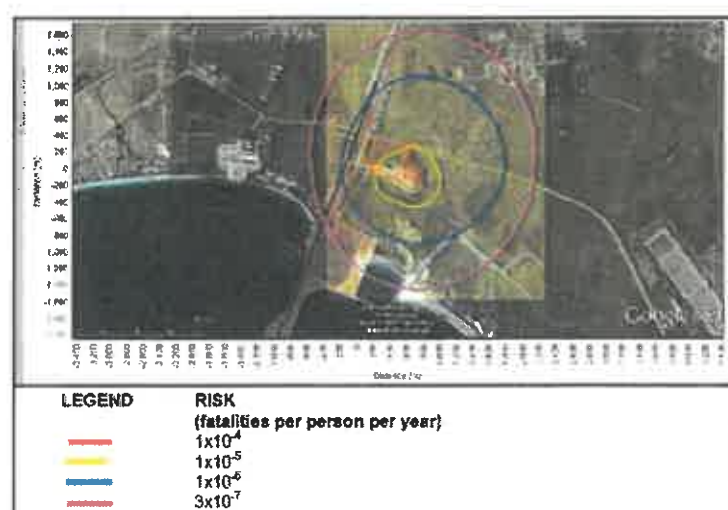
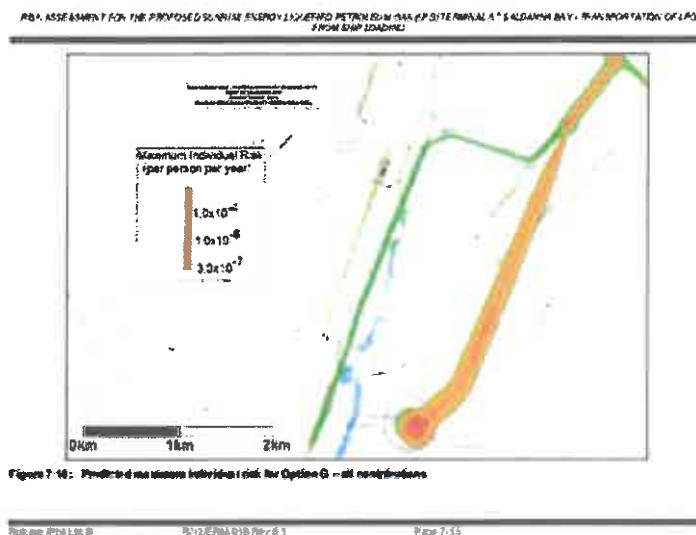
Count of Calm Winds : 48
Average Wind Speed including calms : 5.44
Average Wind Speed excluding calms : 5.54



5.2.7 The Sunrise Energy Installation is more than 1km away and the wind patterns is such that an LPG cloud from the Sunrise installations is unlikely to reach the FSRU. The quoted 'Jordan Cove Export Terminal' report is for Single Terminals with both LNG and "Heavier than Methane Gasses" that share infrastructure on the same property and servitudes. That report is not relevant to the Powership facility for the following reasons: (1) the Powership facility does not share any infrastructure with any other products; and (2) the Sunrise installation is more than 1km away from the Powership facility.

5.2.8 Strong winds would accelerate the dissipation of the LPG and LNG in the event of a leak as discussed in the appendices under section 100. The conclusion that was reached in the MHI report for the Sunrise facility was that the risks would not reach the proposed area of the LNG and Powership. The risk contours from that report are included.

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DEPARTMENT'S COMMENTS ON THE SECOND GROUND OF APPEAL

5.3 The Department comments as follows on the submissions made in relation to the second ground of appeal:

5.3.1 A risk assessment was conducted as part of this application. The specialist concluded that this assessment established that an incident involving the Gas to Power project at the Port of Richards Bay could impact on the neighbouring berths. The risks associated with this MHI were found to be acceptable. A site is deemed to be a major hazard installation (MHI) if more than the prescribed quantity is stored as

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per the General Machinery Act or if a product is stored, handled or produced which has the potential to cause a major incident as per the Major Hazard Installation Regulations.

5.3.2 In the CA's view, the major hazard installation impacts were sufficiently assessed.

EVALUATION AND DECISION

5.4 In evaluating and assessing this ground of appeal, I have considered the submissions by the Appellants, the responses by the Applicant and comments of the Department. I have also considered the documents contained in the appeal record.

5.5 I note that the Risk Assessment was conducted in accordance with the requirements of SANS 1461 and the MHI Regulations and that once these are met the risk averse and cautious approach required by NEMA (and the relevant factors required by Section 24O) and the 2014 EIA Regulations are also met. All the Critical Risks as per the MHI Regulations were considered.

5.6 I note that the conclusions therein are based on information required by the MHI Legislation and SANAS. In this regard, the risks associated with the major hazard installation were found to be acceptable and that the risks and impacts of the KPS installation was adequately assessed.

5.7 I take cognisance of the assertion that it was determined during a SANAS Accreditation meeting that the only acceptable wind station to be used had to be the closest S A Weather wind station, at Langebaan Road

5.8 I therefore determined that this ground of appeal is without merit and is accordingly dismissed.

6 THIRD GROUND OF APPEAL: INADEQUATE CONSIDERATION OF CLIMATE CHANGE IMPACTS

THE FIRST APPELLANTS' SUBMISSIONS ON THE THIRD GROUND OF APPEAL

6.1 The Appellants, under the various subheadings, make the following submissions in support of the third ground of appeal:

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6.1.1 They refer to their December 2022 comments on the significance of climate change and why its consideration is relevant for assessing the impacts of this project. They assert that the United Nations Environment Programme (UNEP) published its fourteenth Emissions Gap Report, 'Emissions Gap Report 2023: Broken Record' (UNEP Emissions Gap Report 2023). The Report provides an annual, independent science-based assessment of the gap between the pledged greenhouse gas (GHG) emissions reductions and the reductions required to align with the long-term temperature goal of the Paris Agreement, as well as opportunities to bridge this gap. That report finds, *inter alia*, that:

6.1.1.1 Global temperature rates have hit new highs, yet GHG emissions are increasing including GHGs that have higher global warming potential – such as methane.

6.1.1.2 In 2022 emissions of methane grew by 1.8%. UNEP has confirmed that global methane emissions must be reduced by 40-45 per cent by 2030 to achieve cost-effective pathways that limit global warming to 1.5°C;

6.1.1.3 To meet a 2°C pathway under the Paris Agreement, global GHG emissions need to be cut by 28% by 2030. For a 1.5°C pathway, emissions need to be cut by 42% and present pledges under the Paris Agreement commitments puts the world on track for a 2.5-2.9°C temperature rise above pre-industrial levels this century, requiring urgent, increased climate action.

6.1.1.4 South Africa's temperatures are expected to rise at twice the global average rate. This means that an increase of 2.5 – 2.9 °C globally, translates to 5 – 5.8 °C of warming for South Africa. The consequences of this would be catastrophic. It is common cause that the impacts of climate change go well beyond temperature increases and include increased intensified impacts such as water scarcity; extreme weather events (including floods) all with knock-on effects for food security, health, and wellbeing and safety. South Africa stands to be particularly affected by this.

6.1.1.5 The South African government has acknowledged that the people of South Africa are extremely vulnerable to the impacts of climate change and in its Nationally Determined Contribution under the Paris Agreement, the necessity of keeping temperature increases well below 2°C or even below 1.5°C.

6.1.1.6 The government accepts that climate change poses a substantial threat to the section 24 right and related constitutional rights. As a result, the government has signed and ratified international agreements committing the country to the global effort to address climate change, including the Paris Agreement.

6.1.1.7 Government decisions which would knowingly increase GHG emissions and exacerbate these threats arguably constitute unjustifiable limitations to constitutional rights. This renders the need to fully assess the climate impacts of the project all the more pertinent.

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- 6.1.1.8 In light of the above, the Appellants assert that the FEIR failed to adequately assess the climate impacts of the project, contrary to the requirements of Annexure 3 of the EIA Regulations, and as such the decision-making authority (the Chief Director) could not have dispensed with his legal obligations under section 240(1) of NEMA, which includes a duty to comprehensively consider climate impacts.
- 6.1.1.9 The 2017 judgment in the case of *Earthlife Africa Johannesburg v the Minister & Others* (the Thabametsi case) confirmed that a comprehensive climate change impact assessment (CCIA) is a necessary component of an EIA for projects with climate impacts and is required under section 240 NEMA.
- 6.1.1.10 Case law and the Department's own Consultation on the Intention to Publish the National Guideline for Consideration of Climate Change Implications in Applications for EA's, Atmospheric Emission Licences and Waste Management Licences (the draft CCIA Guideline) published by the Minister for Forestry, Fisheries and Environment on 25 June 2021 (GN 559) envisage a fairly comprehensive climate impact assessment as part of an EIA process – more comprehensive than that undertaken by the project proponent. The draft CCIA Guideline states that:
- "A climate change assessment done as part of an EIA involves an assessment of whether and to what extent, proposed development will result in the release of GHG emissions; the impact of proposed development on ecological or built infrastructure that are important for climate change adaptation and resilience; the projected impact of climate change on proposed development; and whether, and to what extent, the impacts identified in (i) – (iii) can be 'mitigated.'"*
- 6.1.1.11 The issues raised in the December 2022 comments have not been addressed in the revised FEIR – the CCIA included in the FEIR is dated October 2022 and therefore presumably remains the same impact assessment that was critiqued in the December 2022 comments.
- 6.1.1.12 The key respects in which the climate impact assessment is inadequate are the following:
- It contains a number of material deficiencies or gaps;
 - A number of the CCIA conclusions are not supported by evidence and/or are based on inaccurate assumptions, rendering the CCIA as a whole inadequate;
- 6.1.1.13 The significance of the negative impacts is understated; and
- The climate impacts of the project would be significant - this should have weighed heavily against the granting of the EA.

Material deficiencies in the CCIA, which render the assessment of climate impacts inadequate

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6.1.2 In the Minister's appeal decision of August 2022 on the original EIA, she highlighted deficiencies in the project's CCIA, which rendered the EIA defective. These issues have not been addressed in the FEIR. They include:

6.1.2.1 that the mitigation measures for the GHG impacts were "*entirely undeveloped and inadequate*"; and

6.1.2.2 the CCIA failed to assess the full lifecycle emissions of the Karpowership projects, including "*gas production, gathering, processing, initial transport, and LNG liquefaction*".

6.1.3 The climate impact assessment therefore remains *prima facie* materially flawed and deficient, by the Minister's own stipulated requirements. On this basis alone the EA should not have been granted.

6.1.4 Further, there are gaps in the CCIA, which have not been addressed. Together with the deficiencies initially highlighted by the Minister in the August 2022 appeal decision, the gaps in the CCIA include the following:

6.1.4.1 Inadequate mitigation measures proposed – which provide no detail on their feasibility and GHG emission reductions that could be achieved if implemented;

6.1.4.2 The absence of clarity on running times for the project, which materially affects the GHG emission estimations for the project;

6.1.4.3 Failure to consider cumulative GHG emissions; and

6.1.4.4 The CCIA fails to adequately assess the risks posed by climate impacts for the project and on the project area's climate resilience and adaptation.

Inadequate mitigation measures proposed

6.1.5 The EIA Regulations define mitigation as "*to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible*". This envisages an approach whereby a project proponent must impose measures to prevent negative impacts. The CCIA, does not do this.

6.1.6 The draft CCIA Guideline, under mitigation measures in CCIA's, requires, *inter alia*: "*for each identified impact, provide mitigation objectives that would result in a measurable reduction*" and "*for each impact, recommend practically attainable mitigation actions that can measurably affect the significance rating*". Although a draft and not binding, this guideline serves as an important indicator of the expectations of the Department when it comes to setting out mitigation measures.

6.1.7 The greenhouse gas emission mitigation measures proposed in the CCIA have not improved since the 2021 DEIR (the first EIA), and the critiques raised in the December 2022 comments.

6.1.8 The only measure in the EMP that includes reference to climate change management is that the project should include:

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"i) GHG emissions meters to ensure efficiency and safety; ii) gas leak detectors so that fuel can be immediately isolated and shut off, the leak identified, and the necessary repairs or replacements made and iii) air and water temperature monitors to ensure that potentially rising sea-surface and ambient air temperatures do not negatively impact operations and pose a safety hazard.

A climate change risk register should be developed and periodically updated ...

Site-specific safety protocols must cross-reference relevant aspects of the climate risk register.

Where feasible and reasonable, consideration could be given to the purchasing of carbon credits or contribution to carbon capture and storage initiatives to offset some of the project's emissions and account for value-chain emissions/embedded carbon".

- 6.1.9 These are basic monitoring, control and safety measures that must be included as part of the project's operations. They are not measurable mitigation measures to reduce the day-to-day GHG emissions that will arise from the project in the ordinary course. In any event, the EMPr has not been approved.
- 6.1.10 The CCIA proposes three mitigation options:
- 6.1.10.1 The first is to reduce the duration of the PPA *measure whichlo;ljjnbl,mkjcjffjhvfjsjkmkmbkbjhu8y64;sdssX,SKKJFJHJHUJHJHJHRDFKKNFJHUIJIJIUNUUBNNJNN may affect the financial viability for the project,*" and therefore seems to write it off. This is not a mitigation measure as such, as it gives the decision-maker and stakeholders no clarity on the extent to which it would be applied, if at all, or the GHG emission reductions to be received.
- 6.1.10.2 The second proposed mitigation measure is that Eskom does not dispatch the power from the ships, which again would be desirable but also unlikely if the project goes ahead. This too, gives the decision-maker and stakeholders no clarity at all on the extent to which it would be applied, or the GHG emission reductions to be received.
- 6.1.10.3 Finally, the CCIA states that green hydrogen could be used in the future, but that this is not considered economically viable right now. While, again, this might be desirable, there is no evidence provided that the turbines could run on 100% green hydrogen, and the lack of economic viability currently makes this unlikely to serve as a real solution.
- 6.1.11 All three mitigation measures proposed in the CCIA are speculative. None of them are measurable, or sufficiently preventative in line with the EIA Regulations and draft CCIA Guideline requirements. The CCIA simply states, *"these measures result in lower GHG emissions and therefore reducing its impact."* But there is no provision in the CCIA – nor is there any requirement in the EA – stating that they will be

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implemented, if so, how and when and what reductions could be achieved. The FEIR admits these measures to be unlikely and makes no attempt to quantify the possible GHG emission reductions.

- 6.1.12 The mitigation measures put forward, and relied on, in the CCIA are not mitigation measures at all. This is a far cry from specific measures to anticipate and prevent potential impacts and risks as required by NEMA and the EIA Regulations.

Failure to adequately consider full lifecycle emissions

- 6.1.13 The failure to assess the full lifecycle emissions of the KPS project, including "gas production, gathering, processing, initial transport, and LNG liquefaction", was identified as a fatal flaw in the Minister's August 2022 appeal decision.
- 6.1.14 The final CCIA included a number of upstream emission categories, including transport of gas to the port from within South Africa and the production of the gas. However, it still fails to adequately assess the upstream GHG emissions from the project because:
- 6.1.14.1 The precise assumptions behind the emissions calculations, including how fugitive methane emissions in various phases of the gas lifecycle are accounted for, are lacking, making it impossible to ascertain whether the specialists assessed the full scope of GHG emissions from the gas lifecycle appropriately; and
- 6.1.14.2 The deliberate exclusion of any GHG emissions that occur outside of South Africa is arbitrary and unjustified. These emissions are still relevant considerations for purposes of determining the extent of impacts – and certainly for assessing lifecycle emissions.
- 6.1.15 The CCIA notes that *"the value chain emissions for the project will be calculated and assessed, however, in the assessment of the impact of the project on climate change only the direct operational emissions will be considered."* It relies on the judgment of *South Durban Community Environmental Alliance and Another v Minister of Forestry, Fisheries and The Environment and Others* (the SDCEA judgment) to justify the absence of an assessment of lifecycle emissions as part of the project's climate impacts. This is incorrect for the following reasons:
- 6.1.16 It ignores the legal requirements set out in NEMA's EIA Regulations, to consider cumulative impacts of activities, which must (by definition) include consideration of reasonably foreseeable future impacts of an activity, considered together with the impact of activities associated with that activity.
- 6.1.17 Section 24O(1)(b)(i) of NEMA requires the assessment of all environmental impacts *likely* to be caused if an authorisation is granted.
- 6.1.18 The above legal requirements are not limited to impacts arising in South Africa – NEMA does not say that the obligation to consider impacts *only* applies to impacts within South Africa. Particularly in the context

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of climate change where the impacts of additional GHG emissions will be felt in South Africa. If the impacts are the likely result of a listed activity under NEMA, they must be assessed.

- 6.1.19 The SDCEA judgment relied on by the applicant is subject to appeal proceedings.
- 6.1.20 Based on the above, the full lifecycle emissions of the project have yet to be adequately assessed, and the applicant has misinterpreted its legal obligations.

The absence of clarity on running times for the project, which materially affects the GHG emission estimations for the project

- 6.1.21 The CCIA assumes that the powerships will run for at maximum 16.5 hours per day, as per the constraints of the Risk Mitigation Independent Power Producer Procurement Programme ("RMIPPP") Request for Proposals ("RFP"). This is explained to be a "worst case scenario", simply because the RFP was for dispatchable power and specified that the project "be able to operate between 05h00 and 21h30."
- 6.1.22 However, nowhere is it stated in the RFP or in the FEIR documents that the plant will *only* be allowed to run at these hours. Further, KPS has an incentive to run the project for the duration of the stipulated "worst case", if not longer. In this regard the December 2022 comments note the following:
 - 6.1.22.1 The Powership performs most efficiently when operating at full capacity. Additionally, LNG is generally cheaper, and easier to procure, when purchased under long-term contracts that guarantee a supplier a steady customer. Thus, purchasing LNG for intermittent use is more expensive and uncertain, meaning that there are incentives for the buyer (Karpowership) to know exactly how much they will use, and use it.
 - 6.1.22.2 It is not unreasonable to assume that the plants could be called on to run in more of a baseload capacity, in which case, the 16.5 hours a day, 450 MW limit may very well not be the worst-case emissions scenario, as the project's running time would be far longer than this. There are indications elsewhere in the DEIR that the plants will run at or above the presumed "worst-case." For example, the number of LNG carriers estimated to supply the project, already assumes the plant would be running at higher capacity and/or for longer every day than the "worst-case" 450 MW, 16.5-hour days.
 - 6.1.22.3 The Meridian Economics report, 'Hot Air About Gas', notes that "*Peaking plant fuel offtake is both variable and unpredictable and increasingly will be characterised by long periods of minimal or zero usage as renewables and battery storage provide for daily demand cycles. LNG contract norms require predictable, steady offtake fed by scheduled replenishment vessels with take-or-pay terms. Erratic usage as characterised by peaking plant needs is fundamentally incompatible with these norms, requiring LNG usage to be limited to what will*

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definitely be needed between replenishment cycles." Any assumed downward dispatching is therefore unlikely to materialise.

6.1.22.4 While the resolution of the Eskom power crisis and the lowered dependence on fossil fuels in South Africa would be a positive outcome, the 20-year PPA for the project, and the nature of long-term LNG contracts mean that there will be strong incentives to keep this project running more, rather than using it to dispatch occasional power at critical times as a peaker might.

6.1.22.5 The running time for this plant is a material factor in determining the likely GHG emissions, and, evidently, the absence of clarity in this regard is a material deficiency. It is not possible to assess the full extent of potential GHG emissions from this project without this clarity and confirmations on the running time for the project.

The failure to assess cumulative GHG emissions

6.1.23 The CCIA did not assess the project's additive contributions to anticipated GHG emissions from other fossil fuel energy projects.

6.1.23.1 The draft CCIA Guideline states that a "specialist must consider potentially significant direct, indirect and cumulative climate change impacts of a proposed development. This requires the following: Conceptualisation of possible cause-effect pathways resulting from the proposed development; an understanding of strategic context within which the proposed development is located, developments and activities in the area; and an awareness of other threats or trends that could affect the socio-economic and socio ecological systems within which the development is proposed ...".

6.1.24 The FEIR states that because the emissions of GHGs have no local impact and cannot be managed locally, there was no obligation to consider cumulative GHG emissions from other sources in the proximity of Saldanha Bay. On this basis the CCIA did not consider the cumulative impacts of any of the additional power plants underway or planned within proximity of Saldanha Bay, or elsewhere in the country.

6.1.25 This mischaracterises the nature of the issue and legal obligation. This project is one of many proposed fossil fuel projects proposed for South Africa, in the context of:

6.1.25.1 Increasingly constrained national GHG emission space and an acknowledged priority from National Government to reduce GHG emissions in the energy sector;

6.1.25.2 A number of oil and gas projects, proposed nationally (not just in Saldanha) which will be taking up the country's limited emission space; and

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- 6.1.25.3 A number of industrial projects in the project area, which are at risk of being affected by climate change and, importantly, exacerbating the project area's resilience to climate impacts.
- 6.1.26 Some of these include:
- 6.1.26.1 Proposed new gas to power projects which have received EAs and/or applied for EAs, such as:
- 6.1.26.2 Karpowership's Richards Bay gas to power project (authorised);
- 6.1.26.3 Karpowership's Coega project (not yet authorised);
- 6.1.26.4 Eskom's 3000MW gas to power facility for Richards Bay (authorised);
- 6.1.26.5 Phinda Power 450MW gas to power plant proposed for Richards Bay (authorised);
- 6.1.26.6 Richards Bay Gas to Power 400MW gas to power plant (authorised); and
- 6.1.26.7 Gas exploration and production projects, all of which intend to supply gas to a domestic market (such as the KPS projects):
- Total Energies EP South Africa BV. (TEEPSA) Deep Water Orange Basin exploration well drilling authorised off the west coast of South Africa and - in proximity to the KPS project;
 - TEEPSA offshore drilling of exploration wells in Block 5/6/7 off the South West Coast authorised - also in proximity to the KPS project; and
 - TEEPSA has applied for an EA for offshore production in Block 11B/12B off the coast of Mossel Bay to Cape St Francis.
- 6.1.27 If the GHG emissions of this project are viewed in isolation, while ignoring the wider context which indicates a much bigger build out of fossil fuels in South Africa – including the two other KPS projects – it is impossible to properly assess the potential climate impacts of this project.
- 6.1.28 A CCIA ought to consider how a development's estimated GHG emissions will impact on South Africa's emissions trajectory and its ability to meet its Nationally Determined Contribution under the Paris Agreement. A full picture of the projected GHG emissions landscape for South Africa is required and the CCIA ought to have taken into account at least: the two other proposed (one of which is authorised) KPS projects; other gas to power generation projects in the pipeline; and upstream oil and gas exploration production projects.
- 6.1.29 The alleged "absence of local impacts" referred to in the FEIR is irrelevant and misconceived. The project's emissions still need to be considered cumulatively, as part of a bigger picture of potential future GHG emissions – irrespective of where or how the climate impacts from these GHGs manifest – because of South Africa's international and domestic duties to manage and reduce its GHG emissions.

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The CCIA fails to adequately assess the risks posed by climate impacts for the project and on the project area's climate resilience and adaptation

6.1.30 The Minister's August 2022 appeal decision found fault with the proponent's original CCIA because it was mainly concerned with the contribution of the proposed project's GHG emissions towards climate change. The new CCIA, while including more information about the likely impacts of climate change in the project area and the general social context of the area, still fails to meet the Thabametsi case standard in several respects. These include the following:

6.1.30.1 In terms of risks to the project: it does not explain what the project designs include, beyond the ships being in a relatively sheltered port area. Nor does it explain how the project will manage the risks to its operations described in the CCIA. These risks include, rising sea temperatures affecting the cooling mechanism of the ship, and rising sea levels combined with storm surges and more intense tropical cyclones causing severe damage and flooding to pipelines, the transmission line, and the ships themselves. The only suggestion the CCIA poses for reducing harms from these impacts and risks is "*regular maintenance of port infrastructure*". Storm surges are noted as a "*major risk for the entire Project, as the electricity generation depends on a continuous and reliable gas supply*", yet no measures are proposed to address, mitigate and manage these risks.

6.1.30.2 The CCIA makes no attempt to consider how the project, compounded with climate impacts, could render surrounding ecosystems and communities more vulnerable to the impacts of climate change. The risk assessment is confined solely to assessing the risks of climate impacts for the project and climate impacts in the project area and communities, but it fails to assess how these interact with one another. No consideration is given to how the project may operate as a threat multiplier, either reducing the resilience of community members to climate change or exacerbating their challenges. For example, small-scale fishers may already be struggling with catches because of warming waters affecting fish breeding and fitness (which the CCIA recognises as a risk for the project area), while the project's noise and vibrations, thermal plumes, and impacts to estuaries may further reduce fish breeding and juvenile success. This is particularly pertinent in this context because Saldanha Bay is home to several nurseries for threatened species of fish, as well as a number of small-scale fishers who depend on fishing for their livelihoods and culture.

6.1.30.3 Integrating and considering the impacts of proposed activities on climate adaptation is an essential component of an EIA, as it is necessary to ensure that a project is resilient to the impacts of climate change, and that it is environmentally and socially responsible. Ecosystems,

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communities, and infrastructure must be protected from climate-related risks – particularly where proposed projects would pose threats to their ability to adapt to, and cope with, climate impacts.

- 6.1.30.4 The extent to which proposed activities may impact upon the climate adaptation of the surrounding environment is a relevant factor for consideration under section 24O(1)(b) of NEMA.
- 6.1.30.5 While the draft CCIA Guideline has not been formally adopted, it clearly demonstrates that the Department envisages a CCIA that not only considers the climate mitigation (GHG emissions) impacts of a project and impacts of climate change on a project. It also requires an assessment of how a proposed project might affect ecological and built infrastructure that is important for climate resilience and adaptation to the impacts of climate change over time.
- 6.1.30.6 In this case, the climatic adaptive capacity of the marine environment in Saldanha Bay – and the communities that depend on it - are placed at further risk by this project and the risks of harm that it poses to the surrounding environment (see the first and second grounds of appeal above). This ought to have been given thorough consideration by the applicant and decision-maker but was not.

A number of the CCIA conclusions are not supported by evidence and/or are based on inaccurate assumptions, rendering the CCIA as a whole inadequate

- 6.1.31 The methodologies and assumptions used in calculating the GHG emissions for the project have, either not been made available or are incorrect. The figures provided are unsubstantiated and cannot be verified or relied upon as credible. Examples of such inaccuracies in the CCIA include:
- 6.1.31.1 Incorrect figures for the global warming potential of methane: The CCIA uses the global warming potentials ("GWPs") of methane from an outdated, and since replaced, 2006 Intergovernmental Panel on Climate Change ("IPCC") report (23), rather than the most recent IPCC report, which finds that the 100-year GWP of methane is 29.8. This means that the methane leakage estimates included in the CCIA are converted to CO₂ equivalent ("CO₂e") at a rate lower than the latest science supports. In addition, the specialists dismiss the use of the 20-year GWP (82.5), rather than the 100-year GWP (29.8) for methane, even though the growing scientific consensus around climate tipping points suggest that a 20-year GWP is more relevant. UNEP has confirmed, in relation to methane emissions, that:
- historically, available data on methane emissions has largely been based on generic emissions factors that peer-reviewed science has repeatedly proven, dramatically underestimate measured levels; and

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- atmospheric methane is at its highest level in recorded history and poses serious threats to air quality and human health. It is the second biggest driver of global warming caused by human activity after carbon dioxide ("CO₂"), and in the near term over 80 times more powerful than CO₂. It is therefore fundamental that emissions from methane be accurately assessed.

6.1.32 The CCIA states that the project would have climate benefits as it replaces GHG emissions from coal. This is misleading and incorrectly assumes that the only electricity supply alternative to this project is emission-intensive coal power. These statements disregard: (1) a plethora of electricity supply and efficiency options that could supply electricity and have far fewer GHG emissions than the present project; and (2) the known and typically underestimated high GHG emissions of gas power along its lifecycle.

6.1.32.1 There is no assessment in the CCIA of the capability of battery, and other forms of storage, to play the role of supporting renewable capacity, other than reference to two of the hundreds of grid-stabilising battery projects in operation around the world today.

6.1.32.2 It is crucial to note that when regard is had to the full lifecycle of gas to power projects, including upstream emissions, gas is as – if not more – GHG emission-intensive than most coal power technology.

6.1.33 The conclusions in the CCIA are flawed and unreliable and hindered the Chief Director in complying with his obligations under section 24O NEMA.

The significance of the GHG emissions is understated and inappropriately ranked rendering the assessment of the climate impacts inadequate

6.1.34 The 2014 EIA Regulations require an assessment of the significance of the risks. The Chief Director was prevented from adequately considering the significance of the project's anticipated GHG emissions by virtue of the fact that the significance threshold and methodology in the CCIA are arbitrary, and the significance of the GHG emissions has been understated without rational basis.

6.1.35 In the project's initial DEIR of 2021 (under the first EIA) the GHG emissions had been categorised as "very high".

6.1.36 Under the second EIA process, the CCIA in the FEIR oscillates between a high and medium significance ranking for the project. This oscillation between medium, and high is ambiguous and unclear. What is arbitrary, is the downgrading of the significance rating for the project from very high (as it was rated under the first EIA) to medium and/or high (under this EIA). This, in circumstances where the project has not changed at all.

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- 6.1.37 The CCIA states: *"the proposed Karpowership Project would result in approximately 1.1 million tCO₂e/annum and 22 million tCO₂e over the PPA duration assuming that the project operates 16.5 hours per day per year. This falls within the medium intensity as assessed against the thresholds in section 3.1.5. The emissions from the Project would have a negative climate change impact."*
- 6.1.38 The final CCIA uses an arbitrary comparison for concluding that emissions will not be very high – that of a coal-fired power plant:
- "The emissions over the 20-year lifetime of the project are comparable to 2 years of running a new coal fired power station which the upper threshold is based on. This supports the paragraph above that natural gas can be used as a transitional technology to move away from reliance on coal. If the operational emissions of the Project are analysed for just a 5-year period, the emissions total 5.5 million tCO₂e which remains in the high category but below the emissions from operating a coal fired power station for a year. This can be considered a positive impact allowing for economic growth while reducing the reliance on coal fired power stations. When considering all impacts related to the Project, it can be considered to have a low positive impact. Despite having a high intensity impact from operational emissions, the project enables significant reductions through avoided emissions and enabled renewables. Furthermore, it allows for economic development to occur by providing dispatchable power onto the grid which is critical for the economy."*
- 6.1.39 Emissions totalling approximately 1.1 million tCO₂e/annum and 22 million tCO₂e over the PPA duration are, objectively speaking, very high for a single project. Compare this to total annual GHG emission for some countries. For example, Namibia emitted 4.013 MtCO₂e in 2020. If this "very high" threshold were to be accepted, it would also mean that a number of new coal-fired power plants in South Africa would not be categorised as very high (as the emissions metric for a coal plant relied on here is higher and larger than many in South Africa). This cannot be correct.
- 6.1.40 The SEIA specialist study which compares GHG emissions and other parameters of conventional generation versus alternative energy generation technologies – shows KPS having the highest GHG emissions (higher than the coal plant comparison) at 508.5 grams of carbon dioxide equivalent per kilowatt-hour.
- 6.1.41 The original CCIA acknowledged that the project emissions would be very high, even though it had calculated fewer GHG emissions than currently calculated under the CCIA. The conclusion therefore must be, that the specialist, without adequate justification has moved the goalpost to offer an advantage for its climate change assessment.
- 6.1.42 The CCIA refers to nebulous and misleading claims that the project would have a climate benefit in avoiding emissions from the coal fleet in the national grid. The project proponent has not provided any evidence to show that coal specifically would take up this capacity for the duration of the 20-year PPA if

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this project does not go ahead. Nor has it shown that cleaner renewable energy options would not take up the capacity space if KPS did not proceed.

- 6.1.43 Based on the above, the significance rating(s) allocated to the project emissions are disputed and are understated. The allegations made around the project's GHG emissions is misleading.

The high climate impacts of the project should have weighed heavily against the granting of the authorisation

- 6.1.44 The project will emit 22 million tons of CO₂e over its lifetime if it runs at 100% of the contracted capacity. This is a significant amount and is equivalent to about 0.33% of what Climate Action Tracker considers to be South Africa's fair share annual emissions rate of 347.78 MTCO₂e by 2030, and around 0.3% of South Africa's latest 2030 NDC target (insufficient for achieving 1.5° C). This project alone would take up a substantial portion of limited GHG emission space that ought to be allocated to sectors that are harder and costlier to abate.
- 6.1.45 It is also not possible to verify the accuracy of the stipulated GHG emission figures because the assumptions and methodologies used for this calculation are not detailed enough.
- 6.1.46 A finding of unmitigable high emissions – with consequent irreversible harms for people and the ecosystems, should give serious cause for refusal of an EA – particularly if the principles in section 2 of NEMA are applied in the decision-making process. In this case “a risk-averse and cautious approach” required by section 2(2)(2)(vii) of NEMA would warrant a refusal of the project.
- 6.1.47 Authorising a project which would knowingly cause excessive GHG emissions, and therefore contribute to resultant climate harms, potentially unjustifiably limits a number of fundamental Constitutional rights, particularly as (1) less harmful electricity supply options which do not pose the same level of climate and other harms, could be available and (2) no evidence has been provided to show that, and if so, how, GHG emissions from the project would be mitigated.
- 6.1.48 These harms should have weighed heavily against the approval of this project.

APPLICANT'S RESPONSES TO THE THIRD GROUND OF APPEAL

- 6.2 The Applicant responds to the submissions made in relation to the third ground of appeal as follows:
- 6.2.1 Although the Appellants refer to the Constitution, and the protection of South Africans' rights, they fail to consider that Section 36 of the Constitution of South Africa allows for the limitation of rights in specific circumstances as rights enshrined in the Constitution are not absolute and can be restricted if such

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limitations are reasonable and justifiable in an open and democratic society. The limitation must serve a legitimate governmental purpose and should be proportionate to the importance of that purpose.

- 6.2.2 Section 24 rights, (environmental rights), may also be subject to limitations if it is necessary to balance these rights with other competing interests, such as socio-economic considerations, including the need for consistent access to electricity for South Africans which are currently a great burden to the community and the South African economy. This framework ensures a careful balance between individual rights and the broader needs of society, which the Appellants fail to consider.
- 6.2.3 Although the Appellants quote the “pathways” and “pledges” according to the Paris Agreement, any law relative to the production of power from LNG as a transitional fuel, or use of LNG, in order to be binding and effective in South Africa would have to be legislated in South Africa. It must be borne in mind that the Project is a response to Government sanctioned policy and programmes in terms of the Request for Proposals (RFP) and RMIPPPP. It is imperative to consider the broader context of South Africa's energy and environmental policy.
- 6.2.4 South Africa is actively engaged in implementing a Just Energy Transition (JET) policy which aims to balance the critical aspects of transitioning to a more sustainable energy future while ensuring the continued provision of reliable and affordable energy. This policy is a cornerstone of national strategy, designed to address both immediate energy needs and long-term environmental commitments.
- 6.2.5 The Integrated Resource Plan (IRP) has been developed as a key component of government's comprehensive approach. The IRP is informed by, and aligns with, South Africa's climate change objectives and commitments under international agreements, including the Paris Agreement. The IRP considers the necessity of reducing greenhouse gas emissions while addressing the urgent need for energy security and socio-economic stability.
- 6.2.6 Failing to meet the energy demands of our economy could have significant and adverse socio-economic implications. The energy transition, as outlined in the JET and the IRP, is a calibrated approach that seeks to harmonize environmental responsibilities with the imperative of national development and energy access.
- 6.2.7 The project's climate impacts must be weighed against the broader context of national policies and strategies aimed at achieving a balanced and sustainable energy future for South Africa.

The CCIA

- 6.2.8 The CCIA complies with South African law which was applicable at the time, international best practice and the IPCC codes and precedent established by cases such as “Thabametsi”. Promethium, the independent specialist that undertook the CCIA, is one of South Africa's leading climate change specialists. A comprehensive CCIA was conducted in compliance with the requirements set out in section

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240 of the NEMA, as underscored in the 2017 Thabametsi case. The CCIA methodology was informed by this judgement.

- 6.2.9 The CCIA comprehensively covered all elements outlined in the draft CCIA Guideline published on 25 June 2021 (GN 559). This included assessing the potential GHG emissions from the development, its impact on climate change adaptation and resilience, and the projected climate change impact on the development, along with mitigation strategies for these impacts.
- 6.2.10 Mitigation measures have been covered in section 5.1.5 of the report and there is therefore no failure to address the Minister's findings from the Thabametsi judgement. There are a few measures that could reduce the impact of the Project on climate change through mitigation. These measures result in lower GHG emissions and therefore reducing its impact.
- 6.2.11 The first measure is shortening the duration of the PPA. This would result in fewer lifetime emissions from the project as the powerplant would be run for a shorter duration. However, this measure may affect the financial viability for the project.
- 6.2.12 The nature of the RFP for the RMIPPP is for power to be dispatched at the request of Eskom. When Eskom does not require the dispatch of power, no GHGs will be emitted from the project. It is assumed that Eskom will have increasing access to renewable energy over the duration of the project, and that more renewable energy plus battery storage projects will come online. This may result in the project emitting significantly less emissions than what has been estimated.
- 6.2.13 The other measure is switching the feedstock of the Powership to a renewable energy source such as green hydrogen. This would eliminate the GHG emissions associated with the production, transport and combustion of natural gas. Within the current economic circumstances in South Africa, the use of green hydrogen is not considered an economically viable option for mitigation.
- 6.2.14 The GHG assessment for this project considers the full life cycle emissions, including those related to the extraction, processing, compression, liquefaction, storage, transport, and re-gasification of the gas, as well as fugitive emissions from these processes. The emissions factors used in the assessment are based on the guidelines established by the Intergovernmental Panel on Climate Change (IPCC), which were developed by consensus of leading climate scientists worldwide.
- 6.2.15 The CCIA is clear on the running times. It states in section 5.1.1 "The emissions shown in this section assume that the plant runs for 16.5 hours per day. This can be seen as the worst-case scenario within the constraints given by the RFP."
- 6.2.16 **"Cumulative Impact"**, in relation to an activity, means *"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."* This definition, whereas appropriate to

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the context of localised environmental impacts, is not applicable to the global, variable nature of climate change. GHG emissions associated with a project or an activity, whilst contributing to global climate change, cannot be directly linked to specific local impacts. GHG emissions are quantified to determine the impact of this project on global GHG concentration in the atmosphere. This global stock of GHGs is the result of the cumulative impact of all anthropogenic GHG emissions since the start of the industrial revolution.

- 6.2.17 The CCIA explains there is no direct link between the emissions from the project and local climate change impacts. Local climate change impacts are the result of accumulated anthropogenic greenhouse gases in the atmosphere since the start of the industrial revolution. The project's contribution to this stock of global greenhouse gases will not have any detectable impact on local impacts. Therefore, the project will not exacerbate climate change impacts on, for example, local small-scale fishers. The other specialist reports (e.g., the biodiversity and socio-economic impact reports) detail impacts of climate change on those specific components.
- 6.2.18 The CCIA anticipates and prevents/mitigates negative impacts and risks. This is done in terms of both a physical risk assessment as well as an assessment of the vulnerability of the project to climate change.
- 6.2.19 The CCIA aligns with the draft CCIA Guideline, emphasizing measurable and practically attainable mitigation actions for each identified impact. While the guideline is in draft form, the CCIA matches its key expectations.
- 6.2.20 Although the proposed measures are basic monitoring, control and safety measures that must be included as part of the project's operations, they are sufficient to meet the requirements. The measures are not "purely speculative" They are practical actions that can lead to measurable reductions in the GHG emissions of the power plant. This, in terms of the RMIPPP's RFP, was designed to make provision for the plant to be able to dispatch power at the request of the grid operator with the technical requirements related to the ability of the plant to start-up and ramp up production according to very tight specifications.
- 6.2.21 Even though hydrogen is not currently available as an alternative fuel, government is pouring significant resources into a green hydrogen programme. There is no guarantee that this programme will result in the availability of the fuel, but it cannot be ignored.
- 6.2.22 The Life Cycle Assessments (LCA) standard (ISO14067) is not applicable to calculating a GHG inventory. The SANS 14064:2021 standard was used. The emissions from all value chain stages are considered in this assessment. Finally, an LCA is not required by any guideline or judgement. Even in the Thabametsi judgement, the only reference to LCAs is where the judge records Earthlife's arguments, which is not a ruling that an LCA must be included.
- 6.2.23 The Eskom Richards Bay judgment states: *"To require such a broad consideration of 'upstream effects' as a precursor to the granting of any EA would likely create an almost impossible situation – requiring the*

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making of any decision on an EA for a project that it was anticipated would or even may source fuel from outside the Republic, dependent upon an assessment to be made, as in the present case, years before any authorization for the first step in proceeding with such a project was even granted and subject to the laws or any changes of another state. The specific source of the gas has not been identified nor can it reasonably be, so far in advance."

- 6.2.24 The applicant therefore contends that "[T]his means that "life-cycle" emissions should not be assessed in the granting of environmental authorisations."
- 6.2.25 The exclusion of emissions outside the boundaries of South Africa are premised on the Eskom Richards Bay case. There the judge found that emissions that fall under activities that would require an EA in their own right, or emissions that fall outside of the jurisdiction of South Africa, should not be included in the [environmental] assessment.
- 6.2.26 Cumulative impacts and life cycle emissions are different concepts not to be conflated. All GHG assessments build on the principle that GHG emissions add to the global stock of GHGs that have accumulated in the atmosphere due to anthropogenic action since the start of the industrial revolution. The statement that the CCIA did not assess cumulative impacts is therefore incorrect.
- 6.2.27 The GHG assessment for this project considers the full life cycle emissions, including those related to the extraction, processing, compression, liquefaction, storage, transport, and re-gasification of the gas, as well as fugitive emissions from these processes. Climate change assessments differ from other environmental assessments as the impacts are global in every instance of a proposed project.
- 6.2.28 The plant will only run when power is called for to be dispatched by the System operator. The requirements of the RMIPPP RFP indicate that the intent of the procurer of the electricity is that the plant will run when power is called for dispatch, when it is required by the grid, whether to supply energy, or to supply ancillary services.
- 6.2.29 The reference to the "peakers" is relevant in a number of ways:
- Peakers only run when they are called to dispatch power.
 - The high run-time of peakers in the recent past is the direct result of constrained grid capacity.
 - It is common knowledge that the cheapest and quickest way to add capacity to the grid is through renewable energy, compare the costs and project timeframes of Medupi & Kusile with the REIPPP projects.
 - It is also common knowledge that the ability of the grid to accept high levels of intermittent renewable energy is constrained by the amount of capacity available with high load following capability. This is why the RMIPPP requires such high levels of ancillary services to be delivered.
 - Whereas battery capacity is starting to come to the grid (BESS) the costs of battery systems is not yet sufficiently low to allow for the ancillary service demand to be fully met by BESS.

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- 6.2.30 The Meridian economics report does not contradict the findings of the CCIA. The report states that: *"The only economically rational role for gas in power generation for the foreseeable future is now as a fuel for peaking plants – a small, intermittent but crucial role currently provided by diesel."* This is consistent with the findings of the CCIA.
- 6.2.31 The argument that the demand to dispatch power will not reduce over time is based on the assumption that the SA electricity crisis will not be solved. The system operator will call for power from this project to be dispatched only if it either needs the energy, or if it needs the ancillary services. Increased penetration of renewable energy on the SA grid will (a) reduce the demand for energy, but conversely (b) increase the demand for ancillary services. The net impact of these will be reduced emissions from the grid overall.
- 6.2.32 The CCIA assessed the contribution this project makes, not only to the anticipated GHG emissions from other fossil fuel energy projects in SA, but its contribution to the total stock of GHG emissions globally since the start of the industrial revolution.
- 6.2.33 The comment that *"The CCIA did not assess the project's additive contributions to anticipated GHG emissions from other fossil fuel energy projects"* indicates a lack of a fundamental understanding of the principles of climate change. The emissions from this single project, and the emissions from all of the fossil fuel projects in SA combined are not sufficient to cause climate change. Climate change is caused by the accumulation of GHGs in the global atmosphere from all anthropogenic activities over the last +/- 150 years.
- 6.2.34 There is no *"national GHG emission space"*. Neither the National Climate Change Response Paper (NCCRP) nor the updated Nationally Determined Contribution (NDC) allocates or accepts an *"emission space"* for SA. The country's decarbonisation trajectory is defined by the *"Peak Plateau Decline"* (PPD) trajectory. The IRP is aligned with the PPD, and that the IRP allows for the construction of new gas plants.
- 6.2.35 The notion that a number of projects implemented in a specific area will *"exacerbate the project area's resilience to climate impacts"* points at a fundamental lack of understanding of climate change. Any project that emits GHGs, irrespective of whether it is in this area, or on the other side of the world, will contribute to the global stock of accumulated GHGs. It is this global stock of accumulated GHGs that change the energy balance of the global atmosphere and cause climate change. The CCIA is fundamentally based on this principle. An increase in LOCAL GHG emissions has no direct link to the LOCAL impacts of climate change, or the project area's resilience to climate impacts.
- 6.2.36 The approval and implementation of these projects will only happen in the context of the South African IRP which was drafted in the context of the country's international commitments as per the updated NDC, that is based on the national policy and articulated in the PPD.
- 6.2.37 It is not the prerogative of the CCIA to second-guess national policies as articulated in the NDC and the IRP. The RMIPPP RFP to which this project is a response was launched by the DMRE as part of the

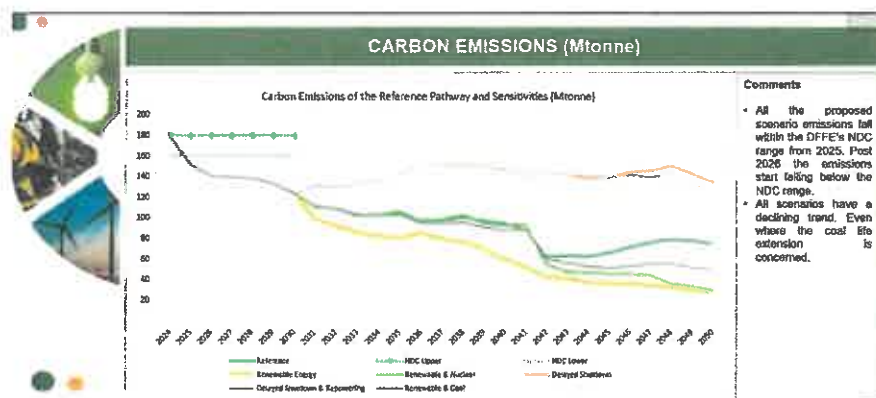
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implementation of the IRP which in turn was drafted in the context of the country's international commitments articulated in the NDC.

- 6.2.38 If the CCIA were to attempt to model the impact of all the projects mentioned, it would have to duplicate the modelling done in the IRP. This was never the intent of the Thabametsi judgement to require that all projects should re-model the IRP and second-guess the official government policy.
- 6.2.39 The CCIA does not state that there is an absence of local impacts. It does state that there is no direct link between the emissions of this project, and other projects in the area, and the climate change impacts on the area. The climate change impacts in the area are the result of the accumulation of global GHG emissions since the start of the industrial revolution. These impacts are assessed in the CCIA report.
- 6.2.40 It was not within the scope of the specialist study to assess the impacts of climate change on surrounding ecosystems and communities. The scope was strictly to assess the impact of the project on climate change and the project's vulnerability to climate change. This is indicated in section 5.2.3 and 5.2.4 of the report. At a local scale, the project will not act as a threat multiplier due to the extreme climate change impact at a global scale and any climate change impacts locally cannot be attributed directly to the project. This project will not "pose threats to aquatic fauna their ability to adapt to, and cope with, climate impacts."
- 6.2.41 The proposed project itself will not impact ecological or built infrastructure from a climate change perspective in such way that the project can be isolated as a cause of any impacts.
- 6.2.42 All of the input data (generation, fuel consumption, emission factors, etc) are provided in the CCIA. The statement that the *"figures provided are unsubstantiated and cannot be verified or relied upon as credible"* is not correct.
- 6.2.43 South Africa is an IPCC member country and as such applies the 2006 IPCC Guidelines for National GHG Inventories, as referenced in the [South Africa] "Methodological Guidelines for Quantification of Greenhouse Gas Emissions". These guidelines specify the use of the 100-year values. It is important that the CCIA aligns with national legislation and guidance. As such, until the guidelines are updated to refer to the 20-year value, the CCIA must reference the 100-year time horizon. The emissions factor source to be used is specified in the National Greenhouse Gas Reporting Regulations as well as in the Carbon Tax Act. The CCIA was drafted to be consistent with the existing legislative infrastructure.
- 6.2.44 The South African baseline is coal. During the last REIPPP round a large number of renewable energy projects could not get preferred bidder status because the grid cannot accept the power. There is no justifiable baseline other than coal.
- 6.2.45 There are currently no published or accepted thresholds for significance of emissions in South Africa. The ratings used in CCIAs done by the specialist over the years have developed as we gain a deeper understanding of the nature of the problem.

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- 6.2.46 The socio-economic impacts of the current spate of load shedding in SA are disastrous. Whereas everyone agrees that GHG emissions must be kept to an absolute minimum, SA has to get to the point of net-zero emissions by way of a Just Transition. The ideal end-state of a national electricity grid in SA that is 100% supplied by renewable energy is not technically or economically feasible without generation capacity that can ramp up production fast. This is called "load following capability" and is required when the supply of renewable energy to the grid drops because of weather conditions. The RFP articulates the load following requirements for this project. The options for such generating capacity are limited to mostly natural gas and diesel-based options. The high cost of diesel makes natural gas the preferred option.
- 6.2.47 The emissions from the generation of electricity from natural gas is at least 40% less than that of coal, which is the baseline in SA. Failure to implement natural gas fired power plants in SA, like in the case for this project, will result in two direct outcomes. The first is a continued reliance on coal fired power, as we have done in the past, and the second is a continued inability to add more renewable energy that is intermittent in nature to our national grid. This will result in significant more greenhouse gas emissions than what this project will emit.
- 6.2.48 Finally, the IRP accounts for the introduction of gas-powered electricity generation onto the South African National Electricity Grid, to meet the projected national energy demands. The IRP makes provision for 3000 MW of gas-generated electricity onto the grid by 2030 while ensuring the South Africa electricity generation capacity expansion plan meets national climate change policies. The impact of the KPS projects on climate change should be considered in context of the IRP requirements.
- 6.2.49 There is no guidance or benchmark of climate change significance ratings in SA. The reasoning behind the ratings is provided in the CCIA. The CCIA was done within the constraints of SA national policy. This includes the NCCRP, the NDC (updated) and the IRP. The scope of the CCIA is the project, and NOT national policy. Many of the points raised in this appeal question the validity of the national policies that are taken as the foundation of the CCIA.



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6.2.50 Furthermore, as per the updated draft IRP 2023, all the proposed scenario emissions inclusive of an increased share of energy from gas fall within the DFFE's NDC range from 2025. Post 2026 the emissions start falling below the NDC range. All scenarios have a declining trend. Even where the coal life extension is concerned. The graphic depicted above from the DMRE IRP 2023 public consultation presentation clearly shows this.

DEPARTMENT'S COMMENTS ON THE THIRD GROUND OF APPEAL

6.3 **The Department comments as follows to the submissions made under the third ground of appeal:**

6.3.1 A climate change impact assessment was undertaken as part of this application in which the specialist concluded that the assessment of the climate change impact of this project has been done on the impact of the project on climate change, the resilience of the project to climate change, as well as the options for mitigation of the impacts.

6.3.2 The impact of the project on climate change was assessed in the context of both GHG emissions from the project, as well as the potential positive impact the project will have for the transition to a low-carbon economy. The project will emit 22 million tons of CO₂e over its lifetime if it runs at 100% of the contracted capacity. We note that the RMIPPP RFP states that the power from the plant must be dispatchable at required of the grid operator and requires that the plant bid into this program must be capable of stable operation at 25% of the contacted capacity. Should the plant run at this level, the total emissions of the plant over its lifetime will be 5.5 million tons CO₂e.

6.3.3 In the Competent Authority's view, climate change impacts were sufficiently assessed.

EVALUATION AND DECISION

6.4 When evaluating this ground of appeal, I considered the First Appellants' submissions, the responses of the Applicant and the Department's comments. I have also considered the documents that form part of the appeal record. In this regard I have taken note of the assertions that:

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- 6.4.1 The project's climate impacts must be weighed against the broader context of national policies and strategies aimed at achieving a balanced and sustainable energy future for South Africa.
- 6.4.2 The CCIA was conducted in compliance with South African law, international best practice and the IPCC codes and in particular the requirements set out in section 24O of the NEMA, as underscored in the 2017 Thabametsi case.
- 6.4.3 The CCIA comprehensively covered all elements outlined in the draft CCIA Guideline published on 25 June 2021 (GN 559). This included assessing the potential GHG emissions from the development, its impact on climate change adaptation and resilience, and the projected climate change impact on the development, along with mitigation strategies for these impacts. Mitigation measures are set out in section 5.1.5 of the report. These measures may result in lower GHG emissions and therefore reduce its impact.
- 6.4.4 According to the CCIA there is no direct link between the emissions from the project and local climate change impacts which it is asserted are the result of accumulated anthropogenic greenhouse gases in the atmosphere since the start of the industrial revolution. Furthermore, that the project's contribution to this stock of global greenhouse gases will not have any detectable impact on local impacts. Therefore, the project will not exacerbate climate change impacts.
- 6.4.5 The CCIA suggests, anticipates and prevents/mitigates negative impacts and risks. This is done in terms of both a physical risk assessment as well as an assessment of the vulnerability of the project to climate change.
- 6.4.6 The CCIA aligns with the draft CCIA Guideline, emphasising measurable and practically attainable mitigation actions for each identified impact. While the guideline is in draft form, the CCIA matches its key expectations. The impact of the project on climate change was assessed in the context of both GHG emissions from the project, as well as the potential positive impact the project will have for the transition to a low-carbon economy.
- 6.5 In light of the above, I determine that this ground of appeal is without merit and is accordingly dismissed.

7 FOURTH GROUND OF APPEAL: INADEQUATE CONSIDERATION OF NEED AND DESIRABILITY

(The First and Third Appellants have both lodged separate appeals under this ground of appeal. Due to the overlapping nature of these appeals, for the sake of brevity and convenience, they will be assessed in one evaluation at the end of this section.)

FIRST APPELLANT'S SUBMISSIONS UNDER THE FOURTH GROUND OF APPEAL

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7.1 The First Appellant's submissions, under the various subheadings, under the fourth ground of appeal are as follows:

- 7.1.1 The EIA Regulations, require an assessment of the need and desirability of the proposed activity. A CA in considering an application for an EA must have regard to the need and desirability of the undertaking of the proposed activity.
- 7.1.2 The Department's Guideline on Need and Desirability in terms of the EIA Regulations (the Need and Desirability Guideline) states that:
- (a) The consideration of need and desirability in EIA decision-making *"requires the consideration of the strategic context of the development proposal along with the broader societal needs and the public interest. The government decision-makers, together with the environmental assessment practitioners and planners, are therefore accountable to the public and must serve their social, economic and ecological needs equitably. Ultimately development must not exceed ecological limits in order to secure ecological integrity, while the proposed actions of individuals must be measured against the short-term and long-term public interest in order to promote justifiable social and economic development"* (emphasis added); and
 - (b) *"in South Africa all development must in terms of Section 24 of the Constitution be ecologically sustainable, while economic and social development must be justifiable. There are therefore specific "trade-off" rules that apply. Environmental integrity may never be compromised, and the social and economic development must take a certain form and meet certain specific objectives in order for it to be considered justifiable."*
- 7.1.3 In her August 2022 appeal decision, the previous Minister stated that *"[w]hile another government department may decide the 'need and desirability' of a project from their planning perspective," "proposed activities are to be considered needed and desired from an EIA perspective, in particular, whether that option provides the most benefit, and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term."*
- 7.1.4 In denying the project's EA the Minister found that the potential environmental harms of the project were too high, no matter how important the project claimed to be for alleviating the energy crisis. The previous Minister stated: "The alleviation of the current energy crisis may be vital, but this does not mean that it must be achieved by this specific project, nor does it follow that there is now a license to ignore all relevant environmental considerations."

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- 7.1.5 The previous Minister also listed environmental harms from the powership project to justify her decision, including an increase in GHG emissions, harm to marine organisms from underwater noise, threats to the highly sensitive estuarine habitats and organisms, including mangroves
- 7.1.6 As stated in the December 2022 comments, none of these harms have disappeared just because the applicant has prepared an updated environmental assessment. The project is exactly the same. Although the updated DEIR adds more text to justify the powership's need and desirability, including various reports discussing the shortcomings of renewable energy and the benefits of gas to meet the energy crisis, these updates (in addition to being contested) do not address the core of the Minister's concerns that the environmental and social harms of the project are too high.
- 7.1.7 The previous Minister has also not sought to set aside her appeal decision. It therefore stands and serves as *prima facie* evidence that the project does not meet the need and desirability criteria as set out in NEMA and as such should not have been authorised.
- 7.1.8 The FEIR, in short, says that this project is necessary and desirable on the following basis:
- 7.1.8.1 The electricity capacity from the proposed project is needed in the context of South Africa's electricity crisis – the project can be deployed immediately, and *"can reach commercial operation in 12 months, given the infrastructural requirements on the landside"*. It is not disputed that electricity capacity is needed in South Africa, only that this particular project is not the solution to South Africa's capacity constraints, particularly as it is mired in legal challenges, which will affect its ability to be "deployed immediately".
- 7.1.8.2 *"The Karpowership Project will create thousands of new jobs over the construction and operational phases of the Project. During the operational phase Karpowership will also contribute to skills and capacity development which will benefit locals and contribute to South Africa's just transition"*. Any alleged job benefits should be weighed against negative impacts on employment and livelihoods of those employed in, for example, the small-scale fishing sector. This is addressed further below, under the ground of appeal addressing the inadequate assessment of socio-economic impacts.
- 7.1.8.3 *"The Karpowership Project will produce less than half the GHG emissions, and a fraction of the particulate emissions to that of coal. It is therefore expected to directly result in more emissions avoided (from coal-fired plants)"*. This is untrue firstly because no evidence has been provided to suggest that the coming online of this project would correlate directly with the decommissioning of existing coal plants. In fact, Eskom plans to extend the lives of a number of its coal plants. The majority of Eskom's coal fleet will likely continue operating in the near-term whether this project comes into operation or not. In addition, it is fundamentally incorrect that the emissions of this project – which has very high GHG emissions - would be half of those

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of a coal plant. It is also a misleading comparison to assume that this project would be the only suitable alternative to displace coal (it is not). Claims that the use of gas has negligible climate impacts and is consistent with the goals of the Paris Agreement to limit global warming to under 1.5 degrees are simply not correct. We have already stated above that gas power is as, if not more, GHG-emission intensive than coal when viewed along the value chain. The high lifecycle GHG emissions for this project are a case in point.

- 7.1.8.4 *"Development of a gas industry in South Africa is already underway, and will continue, and thus the skills, supply, and enterprise development undertaken by Karpowership will further contribute to establishing a more efficient and viable domestic industry. This will ultimately lead to increased job creation activities" and "Karpowership SA has committed to invest at least R18 billion directly into local economies".* The cost to the economy of this project would far outweigh this investment figure. There is increasing, recent evidence to suggest that gas should not form part of the development trajectory for South Africa – and certainly not at large scale.
- 7.1.8.5 The Presidential Climate Commission has warned against this. Anwar et al notes that expanding the gas sector carries risks for South Africa, including the possibility of new investments in gas-related infrastructure becoming stranded once global markets stabilise and stricter decarbonisation measures are implemented.
- 7.1.8.6 The FEIR puts forward misguided narratives that renewable energy is substantially more costly than gas from the powerships, that renewable energy cannot meet the energy demands of the grid. This is not correct, and we refer in this regard to the fifth ground of appeal dealing with the inadequate consideration of alternatives.
- 7.1.8.7 The December 2022 comments clearly set out why and how this project is neither necessary nor desirable, and as such does not meet the requirements for need and desirability in NEMA and the EIA Regulations. The Appellants stand by those objections, which should be read into this appeal on the basis inter alia that:
- The negative impacts of the project (for the environment and climate, and its high costs) outweigh any alleged benefits, making this project neither necessary nor desirable;
 - It is not necessary because less harmful and less costly alternatives are available; and
 - There are a number of additional risks associated with the project that render it undesirable, including: the risks of lock-in to a 20-year PPA; the risk of KPS displacing grid capacity needed for cheaper and cleaner renewable energy; and the alarming track record and evidence of harm caused by KPS in other countries where it operates.

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The project is not necessary or desirable because it is harmful to the environment and climate, and it is costly

- 7.1.9 None of the above justifications in the FEIR for the project's need and desirability address the harms that will result from the project if it proceeds. The harms that this project poses for the environment; the climate and the livelihoods and wellbeing of surrounding communities; as well as the socio-economic interests of South Africans are extensively documented in this appeal, and they would render the project both unnecessary and undesirable.
- 7.1.10 In the Need and Desirability Guideline, environmental integrity may never be compromised, and social and economic development must meet certain specific objectives in order for it to be considered justifiable. This is aligned with the findings in the Minister's August 2022 appeal decision above.
- 7.1.11 Further, section 2 of Appendix 3 to the EIA Regulations states that the EIA process must describe the need and desirability of the activity in the context of the development footprint on the approved site. There are a number of material deficiencies and flaws in assessing the impacts on the site, including those related to underwater and terrestrial noise, marine ecology, climate change, and socio - economics, among others. These deficiencies make an accurate assessment of the need and desirability of the project impossible.
- 7.1.12 In terms of costs of the project it is estimated that the KPS projects will cost South Africa up to R500 billion over the 20-year PPA period. A report by Clyde Mallinson titled "The Mallinson Report" is attached as Annexure E to the appeal. This report confirms that it would be possible to integrate alternative projects that would more than halve the tariffs, *"thus saving Eskom, and ultimately the South African electricity consumer, eight billion rand (R8b) per year, or one hundred and sixty billion rand over the term of the power purchase agreements"*.
- 7.1.13 The Appellants stand by their position concurring the potential harms to the marine ecosystem in and around Saldanha Bay, the climate and noise harms, and the potential harm to the livelihoods of fishing communities are serious and undeniable.

Less harmful and less costly alternatives are available, rendering the project unnecessary

- 7.1.14 The FEIR relies heavily on the contention that dispatchable and flexible generation is required to complement renewable energy. The Appellants do not dispute the need for flexible generation capacity to complement renewable energy. However, what is disputed are the misleading claims that *this* particular project would be a necessary and desirable means to provide that flexible capacity. This is addressed in more detail in the fifth ground of appeal dealing with the duty to consider alternatives. There are alternative electricity supply options that are not only less harmful to the environment, climate and human rights. It is not correct that the project is necessary, or that it is desirable.

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- 7.1.15 The following reports by Meridian Economics are relevant to the question of the necessity of the KPS project. Meridian models and considers the role of gas in the South African electricity system in a report titled 'Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa' as well as 'Resolving the Power Crisis: Insights From 2022'. It concludes, inter alia, that: *"[f]orcing large-scale gas use into the power generation portfolio in South Africa instead of the much smaller alternative peaking role to support renewables will increase the cost of the electricity generated by more than 40%."* As stated above under the third ground of appeal on climate impacts, KPS has an incentive, and by many accounts intends, to run its facility as more than a mere peaking plant, and no guarantee has been provided to the contrary (i.e. it has not been confirmed that the project would *only* function at minimal peaking capacity).

Additional risks associated with the Karpowership project that render it undesirable

- 7.1.16 Further evidence which the Chief Director ought to have considered, which indicates that the project is not desirable include:
- 7.1.16.1 Lock-in to a 20 -year PPA at high cost poses extreme risk to South Africa as this will impact on already-escalating electricity costs and, in turn, the costs of living;
 - 7.1.16.2 Lock-in to a PPA with KPS crowds out cleaner and cheaper renewable alternatives that are much needed for affordable electricity, security of supply and for meeting South Africa's decarbonisation obligations; and
 - 7.1.16.3 The KPS has a concerning track record of legal compliance and harmful conduct in other countries where it operates.

Lock-in to a 20-year PPA

- 7.1.17 The FEIR refers to, and purports to assess, the impacts of, a project that will have a 20-year duration. As noted in the Appellants' September 2023 comments, recent media reports have stated that KPs and government is considering reducing the length of the contract period for KPS from 20 years to five years. If this is the case, such reduction will materially change many of the impacts described and assessed, including a decrease in some impacts, and an increase in others. Consequently, a new assessment of impacts would be required, together with PPP to enable the CA to take an informed decision on any such revised proposal. Such process has not happened, and the approved EA makes no mention of the duration of the project. The risks of committing to this project for a period of 20 years include the high costs associated with this project and the risks of volatile gas prices. As stated in the Mallinson report: *"the fuel cost for projects requiring fuel, such as LNG, LPG, or diesel, is treated in the tariff calculations as a pass-through cost to the buyer. The buyer, in this case Eskom, is therefore fully exposed to the risk*

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and price volatility of the global oil and gas markets. In addition, these products are all dollar denominated, so there is additional currency exchange risk on top of commodity price risk ... One could argue that prices and exchange rates may in fact move in favour of lowering the tariffs of gas-dominated projects. Although this may conceivably happen, why take the risk when there are alternatives that are not exposed to price and exchange rate fluctuations?"

7.1.18 The lock-in to GHG emissions of this scale when South Africa will be increasing its reduction ambitions carries with it significant transition risk. The Transition risk is that the value of assets and income will be less than expected because of climate policy and market transformations, such as the transition away from fossil fuels. These risks include: the problem of stranded assets; negative impacts on trade and competitiveness; and the physical risks of climate change itself. All these factors must be considered in an EIA prior to investment in a non-renewable resource project, such as the KPS project, because:

7.1.18.1 The anticipated increase, over the duration of this project, of regulatory controls on GHG emissions e.g. sectoral emission reduction targets to be adopted under South Africa's climate legislation. This would see GHG emission constraints being imposed on the energy sector; and

7.1.18.2 The risks of taxes being imposed on carbon-intensive products, for example the carbon border adjustment mechanism (CBAM). According to the National Planning Commission, South Africa's trade accounts for around 60% of GDP. Products that have a high carbon footprint – from emission-intensive electricity production for example – could be penalised. South Africa's exports are focused on few destinations and are heavily concentrated around a small number of value chains. Therefore, South Africa is particularly vulnerable to changes in trade patterns arising from measures aimed at transiting to low-carbon pathways.

7.1.19 Political Economy Southern Africa (PESA), in its report states:

"Some of the shortcomings highlighted by critics besides the perceived gaps on the environmental processes include that the 20-year PPA's are too long for an emergency power. This is a rather simplistic view that does not account for the positive externalities which include supporting the growth of the local and regional gas industry in the medium to long term, augmentation to the transmission infrastructure and supporting feasible JET implementation. Reports like "Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa" by Meridian Economics contend that gas on a large scale is uneconomical and will ultimately render businesses less competitive globally as consumers eventually would have to bear the cost of the disincentive to meet net zero targets. For South Africa this is not the immediate trade-off given our need to expeditiously resolve the intensifying energy crisis, which needs a solution now and not a decade in the future. While gas does provide a peaking solution on a limited scale, its role in supporting energy security by complementing the power system as a whole in South Africa cannot be overstated."

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7.1.20 The PESA report does not address the concerns and risks listed above.

7.1.21 The report by the Rocky Mountain Institute (RMI report) refers to the 2020 report by Meridian Economics and the CSIR (the CSIR and Meridian report). This report is attached to the appeal as Annexure F. It states that *"Applying the Meridian study's analysis to the proposed Karpowership projects show that 1.2 GW (i.e., 1200 MW) of new gas power ships is neither timely nor economically optimal in the next decade. The study's findings suggest that the Karpowerships' 20-year lifespan risk them becoming a burden to South African electricity customers and is inconsistent with a least-cost investment plan for the nation. Per the Meridian study, South Africa would be better served by focusing on investment in infrastructure to enable a 21st century electricity system, which Meridian's findings and global trends show to be largely renewable"*

7.1.22 The kinds of risks flagged by RMI materialising can be seen in Sierra Leone where earlier in 2023, a Karpowership company, which supplies 80% of Sierra Leone's electricity, cut off supply. Sierra Leone had signed the deal with Karpowership in 2020 and has been struggling with prolonged blackouts as its debts to Karpowership mount. In Sierra Leone power outages have become common since 2021, as it finds itself in a predicament of lock-in to an electricity deal it cannot afford, plunging it further into debt. In order to make up the costs owed, electricity tariffs in Sierra Leone would reportedly have to double. The World Bank described the supply of electricity from the company as "costly". The purchase price of electricity from Karpowership is indexed to global fuel prices, which significantly increased after the Russian invasion of Ukraine. The World Bank has advised Sierra Leone to invest in solar and hydropower generation as an alternative. It is estimated that the cost of electricity from KPS would be anywhere between 2.5 and 4 times greater than from new combined cycle power plants or wind or solar farms. It is not inconceivable that South Africa could suffer a similar fate in its contract with KPS should this project proceed.

Risk of Karpowership displacing grid capacity needed for cheaper and cleaner renewable energy

7.1.23 The grid capacity analysis expert report by Senior Network Planning Engineer Ms. Zoe Lincoln of TNEI is attached as Annexure G to the appeal. This report makes clear that the project is neither needed nor desirable for meeting national energy needs. Rather, the placement of the KPS within a region known for its outstanding wind resources yet limited grid space, would instead lead to higher energy prices and carbon emissions, as the KPS project would run, as per its contractual obligations, at an unnecessarily high capacity and crowd out the entry of the cheapest renewable energy. In this regard, Ms. Lincoln states: *"Given the cause, nature and location of the provincial congestion, all generation feeding into the Transmission System in the Western Cape contributes to the congestion, placing the Karpowership at Saldanha in direct competition for capacity with most potential wind generation facilities in the province."* The KPS space is even standing in the way of wind generation bids in the most recent renewable energy

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independent power producer procurement programme ("REIPPPP") bidding round, that had to be rejected due to *"the erosion of Transmission System grid capacity in the Western and Eastern Cape."* Ms. Lincoln reiterates that rather than aiding in the expansion of renewables by providing peaking capacity to manage renewable variability, *"The location of the Saldanha Karpowership...places it in direct competition for extremely limited network capacity within some of the country's most optimal wind resource areas."*

7.1.24 Ms. Lincoln concludes from her technical analysis that the 320MW reserved for KPS is actually inhibiting the entry of a greater quantity of wind resources to the grid: *"Should Karpowership's 320 MW reserved network capacity be released, it would have the effect of allowing substantially more than 320 MW (in excess of 420 MW, specific location dependent) of wind generation to be connected, given the understood temporal diversity of RE across the Cape, and therefore the lessened aggregated effect on congestion along the central corridor."* Thus, greater quantities of wind could be brought on if the grid space currently being reserved for KPS were freed.

7.1.25 According to Ms. Lincoln, one of the results of this situation is higher electricity costs, as wind projects are displaced into suboptimal locations, where developers must charge higher tariffs to make up for the lower capacity factors. As such, *"In order to harness the most cost-efficient wind generation, Transmission System capacity would need to be unlocked in the Western Cape and/or Eastern Cape provinces."*

7.1.26 Ms. Lincoln explains that the KPS will be unable to balance variable renewables as claimed because of their contractual operating obligations– a dispatch commitment for a minimum annual load factor of 50%: *"Whilst some gas power plants can operate as a complementary technology to systems with a high penetration of variable renewable energy generation, the structure of the RMIPPPP contract means that it is almost impossible for the Karpowership at Saldanha to be operated in a manner that will complement the variable nature of the RE in the Cape."*

7.1.27 The combination of the contractual obligations to run KPS not for peaking, but essentially as baseload, and it's crowding out of wind resources, means that the KPS project is a more carbon-intensive and less useful energy resource than many other projects that have been passed up in recent procurement rounds. While additional grid capacity is planned, it would be far more desirable to use the limited capacity available to enable the entry of greater quantities of the cheapest, least carbon intensive, and most geographically optimal renewable resources than to continue reserving space for this powership that is sub-optimal for the people of South Africa in these respects.

Alarming track record and evidence of harm caused by Karpowership in other countries where it operates.

7.1.28 KPS is an international company with a presence in several countries globally and throughout Africa and a subsidiary of Karadeniz Holdings, a Turkish energy company that owns and operates land-based power

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plants and powerships, through its subsidiary Karpowership. Karadeniz Holdings Ltd is referred to as Turkish power ship parent company.

- 7.1.29 Based on information in the public domain, Karpowership and Karadeniz Holdings have an alarming track record of legal compliance and harmful conduct, including allegations of human rights violations and criminal conduct in other countries where they operate. The government should not expose the people of South Africa to projects where there is any risk or possibility that the proponent may not be fit and proper. This, even more so in the context of South Africa's challenges with corruption and state capture, which have, and continue to, cost the country billions. This is further evidence that the project is not desirable.
- 7.1.30 It may be that the above examples refer to separate KPS entities, distinct from the project proponent which is the holder of the EA in this instance. Nevertheless, the above information is still relevant because it points to impacts being suffered from the same kinds of projects under the Karpowership name, in other countries. Importantly, the harms highlighted are precisely the impacts and harms the Appellants are concerned about – these being impacts of lock-in to high and unaffordable electricity costs and dangerous and long-lasting environmental impacts with implications for human rights.
- 7.1.31 Even in South Africa, KPS has been accused of improper conduct in relation to the project for which it has now obtained authorisation. This includes seeking to bypass environmental authorisation by obtaining an emergency permit under section 30A NEMA in 2020; allegations of improper conduct and bribery in the RMIPPPP process; as well as more recent allegations of misrepresentation, bias and state capture, in litigation and arbitration against Karadeniz Holdings brought by its local empowerment partner, Powergroup SA. A project mired in legal accusations of improper conduct is certainly not desirable, even notwithstanding all the other negative environmental, socio-economic and climate impacts.

APPLICANT'S RESPONSES TO THE FIRST APPELLANT'S SUBMISSIONS ON THE FOURTH GROUND OF APPEAL

- 7.2 **The Applicant responds to the First Appellant's submissions under the fourth ground of appeal as follows:**
- 7.2.1 The Applicant disputes the allegation that the project is neither necessary nor desirable. They aver that in the EIA, the Socio-Economic study and the Need and Desirability study demonstrates that the Project is necessary and desirable.
- 7.2.2 This ground of appeal fails to consider the positive aspects of the Project such as the positive contribution of the Project to alleviating loadshedding, reducing Eskom's dependency on diesel generators, increasing dispatchable power and facilitating more renewable energy which can be brought onto the grid.

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- 7.2.3 The Appellants are unable to establish the causality of energy security and economic growth being a key priority for South Africa. Energy is the backbone of the economy and an essential element for both economic growth and poverty reduction. Therefore, ensuring energy security is a critical goal for achieving sustainable development.
- 7.2.4 The EIA and related assessments all meet the Department's Guideline on Need and Desirability in terms of the EIA Regulations. The averments that the report does not satisfy these requirements are rejected.
- 7.2.5 The issues before the decision maker are those that are the substance of the EA, not issues which were already the subject of previous decisions by the DFFE. Repeating such issues, not only renders the appeal frivolous but also raises concerns about its vexatious nature, as it contributes little substance to the legal discourse while needlessly prolonging the proceedings and unnecessarily suspending the Project, having a direct impact on the interests of the South African community.
- 7.2.6 In the EIA process, several independent specialists contributed to the Need and Desirability study. The applicant refers to the study undertaken by PESA ("Gas to power Projects & the Just Energy Transition from Fossil Fuels in the SA Political Economy") which concludes as follows:
- "Whilst environmental activism prioritises the state of the environment, this view is hardly a balanced one against the backdrop of South Africa's JET objectives geared toward a gradual shift from more carbon intensive energy sources to renewable energy systems with gas playing the role of a transitional fuel. No consideration is given to internalise current social and economic realities in the country. Governments should be able to protect its society along with its environment. The Karpowership projects, despite their perceived shortcomings, are the quickest way to provide South Africa with the much-needed dispatchable power (all technologies have shortcomings). This dispatchable power provides the flexibility to renewables that is necessary to ensure South Africa's short to medium term energy security. Some of the shortcomings highlighted by critics besides the perceived gaps on the environmental processes include that the 20-year PPA's are too long for an emergency power solution wherein the powerships will leave at some date in the future. This a rather simplistic view that does not account for the positive externalities which include supporting the growth of the local and regional gas industry in the medium to long term, augmentation to the transmission infrastructure and supporting feasible JET implementation. For South Africa this not the immediate trade-off that is on the table given our need to expeditiously resolve the intensifying energy crisis the future. While gas does provide a peaking solution on a limited scale, its role in supporting energy security by complementing the power system as a whole in South Africa cannot be overstated...which needs a solution now and not a decade in."*
- 7.2.7 As for the statement on the litany of environmental harms purported by the Appellants, as per the independent specialist studies and sustainability report, the negative impacts on environmental rights from an ecological perspective is by and large low. This is as a result of the type of technology and location of

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the Project as well as the avoidance and mitigative measures implemented in terms of this Project. All the specialists reached a unanimous conclusion that there are no unacceptably high or unmanageable residual environmental impacts. The conclusions in the FEIR are clear on this. No amount of ideological differences or preferences of energy technologies by the Appellants will change these outcomes. The Appellants' views on the lack of obvious benefits as it pertains to the need and desirability of the project is misguided.

- 7.2.8 The Applicant stands behind every single justification provided which forms part of the need and desirability for this Project. Powerships are indeed a feasible tried and tested technology for rapid generation of cleaner dispatchable electricity, that will create jobs for South Africans and assist the country with the development of its gas industry while reducing its reliance on coal and diesel.
- 7.2.9 With regard to GHG emissions of natural gas, South African law and international best practice do not require an international life-cycle assessment in the CCIA. In addition, our courts have ruled against the very same NGOs/Appellants (groundWorks, SDCEA) who now make the very same argument which has already been dismissed by a competent court.
- 7.2.10 Regarding the lifecycle assessments of natural gas, the court held that: *"The present case concerns a fuel source extracted outside of and to be transported to the Republic either by sea or by pipeline, at least part of which would be through another independent state. To require such a broad consideration of 'upstream effects' as a precursor to the granting of any EA would likely create an almost impossible situation - requiring the making of any decision on an EA for a project that it was anticipated would or even may source fuel from outside the Republic, dependent upon an assessment to be made, as in the present case, years before any authorization for the first step in proceeding with such a project was even granted and subject to the laws or any changes of another state. The specific source of the gas has not been identified nor can it reasonably be, so far in advance."*
- 7.2.11 KPS responded to the South African Government's Request for Proposals (RFP) for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred bidder status. There is a need to provide context around the objectives, design and the outcome of the RMIPPPP.

Objectives of the RMIPPPP

- 7.2.12 The 2 000 MW Ministerial Determination that Minister Mantasha gazetted on 7 July 2020, following NERSA public consultation and concurrence, has two objectives, namely, to procure technology agnostic dispatchable new generation capacity:
- from a range of source technologies to address the electricity capacity supply gap as identified in the IRP2019; and

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- to reduce the extensive utilization of expensive diesel-based peaking open cycle gas turbine (OCGT) generators in the medium-to-long-term.
- 7.2.13 The RMIPPPP was designed with these two objectives in mind. It must be understood that this procurement cannot be compared with other Bid Windows procured by the DMRE where specific technologies were targeted. The performance specifications of the RMIPPPP were stipulated by the Transmission System Operator (SO) which, among others, included the need for each Project to be dispatchable between 05:00 and 21:30 daily in response to the instruction from the SO.
- 7.2.14 All projects were for the same uniform term of 20 years and not just the KPS proposals. As part of the legal bidding framework, the same bid parameters are fairly and legally applicable to all bidders.
- 7.2.15 Renewable energy has extremely low dispatchability potential owing to its intermittency which is an inherent drawback of the technology at this time and is a fact that the Appellants refuse to acknowledge.
- 7.2.16 Unlike traditional synchronous generators, which can be dispatched at will, renewable energy generation is dependent on weather conditions and natural cycles. As a result, these sources of energy are not always available or consistent, leading to periods of high production followed by lulls or even complete stoppages.
- 7.2.17 The intermittency of renewable energy is a significant challenge for grid operators and energy planners. It requires careful balancing of supply and demand, and the integration of various energy storage and grid management technologies to ensure a stable and reliable power supply which remain undeveloped at this time. Battery storage technology is indeed still limited, and further research and development (R&D) is needed to address its limitations and improve its capabilities. While batteries have made significant progress in recent years, there are several areas where advancements are required, most all the limited amount of storage capacity. It is important to note that the usable capacity of a battery may be less than its total capacity due to factors like battery degradation and system inefficiencies. Energy storage technologies can be expensive to develop, implement, and maintain.
- 7.2.18 Natural gas is considered a transition fuel or bridge fuel in the transition from fossil fuels to renewable energy sources. It is cleaner than coal and oil and has lower carbon emissions when used for electricity generation. It can serve as a substitute for more polluting fuels in power plants and industrial processes. When burned, natural gas emits about half the amount of carbon dioxide (CO₂) than coal and about 30% less than oil. Additionally, natural gas combustion produces minimal levels of other air pollutants such as Sulphur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter. There is no reason why gas cannot be used to support and enable this transition. Renewable energy sources are not dispatchable, and the national grid is under immense strain, requiring stability extremely urgently. The RMIPPPP and the case for gas to power is in line with the IRP 2019 [the latest draft indicative of additional gas as part of the energy mix], which was published following the government's own research and public consultation.

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- 7.2.19 Gas powered generators can be used to support the intermittency of renewable energy sources by providing a backup source of power during periods when renewable sources are unable to generate electricity in the following ways:

Grid stabilization: Gas generators can help stabilize the electrical grid by quickly ramping up or down their power output to compensate for fluctuations in renewable energy generation. This can help maintain a steady supply of electricity to meet demand.

Peak shaving: Gas generators can be used during peak demand periods when renewable energy sources might be unable to meet the high electricity requirements. By supplementing with gas generators, the strain on renewable sources can be reduced.

Emergency backup: Gas generators can provide a reliable backup power source during times when renewable energy generation is unavailable, such as during extended periods of low wind or sunlight. This ensures that critical functions and services have access to electricity.

- 7.2.20 Contrary to the Appellants' and their group of associated experts' conclusion, Government via the DMRE has reached its own conclusions on the deployment of natural gas as part of the energy mix and determined its own view for the energy future of South Africa as is its mandate which support the need and desirability of the Project and dispels the misguided justifications of the Appellants that the Project is neither necessary nor desirable.

The IRP 2023

- 7.2.21 The DMRE has published the draft Integrated Resource Plan for 2023, outlining its plans to resolve South Africa's energy crisis and bring an end to load shedding.
- 7.2.22 This IRP considers two time horizons. Horizon One for 2023–2030 and focuses on stabilising South Africa's electricity supply to end rotational power cuts and Horizon Two is the plan for 2031–2050 to ensure South Africa has sufficient generating capacity to meet demand for the coming decades.
- 7.2.23 For the near-term plan, the IRP considers two Eskom energy availability factor assumptions. The first assumes that power station availability will hover around 50% until at least 2030, while the second assumes plant performance will recover to 67% by 2025.
- 7.2.24 The updated energy blueprint envisions more than 100 gigawatts of new generation capacity being built by 2050 and proposes that a variety of technologies and fuels be considered to produce it, including gas, solar, wind, nuclear and coal. The IRP 2023 maps out multiple scenarios, such as a "least cost" plan to produce 105 gigawatts of power, and another 166 gigawatts being generated from wind, solar, gas and battery storage.
- 7.2.25 The DMRE as the authority on energy matters for the country (as it then was) has made its position clear that the "Energy pathways based on renewable energy technologies only deliver the desired outcome in

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so far as decarbonizing the power system and that these pathways do not provide security of supply, while carrying the highest cost to implement.”

- 7.2.26 The IRP anticipates electricity demand and seeks to provide electricity supply technologies that can meet that demand over the medium term. A blend of coal, gas, nuclear, renewable energy, battery storage and other technologies have been presented in the IRP’s energy mix to better ensure the security of supply at an affordable cost, while at the same time reducing the country’s carbon footprint. As such, to entirely exclude one solution as the Appellants propose, is short-sighted and creates an untenable situation for South Africans.
- 7.2.27 While renewable energy received focus in the document, there was an emphasis on prolonging the life of Eskom’s coal fleet beyond their scheduled decommissioning dates, and a call to start investing in gas-to-power technologies. For the period 2031–2050, the IRP considers five different pathways including transitioning the power system to renewables (including and excluding nuclear), delaying the shutdown of coal power stations, and deploying cleaner coal technologies with renewables.
- 7.2.28 The reference case is the cheapest path with a total system cost of R5.9 trillion and allows South Africa to choose technology combinations without restrictions. The total system cost includes the cost of unserved energy (COUE), which is by far the greatest component of the overall figure.
- 7.2.29 Transitioning the power system to renewables builds the newest generation capacity by 2050 and is the most expensive option at R8.4 trillion. However, according to the IRP, this has the lowest security of supply (the highest unserved energy) — with or without new nuclear power being built. Including nuclear in the renewable transition lowers the total system cost to R6.3 trillion.
- 7.2.30 The Appellants and their experts ignore the inherent environmental, health and safety and humanitarian aspects of bringing renewable energy technologies and punt these technologies as ultra clean and green technologies, which is misguided exposing their obvious lack of independent judgement.
- 7.2.31 Mining rare earth metals for renewable energy technologies such as wind turbines, solar panels, and electric vehicle batteries can involve several human rights concerns. Some of the violations associated with this process include:
- Forced Labour: these valuable resources often lead to social unrest, corruption, and human forced labour. In some countries where rare earth metals are mined, there have been reports of forced labour and human trafficking. Workers, including children, are forced to work in dangerous conditions with little or no pay.
 - Lack of worker safety: The mining of rare earth metals can be hazardous due to the exposure to toxic and radioactive materials. Miners often lack adequate safety equipment, resulting in health issues such as respiratory problems, cancer, and birth defects.

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- Land rights violations: Indigenous communities and local farmers often face land dispossession and displacement due to mining operations. Their traditional lands, which are rich in rare earth metals, might be seized without their consent, causing social and cultural disruptions.
- Environmental degradation: Mining rare earth metals can lead to significant environmental damage, including deforestation, habitat destruction, and water pollution. Toxic chemicals used in the extraction and processing phases can contaminate local water sources, threatening the health and livelihoods of nearby communities.
- Corruption and conflict: Rare earth mining operations are vulnerable to corruption and can fuel conflicts in regions where governance is weak. The race to control and exploit rights abuses.

7.2.32 The Meridian study makes assumptions which are not true. The study claims to make a "simple assumption that any new renewable energy capacity would have been added to the system in the same proportions of wind and solar as the existing portfolio and would have had the same hourly generation profile." This is not true given the countless sunny and windless or overcast and windy days experienced.

7.2.33 Solar and wind cannot maintain the same hourly generation profile even if they are modelled in the same weather conditions. It is also notable that loadshedding surpassed level 6 within 2022, which means a more than 6GW deficit. Meridian is not an objective research organisation and does not provide credible and objective research for stress testing the specialists reports in this EIA. A summary of the source of funding of Meridian Economics as well as its lack of objectivity and independence of view are apparent from the following important points: Meridian Economics is directly funded by UK based ClIFF (including funding from the European Climate Foundation) with two recent grants totalling in excess of R100 million; Meridian Economics (through the ClIFF) mandate has a clear and direct anti-gas mandate; ClIFF has also allocated a grant and budget of US\$22.4 million to support 'legal strategies'.

7.2.34 Meridian Economics reporting is heavily relied on by The Green Connection and OUTA in their case filed against NERSA for the granting of Generation Licences to Karpowership SA, with an affidavit also submitted by Grove Steyn, Partner at Meridian Economics. groundWork is intrinsically linked with The Green Connection and OUTA, and The Green Connection also collaborates with others including SDCEA, CER, Coastal Links, Richards Bay Clean Air Association and WESSA. OUTA (and thus by logical inference groundWork and The Green Connection) has been funded by Millennium Trust which also funds 'Millennium Trust Projects' AmaBhungane, GroundUp and Daily Maverick. Grove Steyn is also a contributor to Daily Maverick, as are Liz McDaid and others from these interwoven groupings.

7.2.35 There is a category of costs which are at the level of the electricity system and are linked through the transmission and distribution grid. It includes the costs that plants impose on the system in terms of

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extending, reinforcing or connecting to the grid, but also the costs of maintaining spinning reserves or additional dispatchable capacity when the output of wind and solar is uncertain or variable.

- 7.2.36 Internationally, gas is shown to be the most economical fuel for dispatchable generation. In Europe and North America, which have major natural gas networks, the gas needed to meet the dispatchable generation needs can be provided using gas from existing networks. For South Africa, with a minimal existing gas network and almost no local production to date, the source of gas to meet this need has not been addressed in the IRP planning process. However, South Africa, through KPS projects, will get ancillary services which will ready the market for a gas programme and simultaneously support regional gas development and the use of indigenous gas which will likely present further cost efficiencies. This is where South Africa can achieve gas competitiveness.
- 7.2.37 KPS expresses their disagreement with the statement which essentially opines that the RMIPPPP has design flaws that are advantageous to certain technologies and not others. The RMIPPPP was designed as a technology agnostic tender program for dispatchable new generation capacity to be added to the grid (for reasons well publicised by DMRE and IPP Office). DMRE, through the REIPPPP Bid Windows indeed already does what is suggested in this statement, procuring non-dispatchable renewable energy for addition to the grid does utilise a “full systems approach”, but the RMIPPPP and REIPPPP are not comparable in terms of their stated purposes, this fact is not taken into consideration in the Appellants’ comment.
- 7.2.38 The issue of procurement constraints affecting certain forms of renewable energy is a moot issue as it applies across the board with various impacts for each bidder. Every bidder faces unique implications of the procurement costs based on their technology and response to the procurement constraints. The issue of costs associated with procurement costs will always be affected by the RFP.
- 7.2.39 Procurement constraints speak to the strategic and environmental objectives of government which also speak to the political economy reality in the context of the just energy transition. Procurement constraints should be dealt within the context of their impact in achieving the strategic and environmental objectives of the IRP2019 and RMIPPPP. The fact that renewables face higher costs due to these procurement constraints speaks to their ability to meet these strategic and environmental objectives.
- 7.2.40 South Africa takes an integrated approach to economic planning, environmental management and sustainable development. Sustainable development which is defined as: “the integration of social, economic and environmental factors into planning, implementation and decision making so as to *ensure that development serves present and future generations*”. The approach takes a polycentric view to sustainable development and emphasizes social, economic, environmental and political economy factors that are crucial for sustainable development. A polycentric view allows for more than one centre of development or control, which allows various stakeholders to play their part or cooperate towards the

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central objective of sustainable development. Failure to factor in all these factors leads to precisely the narrow cost- and technology-based comparison which does not integrate all strategic and environmental factors.

- 7.2.41 Throughout the PESA report the central thread is that gas-to-power is a viable option that takes into consideration the immediate needs for electricity security and the imperative for decarbonisation. In this context gas-to-power is a transitional source of energy that can assist in South Africa's transition towards net zero. The comparison made by the Meridian report is not correct in regard to the immediate potential of achieving decarbonisation and immediately dispatchable power through the conversion of old coal-fired generation stock into OCGT-powered plants nor between the immediate gains for electricity generation and decarbonisation through the Powerships, when evaluating the 100% renewables versus relying on gas-to-power in the transition. Relying on gas-to-power in the transition will realise immediate gains of securing electricity and decarbonisation. The 100% renewables approach can only deliver immediate gains for decarbonisation and can only resolve electricity supply shortages once construction and connection to the grid is completed. The Powerships are ready to deliver on decarbonisation of electricity supply from day-one. Should the Appellants wish to challenge the RMIPPPP, then this is the incorrect platform for such a challenge.
- 7.2.42 The estimated cost of loadshedding costs the South African economy is R900 million per day. According to central bank estimates Eskom's latest energy availability factor shows the power utility's performance is rapidly declining, with big problems ahead to keep the lights on. Analysts revealed that Eskom's EAF for the first 19 weeks of the year declined from 58.79% in 2022 to 52.56% in 2023 and falling. While outages have affected the country for about 15 years, Africa's most industrialized economy is experiencing its worst bout of power rationing. Eskom's poor operational performance was one of the reasons for the unprecedented levels of load shedding during the past year, at huge cost to the economy.
- 7.2.43 Of the 312 days that have passed in 2023, South Africans only enjoyed 12 days without load shedding as these power outages reach unprecedented levels in the country. 2024 has just begun and has already been plagued by loadshedding which may persist for the next 7 years according to the latest Draft IRP 2023.
- 7.2.44 Eskom's latest annual report, for the period 1 April 2022 to March 31, 2023, states that, during that financial year, South Africans experienced 280 days with load shedding. This is in comparison to the 2021/2022 financial year in which load shedding was implemented for 65 days during the same period (although the full year saw 205 days of load shedding).
- 7.2.45 Eskom acknowledges that the current precarious state of South Africa's electricity supply and predicts that load shedding in 2024 may be even worse. Eskom cites aging infrastructure, lack of regular

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- maintenance, and delays in implementing new power generation projects as the main reasons for this. Load shedding is expected to continue until sufficient new power generation capacity is added to the grid.
- 7.2.46 The lack of grid capacity is the biggest hurdle in deploying the renewables which is acknowledged widely by both the government and industry, meaning that the increasing output from renewable energy will ultimately be stranded. The Eskom grid is under increasing pressure from the rapid growth in private generation projects. The Eastern, Western, and Northern Cape having no capacity to add new generation projects. This was revealed in Eskom's Generation Connection Capacity Assessment of the 2025 Transmission Network.
- 7.2.47 The South African grid is designed to carry electricity from large, central power stations in the country's northeast to other parts. Renewable energy generation is decentralised, with generation facilities located almost anywhere.
- 7.2.48 The areas such as the Western Cape, Eastern Cape, and Northern Cape, which have rich renewable resources, do not have the grid capacity to distribute electricity to the rest of the country. The grid in these areas can only carry limited load, which is insufficient for large-scale projects. Chief engineer at Stellenbosch University's Centre for Renewable and Sustainable Energy Studies, Monique Le Roux indicated that this would become a problem in other provinces if the rapid growth continued and Eskom does not upgrade the grid, thereby threatening the stability of the grid.
- 7.2.49 It's well known that the Northern Cape no longer has available grid capacity. In the recently awarded BW6, it was evident that neither does the Eastern and Western Cape corridors, popular for their abundant wind resource. The result was the curtailment to the initially envisaged BW6 capacity. About 23 wind projects were not successful as they were located in areas where there was no more grid capacity to accommodate them.
- 7.2.50 A recent consultation paper by Stellenbosch University's Centre for Sustainability Transitions and the Centre for Renewable and Sustainable Energy Studies, and the Blended Finance Task Force further highlighted that grid capacity must be expanded eight times faster than the current rate – this is up from 300km per year to 2 300km per year.
- 7.2.51 Even though, Eskom's grid-related investment plans had been "moderated" in light of financial constraints and that a significant amount of additional investment would be required to accommodate the new generation outlined in the Integrated Resources Plan of 2019 (IRP2019). The prevailing lack of grid capacity persists due to a lack of financing.
- 7.2.52 Eskom acknowledges that transmission constraints remain an obstacle to the introduction of new renewables generation. The latest TDP points to the need for the construction of 14 218 km of new high-voltage transmission lines by 2032, as well as the deployment of 170 transformers, with a capacity of 105

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865 MVA, along with 40 capacitors and 52 reactors which comes with a significant capital investment requirement and the requisite time to navigate through arduous land acquisition and EIA processes.

- 7.2.53 According to the CSIR, it would take ten years to execute essential infrastructure projects to upgrade Eskom's power grid. Although solar and wind power plants could be built, the grid itself doesn't have the capacity to bring power from where it's generated to where it's needed. While this situation persists, Loadshedding is costing South Africa \$51 Million a Day according to the Central Bank, while the Reserve Bank sees outages occurring for 250 days in 2023. In light of this, the Central bank has cut economic growth forecasts through 2025.
- 7.2.54 Furthermore, it has been nearly a decade of waning foreign interest in South African stocks, with outflows exceeding \$50 billion in that time. Last year was the eighth year in a row that foreign investors dumped South African equities — a record-long streak — selling stocks worth \$8.3 billion (R155 billion). That took the total since 2016 to \$53 billion (R990 billion), based on data reported by exchange operator JSE. The past decade has been a poor one for emerging markets as a whole, with MSCI's benchmark index notching a gain of just over 3%. Yet the benchmark index in Johannesburg has done worse, losing almost 6% in dollar terms. The rand, meanwhile, has fallen 42% in this time, a contrast with other developing nations where currencies have generally outperformed stock markets. Foreign investors have been wary of South Africa following an energy crisis.
- 7.2.55 Relevant to the need and desirability of the project is the closure of Saldanha Steel owned by Arcelor Mittal due to the lack of reliable and consistent energy supply in the region. The impact of the closure of the Saldanha steel manufacturing plant in 2020 continues to cause hardship in the West Coast town despite promises of a revival. Hundreds of people lost their jobs, both at the plant and at downstream businesses, in Saldanha and neighbouring towns, and many see no way forward. Reviving the Saldanha Steel is strongly reliant on the existence of a reliable energy source. KPS seeks to assist South Africa to improve its energy availability and security.
- 7.2.56 KPS rejects the slanderous allegations made by the Appellants regarding Karpowership's track record, criminal dealings, and alleged corruption. It categorically emphasises that these accusations lack any factual basis and are rooted in mere opinions without any substantiated evidence. It is imperative to note that no fault finding has ever been established against KPS. We urge the Appellants to refrain from making unfounded claims that tarnish KPS' reputation and hinder its commitment to providing essential services to the community. KPS firmly asserts its commitment to truth and integrity in all aspects of its operations. Accusations without substantiated evidence only serve to undermine constructive discourse and impede genuine efforts to provide essential services to the South African community.

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DEPARTMENT'S COMMENTS ON THE FIRST APPELLANT'S SUBMISSIONS UNDER THE FOURTH GROUND OF APPEAL

7.3 The Department responds to First Appellant's submissions under the fourth ground of appeal as follows:

- 7.3.1 The need and desirability of the project was discussed in detail in the EIAr. The summary of it was as follows: the concept of generating power on the ocean has several benefits over land-based power plants, including small footprint, significantly shorter timeframes for project delivery, adding capacity, as the powerships arrive already assembled and ready to operate, and land-based impacts are limited and of short term, associated with the establishment of the transmission line and temporary assembly area for the gas pipeline. However, ocean-based power plants have their own unique impacts and consequences on the marine environment, which also has to be taken into account in order to decide on the need and desirability thereof. In the CA's view, the need and desirability of the project was assessed sufficiently in the EIAr as well as in the socio-economic impact assessment.

THIRD APPELLANT'S SUBMISSIONS ON THE FOURTH GROUND OF APPEAL (NEED AND DESIRABILITY)

7.4 The Third Appellant's makes the following submissions, under the various subheadings, under the fourth ground of appeal as follows:

- 7.4.1 Regulation 18 of the EIA Regulations, 2014 (as amended) requires a CA to consider the need and desirability. Section 24O of NEMA requires a CA to consider "...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." The Department's Need and Desirability Guideline (2017) specifically requires "... the consideration of the strategic context of the development proposal along with the broader societal needs and the public interest... Ultimately development must not exceed ecological limits in order to secure ecological integrity, while the proposed actions of individuals must be measured against the short-term and long-term public interest in order to promote justifiable social and economic development". The Need and Desirability Guideline also advises that "(i)n terms of collectively considering ecological, social and economic impacts it is important to remember that while there might be some trade-offs between the considerations, in South Africa all development must in terms

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of Section 24 of the Constitution be ecologically sustainable, while economic and social development must be justifiable... In this regard it is also vital to follow the "mitigation hierarchy", where alternatives must firstly be considered to avoid negative impacts altogether, but if avoidance is not possible to considered alternatives that will better mitigate and manage negative impacts, while search for alternatives to better enhance the positive impacts."

- 7.4.2 Considering the significant climate change and other implications, associated with the Project, the reasons and reasoning in how need and desirability was considered is wholly inadequate. From a decision-making perspective, the interrelated nature of the above must be considered. Focusing on only one aspect (e.g., electricity security), is inappropriate. Importantly, in addressing the current electricity crisis, long-term energy security and climate change risks, cannot be compromised. A full cost-benefit analysis that takes a cradle-to-grave approach is required to compare the different electricity generation options. In the absence of such an analysis, the need and desirability of electricity generation using Karpowership, remains uninformed and thus unclear.
- 7.4.3 In Annexure 1 of the EA, the Department only relies on the "*need for electricity*" as one of the "*key factors considered in making the decision*". Therefore, in considering the application, the Department failed to apply its mind to the relevance of the policy context and other implications as highlighted above. As a decision-maker, the Department is not only obliged to consider the policy context and broader socio-economic and socio-ecological issues, but in doing so, is obliged to apply its mind to the relevancy thereof to the application being assessed. It is submitted that the Department failed to consider relevant information in reaching a decision on the need and desirability of the Project.
- 7.4.4 It is submitted that the EA failed to adequately assess the need and desirability of the project and therefore does not comply with regulation 18 of the EIA Regulations, 2014 (as amended). It follows that the Department, in reaching a decision, also failed to adequately consider need and desirability.

APPLICANT'S COMMENTS TO THIRD APPELLANT'S FOURTH GROUND OF APPEAL

- 7.5 **The Applicant responds to the Third Appellant's submissions under the fourth ground of appeal as follows:**
- 7.5.1 The EIA, the Socio-Economic study and the Need and Desirability Study all demonstrate that the Project is necessary and desirable.
- 7.5.2 This ground of appeal fails to take into account the positive aspects of the Project such as its positive contribution to alleviating loadshedding, reducing Eskom's dependency on diesel generators, increasing dispatchable power and facilitating more renewable energy which can be brought onto the grid.

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- 7.5.3 The Appellant is unable to establish the link of energy security and economic growth as a key priority for South Africa and any country in the world for that matter. Energy is the backbone of our economies and an essential element for both economic growth and poverty reduction. Therefore, ensuring energy security is a critical goal for achieving sustainable development.
- 7.5.4 It is submitted that the EIA and related assessments conducted have met the Department's Guideline on Need and Desirability in terms of the Regulations. The averment that the report does not satisfy these requirements is rejected.
- 7.5.5 In the EIA process, several independent specialists contributed to the Need and Desirability study and in this regard, we refer to the study undertaken by PESA (Gas to power Projects & the Just Energy Transition from Fossil Fuels in the SA Political Economy) which concludes as follows:
- "Whilst environmental activism prioritises the state of the environment, this view is hardly a balanced one against the backdrop of South Africa's JET objectives geared toward a gradual shift from more carbon intensive energy sources to renewable energy systems with gas playing the role of a transitional fuel. No consideration is given to internalise current social and economic realities in the country. Governments should be able to protect its society along with its environment. The Karpowership projects, despite their perceived shortcomings, are the quickest way to provide South Africa with the much-needed dispatchable power (all technologies have shortcomings). This dispatchable power provides the flexibility to renewables that is necessary to ensure South Africa's short to medium term energy security. Some of the shortcomings highlighted by critics besides the perceived gaps on the environmental processes include that the 20-year PPA's are too long for an emergency power solution wherein the powerships will leave at some date in the future. This a rather simplistic view that does not account for the positive externalities which include supporting the growth of the local and regional gas industry in the medium to long term, augmentation to the transmission infrastructure and supporting feasible JET implementation. For South Africa this not the immediate trade-off that is on the table given our need to expeditiously resolve the intensifying energy crisis the future. While gas does provide a peaking solution on a limited scale, its role in supporting energy security by complementing the power system as a whole in South Africa cannot be overstated. is, which needs a solution now and not a decade in"*
- 7.5.6 As per the independent specialist studies and sustainability report, the negative impacts on environmental impacts from an ecological perspective is by and large low. This is as a result of the type of technology and location of the project as well as the avoidance measures implemented in terms of this Project. It must also be stressed that all the specialists reached a unanimous conclusion that there are no unacceptably high or unmanageable residual environmental impacts. The conclusions in the FEIR are clear on this. No amount of ideological differences on preferences of energy technologies by the Appellant will change these outcomes.

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- 7.5.7 The GHG emissions from this project contribute to the global stock of greenhouse gases and cannot do so to increase the isolated levels of CO₂ in the Western Cape. The climate change impact in the Project area is caused by this global stock. The contribution therefore that this Project will make to the global stock of GHG emissions is miniscule in relation to the global GHG emissions stock, and there is no observable relationship between the implementation of the Project in this area, and the climate change impacts in the area.
- 7.5.8 It (KPS) stands behind every justification provided which forms part of the need and desirability. Powerships are indeed a feasible tried and tested technology for rapid generation of cleaner dispatchable electricity, that will create jobs for South Africans and assist the country with the development of its developing gas industry while reducing its reliance on coal and diesel.
- 7.5.9 With regard to GHG emissions of natural gas, South African law and international best practice do not require an international life-cycle assessment in the CCIA. In addition, our courts have ruled against certain NGOs (groundWorks, SDCEA) and the Appellant now makes the same argument which has already been dismissed by the Court. Regarding the lifecycle assessments of natural gas, the court held that: *"The present case concerns a fuel source extracted outside of and to be transported to the Republic either by sea or by pipeline, at least part of which would be through another independent state. To require such a broad consideration of 'upstream effects' as a precursor to the granting of any EA would likely create an almost impossible situation - requiring the making of any decision on an EA for a project that it was anticipated would or even may source fuel from outside the Republic, dependent upon an assessment to be made, as in the present case, years before any authorization for the first step in proceeding with such a project was even granted and subject to the laws or any changes of another state. The specific source of the gas has not been identified nor can it reasonably be, so far in advance."* *South Durban Community Environmental Alliance and Trustees of groundWork Trust v Minister of Forestry, Fisheries and the Environment and Others (17554/2021) [2022] ZAGPPHC 741 (6 October 2022) page 12, paragraphs 28 and 29.*
- 7.5.10 KPS responded to Government's RFP for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred bidder status. There is a need to provide context around the objectives, design and the outcome of the RMIPPPP.

Objectives of the RMIPPPP

- 7.5.11 The 2 000 MW Ministerial Determination that Minister Mantashe gazetted on 7 July 2020, following NERSA public consultation and concurrence, has two objectives, namely, to procure technology agnostic dispatchable new generation capacity: The RMIPPPP was designed with these two objectives in mind. This procurement cannot be compared with other Bid Windows procured by the DMRE where specific

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technologies were targeted. The performance specifications of the RMIPPPP were stipulated by the Transmission System Operator (SO) which, among others, included the need for each Project to be dispatchable between 05:00 and 21:30 daily in response to the instruction from the SO. All projects were for same uniform term of 20 years and not just the KPS proposals. As part of the legal bidding framework, the same bid parameters are applicable to all bidders.

- 7.5.12 What is important to note is that renewable energy has extremely low dispatchability potential during these periods owing to its intermittency which is an inherent drawback of the technology at this time and is a fact that the Appellant refuses to internalize its arguments. Unlike traditional synchronous generators, which can be dispatched at will, renewable energy generation is dependent on weather conditions and natural cycles. As a result, these sources of energy are not always available or consistent, leading to periods of high production followed by lulls or even complete stoppages.
- 7.5.13 The intermittency of renewable energy poses a significant challenge for grid operators and energy planners. It requires careful balancing of supply and demand, as well as the integration of various energy storage and grid management technologies to ensure a stable and reliable power supply which remain undeveloped at this time. Battery storage technology is indeed still limited, and further research and development (R&D) is needed to address its limitations and improve its capabilities. While batteries have made significant progress in recent years, there are several areas where advancements are required, most all the limited amount of storage capacity. It is important to note that the usable capacity of a battery may be less than its total capacity due to factors like battery degradation and system inefficiencies. Energy storage technologies can be expensive to develop, implement, and maintain. This cost can make it difficult for these technologies to be widely adopted and accessible to the general public.
- 7.5.14 Natural gas is considered a transition fuel or bridge fuel in the transition from fossil fuels to renewable energy sources. It is cleaner than coal and oil and has lower carbon emissions when used for electricity generation. It can serve as a substitute for more polluting fuels in power plants and industrial processes. When burned, natural gas emits about half the amount of carbon dioxide (CO₂) than coal and about 30% less than oil. Additionally, natural gas combustion produces minimal levels of other air pollutants such as sulphur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter.
- 7.5.15 There is no reason why gas cannot be used to support and enable this transition. Renewable energy sources are not dispatchable, and the national grid is under immense strain, requiring stability extremely urgently. The RMIPPPP and the case for gas to power is in line with the IRP 2019 [the latest draft indicative of additional gas as part of the energy mix], which was published following the government's own research and public consultation.

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7.5.16 Gas powered generators can be used to support the intermittency of renewable energy sources by providing a backup source of power during periods when renewable sources are unable to generate electricity. Here are some ways gas generators can be utilized:

7.5.16.1 Grid stabilization: Gas generators can help stabilize the electrical grid by quickly ramping up or down their power output to compensate for fluctuations in renewable energy generation. This can help maintain a steady supply of electricity to meet demand.

7.5.16.2 Peak shaving: Gas generators can be used during peak demand periods when renewable energy sources might be unable to meet the high electricity requirements. By supplementing with gas generators, the strain on renewable sources can be reduced.

7.5.16.3 Emergency backup: Gas generators can provide a reliable backup power source during times when renewable energy generation is unavailable, such as during extended periods of low wind or sunlight. This ensures that critical functions and services have access to electricity.

7.5.17 Contrary to the conclusion reached by the Appellant, the Government via the DMRE has reached its own conclusions on the deployment of natural gas as part of the energy mix and determined its own view for the energy future of South Africa as is its mandate which support the need and desirability of the project and dispels all the justifications by the Appellant why the Project is neither necessary nor desirable.

7.5.18 The Department of Mineral Resources and Energy has published the draft Integrated Resource Plan for 2023, outlining its plans to resolve South Africa's energy crisis and bring an end to load shedding.

7.5.19 The IRP considers two-time horizons. Horizon One is for 2023–2030 and focuses on stabilising South Africa's electricity supply to end rotational power cuts.

7.5.20 Horizon Two is the plan for 2031–2050 to ensure South Africa has sufficient generating capacity to meet demand for the coming decades.

7.5.21 For the near-term plan, the IRP considers two Eskom energy availability factor assumptions.

7.5.22 The first assumes that power station availability will hover around 50% until at least 2030, while the second assumes plant performance will recover to 67% by 2025.

7.5.23 The updated energy blueprint envisions more than 100 gigawatts of new generation capacity being built by 2050 and proposes that a variety of technologies and fuels be considered to produce it, including gas, solar, wind, nuclear and coal.

7.5.24 It is a well-known fact that South Africa lacks a reliable electricity supply, resulting in frequent blackouts that have crippled the economy.

7.5.25 The IRP 2023 maps out multiple scenarios, such as a "least cost" plan to produce 105 gigawatts of power, and another that sees 166 gigawatts being generated from wind, solar, gas and battery storage.

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- 7.5.26 The DMRE has made its position clear that the "Energy pathways based on renewable energy technologies only deliver the desired outcome in so far as decarbonizing the power system and that these pathways do not provide security of supply, while carrying the highest cost to implement."
- 7.5.27 The IRP anticipates electricity demand and seeks to provide electricity supply technologies that can meet that demand over the medium term.
- 7.5.28 A blend of coal, gas, nuclear, renewable energy, battery storage and other technologies have been presented in the IRP's energy mix to better ensure the security of supply at an affordable cost, while at the same time reducing the country's carbon footprint.
- 7.5.29 The blueprint envisions these additional megawatts being added to the grid by 2030.
- 7.5.30 This includes:
- 6 000MW of gas — 3,000MW from Eskom, and 3,000MW from independent producers
 - 1 500MW of photovoltaic solar
 - 3 000MW of wind
 - 2 000MW of battery storage, to be constructed by 2027
- 7.5.31 While renewable energy received focus in the document, there was an emphasis on prolonging the life of Eskom's coal fleet beyond their scheduled decommissioning dates, and a call to start investing in gas-to-power technologies.
- 7.5.32 For the period 2031–2050, the IRP considers five different pathways. These are a reference case, transitioning the power system to renewables (including and excluding nuclear), delaying the shutdown of coal power stations, and deploying cleaner coal technologies with renewables.
- 7.5.33 The reference case is the cheapest path with a total system cost of R5.9 trillion and allows South Africa to choose technology combinations without restrictions.
- 7.5.34 It should be noted that the total system cost includes the cost of unserved energy (COUE), which is by far the greatest component of the overall figure.
- 7.5.35 Transitioning the power system to renewables builds the newest generation capacity by 2050 and is the most expensive option at R8.4 trillion.
- 7.5.36 However, according to the IRP, this has the lowest security of supply (the highest unserved energy) — with or without new nuclear power being built.
- 7.5.37 Including nuclear in the renewable transition lowers the total system cost to R6.3 trillion.
- 7.5.38 The Appellant also conveniently ignores the inherent environmental, health and safety and humanitarian aspects of bringing renewable energy technologies and punt these technologies as ultra clean and green technologies, which is grossly untrue and misguided exposing their obvious lack of independent judgement and staggering hypocrisy.

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7.5.39 Mining rare earth metals for renewable energy technologies such as wind turbines, solar panels, and electric vehicle batteries can involve several human rights concerns. Some of the violations associated with this process include:

7.5.39.1 Forced labour: In some countries where rare earth metals are mined, there have been reports of forced labour and human trafficking. Workers, including children, are forced to work in dangerous conditions with little or no pay.

7.5.39.2 Lack of worker safety: The mining of rare earth metals can be hazardous due to the exposure to toxic and radioactive materials. Miners often lack adequate safety equipment, resulting in health issues such as respiratory problems, cancer, and birth defects.

7.5.39.3 Land rights violations: Indigenous communities and local farmers often face land dispossession and displacement due to mining operations. Their traditional lands, which are rich in rare earth metals, might be seized without their consent, causing social and cultural disruptions.

7.5.39.4 Environmental degradation: Mining rare earth metals can lead to significant environmental damage, including deforestation, habitat destruction, and water pollution. Toxic chemicals used in the extraction and processing phases can contaminate local water sources, threatening the health and livelihoods of nearby communities.

7.5.39.5 Corruption and conflict: Rare earth mining operations are vulnerable to corruption and can fuel conflicts in regions where governance is weak. The race to control and exploit these valuable resources often leads to social unrest, corruption, and human rights abuses.

7.5.40 South Africa takes an integrated approach to economic planning, environmental management and sustainable development. Sustainable development is defined as: "the integration of social, economic and environmental factors into planning, implementation and decision making so as to ensure that development serves present and future generations." The approach takes a polycentric view to sustainable development and emphasizes social, economic, environmental and political economy factors that are crucial for sustainable development. A polycentric view allows for more than one centre of development or control, which allows various stakeholders to play their part or cooperate towards the central objective of sustainable development. Failure to factor in all these factors leads to precisely the narrow cost- and technology-based comparison which does not integrate all strategic and environmental factors.

7.5.41 Throughout the PESA report the central thread is that gas-to-power is a viable option that takes into consideration the immediate needs for electricity security and the imperative for decarbonisation. In this context gas-to-power is a transitional source of energy that can assist in South Africa's transition towards net zero. The comparison made by the Meridian report does not make a fair comparison of the immediate

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potential of achieving decarbonisation and immediately dispatchable power through the conversion of old coal-fired generation stock into OCGT-powered plants. Nor does the study make a fair comparison between the immediate gains for electricity generation and decarbonisation through the Powerships, when evaluating the 100% renewables versus relying on gas-to-power in the transition. Relying on gas-to-power in the transition will clearly realise immediate gains of securing electricity and decarbonisation. The 100% renewables approach can only deliver immediate gains for decarbonisation and can only resolve electricity supply shortages in the medium-term once construction and connection to the grid is completed. The Powerships are ready to deliver on decarbonisation of electricity supply from day-one.

- 7.5.42 In any event, the Project is a response to the RMIPPPP which is a DMRE and South African Government Programme. Should the Appellant wish to challenge the RMIPPPP, then this is the incorrect forum for such a challenge.
- 7.5.43 The estimated cost of loadshedding is R 900 million per day to the South African economy. According to central bank estimates Eskom's latest energy availability factor shows the power utility's performance is rapidly declining, with big problems ahead to keep the lights on. Analysts revealed that Eskom's EAF for the first 19 weeks of the year declined from 58.79% in 2022 to 52.56% in 2023 and falling.
- 7.5.44 While outages have affected the country for about 15 years, Africa's most industrialized economy is now experiencing its worst bout of power rationing. Eskom's poor operational performance was one of the reasons for the unprecedented levels of load shedding during the past year, and at huge cost to the economy.
- 7.5.45 Out of the 312 days that have passed in 2023, South Africans have only enjoyed 12 days without load shedding as these power outages reached unprecedented levels in the country. The year 2024 has just begun and has already been plagued by loadshedding which may persist for the next 7 years according to the latest Draft IRP 2023.
- 7.5.46 Eskom's latest annual report, which covers the period from 1 April 2022 to 31 March 2023, states that, during this financial year, South Africans had experienced 280 days with load shedding. This is in comparison to the 2021/2022 financial year in which load shedding was implemented for 65 days during the same period (although the full year saw 205 days of load shedding).
- 7.5.47 According to Eskom, the current state of South Africa's electricity supply is precarious, and the power utility company predicts that load shedding in 2024 may be even worse. Eskom cites aging infrastructure, lack of regular maintenance, and delays in implementing new power generation projects as the main reasons behind this forecast. Load shedding is expected to continue until sufficient new power generation capacity is added to the grid.

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- 7.5.48 The lack of grid capacity is the biggest hurdle in deploying the renewables which is acknowledged widely by both the government and industry, meaning that the increasing output from renewable energy will ultimately be stranded.
- 7.5.49 Eskom's grid is under increasing pressure from the rapid growth in private generation projects, with the Eastern, Western, and Northern Cap having no capacity to add new generation projects. This was revealed in Eskom's Generation Connection Capacity Assessment of the 2025 Transmission Network.
- 7.5.50 South Africa's grid is designed to carry electricity from large, central power stations in the country's northeast to other parts. Renewable energy generation is decentralised, with generation facilities located almost anywhere.
- 7.5.51 The areas, such as the Western Cape, Eastern Cape, and Northern Cape, which have rich renewable resources, do not have the grid capacity to distribute electricity to the rest of the country. The grid in these areas can only carry limited load, which is insufficient for large-scale projects. The Chief engineer at Stellenbosch University's Centre for Renewable and Sustainable Energy Studies, Monique Le Roux, indicated that this will become a problem in other provinces if the rapid growth continues and Eskom does not upgrade the grid, inherently threatening the stability of the grid.
- 7.5.52 It is well known that the Northern Cape no longer has any available grid capacity. However, in the recently awarded BW6, it became evident that neither do the Eastern and Western Cape corridors, popular for their abundant wind resource. The result was the curtailment to the initially envisaged BW6 capacity. About 23 wind projects were not successful as they were located in areas where there was no more grid capacity to accommodate them.
- 7.5.53 A consultation paper released recently by Stellenbosch University's Centre for Sustainability Transitions and the Centre for Renewable and Sustainable Energy Studies, and the Blended Finance Task Force further highlighted that grid capacity must be expanded eight times faster than the current rate – this is up from 300km per year to 2 300km per year.
- 7.5.54 Even though, Eskom's grid-related investment plans had been "moderated" in light of financial constraints and that a significant amount of additional investment would be required to accommodate the new generation outlined in the Integrated Resources Plan of 2019 (IRP2019). The prevailing lack of grid capacity persists due to a lack of financing.
- 7.5.55 Eskom acknowledges that transmission constraints remain an obstacle to the introduction of new renewables generation. The latest TDP points to the need for the construction of 14 218 km of new high-voltage transmission lines by 2032, as well as the deployment of 170 transformers, with a capacity of 105 865 MVA, along with 40 capacitors and 52 reactors which comes with a significant capital investment requirement and the requisite time to navigate through arduous land acquisition and EIA processes.

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- 7.5.56 According to the CSIR, it would take ten years to execute essential infrastructure projects to upgrade Eskom's power grid.
- 7.5.57 Although solar and wind power plants could be built, the grid itself doesn't have the capacity to bring power from where it's generated to where it's needed. While this situation persists, Loadshedding is costing South Africa \$51 Million a Day according to the Central Bank, while the Reserve Bank sees outages occurring for 250 days in 2023. In light of this, the Central bank has cut economic growth forecasts through 2025.
- 7.5.58 Furthermore, it has been nearly a decade of waning foreign interest in South African stocks, with outflows exceeding \$50 billion in that time.
- 7.5.59 Last year was the eighth year in a row that foreign investors dumped South African equities — a record-long streak — selling stocks worth \$8.3 billion (R155 billion).
- 7.5.60 That took the total since 2016 to \$53 billion (R990 billion), based on data reported by exchange operator JSE.
- 7.5.61 The past decade has been a poor one for emerging markets as a whole, with MSCI's benchmark index notching a gain of just over 3%. Yet the benchmark index in Johannesburg has done worse, losing almost 6% in dollar terms. The rand, meanwhile, has fallen 42% in this time, a contrast with other developing nations where currencies have generally outperformed stock markets. Foreign investors have been wary of South Africa following an energy crisis.
- 7.5.62 Relevant to the need and desirability of the project is the closure of Saldanha Steel owned by Arcelor Mittal as a result of lack of reliable and consistent energy supply in the region. The impact of the closure of the Saldanha steel manufacturing plant in 2020 continues to cause hardship in the West Coast town despite promises of a revival.
- 7.5.63 Hundreds of people lost their jobs, both at the plant and at downstream businesses, in Saldanha and neighbouring towns, and many see no way forward.
- 7.5.64 Reviving the Saldanha Steel is strongly reliant on the existence of a reliable energy source. Karpowership seeks to assist South Africa to improve its energy availability and security.

DEPARTMENT'S COMMENTS TO THIRD APPELLANT'S FOURTH GROUND OF APPEAL

- 7.6 **The Department responds to the third appellant's submissions under the fourth ground of appeal as follows:**
- 7.6.1 The need and desirability of the project was discussed in detail in the EIAr. The summary of it was as follows: the concept of generating power on the ocean has several benefits over land-based power plants,

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including small footprint, significantly shorter timeframes for project delivery, adding capacity, as the powerships arrive already assembled and ready to operate, and land-based impacts are limited and of short term, associated with the establishment of the transmission line and temporary assembly area for the gas pipeline. However, ocean-based power plants have their own unique impacts and consequences on the marine environment, which also have to be taken into account in order to decide on the need and desirability thereof.

- 7.6.2 In the CA's view, the need and desirability of the project was assessed sufficiently in the EIA as well as in the socio-economic impact assessment.

EVALUATION AND DECISION

- 7.7 The First and Third Appellants both submitted appeals under this ground of appeal. My evaluation of their grounds of appeal is dealt with jointly hereunder. In my evaluation of their respective appeals, I have considered their separate submissions, the responses of the Applicant thereto and the comments from the Department. In this regard, I take cognisance of the assertions that energy security and economic growth are key priorities for South Africa with energy being the backbone of the economy and an essential element for poverty reduction and for achieving sustainable development.
- 7.8 I have furthermore noted that the project is in response to the RFP of the DMRE, which is informed by the RMIPP.
- 7.9 I am well aware that the IRP 2019 and the draft IRP 2023 both make provision for the procurement of gas to power in the energy mix for South Africa and its role in dispatchable power and as a transition fuel to a decarbonised economy as part of the country's JET.
- 7.10 I am aware that loadshedding was for a considerable period of time very much part of South African's daily existence and challenges and the cost to the economy was staggering. During 2023 South Africans endured more than 312 days of loadshedding. However, just three months into 2024 the picture showed some signs of improvement with almost nearing over 150 days without loadshedding, at least after 29 May 2024. At present, South Africans are experiencing a remarkable turnaround with no loadshedding for approximately six (6) months as of October 2024. It seems to me that the situation is no longer as dire as it had been at the time of the applicant's application for the proposed project; and that there has been a consistent effort on the part of the relevant role player to keep the lights on and render loadshedding something of the past.

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- 7.11 At the time that the CA rendered the decision to grant the applicant and EA, the need and desirability of the project was assessed sufficiently in the EIA as well as in the socio-economic impact assessment. However, given the present prevailing circumstances, the need and desirability that previously necessitated a project of this kind no longer applies.
- 7.12 Albeit that the EIA and related assessments conducted have met the Department's Guideline on Need and Desirability in terms of the EIA Regulations, and although the need and desirability of undertaking the proposed activity was investigated and discussed sufficiently in the EIA in respect of all relevant issues, including how "geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the activity", based on the changed circumstances referred to above, I am satisfied that that the project is no longer needed and desirable.
- 7.13 In light of the above, I determine that this ground of appeal, as submitted by the First and Third Appellants, must be accordingly upheld .

8 FIFTH GROUND OF APPEAL: INADEQUATE CONSIDERATION OF ALTERNATIVES INCLUDING THE NO GO OPTION

(The First and Third Appellants have both lodged separate appeals under this ground of appeal. Due to the overlapping nature of their appeals, they will, for the sake of brevity and convenience, be assessed in one evaluation at the end of this section.)

FIRST APPELLANT'S SUBMISSIONS UNDER THE FIFTH GROUND OF APPEAL

- 8.1 The First Appellant's submissions, under the various subheadings, under the fifth ground of appeal are as follows:
- 8.1.1 NEMA and the EIA Regulations require consideration and investigation of alternatives including the option of not implementing the activity (the no-go option). The Regulations define "alternatives" as "different means of meeting the general purpose and requirements of [an] activity, which may include alternatives to the ... (b) type of activity to be undertaken" or the "(d) technology to be used in the activity."
- 8.1.2 The FEIR only considered layout, design and technology alternatives for the powership project. It does not stray far from the concept of the proposed powership project and does not consider any changes to

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the type of activity to be undertaken. Nor does it delve into a meaningful assessment of feasible and reasonable alternatives to the activities as required by NEMA. The alternatives assessed do not materially address or minimise the harms that would be caused by the project should it proceed.

- 8.1.3 In respect of the no-go alternative, the FEIR states that *"the option of not implementing the Project, i.e. the "no-go" option, was considered as an alternative. In respect of the Project, it would mean that the existing status quo would prevail. While the benefit of this option is that there will be no negative environmental or social impacts, there will also not be any positive environmental or socio-economic benefits"*.
- 8.1.4 They (the First Appellants) set out that the FEIR assessment, and Chief Director's consideration of alternatives, were inadequate because:
- 8.1.4.1 Clean energy alternatives such as renewable energy with storage, would be a less harmful technology alternative to the project, and were not adequately considered; and
- 8.1.4.2 No consideration was given to the no-go alternative.

Clean energy alternatives were not adequately considered

- 8.1.5 The FEIR makes reference to the *"renewable energy myth"* to refute the evidence that renewable energy is cheap and clean. They (the Appellants) are certainly not arguing that renewable energy is without any impacts or cost. They are aware of the potential for negative upstream impacts of all energy technologies. However, what is relevant for purposes of this appeal, is that renewable energy technologies would be cheaper and cleaner than *this* proposed powership project. The FEIR provides no compelling evidence to refute this.
- 8.1.6 In her August 2022 appeal decision on the KPS Saldanha Bay project, Minister Creecy noted that *"[t]he alleviation of the current energy crisis may be vital, but this does not mean that it must be achieved by this specific project, nor does it follow that there is now a license to ignore all relevant environmental considerations."* The concerns raised by the Minister still hold true in respect of the FEIR, and therefore serve as *prima facie* evidence that the assessment of alternatives for this project has not been adequately conducted.
- 8.1.7 The Applicant's current 2022 DEIR (and now the FEIR) fails to assess renewable energy options in its alternatives analysis, even though expert reports submitted in response to the first EIA demonstrate that renewables, as part of a systems approach, are viable options that would result in the same, if not more, benefits than the KPS projects.
- 8.1.8 The FEIR states that *"by providing load following and dispatchable electricity which renewable energy cannot provide, the project will enable more renewable energy projects to come online than otherwise*

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would have been possible, providing the energy stabilisation needed until sufficient battery technology can be deployed." Again, this misconstrues the Appellants' argument, which is not that renewables alone would resolve South Africa's power crisis, but simply that this project is not part of a least-cost clean energy plan based predominantly on renewables – which should have been considered as an alternative to the KPS project.

- 8.1.9 Multiple experts (referenced in this appeal and in previous comments) have demonstrated that while South Africa requires electricity capacity, it does not need this KPS project to meet that objective.
- 8.1.10 The Applicant put forward a number of reports in support of a role for gas from the powership project, and/or refuting the evidence put forward by the Appellants in support of clean energy as an alternative to the proposed project. These have been responded to in the December and September 2023 comments, and some of these responses are reiterated below.
- 8.1.11 The RMI report referred to in the December 2022 comments (Annexure F to the appeal), states that *"Many leading global utilities have shifted their approach to resource planning, and in doing so have found that emerging technologies, and specifically wind, solar, and storage, can provide the same sort of grid services that were provided by "baseload," "peaking," and "mid-merit" power plants in the 20th Century".* The RMI report concludes that the KPS projects *"would come online as much as a decade prior to the planned need for any type of new high utilization energy capacity"* and thus *"represent an unneeded and uneconomic addition to [South Africa's] electricity system"* for over half of their operational life.
- 8.1.12 The CSIR and Meridian report of July 2020, found that a least-cost scenario for the South African electricity sector involves rapidly expanding wind and solar power in the near term, with 90% renewable uptake in the grid by 2050. The report found that *"[p]eaking requirements can be provided by liquid fuels for at least the next 10 years in all scenarios,"* and South Africa *"can wait for 10 – 15 years"* before making a decision to *"expand gas infrastructure to support the power sector."*
- 8.1.13 Meridian's report demonstrates that the addition of renewable energy would have eliminated almost all the loadshedding in 2021, without any help from new gas resources. The Meridian report concluded that *"an additional 5GW of wind and solar would have allowed Eskom to eliminate 96.5% of loadshedding in 2021"* even before installing additional battery storage.
- 8.1.14 PESA's assertion that *"the [Meridian] report does not make any consideration or reference to assumptions about the storage capacity and climate conditions required to produce the optimal amount of electricity from the additional 5GW in renewables"* is incorrect.
- 8.1.15 The Mallinson report reveals that a "full systems approach" to the RFP where "projects were fully integrated with existing Eskom storage assets," evaluated in the context of their interaction with other generation assets, and free from arbitrary restraints, would have resulted in tariffs that were "less than one half of the Karpowership [bid] tariffs."

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- 8.1.16 South Africa's Presidential Climate Commission ("PCC") in a report titled *"Recommendations from the PCC on South Africa's Electricity System"* called for an energy system dominated by renewable energy as evidence shows them to be secure, reliable, and least cost. With regards to the electricity crisis and resolving load shedding, the report states that: *"South Africa's current electricity crisis requires interventions in the short term. How would electricity policy decisions change in the short term to address the urgent need for electricity access, and would these decisions compromise the long term, least cost and climate compatible energy mix? The answer is no. In the short term, the least cost, no-regret option remains renewables, batteries, and balancing and peaking support, for example from gas. Not only are these the cheapest, secure options, but they are also the only options with build times short enough to make a meaningful impact on load shedding."*
- 8.1.17 The PCC recommends the use of gas only at very low utilisations (it only forms part of a least cost plan at very low utilisation), which – according to the RMIPPPP requirements and the FEIR - is not what is envisaged for the current project.

Failure to adequately assess the no-go option

- 8.1.18 According to the DEIR the negative environmental impacts of the project have been found to be minimal. Against this, the socio-economic benefits of securing the electricity supply allegedly far outweigh the negative impacts and the no-go option was therefore not recommended.
- 8.1.19 The FEIR contains several misleading assertions in relation to the no-go alternative. For example, it states that, *"the opportunity to utilise gas as a cleaner, greener fuel in the just transition from coal and more polluting energy sources will remain unexplored"*. They (the Appellants) already address above why the contention that gas is a "cleaner, greener fuel" is false. Furthermore, this contention incorrectly assumes that this KPs project is the *only* gas power project in South Africa, stating that if it does not proceed the opportunity to rely on gas will be "unexplored". This ignores and misrepresents the reality in which there are a number of proposed, and authorised gas power projects in South Africa which are also and already "exploring" this "opportunity", including another two KPS power projects.
- 8.1.20 The FEIR misrepresents facts around the impacts of the project in the context of the no-go alternative, stating that not proceeding with the project would have negative impacts for South Africa's economy and climate. The no-go alternative analysis incorrectly assumes that renewable projects would not replace the KPS projects in filling the short-term electricity supply gap.
- 8.1.21 The deficiencies in the analysis of environmental on the socio-economic conditions of small-scale fishers mean that at this stage a proper analysis of the no-go option is not possible.
- 8.1.22 Had the FEIR considered the plethora of alternative electricity supply options and projects in the pipeline for South Africa and had renewable energy options with flexible generation been adequately considered

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as an alternative to the project, the FEIR – and consequently the Chief Director - would have reached different conclusions.

- 8.1.23 The FEIR continues in its failure to meet the EIA Regulations' requirement for the assessment of alternatives and the no-go option and therefore the FEIR report, as it currently stands is incomplete and is not an adequate basis for decision-making.

APPLICANT'S RESPONSES TO THE FIRST APPELLANT'S SUBMISONS ON THE FIFTH GROUND OF APPEAL

- 8.2 The Applicant responds to First Appellants submissions under the fifth ground of appeal as follows:

- 8.2.1 The EIA conducted fully complied to NEMA and the EIA Regulations requiring the consideration and investigation of alternatives including the no-go option. It (KPS) responded to the South African Government's RFP for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred bidder status. There is a need to provide context around the objectives, design and the outcome of the RMIPPPP.

Objectives of the RMIPPPP

- 8.2.2 The 2 000 MW Ministerial Determination that was gazetted on 7 July 2020, following NERSA public consultation, has two objectives, namely, to procure technology agnostic dispatchable new generation capacity from a range of source technologies to address the electricity capacity supply gap as identified in the IRP2019; and to reduce the extensive utilization of expensive diesel-based peaking open cycle gas turbine (OCGT) generators in the medium-to-long-term.
- 8.2.3 The RMIPPPP was designed with these objectives in mind. This procurement cannot be compared with other Bid Windows procured by the DMRE (now the DMR) where specific technologies were targeted. The performance specifications of the RMIPPPP were stipulated by the Transmission System Operator (SO) which, among others, included the need for each Project to be dispatchable between 05:00 and 21:30 daily in response to the instruction from the SO. In addition, each project was required to provide Ancillary Services, which are necessary for grid stability. These design features, combined with the need to keep the tariff low, resulted in the unique RMIPPPP design to meet these objectives.
- 8.2.4 The defining and innovative technical feature of the RMIPPPP is that multiple generation facilities located at different geographical locations could be bid as a single dispatchable project, without being prescriptive on the types of technologies. This was to enable developers to take advantage of the cheaper non-

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dispatchable technologies that could be bundled together with the dispatchable facility to create an economically competitive dispatchable Project. This must be viewed as part of a grid-system wide mix available to the SO, enabling further implementation of non-dispatchable renewable generation into the mix to provide maximized holistic benefit to the South African consumer moving forwards.

- 8.2.5 The IRP2019 envisaged a variety of technologies being utilized, including Gas (LNG) and Storage (Batteries). The hybrid nature of the majority of Preferred Bidder projects under the RMIPPPP demonstrates that it achieved a level playing field and was a technology agnostic tender. The KPS projects were all independently evaluated during the RMIPPPP adjudication as having a lower-than-average price amongst the 11 Preferred Bidders selected. The 20-year term of the PPA is also aligned to the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), however there are fundamental differences in the risk allocation to the Buyer. Whereas under the self-dispatch regime of the REIPPPP there is a take or pay obligation from the Buyer, this is not the case under the RMIPPPP. The evaluation price is an all-in tariff with the Independent Power Producer (IPP) taking all risks associated with availability, performance and cost over-runs for construction.
- 8.2.6 The 20-year term of the PPA is standard for all bidders under the RMIPPPP, designed to enable the projects to recover the cost of establishing the generation capacity and ensure commercially viable availability. Without the certainty of the 20- year PPA, which is not uncommon the tariffs of power projects would be significantly higher.
- 8.2.7 There is no reason why gas cannot be used to support and enable this transition. Renewable energy sources are not dispatchable, and the national grid is under immense strain, requiring stability urgently. The RMIPPPP and the case for gas to power is in line with the IRP 2019 *[the latest draft indicative of additional gas as part of the energy mix]*, which was published following the Government's own research and public consultation. An objective of the RMIPPPP is to alleviate the current over-reliance on diesel back-up generation, which is costly to the point of being unaffordable to Eskom.
- 8.2.8 Based on the criteria of the RMIPPPP, renewables alone cannot meet the criteria - the successful renewable bidders had to add storage capacity (batteries) as the power had to meet certain criteria including that it must be dispatchable. Powerships were selected on merit and price, therefore there was no obligation to consider renewables as an alternative by KPS however other bidders were able to successfully bid with renewables (and battery storage) showing that LNG driven thermal power and renewables need to be balanced and are not mutually exclusive.
- 8.2.9 It is a false assertion to state that the decision maker should have considered renewables when assessing the KPS project (which has preferred bidder status based on the technology that it has i.e.: reciprocating engines using LNG), therefore, renewables could not be considered as an option in this application.

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8.2.10 In the *South Durban Community Environmental Alliance and Trustees of groundWork Trust v Minister of Forestry, Fisheries and the Environment and Others* (the SDCEA / groundWork v DFFE and Eskom case) the court held and ruled against the very same NGOs/Appellants (groundWorks, SDCEA) who now make the same argument which has already been dismissed by a competent court. At page 9, paragraphs 18 - 22 of its judgment, the court stated as follows:

"It is not disputed that Eskom, in regard to the EA sought for the CCGPP at Richards Bay did not in this specific instance consider the use of other renewable energy sources at the particular site. It was submitted on behalf of DEFF and Eskom that the decision to apply for an EA for a CCGPP was at a particular site, a matter eminently within the discretion of the party applying for such authorization.

It was disputed that other sources and in particular renewables such as solar or wind were desirable within the greater context of transitioning the Republic from a fossil fuel-based energy generation system to a sustainable renewable system. However, it was argued that this did not mean that each and every application should be predicated entirely upon the basis that only renewables should be considered. It was argued that the CCGPP was a bespoke type of power generation source in that, firstly it would be fuelled by natural gas sourced, at least in anticipation, from the recently discovered gas fields off the coast of Mozambique and secondly, that it was not designed to nor would it run for more than a specified number of hours. The whole purpose of the CCGPP was to provide emergency power generation for relatively short periods of time as and when required. On a practical level, none of the renewable sources were considered simply because these would not fulfil the emergency generation role and function that the CCGPP was intended for. It is for this reason that the present application for the EA was made specifically for a CCGPP.

The argument is buttressed when regard is had to section 24O(1)(b) which requires the decision maker to take into account "all relevant factors, which may include " [my emphasis]. The section confers upon the decision maker a discretion as to what may or may not be taken into consideration and this discretion must be exercised having regard to the specific application for which the EA is made.

It was argued by the DEFF that the approach of the Applicants disregarded the specific role that the CCGPP will play in the electricity generation of the country. It is specifically earmarked, and so approved, as a mid-merit facility to produce electricity as and when needed. Furthermore, it was acknowledged that as coal as an energy source is being phased out, natural gas is intended to act as a bridge before renewable alternatives are fully implemented.

It was argued, that too hasty a transition to renewable energy may have cataclysmic consequences. By way of example, I was referred to the failure of renewable energy resources that it was stated led to a complete blackout in South Australia during 2016 and in Texas in the United States of America, during September 2021 and February 2022."

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At paragraph 25, the court held:

Since the granting of an EA is not the exclusive domain for renewable energy projects, Eskom was entitled to submit its application for the CCGPP without an alternative. Having said that, the specific exigencies for a CCGPP were considered and the conditions referred to above imposed. Accordingly, this ground of appeal cannot succeed.

8.2.11 Alternatives were assessed in relation to the proposed development and according to the technology that the applicant is offering. KPS is not primarily a Renewable Energy Company and the RMIPPPP to which KPS responded does not qualify non-dispatchable generation sources, therefore assessing renewable energy as an alternative technology is irrelevant.

8.2.12 Renewable energy sources, such as wind and solar power, are not consistent and depend on weather conditions. This can be a challenge for the management of an electricity grid, where the balance between supply and demand must be maintained at all times. When renewable energy plants begin to generate electricity (for example, when the wind picks up), other power plants must reduce their output by the same amount. Similarly, when renewable energy plants stop generating electricity, other power plants must increase their output to compensate. If this balance is not maintained, the grid could trip, which could require a lengthy shutdown and restart process. Gas-to-power technology is one of the few options that can quickly adjust its output to match the fluctuations of renewable energy sources.

In their earlier submission, the Appellants (GroundWork) quoted from the PCC that: “South Africa’s current electricity crisis requires interventions in the short term. How would electricity policy decisions change in the short term to address the urgent need for electricity access, and would these decisions compromise the long term, least cost and climate compatible energy mix?” The answer is no. In the short term, the least cost, no-regret option remains renewables, batteries, and balancing and peaking support, for example from gas. Not only are these the cheapest, secure options, but they are also the only options with build times short enough to make a meaningful impact on load shedding.” It is ironic that they require the peaking plant to consider renewable alternatives. This rationale proposed by the Appellants does not take into consideration the challenges in achieving high penetration rates of intermittent renewable energy on a grid.

8.2.13 The lack of grid capacity is the biggest hurdle in deploying renewables and is acknowledged widely by government and industry, meaning that the increasing output from renewable energy will ultimately be stranded.

8.2.14 The applicant’s reference to their earlier averment herein, concerning the 23 wind projects that were not successful as they were located in areas in the Northern Cape and Eastern and Western Cape corridors where there was no available grid capacity. A recent consultation paper by Stellenbosch University further

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highlighted that grid capacity must be expanded eight times faster than the current rate – this is up from 300km per year to 2 300km per year.

- 8.2.15 Even though, Eskom's grid-related investment plans had been "moderated" in light of financial constraints and that a significant amount of additional investment would be required to accommodate the new generation outlined in the Integrated Resources Plan of 2019 (IRP2019). The prevailing lack of grid capacity persists due to a lack of financing.
- 8.2.16 Eskom acknowledges that transmission constraints remain an obstacle to the introduction of new renewables generation. The latest TDP points to the need for the construction of 14 218 km of new high-voltage transmission lines by 2032, as well as the deployment of 170 transformers, with a capacity of 105 865 MVA, along with 40 capacitors and 52 reactors which comes with a significant capital investment requirement and the requisite time to navigate through arduous land acquisition and EIA processes.
- 8.2.17 According to the CSIR, it would optimistically take more than ten years to execute essential infrastructure projects to upgrade Eskom's power grid.
- 8.2.18 Although solar and wind power plants could be built, the grid itself doesn't have the capacity to bring power from where it's generated to where it's needed.
- 8.2.19 While this situation persists, Loadshedding is costing South Africa \$51 Million a Day according to the Central Bank, while the Reserve Bank sees outages occurring for 250 days in 2023. In light of this, the Central bank has cut economic growth forecasts through 2025.
- 8.2.20 It is worth highlighting that a number of NGOs including the Appellants, and their associated experts referenced in their appeal are linked to a foreign funded scheme predicated on the vilification of natural gas and the promotion of renewable energy at any cost despite the scientific and industry evidence that the South African energy landscape cannot rely exclusively on renewable energy. These views are not scientifically objective and are purely agenda driven.

THE DEPARTMENT'S RESPONSES TO THE FIRST APPELLANTS' SUBMISSIONS UNDER THE FIFTH GROUND OF APPEAL

- 8.3 **The Department responds to the First Appellant's submissions, under the various subheadings, under the fifth ground of appeal, as follows:**
- 8.3.1 The following alternatives were assessed and discussed in the EIAr.

Layout alternatives - Pipeline

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- 8.3.1.1 Preferred Gas Pipeline: The gas pipeline is connected from the Floating Storage Regasification Unit (FSRU) via a subsea pipeline and onshore pipeline in Big Bay where it thereafter routed in front of the Oyster dam and along the causeway before connecting via a subsea pipeline to the Powership. The route to the onshore pipeline is more direct than the alternative and the onshore pipeline traverses 400m less of the beach.
- 8.3.1.2 Gas Pipeline Alternative 1: The gas pipeline is positioned 400m east of the preferred route therefore traverses more of the beach. The alignment to the Powership from this point is aligned with the preferred route.

Transmission

- 8.3.1.3 Preferred: The electricity generated on the ship will be converted by the on-board High Voltage substation and transmitted along a 132kV line. This new transmission line of approximately 7,5km will connect the Powership to the National Grid utilising the existing Aurora-Saldanha Steel network via a new 132kV on shore switching station. The monopole transmission towers are proposed within a 60-metre corridor which includes the 31m working servitude. The servitude stretching approximately 7,5km from the port to the existing Aurora- Saldanha Steel network via a new 132kV on shore switching station (SS2/SS3), will have a width of 31m as per Eskom safety specifications. This route is primarily based between Transnet and the Saldanha Steel property.
- 8.3.1.4 Alternative 1: The new transmission line of approximately 7,2km and the route to east of the preferred option. There is one switching station, (SS1) associated with this route. This route is primarily based between Transnet and the Saldanha Steel property and crosses properties owned by Afrisam and Duferco (where two local landowners are currently undergoing late stages of an arbitration process against one another, albeit with no definitive timeline).
- 8.3.1.5 Alternative 2: The new transmission line of approximately 8,6km and the route to east of the preferred option. There are two switching station, (SS2 and SS3) alternatives associated with this route. This route was not supported from an avifaunal and ecological perspective and is considered a no-go option due to the alignment occurring within the flight path or paths of three priority species including GPS tracked single pair of Black Harriers present. Furthermore, the terrestrial ecologist indicated that this route traverses an area of critically endangered limestone strandveld, which should be avoided.

Design alternatives

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- 8.3.1.6 The proposed transmission line can be constructed of either a monopole or lattice steel construction, based on the final engineering design requirements, the topography and geotechnical survey results. As the extent of the lattices' footprint is much bigger and require more vegetation clearance than the monopoles, the monopoles are the preferred option.

Technology alternatives

- 8.3.1.7 The Powerships to be deployed will generate electricity using Wärtsilä engines running exclusively on natural gas. Wärtsilä conducts extensive research on the use of different fuel sources within its engines, improving and optimising their technology to futureproof and deliver leading efficiency. Wärtsilä have made significant progress on the possibility of using hydrogen gas to power with their engine technology; whilst it is already technically possible to utilise a mix of hydrogen with natural gas, this technology is in its infancy and is undergoing rigorous research and development for pure hydrogen operations, and outcomes of that research and development (R&D) are anticipated within the coming years.

No-go alternative

- 8.3.1.8 In respect of the project, it would mean that the existing status quo would prevail. While the benefit of this option is that there will be no negative environmental or social impacts, there also would be no positive environmental or socio-economic benefits as well as deployment of cleaner turnkey energy technology in keeping with the South Africa's Just Energy Transition objectives.
- 8.3.1.9 In the CA's view, the need and desirability of the project was sufficiently discussed in the EIAr.

THIRD APPELLANT'S SUBMISSIONS UNDER THE FIFTH GROUND OF APPEAL

- 8.4 The Third Appellant's submissions, under the various subheadings, under the fifth ground of appeal are as follows:
- 8.4.1 Section 24O(1)(b)(iv) of the NEMA, requires a decision-maker consider "*where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment.*" Considering the significant implications of the Project, a full cost-benefit analysis that considers a cradle to grave approach is required to compare the different electricity generation options. However, the EA

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does not provide any reasoning on the consideration of a comparative cost-benefit analysis of the different options.

- 8.4.2 In reaching a decision, the Department's reliance on "*the need for electricity*" is an inappropriate consideration of a singular concern that undermines the appropriate evaluation of the need and desirability and the opportunity costs of this application, as well as the absence of relevant information that may have resulted in the taking of a different decision.
- 8.4.3 Different options in addressing the immediate electricity challenges have been widely debated and publicised in the media and must be known to the Department. These options include:
- 8.4.3.1 Procurement of electricity from neighbouring countries.
 - 8.4.3.2 Increased electricity from decentralised municipal, household and commercial electricity generation sources.
 - 8.4.3.3 The optimised operation of the recently built coal power stations according to their design capacity.
 - 8.4.3.4 Demand side management and implementation of energy efficiency measures.
 - 8.4.3.5 Increased electricity from renewable energy sources.
- 8.4.4 In the absence of a broader context that considered the socio-ecological and socio-economic implications of different energy options, it is incumbent on the Environmental Impact Assessment (EIA) process to assess the socio-economic implications of this Project. Alternatively, considering the significance of socio-ecological and socio-economic implications of the Project, the lack of a contemporary policy context to clarify such implications, the Department should have evoked the precautionary principle and refused EA.
- 8.4.5 It submitted that a suitable alternative in the circumstances would be to refuse the application for EA (i.e., abandon implementation of the project entirely). Importantly, this does not mean that the urgency of electricity generation (security) is not addressed, but merely that other options and interventions are preferable.
- 8.4.6 Considering the above, it is submitted that the Department failed to comply with section 24O(1)(b)(iv) of the NEMA.

APPLICANT'S RESPONSES TO THIRD APPELLANT'S FIFTH GROUND OF APPEAL

- 8.5 The Applicant responds to the Third Appellant's submissions, under the various subheadings, under the fifth ground of appeal, as follows:

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- 8.5.1 This ground of appeal is based on the Appellant's view that the other alternatives should have been considered address the current short fall in energy capacity, most of all, that the project should have considered the deployment of renewables as is the aspiration of the Western Cape government.
- 8.5.2 It is submitted that the EIA did indeed consider the significance of socio-ecological and socio-economic implications of the Project and the prevailing policy and legislative framework as noted in the responses provided above in grounds 1 and 2 and 3 below.
- 8.5.3 Contrary to the Appellant's interpretation and understanding of the legislation, the EIA conducted fully complied to NEMA and the EIA Regulations requiring the consideration and investigation of alternatives including the no-go option. The Appellant is misguided in their interpretation of the law and the purpose of an EIA.
- 8.5.4 It is reiterated that Karpowership responded to the South African Government's Request for Proposals (RFP) for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred bidder status. There is a need to provide context around the objectives, design and the outcome of the RMIPPPP.

Objectives of the RMIPPPP

- 8.5.5 The 2 000 MW Ministerial Determination that was gazetted on 7 July 2020, following NERSA public consultation and concurrence, has two objectives, namely, to procure technology agnostic dispatchable new generation capacity:
- from a range of source technologies to address the electricity capacity supply gap as identified in the IRP2019; and
 - to reduce the extensive utilization of expensive diesel-based peaking open cycle gas turbine (OCGT) generators in the medium-to-long-term.
- 8.5.6 The RMIPPPP was therefore designed with these two objectives in mind. It is important to understand from the outset that this procurement cannot be compared with other Bid Windows procured by the DMRE where specific technologies were targeted. The performance specifications of the RMIPPPP were stipulated by the Transmission System Operator (TSO) which, among others, included the need for each Project to be dispatchable between 05:00 and 21:30 daily in response to the instruction from the TSO.
- 8.5.7 The project is a response to the RMIPPPP, which is a DMRE and South African Government Programme. Should the Appellant wish to challenge the RMIPPPP, then this is the incorrect platform for such a challenge.
- 8.5.8 Furthermore, the South African government's endeavours to address the options relating to the immediate electricity challenges have been widely debated and publicised in the media and must be known to the

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Department as put forward by the Appellant. These options do not have any bearing on the requirements of the RMIPPPP as they do not form part of the scope of work and objectives of the programme.

- 8.5.9 Based on the criteria of the RMIPPPP, renewables alone cannot meet the criteria - the successful renewable bidders had to add storage capacity (batteries) as the power had to meet certain criteria including that it must be dispatchable. Powerships were selected on merit and price, therefore there was no obligation to consider renewables as an alternative by Karpowership, however other bidders were able to successfully bid with renewables (and battery storage) showing that LNG driven thermal power and renewables need to be balanced and are not mutually exclusive.

Procurement of electricity from neighbouring countries

- 8.5.10 There is already a regional power-sharing initiative called the Southern African Power Pool (SAPP) that allows countries in the Southern African region to trade electricity. Under this initiative, South Africa can import electricity from Mozambique if there is excess power available and already does so from time to time.
- 8.5.11 Additionally, there are plans for the construction of the Inga III hydropower project in the Democratic Republic of Congo, which aims to generate electricity to supply several countries in the region, including South Africa. If this project materializes, South Africa could potentially get power from Mozambique indirectly through this regional initiative. Unfortunately, this initiative is envisaged to optimistically reach commercial operation by 2030 which is extremely unlikely given the funding difficulties experienced. South Africa imports electricity from the Lesotho Highlands Water Project, which includes the Lesotho Highlands hydroelectric power plants.
- 8.5.12 The current energy shortfall has not been remedied through these measures as yet. These countries would effectively have to develop and deliver additional energy projects to share excess with South Africa which will not resolve the countries immediate energy crisis.
- 8.5.13 Of particular note, Eskom, South Africa's power utility, may purchase electricity from a KPS plant situated offshore Mozambique. Karpowership already has an operation in Mozambique and intends to expand. The new plant, which is being mounted on a ship located in Maputo Bay, generate 415 megawatts of power. Eskom is in talks with Electricidade de Mocambique to buy the power produced by the Karpowership plant. However, the final offtaker is expected to be the export market, given the power deficit being experienced in some countries in the region, including South Africa. It is ambivalent and hypocritical to allege that that obtaining electricity generated by Karpowership in a neighbouring country would be a good idea, but inappropriate to do so within the borders of South Africa.

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Increased electricity from decentralised municipal household and commercial electricity generation sources.

8.5.14 The programme already exists. South Africa's Embedded Generation Programme is an important component of the country's efforts to transition to a more sustainable and resilient energy system. By supporting the development of small-scale renewable energy projects, the programme aims to contribute to a more diverse and decentralized energy sector, reduce greenhouse gas emissions, and promote economic growth in the renewable energy industry.

8.5.15 The current energy shortfall has not been remedied through these measures as yet.

The optimised operation of the recently built coal power stations according to their design capacity

8.5.16 Eskom is actively working to address the issues and improve the performance of its Medupi and Kusile power plants, through Technical upgrades: These involve fixing boiler and turbine defects and improving the overall reliability of the plants; Project management improvements; Collaboration with contractors; Training and skills development: Eskom is investing in training and skills development programs for its employees and contractors to enhance their technical capabilities; Performance monitoring and improvement; the performance of Medupi and Kusile through various monitoring systems and processes; Engaging external expertise; Incremental commissioning; Eskom has adopted an approach of incremental commissioning.

8.5.17 The current energy shortfall has not been remedied through these measures as yet.

Demand side management and implementation of energy efficiency measures.

8.5.18 The programme already exists. Eskom's demand-side management program has achieved several successes, including reduced electricity consumption; cost savings; environmental benefits; demand-side management programs have encouraged energy-efficient practices and technologies among consumers; improved grid reliability; demand response. This allows the utility to actively manage electricity demand during peak periods by incentivizing consumers to reduce usage or shift consumption to off-peak hours; Partnering with consumers.

8.5.19 The current energy shortfall has not been remedied through these measures as yet.

Increased electricity from renewable energy sources

8.5.20 The IRP 2023 maps out multiple scenarios, such as a "least cost" plan to produce 105 gigawatts of power, and another that sees 166 gigawatts being generated from wind, solar, gas and battery storage.

8.5.21 **The DMRE as the preeminent authority on matters relating energy for the country has clearly made its position clear that the "Energy pathways based on renewable energy technologies only deliver**

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the desired outcome in so far as decarbonizing the power system and that these pathways do not provide security of supply, while carrying the highest cost to implement.”

- 8.5.22 The IRP anticipates electricity demand and seeks to provide electricity supply technologies that can meet that demand over the medium term.
- 8.5.23 A blend of coal, gas, nuclear, renewable energy, battery storage and other technologies have been presented in the IRP's energy mix to better ensure the security of supply at an affordable cost, while at the same time reducing the country's carbon footprint.
- 8.5.24 The blueprint envisions these additional megawatts being added to the grid by 2030.
- 8.5.25 This includes:
- 6,000MW of gas — 3,000MW from Eskom, and 3,000MW from independent producers
 - 1,500MW of photovoltaic solar
 - 3,000MW of wind
 - 2,000MW of battery storage, to be constructed by 2027.
- 8.5.26 While renewable energy received focus in the document, there was an emphasis on prolonging the life of Eskom's coal fleet beyond their scheduled decommissioning dates, and a call to start investing in gas-to-power technologies.
- 8.5.27 The national government has decided that the allocation for new wind reduced will be 4 468 MW, compared with 17 742 MW in the current plan, and the allocation for new solar PV falling is 3 615 MW, from 8 288 MW.
- 8.5.28 There is decided case law in this regard. We refer to the case of ***South Durban Community Environmental Alliance and Trustees of groundWork Trust v Minister of Forestry, Fisheries and the Environment and Others (17554/2021) [2022] ZAGPPHC 741 (6 October 2022)*** (“the SDCEA / groundWork v DFFE and Eskom case) where the court held as follows and ruled against the NGOs (groundWorks, SDCEA) which has already been dismissed by a competent court. At page 9, paragraphs 18 - 22, the court stated as follows:

“It is not disputed that Eskom, in regard to the EA sought for the CCGPP at Richards Bay did not in this specific instance consider the use of other renewable energy sources at the particular site. It was submitted on behalf of DEFF and Eskom that the decision to apply for an EA for a CCGPP was at a particular site, a matter eminently within the discretion of the party applying for such authorization.”

It was disputed that other sources and in particular renewables such as solar or wind were desirable within the greater context of transitioning the Republic from a fossil fuel-based energy generation system to a

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sustainable renewable system. However, it was argued that this did not mean that each and every application should be predicated entirely upon the basis that only renewables should be considered. It was argued that the CCGPP was a bespoke type of power generation source in that, firstly it would be fuelled by natural gas sourced, at least in anticipation, from the recently discovered gas fields off the coast of Mozambique and secondly, that it was not designed to nor would it run for more than a specified number of hours. The whole purpose of the CCGPP was to provide emergency power generation for relatively short periods of time as and when required. On a practical level, none of the renewable sources were considered simply because these would not fulfil the emergency generation role and function that the that the CCGPP was intended for. It is for this reason that the present application for the EA was made specifically for a CCGPP.

The argument is buttressed when regard is had to section 24O(1)(b) which requires the decision maker to take into account "all relevant factors, which may include" [my emphasis]. The section confers upon the decision maker a discretion as to what may or may not be taken into consideration and this discretion must be exercised having regard to the specific application for which the EA is made.

It was argued by the DEFF that the approach of the Applicants disregarded the specific role that the CCGPP will play in the electricity generation of the country. It is specifically earmarked, and so approved, as a mid-merit facility to produce electricity as and when needed. Furthermore, it was acknowledged that as coal as an energy source is being phased out, natural gas is intended to act as a bridge before renewable alternatives are fully implemented. It was argued, that too hasty a transition to renewable energy may have cataclysmic consequences. By way of example, I was referred to the failure of renewable energy resources that it was stated led to a complete blackout in South Australia during 2016 and in Texas in the United States of America, during September 2021 and February 2022."

Further at paragraph 25, the court held:

Since the granting of an EA is not the exclusive domain for renewable energy projects, Eskom was entitled to submit its application for the CCGPP without an alternative. Having said that, the specific exigencies for a CCGPP were considered and the conditions referred to above imposed. Accordingly, this ground of appeal cannot succeed.

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Reference: *South Durban Community Environmental Alliance and Trustees of groundWork Trust v Minister of Forestry, Fisheries and the Environment and Others (17554/2021) [2022] ZAGPPHC 741 (6 October 2022)* (the SDCEA / groundWork v DFFE and Eskom case)

- 8.5.29 Karpowership must be considered in the very same way as the Eskom CCGPP.
- 8.5.30 The identification and assessment of alternatives as part of Scoping and Environmental Impact Reporting is regulated predominantly by Section 24(4)(b) of the NEMA and the reporting requirements prescribed in Appendices 2 and 3 of the EIA Regulations, 2014 read with the definition of alternatives in Regulation 1. However, it is also evident from Section 24(1)(b)(iv) of NEMA that the alternatives considered by the Competent Authority need only be "reasonable and feasible". Thus, it is not mandatory for every possible alternative described in Regulation 1 to be included in the EIA process where such an alternative is not reasonable and feasible. This would include an alternative project or technology type such as renewable energy alone (not dispatchable), or the conversion of existing OCGT power plants (not new generation capacity) which Karpowership SA would not be able to implement according to the requirements of the RMIPPPP.
- 8.5.31 To once again put this project into context, KPS (SA) responded to the South African Government's call for bids for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred bidder status. The RMIPPPP, aligned with the IRP2019 and the updated draft 2023 IRP, is a technology-agnostic tender process, meaning that bidders could submit proposals using any form of technology that can, crucially, provide dispatchable generation capacity. Dispatchable power is power that can be provided to meet grid requirements at any given time, which is vitally important to aid grid stability and assist in countering loadshedding. The Project has been gazetted as a designated Strategic Integrated Project (SIP) by the SIP Steering Committee as set out in Government Gazette 43547, in accordance with the provisions of the Infrastructure Development Act 23 of 2014 (IDA).
- 8.5.32 Renewable energy sources, such as wind and solar power, are not consistent and depend on weather conditions. This can be a challenge for the management of an electricity grid, where the balance between supply and demand must be maintained at all times. When renewable energy plants begin to generate electricity (for example, when the wind picks up), other power plants must reduce their output by the same amount. Similarly, when renewable energy plants stop generating electricity, other power plants must increase their output to compensate. If this balance is not maintained, the grid could trip, which could require a lengthy shutdown and restart process. Gas-to-power technology is one of the few options that can quickly adjust its output to match the fluctuations of renewable energy sources.
- 8.5.33 In another submission made by GroundWork, it quotes the PCC "*South Africa's current electricity crisis requires interventions in the short term. How would electricity policy decisions change in the short term to*

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address the urgent need for electricity access, and would these decisions compromise the long term, least cost and climate compatible energy mix?" The answer is no. In the short term, the least cost, no-regret option remains renewables, batteries, and balancing and peaking support, for example from gas. Not only are these the cheapest, secure options, but they are also the only options with build times short enough to make a meaningful impact on load shedding."

- 8.5.34 The lack of grid capacity is the biggest hurdle in deploying the renewables which is acknowledged widely by both the government and industry, meaning that the increasing output from renewable energy will ultimately be stranded.
- 8.5.35 It's well known that the Northern Cape no longer has any available grid capacity. However, in the recently awarded BW6, it became evident that neither do the Eastern and Western Cape corridors, popular for their abundant wind resource. The result was the curtailment to the initially envisaged BW6 capacity. About 23 wind projects were not successful as they were located in areas where there was no more grid capacity to accommodate them.
- 8.5.36 A consultation paper released recently by Stellenbosch University's Centre for Sustainability Transitions and the Centre for Renewable and Sustainable Energy Studies, and the Blended Finance Task Force further highlighted that grid capacity must be expanded eight times faster than the current rate – this is up from 300km per year to 2 300km per year.
- 8.5.37 Even though, Eskom's grid-related investment plans had been "moderated" in light of financial constraints and that a significant amount of additional investment would be required to accommodate the new generation outlined in the Integrated Resources Plan of 2019 (IRP2019). The prevailing lack of grid capacity persists due to a lack of financing.
- 8.5.38 Eskom acknowledges that transmission constraints remain an obstacle to the introduction of new renewables generation. The latest TDP points to the need for the construction of 14 218 km of new high-voltage transmission lines by 2032, as well as the deployment of 170 transformers, with a capacity of 105 865 MVA, along with 40 capacitors and 52 reactors which comes with a significant capital investment requirement and the requisite time to navigate through arduous land acquisition and EIA processes.
- 8.5.39 According to the CSIR, it would optimistically take more than ten years to execute essential infrastructure projects to upgrade Eskom's power grid.
- 8.5.40 Although solar and wind power plants could be built, the grid itself doesn't have the capacity to bring power from where it's generated to where it's needed.
- 8.5.41 While this situation persists, Loadshedding is costing South Africa \$51 Million a Day according to the Central Bank, while the Reserve Bank sees outages occurring for 250 days in 2023. In light of this, the Central bank has cut economic growth forecasts through 2025.

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- 8.5.42 As above, this is a misguided and legally flawed attack on the Karpowership project, which as a SIP obligation to “consider renewables as an alternative”.

DEPARTMENT'S COMMENTS TO THIRD APPELLANT'S FIFTH GROUND OF APPEAL

- 8.6 **The Department responds to the Third Appellant's submissions under the fifth ground of appeal as follows:**

- 8.6.1 The following alternatives were considered:

Layout alternatives: Pipeline

- 8.6.1.1 Preferred Gas Pipeline: The gas pipeline is connected from the FSRU via a subsea pipeline and onshore pipeline in Big Bay where it thereafter routed in front of the Oyster dam and along the causeway before it is connecting via a subsea pipeline to the Powership. The route to the onshore pipeline is more direct than the alternative and the onshore pipeline traverses 400m less of the beach.
- 8.6.1.2 Gas Pipeline Alternative 1: The gas pipeline is positioned 400m east of the preferred route therefore traverses more of the beach. The alignment to the Powership from this point is aligned with the preferred route.

Transmission

- 8.6.1.3 Preferred: The electricity generated on the ship will be converted by the on-board High Voltage substation and transmitted along a 132kV line. This new transmission line of approximately 7,5km will interconnect the Powership to the National Grid utilising the existing Aurora- Saldanha Steel network via a new 132kV on shore switching station. The monopole transmission towers are proposed within a 60-metre corridor which includes the 31m working servitude. The servitude stretching approximately 7,5km from the port to the existing Aurora- Saldanha Steel network via a new 132kV on shore switching station (SS2/SS3), will have a width of 31m as per Eskom safety specifications. This route is primarily based between Transnet and the Saldanha Steel property.
- 8.6.1.4 Alternative 1: The new transmission line of approximately 7,2km and the route to east of the preferred option. There is one switching station, (SS1) associated with this route. This route is primarily based between Transnet and the Saldanha Steel property and crosses properties owned by Afrisam and Duferco (where two local landowners are currently undergoing late stages of an arbitration process against one another, albeit with no definitive timeline).
- 8.6.1.5 Alternative 2: The new transmission line of approximately 8,6km and the route to east of the preferred option. There are two switching station, (SS2 and SS3) alternatives associated with this route. This route

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was not supported from an avifaunal and ecological perspective and is considered a no-go option due to the alignment occurring within the flight path or paths of three priority species including GPS tracked single pair of Black Harriers present. Furthermore, the terrestrial ecologist indicated that this route traverses an area of critically endangered limestone strandveld, which should be avoided.

Design alternatives

- 8.6.1.6 The proposed transmission line can be constructed of either a monopole or lattice steel construction, based on the final engineering design requirements, the topography and geotechnical survey results. As the extent of the lattices' footprint is much bigger and require more vegetation clearance than the monopoles, the monopoles are the preferred option.

Technology alternatives

- 8.6.1.7 The Powerships to be deployed will generate electricity using Wärtsilä engines running exclusively on natural gas. Wärtsilä conducts extensive research on the use of different fuel sources within its engines, improving and optimising their technology to futureproof and deliver leading efficiency. Wärtsilä have made significant progress on the possibility of using hydrogen gas to power with their engine technology; whilst it is already technically possible to utilise a mix of hydrogen with natural gas, this technology is in its infancy and is undergoing rigorous research and development for pure hydrogen operations, and outcomes of that research and development (R&D) are anticipated within the coming years.

No-go alternative

- 8.6.1.8 In respect of the project, it would mean that the existing status quo would prevail. While the benefit of this option is that there will be no negative environmental or social impacts, there also would be no positive environmental or socio-economic benefits as well as deployment of cleaner turnkey energy technology in keeping with the South Africa's Just Energy Transition objectives.
- 8.6.1.9 In the CA's view, the need and desirability of the project was sufficiently discussed in the EIAr.

EVALUATION AND DECISION

- 8.7 The First and Third appellants both lodged appeals under this ground of appeal. Their appeals are evaluated and assessed jointly hereunder. In evaluating their appeals, I considered their respective submissions, the responses thereto of the Applicant and the Department's comments. Briefly stated:-

- 8.7.1 The First Appellants submitted that the FEIR assessment:

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- 8.7.1.1 Did not adequately consider Clean energy alternatives such as renewable energy with storage, would be a less harmful technology alternative to the project, and were not adequately considered; and
 - 8.7.1.2 No consideration was given to the no-go alternative.
- 8.7.2 The Third Appellant contends that:
 - 8.7.2.1 Other alternatives should have been considered to address the current short fall in energy capacity, such as the deployment of renewables; and
 - 8.7.2.2 The EIA did not consider the significance of socio-ecological and socio-economic implications of the Project and the prevailing policy and legislative framework.
- 8.8 I have furthermore considered the requirements of the energy mix required to provide stable and reliable energy to the grid as stated in the Integrated Resource Management Plan 2019 and the draft IRP 2023. I am mindful of the fact that the DMRE put out a request for proposals for the supply of different forms of energy generation projects which included among other renewable energy, battery storage and gas (LNG). It is on this basis that the applicant avers that the no go option was not a consideration.
- 8.9 The Applicant's project is a response to the gas to power portion of the RFP. I note the dicta of the court in the case of *South Durban Community Environmental Alliance and Trustees of groundWork Trust v Minister of Forestry, Fisheries and the Environment and Others* the court stated as follows:

"It is not disputed that Eskom, in regard to the EA sought for the CCGPP at Richards Bay did not in this specific instance consider the use of other renewable energy sources at the particular site... It was disputed that other sources and in particular renewables such as solar or wind were desirable within the greater context of transitioning the Republic from a fossil fuel-based energy generation system to a sustainable renewable system. However, it was argued that this did not mean that each and every application should be predicated entirely upon the basis that only renewables should be considered.... The argument is buttressed when regard is had to section 24O(1)(b) which requires the decision maker to take into account "all relevant factors, which may include The section confers upon the decision maker a discretion as to what may or may not be taken into consideration and this discretion must be exercised having regard to the specific application for which the EA is made... Furthermore, it was acknowledged that as coal as an energy source is being phased out, natural gas is intended to act as a bridge before renewable alternatives are fully implemented... that too hasty a transition to renewable energy may have cataclysmic consequences. Since the granting of an EA is not the exclusive domain for

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renewable energy projects, Eskom was entitled to submit its application for the CCGPP without an alternative..

- 8.10 I am mindful of and considered the provision of Section 24O(1)(b)(iv) of NEMA that the alternatives considered by the CA need only be "reasonable and feasible" and the comment by the Department that they were satisfied that the alternatives relating to layout alternatives for the gas pipeline, transmission line, design alternatives, technology alternatives and the no-go alternative were discussed sufficiently for the CA to make an informed decision.
- 8.11 Furthermore, Eskom acknowledges that transmission constraints is an obstacle to the introduction of new renewables generation and need for the construction of 14 218 km of new high-voltage transmission lines by 2032, as well as the deployment of 170 transformers, with a capacity of 105 865 MVA, along with 40 capacitors and 52 reactors which comes with a significant capital investment requirement and time. According to the CSIR, it would optimistically take more than ten years to execute essential infrastructure projects to upgrade Eskom's power grid. Although solar and wind power plants could be built, the grid itself doesn't have the capacity to bring power from where it's generated to where it's needed.
- 8.12 In the light thereof, I find that this ground of appeal, of the First and Third Appellants, is without merit and is accordingly dismissed.

- 9 SIXTH GROUND OF APPEAL: INADEQUATE CONSIDERATION OF SOCIO-ECONOMIC IMPACTS**
(The First and Third Appellants submitted individual appeals under this ground of appeal. Considering the overlapping nature of their appeals, they will, for the sake of brevity and convenience, be assessed in one evaluation at the end of this section.)

APPELLANTS' SUBMISSIONS

- 9.1 **The First Appellants, under various sub-headings, submit that:**
- 9.1.1 The FEIR includes, in Annexure 9 a 'Supplementary report to: Socio-economic impact assessment report for the proposed power Powership project at the Port of Saldanha Bay, Saldanha Bay Municipality, Western Cape' dated January 2023 ("the SEIA"). The SEIA, *inter alia*:
- 9.1.1.1 notes a limited negative impact on marine ecology;

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- 9.1.1.2 anticipates small, but negative socio-economic impacts on fishermen and mariculture;
- 9.1.1.3 states that "there is opportunity for the small-scale fishers and the rest of the community to benefit from corporate social investments, skills development, and supplier and enterprise development because of Karpowership SA's local content commitments (medium-low impact). In addition, there will be jobs created associated with the construction and operational phases of the project (low impact)";
- 9.1.1.4 states that the socio-economic impacts on tourism are expected to be positive due to increased electricity provision, and the possibility of industrial tourism;
- 9.1.1.5 states, in relation to climate change, that no direct negative socio-economic impacts are anticipated due to the distributed nature of GHG emissions. It anticipates long-run positive socio-economic impacts due to the support for greater energy diversity and deployment of renewable energy; and
- 9.1.1.6 concludes on the value of the KPS project as a near-term replacement for coal and solution to loadshedding.
- 9.1.2 The Appellants stand by their December 2022 and September 2023 comments, on the socio-economic impact assessment for the project and the assessment of the impacts on marine life and the procedure followed which they aver was comprehensively described in response above and will not be repeated here.
- 9.1.3 Specialist and focussed reports on the impacts on small scale fishers and the communities are included in Appendix D1 – Socio Economic Impact Assessment, Appendix D1.1 Small Scale Fishers Engagements. It makes no attempt to provide details on overall costs or broader economic impacts of the project to the people of South Africa; or to the external costs that will be imposed on society and communities living in the project area. Importantly, it downplays and misrepresents a number of significant socio-economic impacts associated with the project activities, such as impacts for fishing communities.
- 9.1.4 The overall theme in the FEIR when it comes to the socio-economic impacts of the project is that it would address the impacts of rolling black-outs in South Africa. The FEIR includes an entire report titled 'The economic impacts of rolling blackouts in South Africa: Shaping the Context' of October 2022 by Afro Development Planning (Pty) Ltd ("the Afro Development Planning report"), attached to the FEIR as Appendix 8.3. The negative economic impacts of loadshedding are not disputed but it is disputed that this particular project is the best means (socio-economically and environmentally) of addressing the negative impacts of South Africa's electricity crisis.
- 9.1.5 The Minister's August 2022 appeal decision denying Karpowership's initial environmental authorisation application was critical of the Socio-Economic Impact Assessment report for the project, finding that it had fatal gaps, limitations, and inconsistencies. The Minister stated that "*neither socio-economic needs nor*

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procurement considerations can elevate the recommendation in a Socio-Economic Impact Assessment report above the holistic consideration of the actual and potential risks, and impacts on the geographical, physical, biological, social, economic, and cultural aspects of the environment."

- 9.1.6 NEMA requires a weighing up of economic and environmental considerations. Guidelines for the application of the EIA Regulations make clear that environmental integrity may never be compromised, and that social and economic development must take a certain form and meet certain specific objectives in order to be considered justifiable. Development must not exceed ecological limits in order to secure ecological integrity, while the proposed actions of individuals must be measured against the short-term and long-term public interest in order to promote justifiable social and economic development.
- 9.1.7 The concerns raised by the Minister in her August 2022 appeal decision remain unaddressed in the FEIR. The FEIR continues to rely on generalised statements on the economic benefits of short-term power solutions, without delving into the specifics of the socio-economic impacts of this particular project.
- 9.1.8 The Appellants contend that the SEIA fails to meet the NEMA requirements for a full assessment of each potentially significant impact and risk. It is not possible to draw any conclusions on the economic impacts and alleged benefits of the project with such crucial information missing. In any event, any alleged economic benefits would be outweighed by the harms of the project, including socio-economic harms.
- 9.1.9 A number of negative socio-economic impacts have not been adequately considered in the FEIR. These negative socio-economic impacts include, *inter alia*:
 - 9.1.9.1 Negative economic impacts due to high electricity tariffs – which will affect already high electricity prices – the SEIA makes no mention of this;
 - 9.1.9.2 Negative impacts on livelihoods of fishing communities; and
 - 9.1.9.3 Negative external costs that are unaccounted for in the FEIR.

The project would have negative economic impacts, due inter alia, to its high costs

- 9.1.10 The three proposed KPS projects are anticipated to cost South Africa between R200 and R500 billion.
- 9.1.11 The Mallinson report (Annexure E to the appeal), confirms that it is possible to integrate projects under a risk mitigation procurement process at a tariff of less than one half of those of the KPS. The reasoning explained by Mallinson relates to the design and requirements of the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPP) Request for Proposals (RFP): the "*restrictions, terms and conditions*" of the RFP process "*have little to no impact on gas-dominated projects,*" but they raise the bid tariffs for renewable energy "*on average by more than 50%.*" In short, the RMIPPP RFP contains several design flaws which resulted in bid tariffs that are untethered to the realities of an electricity system and do not reflect true technology costs. In particular, the prohibition on storing energy outside the dispatch window and requirement that energy storage systems be co-located with the renewable generation

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capacity "result in the need to unnecessarily oversize storage systems, increasing the costs for renewable projects and thus increasing the tariffs that were bid."

- 9.1.12 In support of the cost-effectiveness of the KPS projects, KPS relies on a report by PESA (Appendix 8.1 to both the DEIR and FEIR) PESA's main finding is that *"The Karpowership projects despite their shortcomings, are the quickest way to provide South Africa with the much-needed dispatchable power."* In reaching this finding, PESA dismisses several reports by Meridian Economics and the Council for Scientific and Industrial Research ("CSIR"), which have been leading much of the modelling and research on electricity systems for South Africa.
- 9.1.13 PESA asserts that Meridian's and other studies that compare the least cost energy between renewables and gas are inappropriate because *"they leave out the cost of service from the tariff ..., [which] includes frequency and voltage control, transmission, synchronous power, dispatched ramping, system balancing and last mile connections. ... Moreover, these types of studies make factually inaccurate comparison between the cost of gas-to-power (which includes the total cost of evacuation and distribution) against the incomplete estimations about the cost of renewables"*. PESA, though, does not itself submit its own cost calculations. Instead, PESA submits that *"[t]he closest the system costs have been reflected was with the RMIPPPP tariffs, which included energy, dispatchability, voltage stability and storage costs."* PESA's arguments are fundamentally flawed.
- 9.1.14 The 2020 Meridian and CSIR modelling *does* incorporate costs of service based on the parameters of the IRP for Electricity, 2019 ("IRP 2019") model, but reflects updated demand, existing fleet performance, and technology costs, and assumes *"no carbon emissions constraint, no forced-in new-build technologies, and no annual new-build constraints on any technologies."* The renewables pricing assumptions in Meridian's report, 'Resolving the Power Crisis Part A: Insights from 2021 – SA's Worst Load Shedding Year So Far' are also based on actual bid prices from the Renewable Energy Independent Power Producer Programme, accounting for inflation.
- 9.1.15 Despite the addition of the PESA and the Afro development Planning reports to the EIR, the project proponent has not demonstrated that the project would produce economic benefits in the form of affordable and least-cost emergency power.
- 9.1.16 Authorising a project that would result in higher than necessary electricity prices over the 20-year period of the PPA would certainly not be in the public interest. This renders the environmental and climate harms of the project even more unjustifiable and contrary to the NEMA principles and requirements.

The negative impacts on livelihoods of fishing communities

- 9.1.17 In the Minister's August 2022 appeal decision, she found that the Socio-Economic Impact Assessment report *"did not include an analysis of the actual and potential risks and impacts,"* based on the following:

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"2.45.1 The local economy base for fishing in Saldanha was not assessed- the author thereof was not even aware of the details of the approximate number of small-scale fishers, where they dock, or where and what they fish. 2.45.2 Local fishermen expressed their worries about the impact of the proposed Project on the fish and on fishermen in general, given that fishing is their only form of livelihood. Saldanha Coastal Connection representing small scale fishermen indicated that the fishermen use the Port because they (fishermen) utilise very small vessels that cannot go out further to sea. They are therefore worried about their fish stocks. ... 2.45.4 The socio-economic assessment did not assess all the sensitivities on fish and marine life in the area."

- 9.1.18 These concerns remain largely unaddressed in the FEIR. The FEIR therefore does not adequately assess the impacts of the project on local fishing communities.
- 9.1.19 In the first appeal ground, the Appellants set out many impacts the project is likely to have on the marine environment in Saldanha Bay, an environment that is already subject to severe cumulative pressures. For example, the impacts on the Bay could trigger the collapse of local fisheries, including white stumpnose. These ecosystem impacts will have cascading impacts on the fishing communities who rely on marine resources for their sustenance and livelihoods. However, because the ecosystem impacts have been downplayed, ignored or otherwise remain inadequately considered in the FEIR, the full extent of socio-economic livelihood impacts have similarly not been considered.
- 9.1.20 The small-scale fishing community of Saldanha, is dependent on the marine environment for a livelihood. A large majority of the fishers rely on fishing not only as a means of sustenance but also for economic means.
- 9.1.21 The expert report by Dr Tonin (Annexure D) confirms that the FEIR fails to assess potential marine contamination from the operation of the project, that could, in turn, impact the local ecosystem and in particular the release of toxic copper, which is known to occur in antifouling hull coatings and seawater reticulation systems in discharge water. This could have severe consequences for communities who depend on fishing for their livelihoods. Dr Tonin's report records that this issue is dismissed as of no concern and excluded from assessment in the FEIR.
- 9.1.22 Further, given the proposed placement of the powership in a bay with significant black mussel cultivation – an industry which is an important contributor to the local economy and employment, and is set to expand significantly – analysis of a potential toxic threat to the mussels takes on an elevated significance. A recent Swedish study on copper toxicity in ship cooling water discharge notes that *"a copper concentration of 4-10,8 µg/l was proven to induce mortality for half the population of mussels. The blue mussel population has decreased significantly in Scandinavian waters, but the reason for this is not yet completely known"*. The problem of declining mussel production is widespread and not restricted to Scandinavia. One of the key reasons is the reduction in seed mussel availability. The role of copper as a contributory agent in this

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decline cannot be ignored, and all anthropogenic origins of contaminating copper need to be identified and quantified.

- 9.1.23 Evidently the project poses major risks of socio-economic harms for small-scale fishers on the west coast. Their livelihoods and socio-economic interests have not been adequately considered in the FEIR at all.

The negative external costs of the project are unaccounted for in the FEIR

- 9.1.24 The SEIA and consequently the FEIR make no attempt to assess the economic costs that the project will impose on society. As such the FEIR has neglected to adequately assess the economic impacts of the proposed activities.
- 9.1.25 Healthy ecosystems and human communities 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 globally have recognised that, to understand the overall consequences of fossil-fuel projects, such as the proposed project, decision-makers and the public must have the results from an analysis that provides a full, unbiased assessment of the external costs.
- 9.1.26 The SEIA in the FEIR needed to provide the Chief Director, and I & AP's, with the necessary information on external costs in order to determine the project's overall economic consequences.
- 9.1.27 External costs that are unaccounted for include:
- 9.1.27.1 The social cost of carbon: this is relevant given the anticipated high GHG emissions of the project. Recent analyses have found that, when assuming that the social cost of carbon dioxide added to the atmosphere is \$190 per metric ton, the carbon dioxide emissions resulting from operation of a gas-fired electricity generator impose costs on society that totally outweigh the value of the electricity. This conclusion is reinforced by research that shows the actual social cost from adding carbon dioxide to the atmosphere far exceeds \$190 per ton.
- 9.1.27.2 External costs and negative impacts on biodiversity: to satisfy applicable principles and standards, the FEIR ought to have fully described and assessed the anticipated costs to society from the proposed project's impacts on the supply, benefit, and value of ecosystem services in the project area. This means the SEIA should have incorporated these costs into its analysis of net economic benefits (or costs).
- 9.1.27.3 Potential costs to society in the event of a spill: The FEIR fails to inform decision-makers and provide the public with sufficient quantitative information about the potential economic damage that could result if implementation of the project were to result in an accident with damage to infrastructure and the surrounding environment such as a pipe rupture (see second ground of appeal on inadequate consideration of major hazard installation impacts). This would entail

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costs, for example, for ecosystem rehabilitation, damage to coastal communities and small-scale fishers, and who would likely have to bear the brunt of these externalities.

9.1.27.4 The above are anticipated to be high costs, which would far outweigh any economic benefits from the project. This is crucial information which ought to have been before the Chief Director before authorising the project, and as such the above-mentioned requirements of NEMA and the EIA Regulations have not been met.

9.1.27.5 Based on the above, the negative socio-economic impacts of the project, if it proceeds, would be significant and no evidence has been provided to show that they would or could be mitigated. On this basis the EA should have been refused.

APPLICANT'S RESPONSES TO THE FIRST APPELLANTS' SUBMISSIONS ON THE SIXTH GROUND OF APPEAL

9.2 The Applicant responds to the First Appellants' submissions made under the sixth ground of appeals as follows:

9.2.1 The social impacts of activities including disadvantages and benefits must be considered, assessed and evaluated and decisions must be appropriate in light of such consideration and assessment. The Appellants allege that the EIA process did not adequately consider all such impacts, particularly in respect of small-scale fishers, the biodiversity economy, tourism, energy costs, knock-on effects on the economy and the carbon border adjustment mechanism (CBAM).

9.2.2 The Socio-Economic Impact Assessment (SEIA) report should be read together with various studies forming part of the Social Impact Assessment (SIA) (tourism, traffic, small scale fishers), as a polycentric approach was applied. The SEIA findings take into account the findings of the other specialist studies, and separate specialist studies address the small-scale fishers and tourism aspects.

9.2.3 The SEIA report presents the different perspectives and impacts of the project in complex socio-economic systems. The KPS proposed project is a response to the current energy crises and forms part of the RMIPPPP and is assessed in that context. The SEIA report accurately reflects the direct and indirect negative and positive impacts of the Project based on its own research and that of the findings of the other technical specialist reports.

9.2.4 While the Appellants do not dispute the negative economic impacts of loadshedding, they dispute that this project is the best means (socio-economically and environmentally) of addressing the negative impacts of South Africa's electricity crisis. The averment of the Appellants is that if projects do not deploy renewable energy technologies, then they are totally unsuitable. This is incorrect and one sided.

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- 9.2.5 The extensive assessment of the impacts on marine life and the procedure followed was comprehensively described in response to the Appellants Appeal Ground on Ground 1 above and will not be repeated here. Specialist and focussed reports on the impacts on small scale fishers and the communities are included in Appendix D1 – Socio Economic Impact Assessment, Appendix D1.1 Small Scale Fishers Engagements.
- 9.2.6 The activity takes place in an active industrial Port which is earmarked for multibillion Rand mega expansion according to the TNPA which has published Port Development Framework Plans that stipulate how R13-billion will be invested in South Africa's commercial seaports over the next five years.
- 9.2.7 No fishing is permitted within the Port area. As an active Port and industrial zone, Transnet National Port Authority (TNPA) has the duty to ensure a secure and strictly accessed controlled area and therefore does not grant access for fishing. DFFE have also confirmed that there is no registered small scale fishing cooperatives associated within the Port.
- 9.2.8 All fishing activities raised during the stakeholder engagement were located outside the Port, none were identified in the Project area, and small-scale fishing cooperatives are not registered to fish within Port limits (as delineated in Gazette No. 32873 (22 January 2010) on page 39) as it is an industrial zone, with the majority of fishing identified as taking place in the lagoon and along the coastline (Steenkamp & Rezaei, 2022). Thus, the designated Project site will not directly interfere with small-scale fishers by encroaching on the area where they can fish.
- 9.2.9 The Powership will not indirectly reduce the small-scale fishers' range as it is moored adjacent to the iron ore terminal, and thus not in the path of fishing from any of the harbours or boat launch sites in Saldanha Bay. The FSRU has an 800m exclusion zone surrounding it for safety reasons, which will result in small-scale fishers having to take alternate routes to which may have previously traversed the zone. The placement of the FSRU has been situated in such a manner not to interfere with the passage of vessels entering the Saldanha Port, and as such the alternate routes which small-scale fishers would need to take will require relatively small adjustments to course, and thus not meaningfully impact their range. Therefore, the Powership and FSRU are not expected to reduce the effective range of small-scale fishers in a manner which will reduce their catch rates, and thus there are no negative socio-economic impacts which may arise from this.
- 9.2.10 The DMRE has published the draft Integrated Resource Plan (IRP) for 2023, outlining its plans to resolve South Africa's energy crisis and bring an end to load shedding. The IRP considers two time horizons. Horizon One is for 2023–2030 and focuses on stabilising South Africa's electricity supply to end rotational power cuts. Horizon Two is the plan for 2031–2050 to ensure South Africa has sufficient generating capacity to meet demand for the coming decades.
- 9.2.11 For the near-term plan, the IRP considers two Eskom energy availability factor assumptions.

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- 9.2.12 The first assumes that power station availability will hover around 50% until at least 2030, while the second assumes plant performance will recover to 67% by 2025.
- 9.2.13 The updated energy blueprint envisions more than 100 gigawatts of new generation capacity being built by 2050 and proposes that a variety of technologies and fuels be considered to produce it, including gas, solar, wind, nuclear and coal.
- 9.2.14 The IRP 2023 maps out multiple scenarios, such as a “least cost” plan to produce 105 gigawatts of power, and another that sees 166 gigawatts being generated from wind, solar, gas and battery storage.
- 9.2.15 The DMRE as the authority on matters relating to energy for the country has clearly made its position clear that the *“Energy pathways based on renewable energy technologies only deliver the desired outcome in so far as decarbonizing the power system and that these pathways do not provide security of supply, while carrying the highest cost to implement.”*
- 9.2.16 The IRP anticipates electricity demand and seeks to provide electricity supply technologies that can meet that demand over the medium term. A blend of coal, gas, nuclear, renewable energy, battery storage and other technologies have been presented in the IRP’s energy mix to better ensure the security of supply at an affordable cost, while at the same time reducing the country’s carbon footprint.
- 9.2.17 The blueprint envisions these additional megawatts being added to the grid by 2030. This includes: 6,000MW of gas — 3,000MW from Eskom, and 3,000MW from independent producers, 1,500MW of photovoltaic solar, 3,000MW of wind, 2,000MW of battery storage, to be constructed by 2027.
- 9.2.18 While renewable energy received focus in the document, there was an emphasis on prolonging the life of Eskom’s coal fleet beyond their scheduled decommissioning dates, and a call to start investing in gas-to-power technologies.
- 9.2.19 For the period 2031–2050, the IRP considers five different pathways. These are a reference case, transitioning the power system to renewables (including and excluding nuclear), delaying the shutdown of coal power stations, and deploying cleaner coal technologies with renewables.
- 9.2.20 The reference case is the cheapest path with a total system cost of R5.9 trillion and allows South Africa to choose technology combinations without restrictions.
- 9.2.21 It should be noted that the total system cost includes the cost of unserved energy (COUE), which is by far the greatest component of the overall figure.
- 9.2.22 Transitioning the power system to renewables builds the newest generation capacity by 2050 and is the most expensive option at R8.4 trillion.
- 9.2.23 However, according to the IRP, this has the lowest security of supply (the highest unserved energy) — with or without new nuclear power being built.
- 9.2.24 Including nuclear in the renewable transition lowers the total system cost to R6.3 trillion.

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- 9.2.25 Karpowership SA has, at great length, detailed how consultation with the local communities has had direct input into the development of its proposed Socio-Economic Development (ED) plan. The input of the surrounding communities has not only been considered by Karpowership SA but considered vital to the development of its Economic Development plans.
- 9.2.26 The key economic commitments made by KPS to job creation, socio-economic development, enterprise development, supplier development, and skills development opportunities and funding provided by KPS in addition to the direct employment opportunities associated with the proposed project.
- 9.2.27 The ED programme will be implemented over the ± 12 -month construction phase and the 20-year operations and maintenance phase of the projects. The estimated budget for Socio-Economic Development (SED) is based on the commitment that was made at the Bid Stage of spending 1.28% of the Revenue generated during the 20-year operation period on Socio Economic Development initiatives.
- 9.2.28 At the time this equated to the following Rand values: - R498 846 885 – Projected for 20-year Power Purchase Agreement; R24 942 344 – Projected per annum; R2.08m – Approx. per month projections; KPS may allocate a maximum projected SED spend within the Western Cape Province of: - R124 711 721 – Projected for 20-year Power Purchase Agreement; R6 235 586 – Projected per annum; R519k – Approx. per month projections. This budget allocation will be triggered in instances where SED projects have been successfully implemented in the identified beneficiary communities. The extended provincial spend will be considered to prevent a migration from neighbouring communities into the beneficiary communities by people looking to access improved socio-economic circumstances, e.g., bursaries, educational programmes etc.
- 9.2.29 The following SED projects have been identified as priority areas within Saldanha Bay and will be the first SED Projects to be rolled out:- Primary and secondary school focus on building educator and learner capacity in (Science, Technology, Engineering and Math) STEM; Scholarships/Bursary Programme; Installation of Energy Efficient systems; Environmental sustainability; Support to Vulnerable Communities; and Sports and Recreation.
- 9.2.30 As part of its ED Programme, KPS will provide financial and non-financial support to Exempt Micro Enterprises (EMEs), these are entities with a turnover below R10 million, and/or Qualifying Small Enterprises (QSEs), businesses with a turnover above R10 million but below R50 million. Support will be focused on enterprises that have a minimum fifty-one percent (51%) shareholding by Black people, with emphasis on women and youth-owned businesses. – This is aligned to compliance with the Broad-Based Black Economic Empowerment Act 53 of 2003 and the subsequent promulgated Codes of Good Practice. All further amendments shall be adhered to by KPS during the life-cycle of the implementation period of each Project / Beneficiary Programme.

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- 9.2.31 While the initial area of focus may be KPS' supply chain, businesses that are supported under our EDP do not necessarily have to be part of the KPS value chain and could include a wide range of businesses, including the informal sector. The overall projected budget allows for a preliminary Enterprise Development spend within the Saldanha Bay Municipal area to be: - R199 538 754 – Projected for 20-year PPA; R9 976 937 – Projected per annum.
- 9.2.32 In addition, should the development needs require, KPS may allocate a maximum projected Enterprise Development spend within the Western Cape Province of: - R49 884 688 Projected for 20-year Power Purchase Agreement; R2 494 234 – Projected per annum.
- 9.2.33 Consideration for this projected Provincial spend will be in line with the sustainability of enterprises which have been established or developed within the Local Beneficiary Communities. For example, where a business has received beneficiation and now needs to expand its distribution chain or improve its supply chain from outside of the immediate communities.
- 9.2.34 Its (the Applicant's) strategy has further been defined to include the following focus areas: - Vendor Kiosks for SMME's; Supporting Fishing Communities, Aquaculture and Fish Farming; Youth Enterprise Development; and Enterprise Development short term funding.
- 9.2.35 The projected budget for Supplier Development initiatives within the Saldanha Bay area is: - Approximate Projected Budget for the Construction Phase is R1 million, to be split over 12 months; Approximate Projected Budget is R910k, projected as per annum, over the 20-year Power Purchase Agreement period (Operations Phase).
- 9.2.36 It (KPS) will implement a Skills Development Programme. Projected budget for Skills Development initiatives within the Saldanha Bay Municipal area is:
- Approximate Projected Budget is R27 713 716 over the 20-year Power Purchase Agreement period (Operations Phase)
 - Approximate Projected Budget is R1 385 686, projected as per annum
- 9.2.37 Projected budget for Skills Development initiatives within the Western Cape Province shall be: - Approximate Projected Budget is R6 928 429 over the 20-year Power Purchase Agreement period (Operations Phase) and Approximate Projected Budget is R346k, projected as per annum.
- 9.2.38 It (KPS) recognises the importance Learnerships and Apprenticeships programmes. The KPS Academy, an in-house training institution will be established in South Africa to assist with Skills Development initiatives. Training and skills development will take place continually to ensure that adequate maintenance and operational related labour force is available within the immediate community. Appendix D1 SEIA, Nov 2022 and Section 8.3.1.5 of this report contains further details on the findings from the Socio-Economic Impact Assessment.

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- 9.2.39 Relevant to the need and desirability and the socio economics of the project relates to the closure of Saldanha Steel owned by Arcelor Mittal as a result of lack of reliable and consistent energy supply in the region. The impact of the closure of the Saldanha steel manufacturing plant in 2020 continues to cause hardship in the West Coast town despite promises of a revival.
- 9.2.40 Hundreds of people lost their jobs, both at the plant and at downstream businesses, in Saldanha and neighbouring towns, and many see no way forward. Reviving the Saldanha Steel plant is strongly reliant on the existence of, a reliable energy source . KPS seeks to assist Government to strengthen its energy availability and security.

DEPARTMENT'S COMMENTS ON THE FIRST APPELLANTS' SUBMISSIONS ON THE SIXTH GROUND OF APPEAL

- 9.3 **In response to the submissions made by the Appellant on the sixth ground of appeal, the Department responds as follows:**
- 9.3.1 A SEIA was undertaken as part of this application. The specialist's conclusion was as follows: The KPS project will result in an overall positive socio-economic impact when considering the host of economic and environmental impacts discussed throughout this report.
- 9.3.2 It is reiterated that the KPS project is located within an active port, and neighbouring Saldanha Bay Industrial Development Zone, which is considered a key growth node catering specifically for the energy and maritime sectors. Similar to a number of other industrial hubs in South Africa, a number of gas-to-power projects are currently earmarked for implementation within this Special Economic Zone (SEZ).
- 9.3.3 While there are potential negative impacts identified for marine ecology and biodiversity the post-mitigation cumulative impact thereof remains medium to very low. Furthermore, impacts related to socio-economic dynamics and tourism among others can be mitigated through a plethora of mitigation measures identified and articulated through this- and specialist reports. These mitigation measures are proposed through a collaborative approach involving various industry stakeholders including the local municipality. Furthermore, KPS has a positive role in the local economy through skills-, enterprise- and supplier development programmes. The direct, indirect, and induced economic impacts of the project on employment, income generation, new production and economic value will be positive.
- 9.3.4 In the CA's view, the socio-economic impacts of the project were sufficiently assessed.

THIRD APPELLANT'S SUBMISSIONS ON THE SIXTH GROUND OF APPEAL: FAILURE TO CONSIDER SOCIO-ECONOMIC RIGHTS

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9.4 The Third Appellant made the following submissions under this ground of appeal:

- 9.4.1 The Department was under an obligation to have regard to the NEMA principles set out in section 2, when making the decision in respect of the Project. Section 2(2), section 2(3) and section 2(4)(b)(i) of the NEMA, 1998 were to be considered by the Department.
- 9.4.2 Notwithstanding the lack of adequate consideration of the policy context set out in the first ground of review, several concerns are relevant to the decision in this matter. These include:
- 9.4.2.1 **Opportunity costs:** Investment in grid infrastructure is required to facilitate the deployment of renewable energy technologies and the uptake of electricity from these facilities into the national grid. The investment of resources in the Project for the long term may result in carbon lock-in or a disinvestment in the interventions needed to transition towards power/electricity generation from predominantly renewable energy technologies.
- 9.4.2.2 **Advances in technology and the cost of electricity:** Continued technological advancements in the renewable energy sector resulted in renewable energy becoming increasingly cost effective compared to gas, and research predictions are that this trend is likely to continue. These technological gains in recent years have resulted in substantial reductions in the cost of renewable energy with the price per kWh for wind energy dropping from R1.51 to R0.49 and solar energy from R3.65 to R0.43. It is highly likely that renewables will become increasingly more cost effective when compared to coal and gas. It is also imperative that the carbon footprints of different energy storage options required for renewable energy are evaluated and internalised in comparison between various energy sources.
- 9.4.2.3 **Market implications:** The country's international climate change obligations pose a challenge of exposing the country to risks of global markets penalising South Africa's exports through increased cross-border tariffs. Should South Africa not be able to meet its climate change obligations or if the country does not demonstrate sufficient urgency in accordance with global just transitioning norms, this would reduce our export potential, resulting in job losses and hamper the country's economic growth, as well as socio-economic and socio-ecological wellbeing.

APPLICANT'S RESPONSES TO THE THIRD APPELLANT'S SUBMISSIONS ON THE SIXTH GROUND OF APPEAL

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9.5 The Applicant responds to the Third Appellant's submissions on the sixth ground of appeal as follows:

- 9.5.1 While renewable energy has become more cost-competitive in recent years, it is still not as cheap as some may perceive. While the costs of renewable energy technologies such as solar panels and wind turbines they still require substantial upfront investments in the form of building the necessary infrastructure which requires significant capital investment. This is a major factor contributing to the higher costs of renewable energy. In addition, integrating renewable energy sources into existing power grids can be expensive since the infrastructure needs to be upgraded to handle fluctuating and intermittent energy production.
- 9.5.2 Renewable energy technologies are heavily dependent on natural resources like sunlight, wind, or water. The intermittency and variability of these resources pose challenges for a reliable energy supply, necessitating additional investments in energy storage systems or backup sources of power. The cost of energy storage technologies, such as batteries, is still relatively high, making renewable energy less economically feasible for continuous power supply.
- 9.5.3 Subsidies and incentives provided by governments to promote the adoption of renewable energy often conceal the true costs. This financial support artificially lowers the price of renewables, making them seem cheaper than they actually are. If these incentives were removed, the true cost of renewable energy might be more apparent. Renewable energy is not as cheap as their conventional counterparts, especially when considering the full lifecycle costs and externalities.
- 9.5.4 The draft IRP 2023, published for public consultation on 4 January 2024, makes far larger allocations for gas-to-power (GTP) installations than is the case with the prevailing IRP 2019 and significantly reduces the allocations for both solar PV and wind for the period to 2030 relative to the prevailing policy.
- 9.5.5 The increased allocation for GTP in the draft document arises principally from the hard wiring of two Ministerial determinations into one of five scenarios outlined for 'Horizon 1', which covers the period from 2024 to 2030, including a 3000 MW GTP allocation for independent power producers and a 3000 MW allocation for Eskom's Richards Bay GTP project.
- 9.5.6 This assumption, together with assumed lower demand for the period to 2030, has had a knock-on effect for the other technologies, with the allocation for new wind reduced to 4 468 MW, compared with 17 742 MW in the current plan, and the allocation for new solar PV falling to 3 615 MW, from 8 288 MW.
- 9.5.7 The Applicant repeats their averments regarding the RMIPP and are not repeated here. the Karpowership responded to the South African Government's Request for Proposals (RFP) for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred

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bidder status. There is a need to provide context around the objectives, design and the outcome of the RMIPPPP.

Objectives of the RMIPPPP

9.5.8 The 2 000 MW Ministerial Determination that was gazetted on 7 July 2020, following NERSA public consultation and concurrence, has two objectives, namely, to procure technology agnostic dispatchable new generation capacity:

- from a range of source technologies to address the electricity capacity supply gap as identified in the IRP2019; and
- to reduce the extensive utilization of expensive diesel-based peaking open cycle gas turbine (OCGT) generators in the medium-to-long-term.

9.5.9 The RMIPPPP was therefore designed with these two objectives in mind. It is important to understand from the outset that this procurement cannot be compared with other Bid Windows procured by the DMRE where specific technologies were targeted. The performance specifications of the RMIPPPP were stipulated by the Transmission System Operator (TSO) which, among others, included the need for each Project to be dispatchable between 05:00 and 21:30 daily in response to the instruction from the TSO.

9.5.10 All projects under RMIPP RFP were for the uniform term of 20 years and not just the KPS proposals. *The average bid tariff of R1 550/MWh for each of the Powerships is at the lower end of the price range for the RMIPPPP preferred bids. Karpowership was ranked as the second, third, and fourth cheapest option in the RMIPPPP which included projects entailing the use of PV and wind coupled with battery storage and diesel which Karpowership was cheaper than. The notion that renewables coupled with battery storage is cheaper than GTP is untrue given the pricing results of the bid, not to mention the greater yield produced by Karpowerships projects.*

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**RISK MITIGATION INDEPENDENT POWER PRODUCER PROCUREMENT PROGRAMME
PREFERRED BIDDERS**

Project Name	Evaluation Price (ZAR)	Contracted Capacity (MW)	Location (Province)	Nearest Town	Jobs Years to be created for RSA Citizens
Oya Energy Hybrid Facility	1 550,34	128.00	Western Cape	Matjiesfontein	• Construction - 545 • Operations - 943
Unoyelange Energy	1 721,84	75	Eastern Cape Northern Cape	Nelson Mandela Bay Upington	• Construction - 693 • Operations - 1 558
ACWA Power Project DAO	1 462,00	150	Northern Cape	Groeneshoop	• Construction - 470 • Operations - 394
Karpowership SA Coega	1 466,87	450	Eastern Cape	Nelson Mandela Bay	• Construction - 80 • Operations 2 407
Karpowership SA Richards Bay	1 498,03	450	KZN	Richards Bay	• Construction - 67 • Operations - 2 407
Karpowership SA Saldanha	1 686,46	320	Western Cape	Saldanha Bay	• Construction - 284 • Operations - 2 047
Mullo Total Coega	1 885,37	187.76	Eastern Cape	Nelson Mandela Bay	• Construction - 770 • Operations - 2 567
Mullo Total Hydra Storage	1 515,97	75	Northern Cape	De Aar	• Construction - 700 • Operations - 1 188

Project Name	Location	Energy Type	Capacity
1. ACWA Power Project DAO	Groeneshoop, Northern Cape	Combustion of solar photovoltaic (PV), molten salt, battery storage and wind	150 MW
2. Karpowership SA Coega	Nelson Mandela Bay, Eastern Cape	Liquid natural gas	450 MW
3. Karpowership SA Richards Bay	Richards Bay, KZN	Liquid natural gas	450 MW
4. Karpowership SA Saldanha	Saldanha Bay, Western Cape	Liquid natural gas	320 MW
5. Mullo Total Coega	Nelson Mandela Bay, Eastern Cape	Combustion of solar PV and liquid natural gas	188 MW
6. Mullo Total Hydra Storage	De Aar, Northern Cape	Combustion of solar PV, battery storage and wind	75 MW
7. Oya Energy Hybrid Facility	Matjiesfontein, Western Cape	Combustion of solar PV, wind and lithium-ion battery storage	128 MW
8. Unoyelange Energy	Nelson Mandela Bay/Upington, Eastern & Western Cape	Combustion of solar PV, molten salt, battery storage and wind	75 MW

- 9.5.11 Electricity generated by these projects will earn tariffs ranging from R1 468/MWh to R1 885/MWh (adjusted for inflation, fuel and the ZAR price of imported gas and diesel over the next twenty years) subject to the projected fuel price assumptions bid by the projects. This is more than double the preferred bid tariffs of approximately R700/MWh under the Round 4 of the Renewable Energy IPP Procurement Programme (REIPPPP) and is due to the higher cost of the dispatchable energy required by the RMIPPP, which will rely on technology utilising gas, battery storage and/or diesel in the projects. The preferred bids will benefit from the same government guarantee support regime as bid windows 1 to 4 of the REIPPPP, which has written concurrence by National Treasury.
- 9.5.12 The projects are forecast to create 3 829 job years for local citizens during construction and 13 549 job years for local citizens during the 20 years of their operations. Furthermore, the government envisages that there may be opportunity to capitalise on the new skills and supply lines to be established by the gas technology in the projects and used to develop the potential growth of the gas industry in South Africa.

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This could involve the repurposing of old Eskom coal-fired power stations to operate on gas, in the areas where there are plans to decommission these plants.

Project Name	Evaluation Price (ZAR)	Contracted Capacity (MW)	Location (Province)	Technology	Jobs Years to be created for RSA Citizens
Scatec Kenhardt 2	1 884.61	50.00	Northern Cape	Solar Photovoltaic and Battery Storage	Construction - 605 Operations - 1 051
Scatec Kenhardt 1	1 884.64	50.00	Northern Cape	Solar Photovoltaic and Battery Storage	Construction - 605 Operations - 1 051
Scatec Kenhardt 3	1 894.56	50.00	Northern Cape	Solar Photovoltaic and Battery Storage	Construction - 605 Operations - 1 051

- 9.5.13 The trio of Scatecs projects in the Northern Cape's Kenhardt region will deliver a cumulative capacity of 540 MW in solar production and 1 140 MWh in battery storage at a price of R1 884/MWh which also significantly higher than KPS. Out of the 540MW in solar production, the project will only be able to deliver 150 MW of dispatchable power under a 20-year Power Purchase Agreement demonstrating that renewable energy sources have a lower dispatchability factor due to their intermittent nature. The availability of solar power depends on the amount of sunlight received at a specific location. On average, the EAF for solar power ranges between 15% and 25%, meaning that solar panels can generate electricity for around 15% to 25% of the time.
- 9.5.14 The availability factor of wind power depends on the wind speed and consistency at a particular location. Onshore wind farms typically have an EAF of around 30% to 40%, while offshore wind farms can have higher EAFs of 40% to 50%.
- 9.5.15 The tariff is an all-in tariff with the IPP taking all risks associated with availability and performance. There is no guaranteed payment under the RMIPPPP. Eskom has made a Minimum Load Commitment and will only pay for actual Energy Output if delivered in response to a dispatch instruction from the System Operator. The Evaluation Price used to rank the bidders was set at the base date of April 2020 and was calculated as a weighted average price made up of 95% for Capacity and Energy Output price and 5% for Ancillary Services price. This was done for the purpose of comparing the bids in a fair manner.
- 9.5.16 The actual payments to the Sellers (IPPs) by the Buyer (Eskom) may differ depending on the dispatch instruction from the System Operator for the specific service rendered. Using least-cost as a measure of comparison leaves out the cost of service from the tariff, thus inappropriate comparisons lead to inappropriate expectations. The cost of service includes frequency and voltage control, transmission, synchronous power, dispatched ramping, system balancing and last mile connections. In developing and maintaining energy systems, optimisation outcomes of energy modelling must not be confused with the technical requirements of operating an energy system.
- 9.5.17 In South Africa, continuous renewable bid windows have resulted in decreased tariffs over the last decade. The REIPPPP bidders bid on a per unit energy costs and not the cost of the actual service. The service

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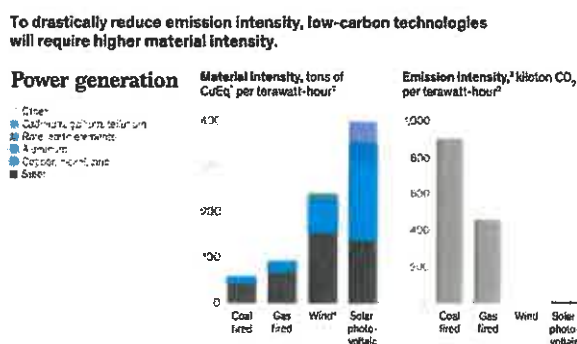
costs are borne by Eskom with no compensation from the renewable IPPs. The closest the system costs have been reflected was with the RMIPPPP tariffs, which included energy, dispatchability, voltage stability and storage costs. It is for this reason that when technologies are modelled for the IRP2019, they include a multitude of parameters such as system and transmission constraints, load following, dispatch costs and energy costs amongst others.

- 9.5.18 Generators must meet two criteria to ensure security of supply – dispatch and energy. What the optimal energy mix is to ensure security of supply is illustrated below and points to a diversified grouping of technologies that will ensure an optimal mix. Levelised costs of energy (LCOE) include the initial capital, discount rate, as well as the costs of continuous operation, fuel, and maintenance over the life of the project. However, it does not address energy security. An optimal energy mix considers the needs of the system throughout the day, it is technology agnostic and considers grid limitations.
- 9.5.19 The burning of natural gas, and the emissions from the combustion thereof will persist for the duration of the PPA. This “locked-in emissions” must be seen in the context of the following:
- 9.5.19.1 The plant will only operate when power is requested from the grid operator. The nature of the technical specification of the plant with respect to start ancillary services (start-up times and ramp-up rates) is such that the grid operator will use the capacity of this plant for grid stabilisation.
- 9.5.19.2 The impact of the grid stabilisation that this project will bring to the grid is that it will allow higher levels of integration of intermittent renewable energy to the grid. This will lead to an overall reduction in the emissions associated with the supply of power to the grid.
- 9.5.20 The “lock-in” of the emissions from this project will therefore “lock-in” the positive impacts of the grid stabilisation capability of this project, with an overall positive impact on the decarbonisation of the SA grid.
- 9.5.21 The DMRE has made its position clear that the *“Energy pathways based on renewable energy technologies only deliver the desired outcome in so far as decarbonizing the power system and that these pathways do not provide security of supply, while carrying the highest cost to implement.”*
- 9.5.22 Another cost element is that commodity prices for rare earth metals have been increasing steadily in recent years due to factors such as :-
- **Growing demand:** Rare earth metals are essential components in various industries, including technology, renewable energy, and defense pushing up prices.
 - **Supply constraints:** The production of these metals is heavily concentrated in a few countries, such as China. Any disruptions or restrictions in supply from these countries can lead to price hikes. Additionally, there are concerns about the environmental impact and sustainability of rare earth metal mining, leading to tighter regulations and decreasing supply.

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- **Geopolitical tensions:** Trade disputes and geopolitical tensions can impact the availability and pricing of rare earth metals. Governments may impose tariffs or export restrictions, limiting the supply and driving up prices.
- **Currency fluctuations:** Fluctuations in currency exchange rates can also affect the price of rare earth metals. If the currency in which these metals are traded strengthens against other currencies, it can increase the price for buyers in other countries.

9.5.23 These factors contribute to the increasing prices for rare earth metals. As metals and mining have long lead-times, highly capital-intensive sector, price fly-ups (sic) and bottlenecks are unavoidable as demand outstrips supply and price volatility creates uncertainty around the large up-front capital investments needed for production. Supply, demand, and pricing interplays will emerge across different commodities, leading to feedback loops followed by a combination of technology shifts, demand destruction, and materials substitution. For example, generating one terawatt-hour of electricity from solar and wind could consume, respectively, 300 percent and 200 percent more metals than generating the same number of terawatt-hours from a gas-fired power plant, on a copper-equivalent basis, while still drastically reducing the emissions intensity of the sector—even when accounting for the emissions related to the materials production.



9.5.24 In addition, there are a number of humanitarian and environmental concerns to internalize as well. Mining rare earth metals for renewable energy technologies such as wind turbines, solar panels, and electric vehicle batteries can involve several human rights concerns. Some of the violations associated with this process include:

- **Forced labour:** In some countries where rare earth metals are mined, there have been reports of forced labour and human trafficking. Workers, including children, are forced to work in dangerous conditions with little or no pay.

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- **Lack of worker safety:** The mining of rare earth metals can be hazardous due to the exposure to toxic and radioactive materials. Miners often lack adequate safety equipment, resulting in health issues such as respiratory problems, cancer, and birth defects.
- **Land rights violations:** Indigenous communities and local farmers often face land dispossession and displacement due to mining operations. Their traditional lands, which are rich in rare earth metals, might be seized without their consent, causing social and cultural disruptions.
- **Environmental degradation:** Mining rare earth metals can lead to significant environmental damage, including deforestation, habitat destruction, and water pollution. Toxic chemicals used in the extraction and processing phases can contaminate local water sources, threatening the health and livelihoods of nearby communities.
- **Corruption and conflict:** Rare earth mining operations are vulnerable to corruption and can fuel conflicts in regions where governance is weak. The race to control and exploit these valuable resources often leads to social unrest, corruption, and human rights abuses.

- 9.5.25 The lack of grid capacity is the biggest hurdle in deploying the renewables which is acknowledged by both government and industry, meaning that the increasing output from renewable energy will ultimately be stranded.
- 9.5.26 Eskom's grid is under increasing pressure from the rapid growth in private generation projects, with the Eastern, Western, and Northern Cap having no capacity to add new generation projects. This was revealed in Eskom's Generation Connection Capacity Assessment of the 2025 Transmission Network. South Africa's grid is designed to carry electricity from large, central power stations in the country's northeast to other parts. Renewable energy generation is decentralised, with generation facilities located almost anywhere.
- 9.5.27 Areas, such as the Western Cape, Eastern Cape, and Northern Cape, which have rich renewable resources, do not have the grid capacity to distribute electricity to the rest of the country. The grid in these areas can only carry limited load, which is insufficient for large-scale projects.
- 9.5.28 Eskom acknowledges that transmission constraints remain an obstacle to the introduction of new renewables generation. The latest TDP points to the need for the construction of 14 218 km of new high-voltage transmission lines by 2032, as well as the deployment of 170 transformers, with a capacity of 105 865 MVA, along with 40 capacitors and 52 reactors which comes with a significant capital investment requirement and the requisite time to navigate through arduous land acquisition and EIA processes.
- 9.5.29 According to the CSIR, it would take ten years to execute essential infrastructure projects to upgrade Eskom's power grid.

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- 9.5.30 Although solar and wind power plants could be built, the grid itself doesn't have the capacity to bring power from where it's generated to where it's needed.
- 9.5.31 The reason why gas is preferred is because it has the shortest start-up time out of all the alternative power sources, so that when the renewables do drop, you can pick up the power quickly with gas as the baseload. Baseload power refers to the minimum level of electricity demand required to supply a consistent and reliable flow of energy to the grid for continuous power supply. Baseload power sources typically run continuously and provide a stable and constant output, such as coal, gas, or nuclear power plants.
- 9.5.32 Renewable energy sources like solar and wind power, on the other hand, are intermittent and variable in nature. They depend on weather conditions and are not consistently available or predictable. This intermittency of renewable energy sources can cause fluctuations in the power supply, leading to issues like power shortages or blackouts.
- 9.5.33 To address this challenge, baseload power is needed to complement and support the deployment of renewable energy as it helps stabilize the grid and ensures a constant supply of electricity.
- 9.5.34 Furthermore, the Integrated Resource Plan (IRP), which last came out in 2019, and updated in 2023, predicts how much power we will need in the next 10 to 20 years and runs a least-cost scenario to determine what combination of energy will provide the country with a reliable and least-cost electric service.
- 9.5.35 The IRP uses software called Plexos to determine the least-cost energy mix, which is the same software that the Department of Mineral Resources and Energy (DMRE), the CSIR, many governments, electricity utilities and research bodies around the world use for integrated resource planning.
- 9.5.36 It is a sophisticated model which use different technical characteristics of various technologies such as coal, gas, nuclear, wind and solar. Users provide input cost assumptions around these technologies, set specific parameters around the reliability that needed, so for example, how much redundancy is needed in the system, how much margin for error there is.
- 9.5.37 The model used in the IRP found that the least-cost solution is a combination of solar photovoltaic and wind technology plus a flexible generation source like gas to power and battery storage. Hence the increase in deployment of gas in the draft 2023 IRP. The least-cost options, which will also meet the government's socioeconomic objectives, the government has set and met the criterion of a certain level of reliability of supply, which is the combination of renewables and flexible generation.

DEPARTMENT'S COMMENTS ON THE THIRD APPELLANT'S SUBMISSIONS ON THE SIXTH GROUND OF APPEAL

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

9.6 The Department comments on the Third Appellant's submissions on the sixth ground of appeal as follows:

- 9.6.1 A socio-economic impact assessment was undertaken as part of this application. The specialist's concluded that: The project will result in an overall positive socio-economic impact when considering the host of economic and environmental impacts discussed throughout this report. The KPS project is located within an active port, and neighbouring Saldanha Bay IDZ which is considered a key growth node catering specifically for the energy and maritime sectors. Similar to a number of other industrial hubs in South Africa, a number of gas-to-power projects are currently earmarked for implementation within this SEZ.
- 9.6.2 While there are potential negative impacts identified for marine ecology and biodiversity the post-mitigation cumulative impact thereof remains medium to very low. Furthermore, impacts related to socio-economic dynamics and tourism among others can be mitigated through a plethora of mitigation measures identified and articulated through this- and specialist reports. These mitigation measures are proposed through a collaborative approach involving various industry stakeholders including the local municipality.
- 9.6.3 Furthermore, the Applicant has a positive role in the local economy through skills-, enterprise- and supplier development programmes. The direct, indirect, and induced economic impacts of the project on employment, income generation, new production and economic value will be positive.

EVALUATION AND DECISION

- 9.7 In my evaluation of this ground of appeal, I considered the submissions of the First and Third Appellants, the responses by the Applicant and the Department's comments thereon and the information on record. In this regard I have noted that:
- 9.7.1 The Socio-Economic Impact Assessment (SEIA) takes into account the findings of the other specialist studies, and separate specialist studies address the small-scale fishers and tourism aspects which should be read together.
- 9.7.2 No fishing is permitted within the Port area. Fishing activities raised during the stakeholder engagement were located outside the Port, none were identified in the Project area, and small-scale fishing cooperatives are not registered to fish within Port limits (as per Gazette No. 32873 (22 January 2010) on page 39) as it is an industrial zone, with the majority of fishing identified as taking place in the lagoon and along the coastline. Therefore, the designated Project site will not directly interfere with small-scale fishers by encroaching on the area where they can fish.

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- 9.7.3 Furthermore, I have noted the DMRE has published the draft IRP for 2023, outlining its plans to resolve South Africa's energy crisis. The Applicant detailed their consultation with the local communities which had direct input into the development of its proposed Socio-Economic Development (ED) plan.
- 9.7.4 I noted the economic commitments made by the Applicant to job creation, socio-economic development, enterprise development, supplier development, and skills development opportunities and funding provided by KPS in addition to the direct employment opportunities associated with the proposed project and the proposed budget allocations therefor of approximately 1.28% of the Revenue generated during the 20-year operation period on Socio Economic Development initiatives.
- 9.7.5 I have furthermore considered the socio-economic impact of the closure of Saldanha Steel owned by Arcelor Mittal steel manufacturing plant as a result of a lack of reliable and consistent energy supply in the region which has caused great hardship to the people of the area.
- 9.7.6 I am cognisant of the Department's comments that the project will result in an overall positive socio-economic impact when considering the host of economic and environmental impacts discussed throughout this report and that the Applicant's project is located within an active port, and neighbouring Saldanha Bay Industrial Development Zone, which is considered a key growth node catering specifically for the energy and maritime sectors. Similar to a number of other industrial hubs in South Africa, a number of gas-to-power projects are currently earmarked for implementation within this SEZ.
- 9.7.7 I note that the model used in the IRP found that the least-cost solution is a combination of solar photovoltaic and wind technology plus a flexible generation source like gas to power and battery storage. Hence the increase in deployment of gas in the draft 2023 IRP. The least-cost options, which will also meet the government's socioeconomic objectives, the government has set and met the criterion of a certain level of reliability of supply, which is the combination of renewables and flexible generation.
- 9.8 The Department contends that impacts related to socio-economic dynamics and tourism among others can be mitigated through a host of mitigation measures identified and articulated through the specialist reports and that these mitigation measures are developed through a collaborative approach involving various industry stakeholders including the local municipality. Furthermore, the Applicant would have a positive role in the local economy through skills-, enterprise- and supplier development programmes. The CA was satisfied that the socio-economic impacts of the project were sufficiently assessed.
- 9.9 In light of the above, this ground of appeal is without merit and is accordingly dismissed.
- 10 **SEVENTH GROUND OF APPEAL: INADEQUATE CONSIDERATION OF CULTURAL AND HERITAGE IMPACTS**

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

APPELLANTS' SUBMISSIONS ON THE SEVENTH GROUND OF APPEAL

10.1 The Appellants make the following submissions in relation to the seventh ground of appeal:

- 10.1.1 They refer to their December 2022 comments addressed to the EAP concerning people's culture and spiritual connection to the ocean. The FEIR dated September 2023 acknowledges the cultural and spiritual connection of coastal communities with the sea but does not sufficiently assess the potential impacts of the project on this connection.
- 10.1.2 The FEIR states *"It is crucial to understand that no fishing is permitted within the port area. As an active port and industrial zone, Transnet National Port Authority (TNPA) does not grant access for fishing. DFFE have also confirmed that there is no registered small scale fishing cooperative associated within the port."*
- 10.1.3 This misconstrues the cultural and spiritual connection that coastal communities have with the ocean as something that coastal communities only experience through fishing. Consequently, no assessment of the impacts that the project might have on the cultural and spiritual connection that people have with the ocean was done.
- 10.1.4 The FEIR fails to provide a clear profile of small-scale fishers in the area who stand to be affected by the project, and to interrogate the potential negative impacts on them. It fails to make provision for their cultural histories and their rights.
- 10.1.5 The small-scale, traditional fishers of Langebaan and Saldanha have a distinctive cultural history that extends back to when their ancestors, many of them freed slaves or descendants of the indigenous peoples of the Cape, settled along the shores of the Lagoon and Saldanha Bay. The ancestors of the present Langebaan Lagoon traditional fishers have been fishing on this lagoon and in the adjacent Saldanha Bay since the 18th century. These early residents regarded the waters of the lagoon as their common property and over time established a local system of customary fishing rules to regulate their interactions with each other. There is considerable evidence in the Cape Archives to confirm this. Their customary system of rights was acknowledged by the Provincial Administration of the Cape and regulations that recognised this customary system were introduced as early as 1909 with Proclamation 385 of 1909.
- 10.1.6 As a result of this history, the fishing communities in this area have detailed local knowledge of the lagoon ecosystem that has been handed down across generations of fishers. Rights to fish that were recognised within their customary system of net-fishing are regarded as family rights and have also been handed down within families, despite the introduction of an individual permitting system by the fisheries authorities in the 1980s. The traditional net fishers of the region have a unique cultural history, and their fishing

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practices form the basis of their identity and culture. Any impact on this fishing practice risks undermining this living cultural heritage, which is already threatened by the industrialisation of the Bay area and an exclusionary permitting system, which undermines the fact that the local fishers' fish for their livelihoods (not tourism or recreation).

- 10.1.7 The ground of appeal (marine impacts) sets out that the impacts of this project on the marine ecosystem in the area could be significant. The FEIR, however, fails to take cognisance of the potentially significant negative knock-on effects that the project's impacts on marine life could have for culture and heritage, and it dismisses this issue by stating that no fishing is permitted in the project area, therefore no negative socio-economic impact is established. This, however, misconstrues the nature of cultural and heritage impacts which have a wide scope when it comes to connection with the ocean and marine environment.
- 10.1.8 The FEIR implies - with specific reference to their connection to the ocean where the project is located - is that a deeper assessment of impacts on culture and heritage is not necessary because even if there will be negative impact on marine life, people will not be affected because they are not permitted to fish or access the area where the project is located.
- 10.1.9 The FEIR fails to consider the implications of the establishment of such a small-scale fishing zone as proposed in the Marine Living Resources Act amendments and how this will interact with the proposed KPS location. It fails to adequately make provision for, and assess, small-scale fishers' culture, including the species that they target when they fish, and their local ecological knowledge of the area that is part of their culture.
- 10.1.10 The NEMA principles require, inter alia, that environmental management place people and their needs at the forefront of its concern and serve their physical, psychological, developmental, cultural, and social interests equitably. The assumption that because DFFE has not granted any small-scale fishers a right to fish where the project is to be located, that such rights do not exist in relation to the project area, undermines customary law.
- 10.1.11 In the case of Gqongose, the High Court found that legislation does not extinguish communities' customary rights to access a resource despite providing for the Minister as the custodian of all resources and requiring access rights to be granted by the Minister. Like the finding of the Constitutional Court in *Tongoane*, the High Court envisions customary law as a system of law that gives rise to rights parallel to the statutory framework and that should be considered, incorporated and regulated by the legislature when designing resource governance systems. The point here is that whether or not communities are permitted to fish in the direct vicinity of the project, their cultural rights and heritage would still be impacted by the project.
- 10.1.12 In 2007 The Equality Court ordered the then Minister of Environment and Tourism to recognise the socio-economic rights of traditional fishers including the Langebaan and Saldanha Bay fishers and the

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Department began engaging in a small-scale fisheries policy development process culminating in a Policy for Small-scale Fishers (SSF). These fishers have collectively been referred to as the small-scale fisheries sector. Lists of those who have applied to be recognised are now in the public domain and this process is underway.

10.1.13 In 2016 the Western Cape High Court found in favour of the Langebaan Small-scale Fishers in the case of Coastal Links Langebaan v the Minister and Others (Coastal Links Langebaan case) and highlighted the importance of consulting these fishers and including information about their histories and traditions in decision-making on issues that would impact their rights in terms of the Policy for the SSF.

10.1.14 Consequently, inadequate consideration has been given to the potential impacts of the project on the rights of these communities to their culture as well as to their rights to access food and to their occupation. There is no reference to the many affidavits that these fishers have made in the Kenneth George case or the subsequent court cases that found in their favour (even though these are public documents and would have been readily available to the EAP).

10.1.15 The FEIR does not provide sufficient information on the cultural and heritage impacts of the project, to enable a decision-maker to assess the relative potential impacts of the KPS project on the affected fishing communities' rights to their culture.

APPLICANT'S RESPONSES TO THE SEVENTH GROUND OF APPEAL

10.2 **The Applicant responds to the Appellants' submissions under the seventh ground of appeal as follows:**

10.2.1 This ground of appeal is based on the allegation that the cultural heritage impacts assessment does not adequately consider the cultural and spiritual connection of coastal communities with the sea and does not sufficiently assess the potential impacts of the project on this connection. Cultural and spiritual ties to the sea vary widely among individuals and communities, making it challenging to establish a universal standard for evaluating their significance. These connections are open to interpretation. A more objective approach, considering a broader range of factors, could be advocated for a comprehensive and equitable decision-making process.

10.2.2 It (KPS) respectfully submits that the coastal communities referred to by the Appellants will not have their spiritual connection with the sea negatively affected by the presence of the Powerships. The present-day Langebaan Lagoon traditional fishers and or small-scale fishers would not be deterred or prohibited from fishing in the lagoon and in the adjacent Saldanha Bay.

10.2.3 This of course excludes areas designated as being part of the existing Industrial Port. The iron ore terminal at Saldanha Bay is primarily a commercial facility used for the export of iron ore and access and activities

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are restricted for obvious safety and operational reasons as are all industrial ports that are designed for industrial activities such as shipping, transportation, and storage of goods. These restrictions are put in place to ensure the security and proper functioning of the ports, as well as to prevent unauthorized entry or potential harm to the national or economic interests of the country. Access to national port areas is usually limited to authorized personnel and vehicles, and specific rules and regulations govern the activities allowed within these areas.

- 10.2.4 As pointed out by the Appellants, the Transnet National Port Authority (TNPA) does not permit access to civilians within areas demarcated as being within the limits of the Port. This restriction is not by design of KPS. Therefore, the presence of the Powerships within the limits of the industrial Port does not interfere with the community's spiritual connection to the sea or prohibit them from fishing in Saldanha Bay, the lagoon, out at sea or along the entire West Coast Peninsula of South Africa's Western Cape which stretches a distance of 400 km.
- 10.2.5 The Appellants' averment that the communities will lose their spiritual connection with the sea because of the presence of the powerships is absurd. Whilst KPS SA acknowledges the valuable existence of cultural identity, to submit that the Project and presence of the powership encroaches on same is nonsensical, especially in light of the above regulatory restrictions.
- 10.2.6 The permit conditions provided in the Interim Relief SSF Permit Conditions and Commercial Gill Drift Permit Conditions that the fishing rights do not extend to the Port which is under the jurisdiction of the Transnet National Port Authority.
- 10.2.7 The Gazetted location of the Port indicates that the location of the Powership and the FSRU is in the Port, along the eastern side of the Iron Ore Jetty. During numerous engagements with the authorities and key stakeholders, we were not made aware of any small-scale fishing rights or activities that have been granted by the TNPA to take place in the Port.
- 10.2.8 The Powership is proposed within Big Bay in TNPA's Port area. The Port is currently a "no fishing" area, fishing within the Port area had not been authorised. The KPS project did not "take away" access nor did it infringe on any existing connections to the sea. As per the minutes, attention is drawn to the following statement from an I&AP (a local man from the community) that attended the in-person meeting: *"Regarding the locality of the Powership is going to be. I think it was said that it is going to be Big Bay. Big Bay area is not a fishing zone, it was never a fishing zone, and it will never be a fishing zone. Those who are trying to derail this project by saying that the locality of the ship is going to disturb the operation of small fisher man – we see those submissions as frivolous and trying to derail that project. We know that the Big Bay, is an industrial zone and no license has been given. No small-scale fishing cooperative has been given the license to ship in an industrial zone. So those that are saying that fishing is going to*

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be disturbed there, their submissions are very frivolous." In addition, the underwater heritage assessment supported the project within the proposed footprints.

10.2.9 The Appellants have not shown any link between the cultural landscape being affected and the KPS Project. Issues regarding religion are intangible and personal, and the proposed KPS Project does not affect these.

10.2.10 With regards to the matter of Gqongose, the Appellants once again only state selective information to work in their favour. The High Court in this matter confirmed that *"In terms of section 211(3) of the Constitution customary law is subject to legislation that deals specifically with customary law. Even though customary law may be regulated in terms of other legislation, such regulation will only amount to extinguishment of the customary law rights if done explicitly, otherwise the rights derived from customary law prevail."* Therefore, legislation may extinguish customary law if done so explicitly. Furthermore, one cannot raise an argument based on "what ifs" – the Appellants need to base their arguments and grounds of appeal on facts. The facts at hand are that no fishing is permitted in an industrial area, and therefore the existence of the Powership does not affect these rights (whether cultural or socio-economic) of the traditional fishers.

10.2.11 With reference to the Coastal Links Langebaan case, the High Court submitted that there are a number of considerations that Departments need to take when making their decisions including the granting of permits and authorisations. After due investigation of the pertinent issues listed by the High Court, KPS submits that it discharged its onus on conducting the proper investigations and assessments, and that the DMRE also applied its mind sufficiently in these important aspects when granting the EA.

10.2.12 The presence of the Powerships will not degrade the environment causing a loss of fish stocks. In terms of fisherfolk and the marine economy specifically, a specialist Marine Ecology study was undertaken on the marine organisms that inhabit or visit the project area as well as how these organisms would be impacted by the project. The Marine Ecologist concluded there were no fatal flaws with the proposed project. All impacts that were identified by the Marine Ecologist can be mitigated and reduced (Refer to section 7.5.11, Page 252 to 271 of the Draft EIAr). Anchor Environmental (Marine Ecology, Fisheries and Avifauna Specialists) have over 15 years of experience, working with fisheries in Saldanha Bay have indicated that *"not much fishing that happens in Big Bay and that does seem to be the case based on our assessment as well, based on available data, on interactions with fishers on the ground and the localised nature of the impacts. No impacts are expected on the local fisheries nor the mariculture because the closest aquaculture development zone to the proposed KPS isn't actually actively being used for aquaculture."*

DEPARTMENT'S COMMENTS ON THE SEVENTH GROUND OF APPEAL

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10.3 The Department responds on the Appellants' submissions under the seventh ground of appeal as follows:

- 10.3.1 A heritage impact assessment was undertaken as part of this application. The results of the study indicate that the proposed Gas to Power Powership Project in the Port of Saldanha Bay does not pose a significant threat to local archaeological heritage resources.
- 10.3.2 Excavations for powerline foundations could possibly uncover buried archaeological resources such as stone artefacts, bone, and shell.
- 10.3.3 Shipwreck remains and shell middens may be uncovered during excavations for the Stringing Yard Construction Area, and undersea gas pipeline.
- 10.3.4 From an archaeological perspective however, there are no fatal flaws and provided that the recommendations made are implemented, there are no objections to the authorisation of the proposed activities.
- 10.3.5 In the CA's view, heritage impacts of this project were sufficiently assessed.

EVALUATION AND DECISION

- 10.4 In my evaluation of this ground of appeal, I considered the submissions of the Appellants, the responses of the Applicant and the Department's comments thereon. I also considered the information at hand. In this regard:
 - 10.4.1 I am cognisant of the assertion that the connection to the sea of these communities extends beyond mere right to fish and access to fishing areas. However, fishing is important to them.
 - 10.4.2 I note the Appellants' contention under this ground of appeal that the cultural heritage impacts assessment does not adequately consider the cultural and spiritual connection of coastal communities with the sea and does not sufficiently assess the potential impacts of the project on this connection.
 - 10.4.3 The location of the Powership as proposed within Big Bay is in TNPA's Port area which is currently a "no fishing" area. In addition, the underwater heritage assessment supported the project within the proposed footprints.
 - 10.4.4 I note the assertion that the Appellants have not shown any link between the cultural landscape being affected and the KPS Project. Issues regarding religion are intangible and personal, and the proposed KPS Project does not affect these.
 - 10.4.5 As regards the Gqongose matter, the Applicant contends that the Appellants quote selectively therefrom and that the Court confirmed what section 211(3) of the Constitution states in that customary law is subject

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to legislation that deals specifically with customary law. Even though customary law may be regulated in terms of other legislation, such regulation will only amount to extinguishment of the customary law rights if done explicitly.

10.4.6 Therefore, the presence of the Powerships within the limits of the industrial Port does not interfere with the community's spiritual connection to the sea or prohibit them from fishing in Saldanha Bay, the lagoon, out at sea or along the entire West Coast Peninsula of South Africa's Western Cape.

10.4.7 The permit conditions provided in the Interim Relief SSF Permit Conditions and Commercial Gill Drift Permit Conditions that the fishing rights do not extend to the Port which is under the jurisdiction of the Transnet National Port Authority.

10.4.8 I have furthermore noted the assertion by the Department that a heritage impact assessment was undertaken as part of this application. The results of the study indicate that the proposed Gas to Power Powership Project in the Port of Saldanha Bay does not pose a significant threat to local archaeological heritage resources. From an archaeological perspective however, there are no fatal flaws and provided that the recommendations made are implemented, there are no objections to the authorisation of the proposed activities.

10.4.9 In the CA's view, heritage impacts of this project were sufficiently assessed.

11 EIGHTH GROUND OF APPEAL: INADEQUATE PUBLIC PARTICIPATION

(The First and Second Appellants have both lodged separate appeals under this ground of appeal. Due to the overlapping nature of these appeals, for the sake of brevity and convenience, they will be assessed in one evaluation at the end of this section.)

THE FIRST APPELLANTS' SUBMISSIONS ON THE EIGHTH GROUND OF APPEAL

11.1 The First Appellants' ground of appeal on public participation is as follows:

11.1.1 The First Appellants submissions on this issue are two fold:

11.1.1.1 That KPS failed to comply with the minimum requirements for public participation (PPP) in terms of the applicable legal requirements under NEMA; and

11.1.1.2 That KPS and its environmental assessment practitioner (EAP) misrepresented the findings of the PPP that was conducted for its first EIA, to claim compliance with the second EIA process undertaken in 2022.

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- 11.1.2 The importance of PPP during the EIA process cannot be overstated. The legal requirements and policies relating to public consultation in the environmental sphere are clear. NEMA, the EIA Regulations as well as the public participation guidelines are the relevant laws to consult when conducting a PPP.
- 11.1.3 Section 2(4)(f) of NEMA provides the overarching principle that, "The participation of all interested and affected parties in environmental governance must be promoted, *and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.*"
- 11.1.4 Special weight is given to the participation of particular groups in Section 2(4)(q) which provides that, "*The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.*"
- 11.1.5 Whilst this appeal relates to the most recent decision, granted on 14 November 2023, the timeline below and history of the PPP are material to this ground of appeal.
- 11.1.6 On 23 June 2021, the DFFE refused to grant KPS EA on various grounds including that there were gaps in information and a defective PPP, and that these could not be reconciled through the appeal process. The DFFE specifically mentioned the failure of KPS to consult the small-scale fishing community. The Appellants maintain that these irregularities persist and have not been remedied in the second EIA process.
- 11.1.7 The 2021 decision concluded that in light of the evidence provided:
"The minimum requirements, specifically with regard to public participation, were not met. The purpose of public participation is not only to promote informed decision making, but also to promote the legitimacy and acceptance of an outcome or decision and to promote participatory democracy"
- 11.1.8 These concerns, that were raised in the decision to refuse the EIA in the first EIA process, remain unaddressed in the second EIA. As such the PPP followed in the EIA process that led to the granting of this EA is prima facie fundamentally flawed.

The irregular and defective public participation process relied on in the first EIA process is again relied on in the second EIA process, which renders this public participation process defective.

- 11.1.9 In 2021, during the PPP held at a restaurant in Langebaan for the first EIA, the EAP held a meeting with a group of four women involved in small-scale fishing. This meeting was attended by Ms Solene Smith, Ms Camelita Mostert, Ms Taitum-Lee Manuel and Ms Natalie-Jane Van Wyk. The Confirmatory affidavits of Ms Smith, Ms Mostert and Ms Van Wyk ("the attendees") are attached as Annexure H. They were accompanied by the Mayor of Saldanha at the time. This meeting was termed the "focus-group meeting" by the consultant.

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- 11.1.10 The attendees further raised concerns regarding the potential noise from the KPS and how this may impact fishing. Whilst the EAP had relayed that all the documents relevant to this project were available in a cupcake shop in Saldanha, the acoustics report was not finalised at that point in time. This is recorded in Appendix D14 "Small-scale fisher engagements".
- 11.1.11 Ms Van Wyk specifically requested a follow-up meeting with small-scale fishers and expressed that this meeting did not constitute adequate public participation with fishers. Her affidavit details that there was no follow-up meeting set up particularly to address the concerns of fishers, nor did she receive any correspondence related to this.
- 11.1.12 The DFFE refused to grant KPS an EA in its decision of 23 June 2021 on various grounds including the lack of public participation with fishers. The details of the only meeting with small-scale fishers are contained in the paragraphs above.
- 11.1.13 The Minister's August 2022 appeal decision also confirmed that the PPP followed in respect of the first EIA had been inadequate.
- 11.1.14 Accordingly, the EIA was remitted to the CA so that the various gaps in information and procedural defects in relation to the PPP that led to the rejection of the EA application could be addressed, during the reconsideration and re-adjudication of the EA application, provided that the timeframes prescribed by the EIA Regulations in respect of the EIA process were adhered to by KPS.
- 11.1.15 Essentially, after failing to comply with the requirements in the first EIA process, KPS was given a second opportunity to resubmit its EIA to remedy the gaps and deficiencies, to meet PPP requirements, in addition to other provisions of NEMA, that had not been complied with. All the gaps were clearly identified in the initial DFFE decision and the Minister's August 2022 appeal decision, and thus KPS was at all times, aware of what gaps needed to be addressed, and by when.
- 11.1.16 The defective PPP and in particular the "focus-group meeting", is used numerous times throughout the FEIR and the comments and response document as the attempt to state that fishers were consulted, despite the objections initially raised.
- 11.1.17 As detailed in the affidavits of Ms Mostert, Ms Smith and Ms Van Wyk, whilst they come from their respective fishing communities, at the time of the meeting in 2021, none of them held mandates to represent the communities they resided in. Even if they had mandates, a meeting with three people certainly does not constitute engagement with a vast constituent of stakeholders whose livelihoods and cultures would be affected by this project. Therefore, this initial meeting cannot be construed as engagement with the fishing communities of the West Coast.
- 11.1.18 There was an explicit request to the EAP for another meeting with small-scale fishers in April 2021 and this did not materialise. This is significant as the EAP claims throughout the comments and response document that "*representatives from coastal links were contacted*". The Appellants reiterate that these

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representatives cannot make decisions on behalf of their constituencies, and this is confirmed in the supporting affidavits. Furthermore, simply contacting representatives from Coastal Links does not constitute meaningful engagement.

Additional defects in the public participation process for the second EIA:

Inaccurate statements in the FEIR regarding fishing communities

- 11.1.19 The FEIR of 6 January 2023 states two points related to consultations with the small-scale fishers – neither of which are correct. The first is that numerous attempts were made to conduct workshops with small-scale fishers and the second is that notwithstanding this, the small-scale fishers should not be concerned as the area in which the ships will be moored is not an area in which small-scale fishers are permitted to fish.
- 11.1.20 The Appellants highlight that not only do small-scale fishers have the right to public participation as I&APs, but also due to their history, culture and tradition which is invariably linked to the rights to culture, access to food and equality, which rights all stand to be affected by this project. There is a higher burden placed on the EAP to ensure that they are meaningfully engaged. This is aligned with section 41(6) of the EIA Regulations. As such the consultants should have gone further to ensure that a dedicated meeting with them during the second EIA PPP.
- 11.1.21 A submission by Dr Jackie Sunde, attached as Annexure I (the Sunde submission), addresses the contention in the FEIR that the location of the ships does not overlap with the fishing area of the small-scale fishers – thus refuting the claim that fisher communities would not be directly affected by the project. In her submission, Dr Sunde provides evidence that there are fishers who are legally permitted to utilise the area in Big Bay south and east of the jetty where the KPS location has been proposed. Dr Sunde further states that the location of the ships may have potential impacts on the roll-out of the implementation of the small-scale fishers' policy, in accordance with the Marine Living Resources Act, as the DFFE considers historical ties to the area and the permitting of fishers to fish in Saldanha bay.
- 11.1.22 This was not considered or addressed in the FEIR, or in response to the First and Second Appellants' comments on the DEIR. Had the EAP properly consulted with small-scale fishers, this kind of information would also have been shared in that forum and consequently formed part of the assessment.
- 11.1.23 The absence of meaningful engagement with fishing communities is evident from the FEIR which fails to understand the history, culture, heritage and rights of small-scale fishers (see ground of appeal on the inadequate consideration of cultural and heritage impacts). They are a distinct community whose interests are marginalised. Had the EAP conducted meaningful engagement with small-scale fishers, there would have been a better understanding on the impacts of this project on their interests, livelihoods and rights.

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Inadequate advertisement and notification of the project for the second EIA phase

11.1.24 The DEIR documents related to the second EIA process for this project were placed in areas where fishers do not frequent. This was raised in the Sunde submission, in which she emphasised that small-scale fishers *"were not identified as an I&AP interest group that must be directly informed. They do not buy and read the Cape Times or the Argus. They do not frequent 'Cup of Cake Restaurant: 37 Main Rd, Saldanha' nor do they have online data or internet facilities to access large documents online via the Triplo4 Offices (Suite 5, The Circle, Douglas Crowe Drive, Ballito); or Triplo4 Website: www.triplo4.com. These traditional fishers are not in the same category as fishers working in the industrial fisheries sector of Saldanha such as Sea Harvest workers. These fishers do not frequent the sites that were identified for the distribution of the translated flyers namely:*

- *Club Mykonos, Langebaan;*
- *Pienaar Brothers at Trisano Centre, Saldanha Bay;*
- *Protea hotel, Saldanha Bay; and*
- *Blue Bay Lodge and Resort, Saldanha Bay*

They do not walk the transmission line regularly" (the transmission line being where the advertisement notices were placed).

11.1.25 The consultant's response to the issue raised above is recorded in appendix D9 as follows:

"The fishers' limitations and constraints are acknowledged however Coastal link representatives were included in the PPP process and a focus group meeting took place on 12 April 2021. An informative discussion took place with the Socio-Economic specialist in attendance to so that potential concerns could be understood and assessed."

11.1.26 Once again, the consultant relies on the initial defective "focus group meeting", which was ruled inadequate by the DFFE as a reply to significant procedural issues with the PPP. It is detailed in the supporting affidavit for Ms Van Wyk that she did not read the documents that were made available at Cup of Cake in Saldanha as she does not frequent the shop.

11.1.27 It was further raised by Dr Sunde, that, in her experience of working more than two decades as a coastal researcher with the communities on the West Coast, the levels of illiteracy and schooling means that virtual meetings and written comments are not an appropriate form of communication for majority of the traditional, small-scale fishers. In Dr Sunde's experience, majority of fishers with whom she has interacted have not completed schooling past grade 6. This is largely due to the apartheid-era schooling system. Dr Sunde submits that oral submissions and an opportunity to engage properly in dialogue, to ask questions

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and be answered, would have been an appropriate and a more adequate form of consultation, and aligned with EIA regulation 41(2)(e).

- 11.1.28 The response from the consultant to this recommendation is to once again point to the “focus group meeting” of April 2021 in which the attendees emphasised that there needs to be meaningful engagement with the fishing communities.

Absence of any engagement with small-scale fishers

- 11.1.29 There is a significant difference between the interests of the general public and the more specific interests of a defined group of stakeholders whose rights stand to be directly affected by the project, such as small-scale fishers of the West Coast. The history and traditions of the Langebaan Lagoon traditional small-scale fishers and their right to be consulted in relation to any development that impacts them have been acknowledged by courts in South Africa.

- 11.1.30 The lack of consultation with small-scale fishers was one of the reasons the DFFE and the Minister (in her August 2022 appeal decision) refused to provide KPS with authorisation initially applied for in 2021. Yet there was no engagement with small-scale fishers specifically, as part of the second EIA PPP.

- 11.1.31 In the report annexed as Annexure 9 D1.1 to the FEIR, titled ‘Engagement with the Small-scale Fisheries’ conducted by Steenkamp and Rezaei (2022), they refer to an engagement with the fishers that allegedly took place on 3 October 2022. The heading of the report relates to a workshop with “small-scale fishers”, however the subsequent information under this heading states that it was commercial fishers in attendance (not small-scale fishers).

- 11.1.32 In 2022, when KPS began its EIA consultation process again, none of the attendees from the initial meeting with the EAP in 2021, were made aware of the specifically requested “fisher focus group meeting” to be held on Monday 3 October 2022.

- 11.1.33 As a registered I&AP, Ms Van Wyk received the general notice of a public meeting taking place in Saldanha on the 21st of November 2022. The summary of the public participation process contained in Appendix 3 states as follows:

“Public and Stakeholder Meetings:

As part of the public participation process, two public meetings were conducted - an in-person meeting and a virtual meeting - and were independently facilitated. The in-person meeting was held on the 21st November 2022 at the White City Multi-purpose Centre in Saldanha Bay at 10am to 2:30pm. The virtual meeting was held on an online meeting platform, Airmeets, at 5pm to 8pm on the 21st November 2022. The meeting link was shared closer to date of the meeting. The same information was presented at both sessions and registered I&APs received the presentation, transcripts, and comments and responses for both sessions.”

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- 11.1.34 On the same day, 21 November 2022, the Western Cape experienced a taxi strike which was widely reported as being violent and many commuters were advised to stay away from other public transport options and even using private vehicles. This is detailed in Ms Van Wyk's affidavit at paragraph 15.
- 11.1.35 Due to the above circumstances, the EAP should have rescheduled the public meeting. Virtual platforms are not suitable for consultation with certain groups of people and especially poor coastal communities such as the one in Saldanha. Small-scale fishers often do not have access to Wi-Fi, nor are many of them able to afford the costs of data for the purposes of attending a public online meeting.
- 11.1.36 By the consultants' (from AfroDevelopment Planning's) own account, they admit that the poor attendance by small-scale fishers could have also been due to the snoek run. It seems misplaced to arrange a meeting with fishers during the snoek run, which makes up a large part of their livelihoods.
- 11.1.37 Despite the poor attendance due to the taxi strike (which the EAP and the consultants must have come to know about) and the snoek run, no effort was made for a follow-up meeting at a more appropriate time and place to ensure that the engagement took place. This process for the November 2022 meeting was therefore flawed and excluded the participation of small-scale fishers in direct violation of the requirements for public participation outlined in NEMA.
- 11.1.38 Notwithstanding the above, the consultants stated numerous times throughout the summary of the PPP document that "An enhanced Public Participation Process was also undertaken as per Chapter 5 of the EIA report that included various notification methods, individual workshops with small scale fishers and stakeholder meetings as identified and requested."
- 11.1.39 Furthermore, in comment 7.2. of the Public Participation report in the FEIR, the facilitator, Ms Steenkamp, states in reply that "*We have done a number of engagements with the local communities. I know that didn't come through in the PowerPoint presentation and it isn't in the agenda. We have engaged with the small-scale fishers at each of the sites.*" The consultants however do not provide evidence of this.
- 11.1.40 On the contrary, the FEIR states that the socio-economic assessment for Saldanha Bay did not undertake a dedicated stakeholder engagement with the small-scale fishers. This is particularly puzzling considering that there was a specific request for a dedicated stakeholder engagement with small-scale fishers in the first EIA refusal and the Minister's August 2022 appeal decision.
- 11.1.41 According to the register of the alleged "small-scale fisher meeting" on 3 October 2022, none of the attendees identified themselves as small-scale fishers, as recognised by the Department. Instead, according to their self-declarations on the attendance register, the attendees were directors, and owners or officials in the aquaculture industry, except for one person who comes from the Commercial Pelagic sector. A copy of the register was included in the small-scale fisher report.

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- 11.1.42 The self-identification as 'small-scale fishers' is relevant, as this is the term that small-scale fishers use to identify themselves, and the Department recognises this when discussing fishing rights for this group of fishers. It is the term contained in the policy on small-scale fishers and is widely known within the sector. The consultants state that "There are no registered small-scale fishing cooperatives associated with any of the ports. At the time of compiling this report, the understanding of this dynamic was informed by formal comment received by DFFE indicating that there are no declared small-scale fishers in the Western Cape." This is substantively untrue and is an indication of the lack of understanding of the importance and impact that this project will have on small-scale fishers.
- 11.1.43 The inevitable result of this is that none of the attendees were able to talk about the actual small-scale fisher fishing activities as they are not small-scale fishers. It is therefore not surprising that they might have presented a more positive approach to the KPS project and the possibility of job creation and other opportunities. In contrast, the Interim Relief – soon to be small-scale fishers from both Saldanha and Langebaan have repeatedly stated on record that they do not support this project. There are numerous interviews and media statements of this nature in the public domain.
- 11.1.44 The above demonstrate that despite the DFFE highlighting to KPS that they had initially failed to meet the legal requirements for adequate public participation, in particular with small-scale fishers, the PPP relied upon in relation to the second EIA process remains inadequate.
- 11.1.45 The small-scale fishers have further interests and rights, beyond a right to be consulted, in relation to the ocean as it forms part of their cultural heritage, identity and livelihood. The EAP ought to have gone further than all the meetings and purported consultation processes mentioned above. It can be concluded from the above that the PPP (or lack thereof) concerning the small-scale fishing community, which led to the EA being refused in the first EIA process, was not cured by the consultants in the second EIA process.
- 11.1.46 The revised FEIR fails to provide a clear and adequate profile of the small-scale fishers or to interrogate the potential negative impacts of the project on them. The supplementary public participation report by Afro development Planning is acknowledged as not representing small scale fishers but, in the FEIR, the EAP draws on it to support the conclusion that KPS project will have little impact on small-scale fishers.

APPLICANT'S RESPONSES TO THE FIRST APPELLANTS' SUBMISSIONS ON THE EIGHTH GROUND OF APPEAL

- 11.2 **The Applicant responds to the First Appellants' submissions under the eighth ground of appeal as follows:**

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- 11.2.1 The Appellants further falsely allege that the EAP misrepresented the finding of the PPP. This allegation is made despite the DFFE rejection of the Section 13 Complaint relating to PPP and small-scale fishers submitted by the Green Connection in an effort to stifle the issuance of the decision.
- 11.2.2 The Appellants' continued reference to issues which have already been raised, and decided on by the DFFE is misguided and has no legal substance. The issues which are before the decision maker are those issues which formed the substance of the EA, not issues which were already the subject of previous decisions by the DFFE. Therefore, the Appellants' referral back to issues raised in the appeal process are irrelevant.
- 11.2.3 Triplo4's response to the Green Connection Section 13 Complaint more than adequately highlights the absurdity, inaccurate and misleading account of Public Participation undertaken. This issue was thoroughly investigated by the DFFE, and the spurious claims were found to have no merit. A copy of the DFFE's decision dated 26 April 2023 in this matter is attached as Annexure "B."
- 11.2.4 In summary, throughout the engagements, public meetings, stakeholder engagement, the EIA with Specialist Studies and PPP all legal requirements were met and even exceeded and showed importantly that: GC deliberately misrepresents information from the FEIAR (refer to the extract of P116 as well as the explanations as per this response). The EIA comprises a multitude of Specialist studies and public participation, with the SSF workshop being 1 component. To state that the EIAR is false as it does not contain the views of ANY fishers, is a grossly misleading and incorrect statement by GC.
- Engagements occurred with 294 members of the community at the in-person public participation meeting;
 - The SSF workshop was attended by persons representing the SSF / SSF community and affidavits were provided. It is re-iterated that large numbers were represented by the representatives during the SSF and public participation collectively;
 - Organisations such as Green Connection and Saldanha Vissers were invited to participate at the SSF Workshop and in the e-mail Carmelita Mostert indicated that she will participate (understood to be part of the organisation or then individually). Refer to proof of e-mail in which Green Connection (Neville van Rooy), Saldanha Vissers (Carmelita Mostert) and Khoi (Kevin Maart) were all copied in. It was also recognised that the petition arranged by Carmen Rogers, as per social media flyer/notice indicated the relationship between Ms Rogers and GC;
 - Over 700 SSF /SSF Community members were represented during the SSF Workshop by Reverend Charlton Swigelaar of SAPFU with others also representing themselves or SSF /SSF Community members;
 - 294 attended the PPP with attendees representing vast numbers of the community that includes SSF / SSF community for e.g. BBA;

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- It is clear that the workshop as well as the PPP ensured ample opportunities for meaningful engagement for those I&AP's willing to participate, including SSF /SSF Community and organisations representing SSF /SSF Community as per the substantial numbers provided above.
- The Green Connection (GC) and Saldanha Vissers presented 200 names collectively in terms of SSF / SSF community opposition to the project. The protest attendance, although falsely advertised as an oil and gas exploration, demonstrated that the SSF views were expressed by the EAP as part of the PPP;
- The area proposed for the Powership project was not a fishing area for SSF;
- The livelihood of SSF would not be negatively infringed by the project, as per the Specialist findings. However, the project would in a very significant manner positively contribute to the livelihood of the broader community as well as the SSF community through the Economic Development Plan;
- Although CG's (sic) website indicated that they did not represent, but inform or educate, this complaint was submitted on behalf of the public and SSF of Saldanha Bay;
- SSF and SSF community views were taken into consideration and mitigated and the community at large and through their representatives and submissions confirmed that GC did not represent them.
- Further evidence as per the more than 550 signatures was provided that the SSF / SSF community were represented through organisations or represented themselves and are in support of the project and are not represented by GC or others opposing the project.

- 11.2.5 It is disappointing that GC chose not to engage constructively in the EIA and PPP and their approach appears to be an abuse of process aimed at undermining the EIA by lodging a spurious Regulation 13 Complaint, thus manipulating the EIA Regulations to pursue their own anti-development agenda. As such, no attempt was made to understand the project and its impacts, rather GC spent its resources on anti-project demonstrations, to appear on national television and to attack the merits of the projects on social media to vilify gas as part of the energy mix in favour of renewable energy.
- 11.2.6 Despite several invitations, GC chose not to engage with the EAP to better understand the project and its impacts (both positive and negative) and persisted with misrepresentation of the project as an oil and gas exploration.
- 11.2.7 Compliance with the NEMA and the EIA Regulations was achieved at all times and the enhanced PPP meant that all I&APs had the opportunity to meaningfully participate in the EIA should they have chosen to do so. All work done in this regard, was done objectively and comprised a multitude of inputs both from I & A P's and qualified specialists.
- 11.2.8 The affidavits of SSF workshop attendees confirmed their active involvement and / or representation of small-scale fishers. From the information provided, large numbers of the SSF / SSF community were

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represented by these representatives. KPS takes the PPP seriously and is committed to ensuring inclusivity. The responsibility for verifying participants' mandate extends beyond KPS who actively collaborates with stakeholders to establish guidelines for participant selection. Attributing the entire responsibility to KPS oversimplifies the multifaceted nature of public participation.

- 11.2.9 The comments from the SSF community members as represented individually or through their affiliated organisations (SSF of marine living resources with ancillary workers and their families) at the public participation meeting and formal written submissions made, wherein GC as a representative for the SSF community was contested must be recognised together with the SSF community's overwhelming support for the project at the proposed location (within Big Bay). In addition, the details provided in Appendix 3 containing over 550 signatures further corroborated the statements and proof of engagement with and expression of the views of the SSF / SSF community by the EAP.

DEPARTMENT'S COMMENTS ON THE FIRST APPELLANTS' SUBMISSIONS ON THE EIGHTH GROUND OF APPEAL

- 11.3 **The Department comments on the First Appellants' submissions in relation to this ground of appeal as follows:**

- 11.3.1 The Public Participation Process for the revised draft EIAR ensured inclusion of all registered I&APs and provided them with the opportunity to comment.
- 11.3.2 Furthermore, changes were marked-up (highlighted) in the EIA to make it easier for the Interested and Affected Parties to detect where the changes had occurred.
- 11.3.3 In the CA's view, the public participation process met the requirements of Chapter 6 of the EIA Regulations.

THE SECOND APPELLANT'S SUBMISSIONS ON THE EIGHTH GROUND OF APPEAL

- 11.4 **The Second Appellant makes the following averments in relation to the eighth ground of appeal:**

- 11.4.1 A proper PPP with the West Coast small scale fisher (SCF) community was not conducted because at their first meeting with Triplo4 at Hoedjies Bay Hotel in Saldanha Bay they were asked to listen to the Triplo4 presentation after which questions would be taken and answers provided. It was stated by Triplo4 that they would return at a later date to provide feedback from the DFFE. Triplo4 never returned. Therefore Triplo4's PPP was a tick box exercise and is fundamentally flawed.

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- 11.4.2 Coastal Links were never consulted. Coastal Links have High Court Rights to fish in Big Bay Saldanha (Equality Court Cape Town 2006 – Annexure 1) and according to this High Court ruling Coastal Links must be consulted prior to the commencement of any such projects such as KPS or Aquaculture that will ultimately affect the livelihood of these fishers. KPS) have completely ignored Coastal Links and their Rights.
- 11.4.3 Questions raised by the West Coast community and various forums addressed to KPS in an online public meeting held via Microsoft Teams on Thursday 15 March 2021 at 10:00 have to date still not been answered.

APPLICANT'S RESPONSES TO SECOND APPELLANT'S SUBMISSIONS ON THE EIGHTH GROUND OF APPEAL

- 11.5 **The applicant responds to the Second Appellant's submissions on the eighth ground of appeal as follows:**

Inadequate Public Participation

- 11.5.1 This allegation was extensively dealt with by DFFE. The Second Appellant is referred to the decision dated 26th April 2023 in this regard which is attached as Annexure "A" hereto, thus the PPP in relation to the Small-Scale Fisher engagements were thoroughly assessed and found to be baseless.
- 11.5.2 A robust and enhanced PPP was undertaken for the EIA Phase, and conducted by procuring an Independent PPP specialist, Afro Development Planning, as well as independent service providers to distribute and manage the PPP notifications and the Virtual Meeting. The PPP was undertaken in a manner promotes equitable and effective participation, and specifically participation by vulnerable and disadvantaged persons in accordance with Chapter 6 of the EIA Regulations, Regulations 39, 40, 41, 42, 43, 44 and 45 and the relevant Public Participation Guideline.
- 11.5.3 As regard the assertion that Coastal Links have High Court Rights to fish, the Applicant submits that permit holders are provided statutory rights to fish by virtue of the permits they hold (i.e. as small scale net-fishers, or as commercial net fish right-holders, as the case may be). This is not a specific, sui generis, right given to Coastal Links. As it is understood, Coastal Links is a nation-wide voluntary association which was established in 2003 which operates as a community organisation assisting "small-scale" fishers, such as the applicants, to secure their livelihoods and protect their rights. Therefore, it is submitted that the Applicant has invited the small-scale fisher community to the conversation and given all an equal opportunity to participate.

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- 11.5.4 Any claims that the Applicant did not facilitate a PPP process, and / or failed to respond to queries are hereby vehemently rejected. All questions put forward by a member of the public during both in person meeting or the online virtual meeting has been responded to and have been captured in the minutes of these meetings which was facilitated by an independent facilitator.
- 11.5.5 The Port limits and fishing rights boundaries of the Saldanha Bay Port can be found in Gazette No. 32873 (22 January 2010) on page 39. The permitted fishing areas exclude the National Port Authority Areas. The permit conditions provided in the Interim Relief SSF Permit Conditions and Commercial Gill Drift Permit Conditions that the fishing rights do not extend to the port which is under the jurisdiction of the Transnet National Port Authority.
- 11.5.6 The Gazetted location of the Port clearly indicates that the location of the Powership and the FSRU is in the Port, specifically along the eastern side of the Iron Ore Jetty. The proposed location of the Powership and the FSRU were discussed at length with the NPA as the locations fall within its jurisdiction, and includes an area earmarked for future expansion of the port. Furthermore, during numerous engagements with the authorities and key stakeholders, KPS was not made aware of any small-scale fishing rights or activities that have been granted by the TNPA to take place in the Port.
- 11.5.7 The location of the Powership and FSRU will therefore not interfere with the rights of the Saldanha and Langebaan Small-Scale Fishers. Therefore, any rights that Coastal Links and other Small Scale Fisherman may have will therefore not be impacted by the project.

DEPARTMENT'S COMMENTS ON THE SECOND APPELLANT'S SUBMISSIONS RELATING TO THE EIGHTH GROUND OF APPEAL

- 11.6 **The department's comments on second appellant's submissions relating to the eighth ground of appeal as follows:**
- 11.6.1 The Competent Authority (CA) is satisfied that the public participation process was undertaken in accordance with Chapter 6 of the EIA Regulations 2014 as amended.

EVALUATION AND DECISION

- 11.7 Having read and considered the issues and submissions raised by the First and Second Appellants concerning the PPP conducted, the Applicant's responses thereto and the Department's comments, as well as the record of information before me, I note the following:

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11.7.1 The DFFE found the allegations levelled by the Second Appellant against Tiplo4 in regard to the Small-Scale Fisher engagements to be baseless. These allegations were extensively dealt with. The Second Appellant did not submit and appeal against this finding of the DFFE.

11.7.2 I am of the view that the PPP was undertaken in a manner that promoted effective participation, and specifically participation by vulnerable and disadvantaged persons and in accordance with Chapter 6 of the EIA Regulations, Regulations 39, 40, 41, 42, 43, 44 and 45 and the relevant Public Participation Guideline.

11.8 In as far as this ground of appeal alleges the public participation process (PPP) did not comply with the minimum requirements of the law, I have noted that:

11.8.1 In disputing this, the Applicant contends that the EIA and all public interactions complied with and often exceeded the minimum legal requirements. Having read and considered the issues raised concerning the PPP conducted after the and that the applicant's and Department's comments that the PPP ensured the inclusion of all registered I&APs and provided them with the opportunity to comment. In the CA's view, the public participation process met the requirements of Chapter 6 of the EIA Regulations.

11.8.2 The Second Appellant's contention that questions raised by the West Coast community and various forums addressed to KPS have to date not been answered. I note that in response thereto, This allegation was dealt with by DFFE in its decision of 26th April 2023, that the PPP in relation to the Small-Scale Fisher engagements were thoroughly assessed and found to be baseless.

11.8.3 The Applicant's submissions that it at all times complied with the NEMA and the EIA Regulations and an "enhanced PPP" was conducted that all I&APs had the opportunity to meaningfully participate should they choose to do so. Furthermore, that this was done objectively and comprised a multitude of inputs both from I&AP's and qualified specialists.

11.8.4 The PPP and SSF workshop attendances and their active involvement and / or representation of small-scale fishers. From the information provided, large numbers of the SSF / SSF community were represented by these representatives.

11.9 I am satisfied that the legislative requirements of PPP were met including in relation to small scale fishers and other disadvantaged groups and persons.

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11.10 In light of the above, I determine that this ground of appeal lacks merit and is accordingly dismissed.

11.11 Moreover, in my view, any alleged shortcoming in the PPP, albeit that I find none, has in any case been effectively addressed within this appeal process. In this regard, Appellants have in this appeal process been afforded an opportunity to voice their concerns on the proposed project; the Applicant and Department have had an opportunity to respond to these concerns and I have applied my mind to these matters per my mandate in terms of NEMA.

12 NINTH GROUND OF APPEAL: INADEQUATE CONSIDERATION OF AIR POLLUTION AND HEALTH

THE APPELLANTS' SUBMISSIONS ON THE NINTH GROUND OF APPEAL

12.1 The Appellants make the following submissions on the ninth ground of appeal:

12.1.1 Their objections to the Atmospheric Impact Assessment specialist study (AIR) in the FEIR are as follows:

12.1.1.1 It has not adequately assessed the cumulative impacts of upcoming projects in the area and the additive contributions of this project to a more realistic baseline – and, importantly, what this could mean for the health and wellbeing of the communities in Saldanha Bay, and compliance with National Ambient Air Quality Standards ("NAAQS"); and

12.1.1.2 It has failed to account for a number of pollutants that pose risks of harm to human health.

Failure to adequately assess cumulative air pollutant emissions.

12.1.2 The FEIR states that "*Ambient monitoring data for 2017 to 2019 at Saldanha Bay is analysed for SO₂, NO₂, and PM₁₀. Monitored SO₂ data show ambient levels for the monitoring period, with no exceedances of NAAQS. Monitored NO₂ concentrations are elevated with higher concentrations observed in winter (i.e. June to August). Monitored PM₁₀ concentrations are elevated year-round with limited exceedances of NAAQS in January 2017. An estimated background concentration of 5 to 10 µg/m³ is observed*".

12.1.3 It uses the annual average monitored concentrations of SO₂, NO₂ and PM to conclude that "*the predicted maximum concentrations are very low and are well below the respective NAAQS*".

12.1.4 The baseline relied on to determine the impact of the project's air emissions on ambient air concentrations is outdated and does not account for future or potential added air pollution sources from projects that are

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expected to come online in the future, particularly in light of the designation of the Saldanha Industrial Development Zone ("IDZ"). These include, but are by no means limited to:

- 12.1.4.1 The Saldanha IDZ access road completed in 2022;
- 12.1.4.2 Expansion of the Sunrise Energy LPG Terminal;
- 12.1.4.3 The Vortum (CCGT) 800MW Thermal Power Plant situated on Portion 6 of the Farm Langeberg 188, Malmesbury Road anticipated to commence construction soon referred to in the FEIR's Aquatic Assessment; and
- 12.1.4.4 Any other proposed projects for the Saldanha Industrial Development Zone (IDZ), which could have negative impacts for air quality and health.

- 12.1.5 NEMA section 24O(1)(b) requires a decision-maker to take into account relevant factors which may include "*environmental degradation likely to be caused if the application is approved or refused*" (emphasis added).
- 12.1.6 This requires a 'worst-case scenario' air quality assessment, which accounts for proposed and authorised projects all coming online in the Saldanha Bay Area, and at least a more up to date air quality baseline assessment that takes into account projects that have come online since 2019, to determine the project's potential additive contributions to air quality and health impacts in the area. The FEIR has not done this.
- 12.1.7 The conclusions that the additive effect of the emissions from the KPS project on ambient concentrations is small and will not result in significant increases in ambient concentrations in Saldanha Bay, or in exceedances of the NAAQS, therefore cannot be relied on.

The AIR fails to consider important pollutants that harm human health

- 12.1.8 The AIR does not assess impacts from PM_{2.5}, ozone, ammonia, volatile organic compounds (VOCs), methane, and carbon monoxide, despite these being relevant pollutants that would emanate from the project activities and harm human health.
- 12.1.9 Recent studies show that there is no safe amount of air pollution. Treating reference NAAQS and the minimum emission standards as a license to pollute up to those concentrations and a free pass to allow continued emissions below those concentrations cannot be accepted. It is unacceptable that a number of pollutants, which have impacts on human health, such as those listed above, have been omitted from the FEIR. Insofar as the AIR purports to assess the anticipated health impacts of the project in terms of air quality, it has failed to do so by omitting any assessments of the potential health impacts of the excluded pollutants.

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APPLICANT'S RESPONSES TO THE APPELLANTS' SUBMISSIONS ON THE NINTH GROUND OF APPEAL

12.2 The Applicant responds to the Appellants' submissions on the ninth ground of appeal as follows:

- 12.2.1 Available hourly, 24-hour average, and annual average ambient data are used to comment on the current state of air quality in Saldanha Bay. Describing the current state excludes the contribution of future projects.
- 12.2.2 The AIR for the KPS project is a worst-case assessment. Emission used in the AIR are equivalent to the Minimum Emission Standards (MES) for the process, i.e. the maximum permissible emission concentrations. Considering the composition of Natural Gas the SO₂ and PM emission concentrations from KPS will be lower than the MES. NO_x emissions will be controlled to comply with the MES. The predicted results in the AIR are therefore conservative and maximum ambient concentrations are predicted.
- 12.2.3 While PM_{2.5} was not assessed, if the total PM emissions from KPS were assumed to comprise solely of fine fraction PM_{2.5}, the maximum predicted hourly ambient concentrations would be 1.6 µg/m³ at the project site, and less elsewhere. It is a gross assumption that all particulates in the emission are PM_{2.5}, so the maximum PM_{2.5} concentrations are likely to be only a fraction of the predicted concentrations.
- 12.2.4 Natural gas used for energy generation comprises primarily methane, with low concentrations of other hydrocarbons, water, carbon dioxide, nitrogen, oxygen and some sulphur compounds. The trace hydrocarbons may include formaldehyde and benzene. Due to their trace concentrations, they were not assessed in the AIR.
- 12.2.5 CO is not regulated in terms of Sub-category 1.5 Listed Activities, i.e. no Minimum Emission Standards and was not assessed.

DEPARTMENT'S COMMENTS ON THE APPELLANTS' SUBMISSIONS RELATING TO THE NINTH GROUND OF APPEAL

12.3 The Department's comments as follows on the appellants' submissions relating to the ninth ground of appeal:

- 12.3.1 An atmospheric impact assessment was undertaken as part of this application. The specialist concluded that the maximum predicted annual SO₂, NO₂ and PM₁₀ concentrations and the 99th percentile of the 24-hour and 1-hour predicted concentrations are very low and are well below the respective NAAQS.

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- 12.3.2 The highest predicted ambient concentrations occur over parts of the Saldanha Bay industrial area north of the Port of Saldanha Bay and south of the project area towards the Port entrance. With low predicted ambient concentrations for SO₂, NO₂ and PM₁₀ the consequence of impacts is very low. The likelihood of occurrence of impacts associated with SO₂, NO₂ and PM₁₀ is very low.
- 12.3.3 Therefore, the significance of impacts resulting from the KPS Project alone is predicted to be very low. The significance of cumulative impacts with other sources is also very low. The significance of the cumulative impacts with another potential gas-to-power project is low.
- 12.3.4 In the CA's view, atmospheric impacts were assessed sufficiently.

EVALUATION AND DECISION

- 12.4 In evaluating this ground of appeal, and assessing the submissions made, I have considered the Appellants submissions, the Applicant's responses thereto and the comments from the Department; as well as the record of information before me.
- 12.5 Under this ground of appeal, the appellant's complaints are principally inter alia that:
 - 12.5.1 The Atmospheric Impact Assessment study (AIR) did not adequately consider the cumulative impacts of potential future projects in the area, the project's contributions of pollutants as part of the baseline used, its impacts on health and wellbeing of communities in Saldanha Bay, and compliance with National Ambient Air Quality Standards ("NAAQs"), and
 - 12.5.2 The AIR did not take into account some pollutants that pose risks of harm to human health.
- 12.6 These grounds are then fleshed out under these two categories.
- 12.7 In considering the above, I took note that the project is located within the Saldanha Industrial Development Zone. Furthermore, the project AIR considered the project as well as contributions from existing industry against ambient concentrations, and that of three possible future gas-to-power projects.
- 12.8 The AIR was considered to be an assessment of a "worst case" scenario, and I am satisfied that the assessment in the AIR complies with section 24O(1)(b) of NEMA. The level of emission reported in the AIR taking the above into account did not exceed the maximum permissible emission concentrations in terms of the National Ambient Air Quality Standards. I note too that the SO₂ and particulate matter emissions from the project is predicted to be lower than the maximum permissible emission standard. I

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take note that the AIR assessed PM_{10} but did not assess $PM_{2.5}$ and that it is a gross assumption to assume that all particulate emissions would be $PM_{2.5}$ whereas it would only comprise a fraction of predicted PM concentrations. I therefore conclude that it was not fatal that $PM_{2.5}$ was not assessed.

- 12.9 I am also mindful of the fact that section 24 of NEMA requires, inter alia, that a decision maker is to take into account all relevant factors, including measures that may be taken to protect the environment from harm as a result of the project and to prevent, control, abate or mitigate any pollution, substantially detrimental environmental impacts or environmental degradation. In addition, to consider any comments received from organs of state that have jurisdiction over any aspect of the activity which is the subject of the application and of organ of state charged with the administration of any law which relates to the activity in question.
- 12.10 In this regard the Department asserted that an atmospheric impact assessment was undertaken as part of the application and concluded that the predicted annual SO_2 , NO_2 and PM_{10} concentrations would be below the NAAQS and that the likelihood of the occurrence of impacts associated with SO_2 , NO_2 and PM_{10} is very low and that the significance of impacts from the project itself was predicted to be very low as well as that of other sources including those associated with other potential gas-to-power projects. As a result in the CA's view, atmospheric impacts were adequately assessed.
- 12.11 Having regard to all the above and having considered this ground of appeal, I determine this ground of appeal to be without merit and is accordingly dismissed.

13 TENTH GROUND OF APPEAL: THE ENVIRONMENTAL AUTHORISATION'S CONDITIONS AND REQUIREMENTS ARE IRREGULAR AND UNLAWFUL

APPELLANTS' SUBMISSIONS IN RELATION TO THE TENTH GROUND OF APPEAL

- 13.1 **The Appellants make the following submissions in relation to the tenth ground of appeal:**
- 13.1.1 Material information is listed in the Environmental Authorisation (EA) as being absent from the Environmental Impact Assessment (EIA) and has been deferred to later approval. This includes the Environmental Management Programme (EMPr), which has not been approved, and key material information, which is absent from the EA (sic) – namely the final site layout plan and map. This is contrary to the requirements of NEMA and the EIA Regulations, 2014, which state the following:

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- 13.1.1.1 In relation to requirements for an EIA: the EIA Regulations require that an EIA include "*a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale*". This must have informed the decision to grant the EA it cannot be approved after the fact.
- 13.1.1.2 In relation to the minimum requirements for an EA: NEMA provides that "*Every environmental authorisation must as a minimum ensure that-(a) adequate provision is made for the ongoing management and monitoring of the impacts of the activity on the environment throughout the life cycle of the activity; (b) the property, site or area is specified; and (c) provision is made for the transfer of rights and obligations.*" It is not possible to make adequate provision for monitoring and management in the EA as required, in the absence of an approved EMPr. Further, the site layout plan and map have not been approved in this EA – affecting the extent to which the site could have been specified as required by NEMA.
- 13.1.1.3 In relation to an EMPr: "(1A) ... *the Minister, the Minister responsible for mineral resources or an MEC must require the submission of an environmental management programme before deciding an application for an environmental authorisation*". This presupposes that an approved EMPr must exist alongside an approved EA, as the EMPr must be part of the information considered in an EIA and inform the decision on whether or not to grant the EA.
- 13.1.1.4 NEMA section 24N(6) states that "*The Minister, the Minister responsible for mineral resources or an MEC may at any time after he or she has approved an application for an environmental authorisation approve an amended environmental management programme.*" The reference to an amended EMPr presumes that there must have been an approved EMPr to begin with. At present, the project does not have an approved EMPr. An EMPr cannot be amended if it has not been approved, and therefore does not formally exist.
- 13.1.1.5 The EA states "*the final site layout plan(s) for the gas to power via powership and its associated infrastructure, as determined by the detailed engineering phase and micro-siting, and all mitigation measures as dictated by the final site layout plan, must be submitted to the Department for approval prior to construction. A copy of the final site layout map must be made available for comments to registered interested and affected parties and the holder of this Environmental Authorisation must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to the commencement of the activity. All biodiversity information must be used in the finalisation of the layout map.*"
- 13.1.1.6 It proceeds to list what the layout map must indicate – namely: the position of the powerships and floating regasification unit; berthing and mooring positions of the powerships and FSRU;

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the transmission lines final route alignment; the switching station; the gas pipelines; all associated infrastructure; all sensitive features; all no-go and buffer areas. This is key site-related information that ought to have been before the decision-maker and ought to have informed any decision to approve the activities. It is also required by the EIA Regulations, 2014, as stated above. The EA provides *"The Environmental Management Programme (EMPr) for the gas to power powership facility, submitted as part of the EIAR is not approved and must be amended to include measures as dictated by the final site lay-out map(s) and micro-siting, and the provisions of this Environmental Authorisation. The EMPr must be made available for comments to registered interested and affected parties and the holder of this Environmental Authorisation must consider such comments. Once amended, the final EMPr must be submitted to the Department for written approval prior to the commencement of the activity."*

- 13.1.1.7 The EA then proceeds to list what the EMPr 'amendment' must contain, including:
- An open space management plan, rehabilitation plan, and alien invasive management plan;
 - A dune rehabilitation plan, which must be developed by a specialist prior to commencement of construction;
 - An erosion management plan;
 - A traffic management plan, which must include measures to minimise impacts on local communities e.g. limiting construction vehicles travelling on public roadways during the morning for example; and
 - An effective monitoring system to detect any leakage or spillage of any hazardous substances during their transportation, handling, use or storage. This must include precautionary measures to limit the possibility of oil or other toxic liquids from entering the soil or storm water systems.
- 13.1.2 The Reasons for the Decision in the EA are contradictory in that they state that the procedure followed for impact assessment is adequate for decision-making process, yet it calls for additional information that still requires approval by the Department before the activities can commence.
- 13.1.3 The fact that the EMPr is not approved and must be amended to "include measures as dictated by the final site lay-out map(s) and micro-siting" is highly irregular, as this is information which ought to have informed the EIA decision-making process, as required by the EIA Regulations and NEMA. An EMPr is not meant to be used as a vehicle to remedy shortcomings in the EIA process.
- 13.1.4 The absence and requirement for, inter alia, the inclusion of an effective monitoring system to detect any leakage or spillage of any hazardous substances, and to include precautionary measures to limit the possibility of oil or other toxic liquids from entering the soil or storm water systems is also concerning.

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These are impacts and mitigation measures which ought to have been in an EIA and EMPr, to inform a decision to grant an EA.

- 13.1.5 Further, comments from stakeholders on key information such as the site layout plan and map; and the EMPr must be taken into account by the decision-maker and inform the decision on an EA prior to it being granted (not after). This is required by NEMA section 24O(1)(b)(vi), yet the EA seeks to prescribe a process of further impact assessment and public participation and approval after the fact. This approach is prejudicial, irregular and incorrect in law. This is also not aligned with the section 2 NEMA Principles, including the principle that "a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge." These principles must guide decision-making and apply to the actions of all organs of state that may significantly affect the environment.
- 13.1.6 To support their (Appellants') position, a 2023 judgment from the Pretoria High Court in *Eloff Landgoed v Ministry of Forestry, Fisheries and the Environment*, addressed the question of whether conducting an agro-economic assessment after the approval of a project, was permissible as a condition of the environmental authorisation. The court held that assessments should have been conducted before the EA could be granted, and that *"it cannot be a condition in a sense that compliance with it will enable the construction of the mine to proceed. It is rather a further issue to be explored before...the mine could be considered for the environmental authorisation...it would make no sense if mine construction could go ahead while a better appreciation of the mines' impact on agriculture in the surrounding area is assessed further."* Further *"a condition mandates further study of one of the impacts had to be captured and assessed before the authorisation was granted, I do not see how the condition could be consistent with a risk adverse and cautions approach...to characterise it as a condition of the authorisation, rather than as a vital material that must be considered before the authorisation can be issued, fatally undercuts the rationality of the Regional Manger's and the Minister's decision"*.
- 13.1.7 Without the final site layout plan and map and with an unapproved EMPr confirmed to be deficient, an informed decision could not have been made to authorise the project. On the face of it, the inclusion of these conditions amounts to a concession by the Chief Director that the EIA was inadequate and failed to meet the requirements of NEMA and the 2014 EIA Regulations.

13.1.8 APPLICANT'S RESPONSE TO TENTH GROUND OF APPEAL

- 13.2 The Applicant responds to the Appellants' submissions under the tenth ground of appeal as follows:**

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- 13.2.1 This ground of appeal avers that the Conditions in the EA as it relates to the final site Layout plan and the EMPr are inappropriate and is not in line with the NEMA principles and 2014 EIA Regulations.
- 13.2.2 The EIA contains detailed project descriptions and scope of work. The final site layout submission will be submitted together with detailed engineering drawings as directed by the EA. In addition, the siting and extent of each of the Project's components are already approved by the TNPA and the municipality who are the juristic local authorities of local land the Port area.
- 13.2.3 The layout drawings contain project specifications regarding the Project such as coordinate points, lengths and heights, powerline drawings, polygons and tower positions. All aspects are geo-referenced providing the exact extent of project components in keeping with best practice and details typical of stages of the project lifecycle process.
- 13.2.4 Many of these averments have already been dealt with in response to Appellants' averments above.
- 13.2.5 Regarding the methodology employed and compliance with the NEMA Section 2 principles, the objectives of "Section 2 of the NEMA" are noted. The EIA complied with NEMA section 2 as appears from the detailed independent specialist studies who considered, investigated and assessed such impacts to ensure that adequate consideration was taken of environmental attributes and such information was considered by the decision makers in regard to any significant effect on the environment.
- 13.2.6 In addition, as the granting of the EA shows, there were no significant environmental impacts (or significant harm) predicted by any of the independent specialist who found the impacts to be acceptable and recommended that the Project should proceed subject to the required mitigation measures being in place. This included all aspects of the project including Social impacts, Need and Desirability and all the requirements of the NEMA.
- 13.2.7 This ground of appeal challenges the legality of the Conditions of the EA. In this regard, the Appellants have misconstrued what is allowed and required by the law. The Appellants refer to the recent case of *Eloff Landgoed (Pty) Ltd v Minister of Forestry, Fisheries and the Environment* [(21525/2020) [2023] ZAGPPHC 434 (19 June 2023),] (the Eloff Landgoed case) where the court stated as follows at page 12 and 13, paragraph 27:
"NEMA envisages that the imposition of conditions on the grant of environmental authorisations is one of the ways in which the legislation gives effect to the "risk averse and cautious approach" to sustainable development mandated in section 2 (4) (a) (vii) of NEMA. Section 2 (4) (a) (vii) acknowledges that such an approach is necessary because there are always limits on "current knowledge about the consequences of decisions and actions."
- 13.2.8 The Condition in the EA (the Agronomic Assessment) required in the Eloff Landgoed case failed for 2 reasons. First, the information should have been before the decision maker before the EA was granted

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and secondly, the impacts of the Agronomic Assessment were not capable of being mitigated. In this regard, the court held page 13, paragraph 27:

"Where, as in this case, a condition mandates further study of one of the impacts that had to be captured and assessed before the authorisation was granted, I do not see how the condition could be consistent with a "risk averse and cautious approach".

13.2.9 It is important to distinguish the Eloff Landgoed case from the KPS Project. The unacceptable condition in the (Eloff Landgoed case) EA is one which required further study of an impact, is incapable of mitigation and authorizes the project nevertheless (Condition 1 of the Eloff Landgoed case, the Agronomic Assessment).

13.2.10 The conditions in the KPS EA in relation to the EMPr and the final site layout plan, are clearly very different to the Eloff case Conditions in that the KPS conditions are:

- Primarily aimed at mitigation (not the provision of further study information but in some cases monitoring information or a mitigation plan which is acceptable);
- There is a definite plan of action (Condition 15 for the EMPr); and
- In the majority, must be resolved before construction can be commenced or relate to ongoing monitoring.

13.2.11 On the other hand, the Agronomic Assessment in the Eloff Landgoed case would merely show a negative impact and that information was not before the decision maker at the time- therefore it was fatal.

13.2.12 A further distinguishing feature between KPS and the Eloff Landgoed case is that the specialists in the Eloff Landgoed case EIA did not recommend that the project should proceed due to the negative impacts. The EAP only changed her mind when the 6 conditions (including the Agronomic Assessment) were introduced. This is completely different to the KPS case where all the independent specialists and the EAP recommended that the Project should proceed, subject to the relevant mitigation measures.

13.2.13 Further evidence that Conditions are legal, normal and part of the CA's mandate to exercise its duty in terms of NEMA in a risk averse manner, we cite various examples of conditions in other EAs for large infrastructure projects. The following recent EAs issued confirm the principle that Conditions which require monitoring and further assessment are legally acceptable provided a concrete plan is in place to deal with the results thereof. The Conditions from the EA for the construction of the Proposed Expansion/ Upgrading Of Three Dams And Associated Infrastructure For The Purposes Of Establishing Orchards As Well As The Construction Of An Airstrip, Hangar And Jetty (issued by the Department of Environmental Affairs and Development Planning in the Western Cape in October 2022) –

13.2.13.1 *The construction phase of the Environmental Authorisation is subject to the following:*

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The Holder must finalise the post construction rehabilitation and monitoring requirements within a period of 3-months from the date the development activity (construction phase) is concluded at each of the respective sites.

- 13.2.13.2 Condition from the EA for the Dube TradePort Agrizone Development dated March 2010, issued by DEA:

The recommendations must be consolidated into an Environmental Management Plan (EMP) for the Agrizone, and this plan must be submitted to the Department for approval. The EMP must extend to the management of wastewater on the site.

- 13.2.13.3 Priority 2 sanitation project also had a condition in the EA that the EMPr must be amended and submitted to the department for approval.

- 13.2.13.4 Condition from the EA for the Proposed Exploration Drilling, Western Cape, issued in 2023.

The holder must, within sixty (60) days prior to the commencement of the proposed drilling operations, submit all specific management plans identified in the ESIA report and the ESMP i.e., Shipboard Oil Pollution Emergency Plan (SOPEP), Emergency Response Plan (ERP), Blowout Contingency Plan (BOCP), Oil Spill Contingency Plan (OSCP), Stakeholder Engagement Plan, Waste, Emissions and Discharge Management Plan, Hazardous Substance Management Plan, Preventative Maintenance Plan, Ballast Water Management Plan, Biodiversity Management Plan and Corrective Action Plan to the Agency.

The holder must undertake pre-drilling surveys at each well site to confirm the presence or absence of any environmentally sensitive features. In the event that the surveys identify the presence of archaeological sites or shipwrecks, the holder must notify the South African Heritage Resources Agency (SAHRA) and the Agency of the discovery.

- 13.2.13.5 Conditions from an EA for an Eskom Battery Energy Storage System, issued by DFFE in April 2023.

A copy of the final site layout map must be made available for comments to the registered IAPs, and the holder of this EA must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity. (THEN A LIST OF WHAT MUST BE INCLUDED IN THE MAP).

The Environmental Management Programme (EMPr) submitted as part of the final BAR dated December 2022 is not approved and must be amended to include measures as dictated by the final site layout map as well as the updated stormwater management plan. The EMPr must be

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made available for comments by the registered IAPs, and the holder of this EA must consider such comments. Once amended, the final EMPr must be submitted to the Department for written approval prior to commencement of the activity.

- 13.2.13.6 The Applicant submits that the CA has the authority to include such conditions in terms of NEMA and the 2014 EIA Regulations and it is common practice and found in many EAs as the EA, EMPr and impacts predicted in the EIA are dynamic and require ongoing changing responses and mitigation in order to mitigate the environmental impacts of a project.
- 13.2.13.7 The context of the Conditions and the EIA process for the Project must also be borne in mind. The EIA comprised a comprehensive process that complied with the EIA Regulations. Numerous management and monitoring conditions were specified by the specialists, and these were incorporated within the EMPr.
- 13.2.13.8 They submit the EA is therefore a valid final decision that authorises the project and associated activities. All EAs are issued with conditions and the Holder of the EA is required to comply with such conditions e.g. appointments, monitoring and reporting.
- 13.2.13.9 If the Appellants' averments in this regard were correct, there would be very few, if any valid EAs for large infrastructure projects, as, indicated above, such conditions are extremely common and necessary.

DEPARTMENT'S COMMENTS ON THE APPELLANTS' SUBMISSIONS IN RELATION TO THE TENTH GROUND OF APPEAL

- 13.3 The Department comments on the Appellants' submissions in relation to the tenth ground of appeal as follows:**
- 13.3.1 The Department was satisfied with granting an EA on the information provided and the mitigation measures presented. Upon receiving the final layout plan(s) and EMPr with all mitigation measures as dictated by the final site layout plan prior to construction, this Department as well as the interested and affected parties will have an opportunity to ensure that impacts to the environment are minimised sufficiently.
- 13.3.2 The reason why the layout plan was not approved as part of the EA, was due to the fact that there were specific conditions included into the EA which necessitated that holder to amend the layout plan. As such, to enable the holder to comply with the conditions, the layout plan could not have been approved.

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- 13.3.3 Due to the Layout plan needing to be amended, this in turn will result in the EMPr also requiring to be amended to address the conditions in the EA. The EA granted included suspensive conditions that need to be fulfilled prior to construction commencing. It must be noted that the changes to the layout plan and the EMPr based on the conditions of the EA still needs to be reviewed and decided upon prior to construction commencing.
- 13.3.4 Based on the information provided and considered for decision making, the CA had enough information to make an informed decision. With regards to the information relied on to reach its decision, these are captured in point 1 of Annexure 1: Reasons for Decision of the EA.

EVALUATION AND DECISION

- 13.4 In evaluating this ground of appeal, and assessing the submissions made, I have considered the Appellants submissions, the Applicant's responses thereto and the comments of the Department as well as the information on record.
- 13.5 I have furthermore noted the case of *Eloff Landgoed (Pty) Ltd v Minister of Forestry, Fisheries and the Environment* from which I note that "*NEMA envisages that the imposition of conditions on the grant of environmental authorisations is one of the ways in which the legislation gives effect to the "risk averse and cautious approach" to sustainable development mandated in section 2 (4) (a) (vii) of NEMA. Section 2 (4) (a) (vii) acknowledges that such an approach is necessary because there are always limits on "current knowledge about the consequences of decisions and actions."*
- 13.6 It is not an uncommon practice as happened in the other EAs referred to by the applicant, that the CA grants authorisation subject to certain conditions which assist in monitoring and enforcement.
- 13.7 The facts in the Eloff Landgoed case must be distinguished from the facts and conditions of the KPS Project. The conditions in the KPS EA in relation to amongst other things the EMPr, the Offsets and Avifuana are different to the Eloff case Conditions in that the KPS conditions are primarily aimed at mitigation and in some cases monitoring information or a mitigation plan. It is not for the purpose of further study. As such it is in line with a risk averse approach.
- 13.8 It is the opinion of the CA that the conditions in the EA do seek to avoid or mitigate detrimental impacts on the environment in that they must be resolved before construction can be commenced or relate to ongoing monitoring.

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13.9 I am satisfied that a precautionary and risk adverse approach has been applied as conditions in the EA which must be implemented before construction is commenced with and that there has been compliance with the objectives of section 2 of NEMA.

13.10 The environmental management regime provided for by NEMA and the EIA Regulations enable a CA to grant EAs subject to such conditions. The CA therefore has the power to grant an EA subject to the condition that a measurable biodiversity offset is implemented by the EA holder.

13.11 I therefore determine that this ground of appeal to be without merit and is dismissed.

14 ELEVENTH GROUND OF APPEAL: THE COMMENTS AND RESPONSES REPORT HAS NOT BEEN MADE AVAILABLE TO THE PUBLIC

APPELLANTS' SUBMISSIONS ON THE ELEVENTH GROUND OF APPEAL

14.1 The Appellants make the following submissions in relation to this ground of appeal:

14.1.1 Regulation 41(6) of the EIA Regulations requires the EAP to ensure that "*information containing all relevant facts in respect of the application or proposed application is made available to all potential interested and affected parties*". Appendix 3 to the EIA Regulations requires that the environmental impact assessment report contains copies of supporting documents and inputs from the public participation process, as well as a summary of the issues raised (and an indication of the manner in which the issues were incorporated, or the reasons for not including them).

14.1.2 Whilst the FEIR includes a section summarising the issues raised, and Appendix 3 contains notices of advertisements etc, the actual comments and responses of I&APs, either submitted in writing or made orally in any meetings, have not been provided to the public. Records of correspondence with the CA or other organs of state have also not been disclosed.

14.1.3 The Appellants submit that the comments of other I&APs constitute relevant information which is crucial to inform their own understanding of the project. Issues or concerns raised by other I&APs or stakeholders; this information should be included in the documents made available for public comment. It is curious that this information is deliberately not included in the documents for public comment, as is standard practice.

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- 14.1.4 In the Reasons for the Decision attached to the EA, it is recorded that the Department took into consideration "the comments received from interested and affected parties as included in the final EIAR dated September 2023". It is unknown whether the First and Second Appellants' comments, or comments submitted by other I&APs for that matter, have been included in the FEIR submitted to the Department for decision-making. They are not contained in the FEIR documents made available on the EAP's website.
- 14.1.5 We acknowledge that the responses to the previous comments of The Green Connection and Natural Justice were sent directly to the organisations, but there is no evidence in the public domain that these comments were actually before the decision-maker.
- 14.1.6 The First and Second Appellants raised this issue in their September 2023 comments, and yet the FEIR available on the EAPs website does not include a full Comments and Responses Report. Failure to make all relevant information available to I&APs renders the EIA process procedurally unfair.

APPLICANT'S RESPONSES TO THE ELEVENTH GROUND OF APPEAL

14.2 The Applicant responds to the submissions made under the eleventh ground of appeal as follows:

- 14.2.1 The EAP took steps to ensure the PPP went over and above the 'minimum requirements' stipulated in the 2014 EIA Regulations and to implement the suggestions provided in the Public Participation Guidelines, where reasonably possible and applicable.
- 14.2.2 Some documents are prevented by law from being shared in the public domain either due to confidentiality requirements, the Protection of Personal Information Act (POPI) or other laws, such as confidential agreements, I&APs database, comments and responses reports and proof of correspondence.
- 14.2.3 All I&APs who elected to provide comments on draft documents were responded to in writing individually. Furthermore, there is no legal requirement to share the DFFE version containing responses to all comments. This version is only available to the CA and is used for decision making. It serves no value for these comments and responses to be shared with all I&APs as the report is subsequently submitted to the CA for final decision making in terms of the process with no further opportunity to comment on the report. The Appellants are erroneously demanding that the report be made available for public review even when the regulatory procedural requirements of the EIA process does not warrant it. This is certainly not a regulatory requirement and does not form part of the EIA process. The Appellants are overreaching.

14.2.4 DEPARTMENT'S COMMENTS ON THE ELEVENTH GROUND OF APPEAL

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

14.3 The Department comments as follows on the submissions made in relation to the eleventh ground of appeal>

14.3.1 The CA maintains that the PPP undertaken for this project met the requirements as prescribed in Chapter 6 of the 2014 EIA Regulations.

EVALUATION AND DECISION

14.4 In my evaluation of this ground of appeal, I considered the submissions of the Appellant, the responses by the Applicant and the comments of the Department; as well as the information on record.

14.5 The Appellant, relying on EIA Regulation 41(6), submits that, while the FEIR includes a section that summarises the issues raised, the actual comments and responses of I&APs, either submitted in writing or made orally in any meetings, have not been provided to the public and that the records of correspondence with the CA or other organs of state have also not been disclosed.

14.6 The Appellants further submit that the comments of other I&APs are relevant information which is crucial to inform their own understanding of the project, and that issues or concerns raised by other I&APs or stakeholders, should be included in the documents made available for public comment.

14.7 I note the assertion by the Applicant that all I&APs who provided comments on draft documents were individually responded to in writing. The DFFE's version containing responses to all comments is only available to the CA for decision making.

14.8 Furthermore, it serves no value for these comments and responses to be shared with all I&APs as the report is subsequently submitted to the CA for final decision making and there is no further opportunity to comment thereon.

14.9 In this regard, and in the light of the above I have noted the provision of EIA Regulation 41(6) and determine that this ground of appeal is without merit and is accordingly dismissed.

15 TWELFTH GROUND OF APPEAL: FAILURE TO CONSIDER THE REQUIREMENTS OF THE (NEM:ICMA)

APPELLANTS' SUBMISSIONS ON THE TWELFTH GROUND OF APPEAL

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

15.1 The Appellant makes the following submissions in relation to the twelfth ground of appeal:

- 15.1.1 Section 63(1) of the NEM:ICMA requires a competent authority to take account of specific factors when deciding whether to grant an EA under NEMA for “coastal activities”. The authorised activity is located on coastal public property, and consequently is a coastal activity and therefore subject to the considerations of section 63.
- 15.1.2 This section requires the decision maker in deciding whether to grant an EA he or she was required to consider additional factors specified in section 63 and 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 high standard of protection given the natural functioning of the dynamic coastal processes.
- 15.1.3 Section 12 and 21 of NEM:ICMA sets out the State's obligation in relation to the management of the coastal zone, which must be taken into account in taking a decision in respect of this zone.
- 15.1.4 The FEIR contains no evidence that the factors set out in section 63 were considered or assessed. In fact, the FEIR fails to identify the applicability of section 63 at all. Set out below is Table 4-7 of the FEIR, which sets out the application of NEM:ICMA to the project. Whilst the FEIR clearly identifies that the activity is proposed to take place on coastal public property, it does not identify section 63 as applicable to the assessment:

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Table 4-7: National Environmental Management: Integrated Coastal Management Act 24 of 2008

Legislation	Section	Relates to
National Environmental Management: Integrated Coastal Management Act 24 of 2008 as amended by the National Environmental Management: Integrated Coastal Management Amendment Act 36 of 2014	Section 2	Provides for the preservation, protection and enhancement of the status of coastal public property, and secure equitable access to the opportunities and benefits of coastal public property.
	Section 13	Persons right of reasonable access to coastal public property as well as the entitlement to use and enjoy coastal public property.
	Section 58	Duty to avoid causing adverse effects on coastal environment
	Section 69	Stipulate requirements for permits to discharge effluent that originates from a source on land into coastal waters.
Relevance to the Proposed Project, Compliance and Response:		
The discharge of cooled water from the Powership operations is from the moored Powership into the sea, i.e. there is no discharge from land-based activities, therefore a coastal waters discharge permit is not required. Measures to protect the coastal environment by mitigating impacts and responding to emergency incidents are contained in the EMP.		
Further, discharge temperatures will conform to the current guideline, the South African Water Quality Guidelines for Coastal Marine Waters, Volume 1, Natural Environment and Mariculture Use (2018), i.e. the impact of the discharge temperatures must be assessed and impacts on receptors defined in the EIA		

- 15.1.5 Consequently, there was no factual investigation as required by section 63, including a determination of whether the coastal public property and the coastal protection zone would be impacted, and if so, to what extent the proposed activity is consistent with the goal of establishing or protecting those areas. The management plans that are relevant in these areas, like the Coastal Management Programme for the Western Cape Province, have also not been taken into consideration. Further, the ESIA does not, consider the interests of the affected human and marine communities in any collective way. Consequently, the interests of the whole community have not been presented to the decision-maker in the ESIA.
- 15.1.6 The Chief Director's decision makes no mention of the NEM:ICMA, and without evidence of specific consideration of these interests in the Reasons for the Decision, the Appellants are drawn to a conclusion the decision-maker has also not evaluated these interests in their decision to grant EA.
- 15.1.7 The EAP's attention was drawn to this fatal flaw in their assessment in the First and Second Appellants' comments in December 2022. Clearly, this comment was ignored.
- 15.1.8 As set out elsewhere in this appeal, the KPS project will have significant impacts on the fishing communities and on the marine environment. The Appellants submit that it is not in the interests of the whole community (from and intra- and inter-generational perspective, as well as having regard to potential impacts on living organisms in South Africa's coastal waters) to authorise this powership project.

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

- 15.1.9 The failure to identify the application of 63 of NEM:ICMA and to conduct the assessment required of this section is a fatal flaw, rendering the EIA process fatally defective.

APPLICANT'S RESPONSES TO THE SUBMISSIONS OF THE APPELLANTS ON THE TWELFTH GROUND OF APPEAL

- 15.2 The Applicant responds to the submissions of the Appellants on the twelfth ground of appeal as follows:

- 15.2.1 The Appellants have misinterpreted section 63 of the NEM: ICMA within the confines of an Industrial port and therefore its relevance to the Project. In an industrial Port such as Saldanha Bay the principal governing legislation is the NEMA and the National Ports Act and furthermore that section 63(2) of the NEM:ICMA has been repealed.
- 15.2.2 The decision was therefore correctly taken, and the law correctly applied to the decision and in the EIA phase. Harbours are specifically not part of the coastal public property as they are excluded by Section 7(2)(a)(ii) of the NEMICMA.

THE DEPARTMENT'S COMMENTS ON THE APPELLANTS' SUBMISSIONS ON THE TWELFTH GROUND OF APPEAL

- 15.3 The Department comments as follows on the submission that the Appellants made in relation to the twelfth ground of appeal:

- 15.3.1 The CA sufficiently had regard to relevant coastal management considerations, as also guided by the DFFE's Integrated Coastal Management unit, as reflected in their comments on the EIAR.

EVALUATION AND DECISION

- 15.4 In evaluating this ground of appeal, I have considered the Appellants' submissions, the Applicant's responses thereto, the Department's comments, the legislation referred to and the information on record.
- 15.5 I have specifically taken note of the fact that the project is located within an operating Industrial Port and therefore its relevance to the Project and that section 63(2) of NEMA : ICMA is incorrectly relied on by the Appellants for the submissions made in support of this ground of appeal.

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15.6 Furthermore, that the section has been repealed by section 51 of ACT 36 OF 2014.

15.7 This ground of appeal is without merit and therefore dismissed.

ADDITIONAL GROUNDS OF APPEAL OF THE SECOND APPELLANT

(In addition to the grounds of appeal lodged by the Second Appellant under the grounds of appeal referred to above, the Second Appellant has raised the additional Grounds of Appeal)

16 SECOND APPELLANT'S FIRST ADDITIONAL GROUND OF APPEAL: MISS (SIC) INFORMATION

SECOND APPELLANT'S SUBMISSION ON THE FIRST ADDITIONAL GROUND OF APPEAL

16.1 **The Second Appellant makes the following submission in relation to the first additional ground of appeal:**

16.1.1 With reference to ENCA Newslink <https://www.enca.com/videos/sas-electricity-crisis-karpowership-blasts-government>. At the end of this video the KPS spokesperson states "the ships will not be based in any fishing ports". This news link creates a false narrative and is miss (sic) information.

16.1.2 Saldanha Bay has been a small-scale fisher port for many decades.

APPLICANT'S RESPONSES TO THE FIRST ADDITIONAL GROUND OF APPEAL

16.2 **The Applicant responds as follows to the first additional ground of appeal:**

16.2.1 The Port limits and fishing rights boundaries of the Saldanha Bay Port can be found in Gazette No. 32873 (22 January 2010) on page 39. The permitted fishing areas exclude the National Port Authority Areas.

16.2.2 The permit conditions in the Interim Relief Small Scale Fishers Permit Conditions and in the Commercial Gill Drift Permit Conditions, provide that the fishing rights do not extend to the port which is under the jurisdiction of the Transnet National Port Authority.

16.2.3 The Gazetted location of the Port clearly indicates that the location of the Powership and the FSRU is in the Port, specifically along the eastern side of the Iron Ore Jetty. The proposed location of the Powership

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and the FSRU were discussed at length with the Transnet National Port Authority as the locations fall within its jurisdiction, and includes an area earmarked for future expansion of the port.

16.2.4 Furthermore, during numerous engagements with the authorities and key stakeholders, KPS was not made aware of any small-scale fishing rights or activities that have been granted by the Transnet National Port Authority to take place in the Port.

16.2.5 The location of the Powership and FSRU will not interfere with the rights of the Saldanha and Langebaan Small-Scale Fishers.

DEPARTMENT'S COMMENTS ON THE FIRST ADDITIONAL GROUND OF APPEAL

16.3 In response to the Second Appellant's submissions on the first additional ground of appeal, the Department states as follows:

16.3.1 In response to this ground of appeal, the Department stated: *"The CA cannot comment on the contents of the news interview."*

EVALUATION AND DECISION

16.4 In my evaluation of this ground of appeal, I have considered the submissions of the Second Appellant under this ground of appeal, the responses of the Applicant and the Department's comments. I have also considered the record of information before me.

16.5 The nub of the Appellant's grievance under this ground of appeal is that the Applicant allegedly made certain misrepresentation during a news interview on ENCA. This interview falls outside of the NEMA EIA process. In any case, the issue relating to the impact of the proposed project on small scale fishers has already been addressed under a previous ground of appeal.

16.6 Having considered the above, I determined that this ground of appeal is without merit and is accordingly dismissed.

17 **SECOND APPELLANT'S SECOND ADDITIONAL GROUND OF APPEAL: THREAT TO SALDANHA AQUACULTURE DEVELOPMENT ZONE / JOBS**

APPEALS LODGED AGAINST THE DECISION OF THE COMPETENT AUTHORITY TO GRANT AN ENVIRONMENTAL AUTHORISATION TO KARPOWERSHIP SA (PTY) FOR THE PROPOSED DEVELOPMENT OF A GAS TO POWER VIA POWERSHIP PROJECT, AT THE PORT OF SALDANHA, WITHIN THE SALDANHA BAY LOCAL MUNICIPALITY, IN THE WESTERN CAPE PROVINCE.

(Although the issues raised in this ground of appeal has some overlap with some issues raised by the First Appellant under their First Ground, the Second Appellant's Ground of Appeal is for convenience dealt with separately here.)

17.1 The Second Appellant makes the following submissions in relation to the second additional ground of appeal:

- 17.1.1 The Second Appellant states: *"In the interest of open and transparent communication we request that the DFFE substantiate that the Saldanha Bay ADZ is not under threat and that studies have been done to prove otherwise, and that the thermal plume will not harmfully affect the ADZ that is less than 1 km away from the Karpowership especially during mid-tide. Big Bay is an enclosed system"*.
- 17.1.2 As per the draft EIA KPS states that a thermal plume of 500 meter radius is within norms. The water temperature of Big Bay Saldanha is already at a borderline temperature for bivalve production therefore introducing a KPS that discharges water at 14 degrees Celsius greater than at intake poses a definite threat to the surrounding marine environment and thus the ADZ bivalve farming.
- 17.1.3 The Saldanha Bay Aquaculture Development Zone (ADZ) is the leading producer in the South African Bivalve Sector and is thus the flagship for bivalve production in the country. The Saldanha Bay ADZ currently has 30 active Bivalve farming companies in operation and job numbers can be requested from the DFFE. In the interest of open and transparent communication we hereby request DFFE provide a comparison of long-term jobs provided by Karpowership versus long term jobs in the Bivalve sector of the ADZ. They refer to the link: Saldanha Bay ADZ (Aquaculture Development Zone monthly report) "Saldanha Bay is considered a historically important area for fishing activity and multiple fish processing plants located therein." <https://sbwqft.org.za/adz-monthly-summary-report-13-for-april-2023/>

APPLICANT'S RESPONSES TO THE SECOND ADDITIONAL GROUND OF APPEAL

17.2 The Applicant responds to the Second Appellant's submissions under the second additional ground of appeal as follows:

- 17.2.1 The Powership is proposed within Big Bay within TNPA's Port area and outside the demarcated aquaculture areas. The Port is an active industrial Port with large vessels entering and exiting the Port.
- 17.2.2 The Aquaculture Development Zones (ADZs) in Saldanha are outside the noise impact zone of 400 m from the FPP vessels (which is predicted to experience an increase in noise of 9 dB). Given that the areas in the Bay outside of this noise impact zone are not predicted to experience any meaningful increase in

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noise due to the FPP, the ADZs will also not experience any significant elevation in noise levels. The nearest ADZ to the FPP is reserved for finfish, but it is not close enough for there to be any impact of noise on the fish, based on the results of Impact 4. The ADZs are also outside of the range of influence from the discharged cooling water.

DEPARTMENT'S COMMENTS

17.3 The Department comments as follows on the Second Appellant's submissions relating to the Second Additional Ground of Appeal:

17.3.1 A Marine Ecology Impact Assessment study was conducted as part of this project and was found to be adequate by the CA. The following was the discussion of the study:

17.3.1.1 The effects of the discharged cooling water on the marine ecology in the receiving water body was one of the impacts which were identified by the study. The operation of the Powership will involve the continuous discharge of cooling water into the sea at a depth of 8m, as recommended in the modelling reports (PRDW 2021, 2022). The seawater is discharged through multiple outlets on the vessel hull. Total intake/outlet flow rates at 100 % load are 6.61 m³ .s⁻¹ , and the increase in temperature (Δt) varies from 12 to 14°C, depending on the cycle configuration in use (PDRW 2022, Table 1 1.). The modelling results show that a smaller footprint of ΔT is achieved when discharging at a depth 8m below the water surface. The largest ΔT 's are generally found at or near the surface, while the bottom is much less affected by the temperature change due to the buoyancy of the discharge. No effects on benthos are expected. The thermal plume exceeds the 1°C ΔT guideline by 0.1°C.

17.3.1.2 Nevertheless, the plume's absolute temperature did not exceed any of the biological thresholds. Some impacts within the Zone of Initial Dilution (ZID) can be expected, but these should be limited to non-acute levels. Therefore, the probability of damage to marine ecology if guidelines are met is "extremely low" outside of the ZID but could be "low" within the ZID in that community structure may be changed, but ecological function should continue. Where exceedance of the water quality guideline was observed (beyond 100 m of the discharge point), no ecologically sensitive habitats are present, i.e., natural functions should remain unaltered. No irreplaceable loss of marine fauna or flora is expected. The assigned overall environmental significance rating is Medium-High pre-mitigation and is reduced to Medium post mitigation.

17.3.1.3 A three-dimensional (3D) hydrodynamic modelling study was undertaken by PRDW (2020,2021, 2022) to predict the extent of the thermal plume generated by the Powership at the Port Saldanha Bay Big Bay. This assumed a worst-case scenario with the Powership running at 100% and environmental conditions,

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including currents and ambient water temperature for winter and summer. The modelling results show that a smaller footprint of ΔT is achieved when discharging at a depth 8 m below the water surface. Thus, these are the recommended discharge depths. Discharging at this greater depth allows the thermal plume to entrain colder sub-surface ambient water as it rises to the surface, reducing the plume's temperature.

17.3.1.4 The study recommended the following mitigation measures with regards to thermal plume:

- cooling water is discharged into the sea at a depth of 8m, as recommended in the modelling report (PRDW 2022).

17.3.1.5 To reduce the risk of recirculation of the discharge back to the intakes, it is recommended that the discharge pipeline running down the vessel hull has a second elbow to discharge horizontally away from the vessel, and that the discharge pipes be positioned as far from the intakes as possible.

EVALUATION AND DECISION

17.4 In my evaluation of this ground of appeal, I have considered, the submissions of the Second Appellant under this ground of appeal, the responses of the Applicant and the Department's comments.

17.5 Firstly, I have taken note that the proposed development would be outside of the demarcated aquaculture area (ADZ) and will be within the Big Bay which is within the TNPA port area. I have also taken note that the proposed development would also be outside of the range of influence from the discharging cooling water. Furthermore, I note that the (ADZs) in Saldanha are outside the noise impact zone of 400 m from the FPP vessels (which is predicted to experience an increase in noise of 9 dB).

17.6 I have perused paragraph 6 of page 18 of the Baseline Aquatic Assessment report which indicated in the recommendation that considering the absence of any surface watercourses near the proposed transmission lines and the linear nature of the project it was established that there will not be any impacts on the aquatic environment, and this project can be considered for approval. It is also indicated that based on available information for the above-mentioned projects, and in terms of the potential contributing impact on the aquatic environment after consideration of this project, it is concluded that there will be no contributing impacts to other similar projects in the area.

17.7 In light of the submissions, and responses, I have determined that this ground of appeal is without merit and that this ground of appeal is accordingly dismissed.

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18 SECOND APPELLANT'S THIRD ADDITIONAL GROUND OF APPEAL: NO UNDERWATER STUDIES HAVE BEEN DONE

APPELLANT'S SUBMISSIONS UNDER THE THIRD ADDITIONAL GROUND OF APPEAL

18.1 The Second Appellant makes the following submissions under this ground of appeal:

- 18.1.1 Triplo4 has not done proper underwater studies in Big Bay Saldanha. If Triplo4 had done so they would have knowledge of the recent discovery of a cold-water reef in Big Bay Saldanha, which has built itself upon an ancient oyster fossil reef estimated to be 12 000 years old (Annexure 3 - State of the Bay Report 2022). The age of this coral reef that has built itself upon this ancient oyster fossil reef is still unknown. Triplo4 would have also known that there is a baseline benthic survey currently underway as commissioned by the DFFE in order to fully quantify this reef.
- 18.1.2 The powership will be parked upon this reef: the thermal plume and underwater sub-sonic vibrations will disorientate marine life and hereby destroy the reef's inhabitants including 22 species of plankton that for "ad infinitum" have circumnavigated the Langebaan lagoon ecosystem every 21 days (Annexure 4 - Flemming Report 1977 updated 2015). Unless proven otherwise the precautionary principle must be applied (to this ecosystem) and the KPS cannot be granted an EA until the current baseline benthic survey and present coinciding factors are concluded.

APPLICANT'S RESPONSE TO THE SECOND APPELLANT'S THIRD ADDITIONAL GROUND OF APPEAL

- 18.2 The Applicant responds as follows to the Second Appellants submissions on the third Additional Ground of Appeal:
- 18.2.1 Baseline and Underwater Noise Studies were undertaken as part of the EIA. As per Karpowership's technical team and the work performed by the Marine Engineers PRDW, the positions of Powership and FSRU had been extensively workshopped with and approved by TNPA in line with marine traffic, port planning and future expansions, making the location of this project the most suitable for long term expansion plans and port operations. Additional capacity can be made available through careful planning and/or additional infrastructure.

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18.2.2 The Underwater Noise and Marine Ecological studies indicated that the impacts of underwater noise on fish were localised, and the mobility and nature of fish species to quickly move away from areas that modify their natural conditions give them the ability to avoid the underwater noise impact.

18.2.3 The presence and importance of the calcrete reef in Big Bay is acknowledged, (the Marine Ecology Specialist recently surveyed and documented the presence of this reef in 2021/2022) and mitigation measures are proposed to avoid disturbance to this sensitive reef habitat. A long-term marine monitoring programme (which includes water quality) is provided in the Marine Ecology & Fisheries Specialist Study (Page 69, Section 4.4.3.4). In addition, the following mitigation measures were included in the Draft EMP:

- Underwater Noise – A noise impacts monitoring programme must be implemented to validate the predictions made of the impacts of the noise produced by the FPP on the marine ecology (Section 7.9.2 of the Final EMP).
- Birds – regular monitoring of marine avifaunal communities for the first year to coincide with seasonal patterns i.e., summer (migratory) and winter survey (Section 7.3.9 of the EMP). Marine Ecology Specialist, however, notes the following to be expanded in the Monitoring Programme (as per the existing EMP commitments):
 - Fish – quarterly monitoring of juvenile and adult fish communities for the first 2 years.
 - Marine mammals – quarterly monitoring of juvenile and adult fish communities for the first 2 years.
 - Benthic macrofauna – annual sampling (no intensive requirement for first years of the project).

18.2.4 All monitoring should be conducted in a comparable way, using methods already carried out within each site. This will ensure results can be robustly compared to wider studies from each of the ports and determine the effects of FPP operations at a port/bay level. For example, monitoring in Saldanha Bay should be consistent with the methods used by Anchor Environmental (Marine Specialists on this project) for the existing State of the Bay (past 15 years) surveys, and, e.g., in Coega, Baited Remote Underwater Videos are already deployed each month (PhD student, SAIAB) inside the port and we suggest continuing this/extending this research out to FPP areas to be consistent with the previous research.

DEPARTMENT'S COMMENTS

18.3 **The Department submits the following comments on the Second Appellant's third additional ground of appeal:**

18.3.1 An underwater noise impact assessment was undertaken as part of this project. The assessment was based on requirements that arose from the Minister's Appeal decisions of 1 August 2022 and comments

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received from I&APs during the initial EIA phase (2021), to address the environmental impacts of noise by the project in both the marine and terrestrial environments. The effect of noise in the terrestrial environment is dealt with in a separate report.

18.3.2 Ideally, an assessment of project noise would measure noise impacts on an actual Powership, FSRU and associated vessels operating in the Port of Saldanha Bay. As there are no Powerships and FSRU's in operation (none can be established before obtaining environmental authorisation) at the Port of Saldanha Bay and in order to provide a scientifically reliable report on which an assessment of project noise impacts on the environment can be determined by environmental specialists, interested and affected parties and the DFFE, the specialist has employed the following internationally accepted study protocol for projects of this nature, to assess the noise impacts of the project in the Port of Richard's Bay:

- Conduct a study of the existing underwater noise soundscape (baseline) in the Port of Saldanha Bay.
- Conduct an underwater noise study and assessment of a Powership of a similar class to that intended for deployment to the project in Saldanha Bay, at a Port where such a Powership is in operation and where port conditions are comparable.
- Conduct an assessment of an FSRU in terms of its noise outputs based on the FSRU equipment specifications; and
- Extrapolate the results using established scientific methods to account for differences in the port specifics at different power output levels, from studies 1, 2 and 3 above to the Port of Saldanha Richard's Bay to predict how actual noise effects from the project will interact with the existing sound levels present in the Port of Saldanha Bay.

18.3.3 The specialist visited the Port of Saldanha Bay from 05 to 07 November 2021 to sample an indicative underwater noise baseline in both Big Bay and Small Bay, on either side of the Iron Ore Jetty. The Sekondi Naval Base, Ghana, was also visited from 03 to 06 September 2022 to sample underwater noise around an operational Powership, selected for its similarity with those proposed to be deployed (sister ship) in South Africa. Based on the maximum power output of the Osman Khan (470MW), the harbour design and technical parameters considered, this Powership is of the same design class to study, in order to determine relevant noise information for the South African project. Noise aspects of an FSRU, typical to that which will be used by the project in the Port of Saldanha Bay was also assessed.

18.3.4 The study concluded that based on this assessment, no significant underwater noise impacts on fish or marine mammals are predicted as a result of the operation of the Powership in Port of Saldanha Bay as it will not materially change existing underwater noise associated with the port. No additional noise

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mitigation is deemed necessary, and this project is thus supported from an underwater noise assessment perspective.

Cumulative impacts

- 18.3.5 Based on measurements taken during the baseline monitoring exercise at Port of Saldanha, it is demonstrable that the noise levels shown (that represent the effect of Powership operations) will be exceeded by a transiting container or bulk carrier vessel moving into or out of the port, since noise levels from those existing operations were measured to be higher.
- 18.3.6 The cumulative effect of these passing vessels will be negligible due to their distance from the operational Powership and auxiliary vessels. Any risk to marine mammals or fish will be negligible. The lower order of effect defined in the guidelines, temporary threshold shift (TTS), would only occur when marine mammals of the most sensitive species (VHF cetaceans, i.e. porpoises) remained within 700 m of the Powership operating at maximum capacity for a full 24 hours. This condition of extended presence of marine mammals close to the ships in the port and maximum output is highly unlikely to occur in practice, especially considering that the Powership operations are only permitted for 16.5 hours per day. The most sensitive species of fish would need to remain directly adjacent to the Powership for the same full 24-hour period.
- 18.3.7 In the CA's view, impacts of underwater noise on the marine environment were sufficiently assessed.
- 18.3.8 The cumulative impacts of superimposing the KPS project in this environment were rated as high, according to the Marine study. None of these impacts were identified as being a fatal flaw, however, and this should not prevent the project from going ahead provided the identified benefits and positive impacts associated with the project are shown to be at least as high or higher than the negative impacts identified in this study. It must be noted that Molapong Aquaculture (Pty) Ltd had not commented in the EIA.

EVALUATION AND DECISION

- 18.4 In my evaluation of this ground of appeal, I have considered, the submissions of the Second Appellant, the responses of the Applicant and the Department's comments. In this regard:
- 18.4.1 I have noted that a baseline and Underwater Noise Studies were undertaken as part of the EIA and the location of the powership which was approved by the TNPA is the most suitable for the project.
- 18.4.2 Furthermore, the Underwater Noise and Marine Ecological studies indicated that the impacts of underwater noise on fish were localised, and the mobility and nature of fish species to quickly

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move away from areas that modify their natural conditions give them the ability to avoid the underwater noise impact.

18.4.3 The presence and importance of the calcrete reef in Big Bay was documented in 2021/2022 and mitigation measures proposed to avoid disturbance to the reef habitat. A long-term marine monitoring programme (which includes water quality) is provided for in the Marine Ecology & Fisheries Specialist Study (Page 69, Section 4.4.3.4). In addition, the following mitigation measures were included in the Draft EMP:

(a) Long term monitoring of the receiving water body and marine ecology should be implemented during construction and operation of the proposed FPP facility.

(b) control/impact approach. At a minimum the temperature of the receiving water body in the vicinity of the discharge should be monitored to validate the modelling results and to ensure compliance with the stipulated water quality guidelines.

(c) Intake velocities should be kept as close to 0.15 m/s to ensure that fish and other mobile organisms can escape the intake current. Intake velocities can be reduced through the use of footer values.

(d) Intake structures should not draw in water from the upper meter of the water column,

(e) Intake structures should ensure the horizontal intake of water.

(f) Cooling water is discharged into the sea at a depth of 8m, as recommended in the modelling report (PRDW 2022).

(g) To reduce the risk of recirculation of the discharge back to the intakes, it is recommended that the discharge pipeline running down the vessel hull has a second elbow to discharge horizontally away from the vessel, and that the discharge pipes be positioned as far from the intakes as possible.

(h) Implemented to validate the predictions of the hydrodynamic modelling study and monitor constituents of the effluent. Adaptive management, informed by monitoring results must be implemented to ensure compliance with water quality guidelines,

(i) Day, to reduce chronic exposure of noise to marine organisms. The Powership will operate for a maximum 16.5 hours a day.

(j) Maximum power output from the Powership should be avoided. Noise levels produced by the Powership are proportional to the amount of power output, so lower noise levels will be achieved with lower power capacity.

(k) In the case that a marine mammal, especially a baleen whale, is in the near vicinity i.e., within 290 m of the FPP, the Powership should not operate at maximum power output, to reduce the noise level produced and thus the chances of disturbing the animal,

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- (l) When moving in and out of the port, the LNGC should not move at maximum speed, so as to reduce the amount of noise produced by its engines.
- (m) A noise impacts monitoring programme must be implemented to validate the predictions made of the impacts of the noise produced by the FPP on the marine ecology. A baseline study of the ecology in the immediate vicinity of the FPP should be undertaken following a before-after-control-impact (BACI) approach. This should include an assessment of the local macrofauna and video surveys and fish sampling to understand the fish community in the nearshore region associated with the Powership. An assessment of the distribution and behaviour of diving seabird in the context of the Powership must also be undertaken. These surveys must be ongoing and following a sampling methodology that is robust when assessing the impacts of the noise produced by the Powership on the distributions of benthic macrofauna, fish, seabirds, and marine mammals.
- (n) The benthic communities surrounding the proposed Powership, FSRU and pipeline locations must be monitored using visual survey techniques, with a focus on extending bathymetric mapping of the calcrete reef.
- (o) Monitoring of infrastructure and general maintenance is required.
- (p) Access of infrastructure and maintenance of infrastructure and services corridor as per port's approvals and procedures.
- (q) Noise level monitoring must be performed to measure the ambient noise from the ship. The 50 dBA at 100m levels are to be maintained.
- (r) Point source emissions are to be monitored and submitted annually to SAAELIP.
- (s) Plume modelling and managing of the mixing zone to remain within the 1 degree Celsius within 100m radius.
- (t) Discharging from the powership must be as per the environmental authorisation, preferably within the deep water and/or where water circulation by tidal flushing would be maximised.
- (u) To reduce the risk of recirculation of the discharge back to the intakes, it is recommended that the discharge pipeline running down the vessel hull has a second elbow to discharge horizontally away from the vessel, and that the discharge pipes be positioned as far from the intakes as possible.
- (v) Discharges must be compliant with the South African Water Quality Guidelines for Coastal and Marine Waters (DWAF, 1995; DEA, 2018b)
- (w) All effluent and solid (general, hazardous and domestic) waste to be disposed through registered and certified service providers as per the NPA and MARPOL requirement,

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- (x) Implementation of awareness, inspections, contingency plans, compliance with port protocols and reporting of environmental incidents.
- (y) An Operations Manual for each operation, including the gas transfer process must be developed and implemented.
- (z) Operational and Emergency procedures must be implemented and adhered to.
- (zz) The Emergency Plan must be approved by the Port Authorities and must comply with the MHI Regulations.
- (aa). The visiting Ship Captains must provide Port Management with their detailed Ship to Ship Cargo Transfer Operations Manual before offloading.
- (bb). Only suitably qualified people must be used for all operations. All applicable certificates of conformance must be on site.
- (cc). Security measures must be implemented to prevent any unauthorised access.
- (dd). Environmental incident reporting to the Port & Authorities must be undertaken as per required timeframes.
- (ee). The Port Fire Department will handle all firefighting and emergencies.
- (ff). Risk reduction programmes must be continually investigated to reduce the impact from accidental fires and explosions on surrounding communities.
- (gg) The noise impact from the operating Powership and FSRU should be measured during the operational phase, to ensure that the impact is within the required legal limit.
- (hh). Install acoustic enclosures around all major noise emitting components to suppress the noise emissions from equipment such as engines.
- (ii). Install Silencers on equipment such as exhaust stacks and turbo chargers.
- (jj). In the event of a large-scale marine pollution event, every effort must be made to prevent it reaching and negatively impacting the MPA and the Langebaan lagoon.
- (kk). The FPP operator must ensure that water temperatures at 100 m from the discharge points are compliant with the Water Quality guideline ecological threshold. This will confirm the performance of the discharge system and the numerical model predictions.
- (ll). Disturbance of the seabed should be limited to the minimum area required for construction of the pipeline fixtures. The pipeline or other materials should not be dragged across the seabed.
- (mm). The powership attenuates the sound propagation to minimise any residual noise pollution issues.

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(nn). Water quality and benthic invertebrate monitoring around the area of the gas pipeline and reference sites to determine the health status of the in-situ disturbed marine environment vs. other sites

18.5 I also noted the assertions of the Department that ideally, an assessment of project noise would measure noise impacts on an actual Powership, FSRU and associated vessels operating in the Port of Saldanha Bay. However, as there are no Powerships and FSRU's in operation at the Port of Saldanha Bay the specialist employed internationally accepted study protocol for projects which included a visit to the Sekondi Naval Base, Ghana, to sample underwater noise around an operational Powership, selected for its similarity with those proposed to be deployed (sister ship) in South Africa.

18.6 The study concluded, based on this assessment, no significant underwater noise impacts on fish or marine mammals are predicted as a result of the operation of the Powership in Port of Saldanha Bay as it will not materially change existing underwater noise associated with the port. No additional noise mitigation is deemed necessary, and this project is thus supported from an underwater noise assessment perspective.

18.7 In light of the submissions, and responses, I have determined that this ground of appeal is without merit and that this ground of appeal is accordingly dismissed.

19 SECOND APPELLANT'S FOURTH ADDITIONAL GROUND OF APPEAL: CONFLICT OF INTEREST

SECOND APPELLANT'S SUBMISSIONS ON ITS FOURTH ADDITIONAL GROUND OF APPEAL

19.1 **The Second Appellant under their Fourth Additional Ground of appeal, submits that:**

19.1.1 The EA of KPS in Big Bay Saldanha (Authorisation number 14/12/16/3/3/2/2006) infringes upon Molapong Aquaculture (Pty) Ltd (Authorisation number 14/12/16/3/3/1/1728/2. So which government department has preference in Saldanha Bay? The DFFE or the DMRE?

19.1.2 The zone allocated to the KPS is within the same zone as allocated to Viking Aquaculture to farm fish, i.e. the farmed fish will be in the same vicinity as the 500-metre thermal plume which will be detrimental to Viking Aquaculture (Molapong Aquaculture (Pty) Ltd) especially at mid-tide when the waters have stilled. In this regard what is Viking Aquaculture's response?

19.1.3 To add to the above, on the 15th of January 2022, the DFFE authorised Viking Aquaculture (Molapong Aquaculture (Pty) Ltd) to farm 40 hectares of farmed (caged) fish in Big Bay Saldanha (Annexure 2) which

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in terms of date of authorisation is unlawful (Annexure 6 – South African Law EIA regulations). Authorisations must be submitted no later than the 14th of December of each year.

APPLICANT'S RESPONSE TO THE SECOND APPELLANT'S FOURTH ADDITIONAL GROUND OF APPEAL

19.2 The Applicant responds to the Second Appellant's fourth additional ground of appeal as follows:

19.2.1 As per the Marine Ecology Report (Page 61-62), The pilot phase within the bay was recently concluded and all finfish cages removed from the bay. Therefore, there is presently not active finfish mariculture in the Saldanha Bay ADZ and none planned for the foreseeable future. This is likely due to the fact that it has been determined that the majority of the sea floor below the designated Finfish area is covered by reef (~79.9%) suggesting that development of the finfish area within Big Bay is not advised.

DEPARTMENT'S COMMENTS ON THE SECOND APPELLANT'S FOURTH ADDITIONAL GROUND OF APPEAL

19.3 The Department responds as follows on the Second Appellant's fourth additional ground of appeal:

19.3.1 The cumulative impacts of superimposing the Karpowership project in this environment were rated as high, according to the Marine study. None of these impacts were identified as being a fatal flaw, and this should not prevent the project from going ahead provided the identified benefits and positive impacts associated with the project are shown to be at least as high or higher than the negative impacts identified in this study.

19.3.2 It must be noted that Molapong Aquaculture (Pty) Ltd did not comment in the EIA process.

EVALUATION AND DECISION

19.4 In my evaluation of this ground of appeal, I have considered, the submissions of the Second Appellant, the responses of the Applicant and the Department's comments, as well as the information on record. In this regard, I have taken note of the following:

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19.4.1 The comment by the Department that the cumulative impacts of superimposing the KPS project in this environment were rated as high, according to the Marine study.

19.4.2 Furthermore, the Applicant's assertion that there is presently no active finfish mariculture in the Saldanha Bay ADZ, and none planned for the foreseeable future.

19.5 In light of the above, I determine that this ground of appeal is without merit and is accordingly dismissed.

ADDITIONAL GROUNDS OF APPEAL OF THE THIRD APPELLANT

(In addition to the grounds of appeal lodged by the Third Appellant under the grounds of appeal referred to above, the Third Appellant has raised additional Grounds of Appeal)

20 **THIRD APPELLANT'S FIRST ADDITIONAL GROUND OF APPEAL: LACK OF ADEQUATE CONSIDERATION OF THE POLICY CONTEXT WITHIN WHICH THE DECISION MUST BE MADE.**

THIRD APPELLANT'S SUBMISSIONS ON THE FIRST ADDITIONAL GROUND OF APPEAL

20.1 **The Third Appellant makes the following submissions in relation to its first additional ground of appeal:**

20.1.1 The following relevant policies and strategy documents were not sufficiently considered and addressed when the Department made the decision on the application.

20.1.1.1 The Integrated Resource Plan, 2019 (IRP) makes provision for gas to power technologies to be integrated into the national electricity grid, with closed cycle gas turbine, closed cycle gas engine, and internal combustion engine specifically mentioned as technologies. The IRP includes 1000 MW in 2023 and 2000 MW in 2027, with the role of gas post 2030 still being assessed. The IRP also considers constraints in terms of gas, such as locational issues, including ports, environmental impact issues, as well as transmission infrastructure. The IRP states that the low volumes of existing local gas reserves do not likely justify the development of new gas infrastructure and power plants and as such, priority should be given to the conversion of the diesel-powered peaking plants.

20.1.1.2 The National Development Plan 2030 (NDP) explicitly acknowledges the importance of a low-carbon economy for South Africa's future. By 2030, the NDP envisages that a green economy that is low carbon, will be well underway within South Africa.

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- 20.1.1.3 The South African electricity supply is predominantly coal-based. In 2022, about 80.1% of South Africa's electricity was generated from coal, 13.7% from renewables, 4.6% from nuclear, and 1.6% from diesel. Research is increasingly providing evidence that the fossil fuel and nuclear technologies are not considered economically viable, especially in South Africa, for new electricity generation. This research advocates that future electricity generation should come from low-carbon and, preferably, renewable technologies – there is a clear transition away from fossil fuels, including gas. The notion of gas as a “transition fuel” in support of renewable energy, is no longer relevant and feasible. Considering the growth in the renewable energy sector and climate change imperatives, gas to power is no longer considered a relatively cleaner and cost-effective energy solution compared to coal.
- 20.1.1.4 South Africa's international climate change commitments are policy imperatives that must be considered in regulatory decision-making. The country's international commitments are narrowing the carbon emission space within which South Africa can operate and calls for a deliberate transition away from the use of fossil fuels for electricity generation towards renewable energy technologies.
- 20.1.1.5 The above view is based on the policy position on the procurement of electricity from a Karpowership facility for a 20-year period which was adopted by the Western Cape Cabinet in September 2023.
- 20.1.1.6 With the increased uptake of renewables through the Renewable Energy Independent Power Producer Procurement Programme, South Africa's electricity supply mix is expected to change considerably in the foreseeable future. South Africa has made strong international commitments to reduce its carbon emissions as stated in the National Climate Change Response White Paper (2011) and affirmed by our ratification of the Paris Agreement on the 1st of November 2016.
- 20.1.1.7 A significant change to the energy mix [which is responsible for 85% of greenhouse gas (“GHG”) emissions in South Africa] is required. and although nuclear energy is a very low carbon emitting fuel, this needs to be compared with natural gas and renewables as alternatives, considering costs, job opportunities, development lead times, and environmental impacts.
- 20.1.1.8 Aligning with National and Global imperatives, the Western Cape Climate Change Response Strategy: Vision 2050 describes a climate future that the Western Cape Province will strive towards. It is centred on a vision and four guiding objectives defining the direction of climate change response action for the region, with corresponding targets and actions. Objective 2 particularly, which looks at transitioning in an equitable and inclusive manner to net zero

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emissions by 2050, is relevant here. The net zero by 2050 goal is also found in the 2023 Western Cape Growth for Jobs Strategy which together with energy resilience, makes up Priority Focus Area 3.

- 20.1.1.9 The Appellant is also finalising a 2050 Emissions Pathway analysis, which is focussed on modelling mitigation measures that will support the achievement of the net zero emissions by 2050 goal. As the majority of the GHG emissions in the Western Cape are generated through energy use, there is a strong focus on shifting away from fossil fuels as energy sources, including coal, gas and other liquid fuels. This will require not only shifts in the energy use, but also shifts in the way new developments are planned to allow for the uptake of renewable and other clean energy sources. The role of gas as a transition fuel is therefore seen as a potential challenge as it does not align with the net zero future that the Western Cape is aiming for.

APPLICANT'S RESPONSES TO THIRD APPELLANT'S FIRST GROUND OF APPEAL

20.2 The Applicant responds as follows to the Third Appellant's first additional ground of appeal:

- 20.2.1 This ground of appeal is based on the Third Appellant's view that the project is neither necessary nor desirable in that the decision does not take into consideration policies and strategies with aspirations for the deployment of renewable energy sources rather than gas power facilities.

- 20.2.2 Sections 146, 147 and 148 of the Constitution state that National Legislation must prevail. This is enforced by the fact that the Appellant was legally obliged to participate in the EIA process and as an organ of State should have made its views clear to the DFFE in terms of the principles of co-operative Governance enshrined in Section 41(1) of the Constitution. In particular, by lodging this appeal and by failing to carry out the principles of co-operative governance, the Appellant has failed in its Constitutional duties in terms of Section 41(1) of the Constitution to respect and abide by the decision of the DFFE to authorise the KPS project as it has failed its Constitutional duties by breaching the following sections of Section 41(1) of the Constitution, the Appellant has failed to:

- (a) respect the constitutional status, institutions, powers and functions of government in the other spheres;*
- (b) not assume any power or function except those conferred on them in terms of the Constitution*
- (c)*
- (d) exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere; and*
- (e) co-operate with one another in mutual trust and good faith by*
- (f) fostering friendly relations;*

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(ii) assisting and supporting one another;

(iii) – (v) ...

(vi) avoiding legal proceedings against one another.”

20.2.3 On this basis alone, the appeal must fail.

20.2.4 It (KPS) responded to the South African Government's Request for Proposals (RFP) for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred bidder status. There is a need to provide context around the objectives, design and the outcome of the RMIPPPP.

Objectives of the RMIPPPP

20.2.5 The 2 000 MW Ministerial Determination that was gazetted on 7 July 2020, following NERSA public consultation and concurrence, has two objectives, namely, to procure technology agnostic dispatchable new generation capacity:

- from a range of source technologies to address the electricity capacity supply gap as identified in the IRP2019; and
- to reduce the extensive utilization of expensive diesel-based peaking open cycle gas turbine (OCGT) generators in the medium-to-long-term.

20.2.6 The RMIPPPP was therefore designed with these two objectives in mind. It is important to understand from the outset that this procurement cannot be compared with other Bid Windows procured by the DMRE where specific technologies were targeted. The performance specifications of the RMIPPPP were stipulated by the Transmission System Operator (TSO) which, among others, included the need for each Project to be dispatchable between 05:00 and 21:30 daily in response to the instruction from the TSO.

20.2.7 This ground of appeal fails to take into account the positive aspects of the Project such as the positive contribution of the Project to alleviating loadshedding, reducing Eskom's dependency on diesel generators, increasing dispatchable power and facilitating more renewable energy which can be brought onto the grid.

20.2.8 What is important to note is that renewable energy has extremely low dispatchability potential during these periods owing to its intermittency which is an inherent drawback of the technology at this time and is a fact that the Appellant refuses to internalize in its arguments.

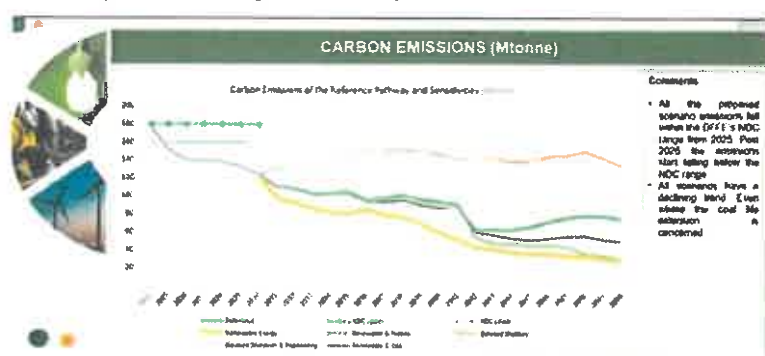
20.2.9 Unlike traditional synchronous generators, which can be dispatched at will, renewable energy generation is dependent on weather conditions and natural cycles. As a result, these sources of energy are not always available or consistent, leading to periods of high production followed by lulls or even complete stoppages.

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- 20.2.10 The intermittency of renewable energy poses a significant challenge for grid operators and energy planners. It requires careful balancing of supply and demand, as well as the integration of various energy storage and grid management technologies to ensure a stable and reliable power supply which remain undeveloped at this time. Battery storage technology is indeed still limited, and further research and development (R&D) is needed to address its limitations and improve its capabilities. While batteries have made significant progress in recent years, there are several areas where advancements are required, most all the limited amount of storage capacity. It is important to note that the usable capacity of a battery may be less than its total capacity due to factors like battery degradation and system inefficiencies. Energy storage technologies can be expensive to develop, implement, and maintain. This cost can make it difficult for these technologies to be widely adopted and accessible to the general public.
- 20.2.11 Natural gas is considered a transition fuel or bridge fuel in the transition from fossil fuels to renewable energy sources. It is cleaner than coal and oil and has lower carbon emissions when used for electricity generation. It can serve as a substitute for more polluting fuels in power plants and industrial processes. When burned, natural gas emits about half the amount of carbon dioxide (CO₂) than coal and about 30% less than oil. Additionally, natural gas combustion produces minimal levels of other air pollutants such as sulphur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter (PM).
- 20.2.12 There is no reason why gas cannot be used to support and enable this transition. Renewable energy sources are not dispatchable, and the national grid is under immense strain, requiring stability extremely urgently. The RMIPPPP and the case for gas to power is in line with the IRP 2019 [inclusive of the latest 2023 draft indicative of additional gas as part of the energy mix] , which was published following the government's own research and public consultation.
- 20.2.13 Gas powered generators can be used to support the intermittency of renewable energy sources by providing a backup source of power during periods when renewable sources are unable to generate electricity. Here are some ways gas generators can be utilized:
- **Grid stabilization:** Gas generators can help stabilize the electrical grid by quickly ramping up or down their power output to compensate for fluctuations in renewable energy generation. This can help maintain a steady supply of electricity to meet demand.
 - **Peak shaving:** Gas generators can be used during peak demand periods when renewable energy sources might be unable to meet the high electricity requirements. By supplementing with gas generators, the strain on renewable sources can be reduced.
 - **Emergency backup:** Gas generators can provide a reliable backup power source during times when renewable energy generation is unavailable, such as during extended periods of low wind or sunlight. This ensures that critical functions and services have access to electricity.

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20.2.14 Contrary to the conclusion reached by the Appellant regarding the desired energy mix for South Africa and in particular the Western Cape, the national government via the Department of Mineral Resources and Energy (DMRE) has reached its own conclusions on the deployment of natural gas as part of the energy mix and determined its own view for the energy future of South Africa as is its mandate which support the need and desirability of the project and outlines a new strategy pathway for the country, dispelling justifications by the Appellant why the project is not is neither necessary nor desirable based on its negative view on gas and its aspirations for renewables.



20.2.15 Furthermore, as per the updated draft IRP 2023, all the proposed scenario emissions inclusive of an increased share of energy from gas fall within the DFFE's NDC range from 2025. Post 2026 the emissions start falling below the NDC range. All scenarios have a declining trend. Even where the coal life extension is concerned. The graphic depicted above from the DMRE IRP 2023 public consultation presentation clearly shows this. The Appellants' position on SA not honouring its decarbonisation commitments are therefore unfounded.

20.2.16 The DMRE has published the draft Integrated Resource Plan for 2023, outlining its plans to resolve South Africa's energy crisis and bring an end to load shedding.

20.2.17 The IRP considers two time horizons. Horizon One is for 2023–2030 and focuses on stabilising South Africa's electricity supply to end rotational power cuts.

20.2.18 Horizon Two is the plan for 2031–2050 to ensure South Africa has sufficient generating capacity to meet demand for the coming decades.

20.2.19 For the near-term plan, the IRP considers two Eskom energy availability factor assumptions.

20.2.20 The first assumes that power station availability will hover around 50% until at least 2030, while the second assumes plant performance will recover to 67% by 2025.

20.2.21 The updated energy blueprint envisions more than 100 gigawatts of new generation capacity being built by 2050 and proposes that a variety of technologies and fuels be considered to produce it, including gas, solar, wind, nuclear and coal.

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- 20.2.22 It is a well-known fact that South Africa lacks a reliable electricity supply, resulting in frequent blackouts that have crippled the economy.
- 20.2.23 The IRP 2023 maps out multiple scenarios, such as a "least cost" plan to produce 105 gigawatts of power, and another that sees 166 gigawatts being generated from wind, solar, gas and battery storage.
- 20.2.24 The DMRE as the preeminent authority on matters relating energy for the country has clearly made its position clear that the *"Energy pathways based on renewable energy technologies only deliver the desired outcome in so far as decarbonizing the power system and that these pathways do not provide security of supply, while carrying the highest cost to implement."*
- 20.2.25 The IRP anticipates electricity demand and seeks to provide electricity supply technologies that can meet that demand over the medium term.
- 20.2.26 A blend of coal, gas, nuclear, renewable energy, battery storage and other technologies have been presented in the IRP's energy mix to better ensure the security of supply at an affordable cost, while at the same time reducing the country's carbon footprint.
- 20.2.27 The blueprint envisions these additional megawatts being added to the grid by 2030:
- **6,000MW of gas — 3,000MW from Eskom, and 3,000MW from independent producers**
 - 1,500MW of photovoltaic solar
 - 3,000MW of wind
 - 2,000MW of battery storage, to be constructed by 2027
- 20.2.28 While renewable energy received focus in the document, there was an emphasis on prolonging the life of Eskom's coal fleet beyond their scheduled decommissioning dates, and a call to start investing in gas-to-power technologies.
- 20.2.29 For the period 2031–2050, the IRP considers five different pathways. These are a reference case, transitioning the power system to renewables (including and excluding nuclear), delaying the shutdown of coal power stations, and deploying cleaner coal technologies with renewables.
- 20.2.30 The reference case is the cheapest path with a total system cost of R5.9 trillion and allows South Africa to choose technology combinations without restrictions.
- 20.2.31 It should be noted that the total system cost includes the cost of unserved energy (COUE), which is by far the greatest component of the overall figure.
- 20.2.32 Transitioning the power system to renewables builds the newest generation capacity by 2050 and is the most expensive option at R8.4 trillion.
- 20.2.33 However, according to the IRP, this has the lowest security of supply (the highest unserved energy) — with or without new nuclear power being built.
- 20.2.34 Including nuclear in the renewable transition lowers the total system cost to R6.3 trillion.

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20.2.35 The Appellant should also be advised on the inherent environmental, health and safety and humanitarian aspects of bringing renewable energy technologies as advocates for these energy sources punt these technologies as ultra clean and green technologies, which is grossly untrue and misguided exposing their obvious lack of independent judgement and staggering hypocrisy.

20.2.36 Mining rare earth metals for renewable energy technologies such as wind turbines, solar panels, and electric vehicle batteries can involve several human rights concerns. Some of the violations associated with this process include:

- Forced labour: In some countries where rare earth metals are mined, there have been reports of forced labour and human trafficking. Workers, including children, are forced to work in dangerous conditions with little or no pay.
- Lack of worker safety: The mining of rare earth metals can be hazardous due to the exposure to toxic and radioactive materials. Miners often lack adequate safety equipment, resulting in health issues such as respiratory problems, cancer, and birth defects.
- Land rights violations: Indigenous communities and local farmers often face land dispossession and displacement due to mining operations. Their traditional lands, which are rich in rare earth metals, might be seized without their consent, causing social and cultural disruptions.
- Environmental degradation: Mining rare earth metals can lead to significant environmental damage, including deforestation, habitat destruction, and water pollution. Toxic chemicals used in the extraction and processing phases can contaminate local water sources, threatening the health and livelihoods of nearby communities.
- Corruption and conflict: Rare earth mining operations are vulnerable to corruption and can fuel conflicts in regions where governance is weak. The race to control and exploit these valuable resources often leads to social unrest, corruption, and human rights abuses.

20.2.37 The issue of procurement constraints speaks to the strategic and environmental objectives of the government of South Africa which also speak to the political economy reality in the context of the just energy transition. Therefore, the procurement constraints should be dealt within the context of their impact in achieving the strategic and environmental objectives of the IRP2019 and RMIPPPP. The fact that renewables face higher costs due to these procurement constraints speaks to their ability to meet these strategic and environmental objectives.

20.2.38 South Africa takes an integrated approach to economic planning, environmental management and sustainable development. Sustainable development is defined as: “the integration of social, economic and environmental factors into planning, implementation and decision making so as to ensure that development serves present and future generations”. The approach takes a polycentric view to

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sustainable development and emphasizes social, economic, environmental and political economy factors that are crucial for sustainable development. A polycentric view allows for more than one centre of development or control, which allows various stakeholders to play their part or cooperate towards the central objective of sustainable development. Failure to factor in all these factors leads to precisely the narrow cost- and technology-based comparison which does not integrate all strategic and environmental factors.

- 20.2.39 Throughout the PESA report the central thread is that gas-to-power is a viable option that takes into consideration the immediate needs for electricity security and the imperative for decarbonisation. In this context gas-to-power is a transitional source of energy that can assist in South Africa's transition towards net zero. The comparison made by the Meridian report does not make a fair comparison of the immediate potential of achieving decarbonisation and immediately dispatchable power through the conversion of old coal-fired generation stock into OCGT-powered plants. Nor does the study make a fair comparison between the immediate gains for electricity generation and decarbonisation through the Powerships, when evaluating the 100% renewables versus relying on gas-to-power in the transition. Relying on gas-to-power in the transition will clearly realise immediate gains of securing electricity and decarbonisation. The 100% renewables approach can only deliver immediate gains for decarbonisation and can only resolve electricity supply shortages in the medium-term once construction and connection to the grid is completed. The Powerships are ready to deliver on decarbonisation of electricity supply from day-one.
- 20.2.40 In any event, the Project is a response to the RMIPPPP which is a DMRE and South African Government Programme. Should the Appellant wish to challenge the RMIPPPP, then this is the incorrect platform for such a challenge.
- 20.2.41 The estimated cost of loadshedding is R 900 million per day to the South African economy. According to central bank estimates Eskom's latest energy availability factor shows the power utility's performance is rapidly declining, with big problems ahead to keep the lights on. Analysts revealed that Eskom's EAF for the first 19 weeks of the year declined from 58.79% in 2022 to 52.56% in 2023 and falling.
- 20.2.42 The estimated cost of loadshedding is R 900 million per day to the South African economy. According to central bank estimates Eskom's latest energy availability factor shows the power utility's performance is rapidly declining, with big problems ahead to keep the lights on. Analysts revealed that Eskom's EAF for the first 19 weeks of the year declined from 58.79% in 2022 to 52.56% in 2023 and falling.
- 20.2.43 While outages have affected the country for about 15 years, Africa's most industrialized economy is now experiencing its worst bout of power rationing. Eskom's poor operational performance was one of the reasons for the unprecedented levels of load shedding during the past year, and at huge cost to the economy.

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- 20.2.44 Out of the 312 days that have passed in 2023, South Africans have only enjoyed 12 days without load shedding as these power outages reach unprecedented levels in the country. 2024 has just begun and has already been plagued by loadshedding which may persist for the next 7 years according to the latest Draft IRP 2023.
- 20.2.45 Eskom's latest annual report, which covers the period from 1 April 2022 to 31 March 2023, states that, during this financial year, South Africans had experienced 280 days with load shedding. This is in comparison to the 2021/2022 financial year in which load shedding was implemented for 65 days during the same period (although the full year saw 205 days of load shedding).
- 20.2.46 According to Eskom, the current state of South Africa's electricity supply is precarious, and the power utility company predicts that load shedding in 2024 may be even worse. Eskom cites aging infrastructure, lack of regular maintenance, and delays in implementing new power generation projects as the main reasons behind this forecast. Load shedding is expected to continue until sufficient new power generation capacity is added to the grid.
- 20.2.47 The lack of grid capacity is the biggest hurdle in deploying the renewables which is acknowledged widely by both the government and industry, meaning that the increasing output from renewable energy will ultimately be stranded.
- 20.2.48 Eskom's grid is under increasing pressure from the rapid growth in private generation projects, with the Eastern, Western, and Northern Cap having no capacity to add new generation projects.
- 20.2.49 This was revealed in Eskom's Generation Connection Capacity Assessment of the 2025 Transmission Network.
- 20.2.50 South Africa's grid is designed to carry electricity from large, central power stations in the country's northeast to other parts. Renewable energy generation is decentralised, with generation facilities located almost anywhere.
- 20.2.51 The areas, such as the Western Cape, Eastern Cape, and Northern Cape, which have rich renewable resources, do not have the grid capacity to distribute electricity to the rest of the country.
- 20.2.52 The grid in these areas can only carry limited load, which is insufficient for large-scale projects.
- 20.2.53 Chief engineer at Stellenbosch University's Centre for Renewable and Sustainable Energy Studies, Monique Le Roux indicated that this would become a problem in other provinces if the rapid growth continued and Eskom does not upgrade the grid, inherently threatening the stability of the grid.
- 20.2.54 It's well known that the Northern Cape no longer has any available grid capacity. However, in the recently awarded BW6, it became evident that neither do the Eastern and Western Cape corridors, popular for their abundant wind resource. The result was the curtailment to the initially envisaged BW6 capacity. About 23 wind projects were not successful as they were located in areas where there was no more grid capacity to accommodate them.

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- 20.2.55 A consultation paper released recently by Stellenbosch University's Centre for Sustainability Transitions and the Centre for Renewable and Sustainable Energy Studies, and the Blended Finance Task Force further highlighted that grid capacity must be expanded eight times faster than the current rate – this is up from 300km per year to 2 300km per year.
- 20.2.56 Even though, Eskom's grid-related investment plans had been "moderated" in light of financial constraints and that a significant amount of additional investment would be required to accommodate the new generation outlined in the Integrated Resources Plan of 2019 (IRP2019). The prevailing lack of grid capacity persists due to a lack of financing.
- 20.2.57 Eskom acknowledges that transmission constraints remain an obstacle to the introduction of new renewables generation. The latest TDP points to the need for the construction of 14 218 km of new high-voltage transmission lines by 2032, as well as the deployment of 170 transformers, with a capacity of 105 865 MVA, along with 40 capacitors and 52 reactors which comes with a significant capital investment requirement and the requisite time to navigate through arduous land acquisition and EIA processes.
- 20.2.58 According to the CSIR, it would take ten years to execute essential infrastructure projects to upgrade Eskom's power grid.
- 20.2.59 Although solar and wind power plants could be built, the grid itself doesn't have the capacity to bring power from where it's generated to where it's needed. While this situation persists, Loadshedding is costing South Africa \$51 Million a Day according to the Central Bank, while the Reserve Bank sees outages occurring for 250 days in 2023. In light of this, the Central bank has cut economic growth forecasts through 2025.
- 20.2.60 Furthermore, it has been nearly a decade of waning foreign interest in South African stocks, with outflows exceeding \$50 billion in that time.
- 20.2.61 Last year was the eighth year in a row that foreign investors dumped South African equities — a record-long streak — selling stocks worth \$8.3 billion (R155 billion).
- 20.2.62 That took the total since 2016 to \$53 billion (R990 billion), based on data reported by exchange operator JSE.
- 20.2.63 The past decade has been a poor one for emerging markets as a whole, with MSCI's benchmark index notching a gain of just over 3%.
- 20.2.64 Yet the benchmark index in Johannesburg has done worse, losing almost 6% in dollar terms.
- 20.2.65 The rand, meanwhile, has fallen 42% in this time, a contrast with other developing nations where currencies have generally outperformed stock markets.
- 20.2.66 Foreign investors have been wary of South Africa following an energy crisis.
- 20.2.67 Quite relevant to the need and desirability of the project is also relates to the closure of Saldanha Steel owned by Arcelor Mittal as a result of lack of reliable and consistent energy supply in the region. The

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impact of the closure of the Saldanha steel manufacturing plant in 2020 continues to cause hardship in the West Coast town despite promises of a revival.

- 20.2.68 Hundreds of people lost their jobs, both at the plant and at downstream businesses, in Saldanha and neighbouring towns, and many see no way forward.
- 20.2.69 Reviving the Saldanha Steel is strongly reliant on the existence of a reliable energy source. Karpowership seeks to assist South Africa to improve its energy availability and security.
- 20.2.70 It's important to note that while South Africa has these initiatives and frameworks in place, the country still heavily relies on coal for electricity generation, and transitioning to a low-carbon economy remains a significant challenge. However, there is a growing commitment from the government and various stakeholders to address climate change and accelerate decarbonization efforts.
- 20.2.71 South Africa relies heavily on coal for its energy needs, with coal-fired power plants playing a significant role in electricity generation. A sudden and abrupt shift away from coal could have severe economic consequences, including job losses in the coal mining and energy sectors. Therefore, a gradual transition allows for a smooth adjustment, providing sufficient time for alternative energy sources to be developed and for affected industries to adapt. Gas provides this bridge. As part of the gradual decarbonization process, South Africa should focus on diversifying its energy sources. This can include increasing the share of renewable energy, such as solar and wind power, in the energy mix. Investing in research and development of new technologies, such as energy storage systems and advanced solar panels, can also accelerate the transition towards a low-carbon economy.
- 20.2.72 The GHG emissions from this Project contribute to the global stock of greenhouse gases and cannot do so to increase the isolated levels of CO₂ in the Western Cape. The climate change impact in the Project area is caused by this global stock. The contribution therefore that this Project will make to the global stock of GHG emissions is miniscule in relation to the global GHG emissions stock, and there will be no observable relationship between the implementation of the Project in this area, and the climate change impacts in the area.
- 20.2.73 A just transition ensures that the burdens and benefits of decarbonization are shared equitably across society. It involves actively addressing the social and economic impacts on workers, communities, and vulnerable groups affected by the shift away from fossil fuels. This can be achieved through the creation of alternative employment opportunities, reskilling and retraining programs, and providing support for affected communities to diversify their economies.
- 20.2.74 The deployment of Powerships in Saldanha Bay will not prevent the Western Cape government from developing its own renewable energy projects. Karpowership responded to the South African Government's Request for Proposals (RFP) for the Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP) and has been awarded preferred bidder status.

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DEPARTMENT'S RESPONSE TO THIRD APPELLANT'S FIRST ADDITIONAL GROUND OF APPEAL.

20.3 The Department responds as follows to the Third Appellant's additional ground of appeal:

20.3.1 The CA is of the view that the policy context within which the decision must be made was considered adequately.

20.3.2 A climate change impact assessment was undertaken as part of this project. The specialist concluded that the assessment of the climate change impact of this project has been done on the impact of the project on climate change, the resilience of the project to climate change, as well as the options for mitigation of the impacts. The impact of the project on climate change was assessed in the context of both GHG emissions from the project, as well as the potential positive impact the project will have for the transition to a low-carbon economy. The project will emit 22 million tons of CO₂e over its lifetime if it runs at 100% of the contracted capacity. We note that the RMIPPP RFP states that the power from the plant must be dispatchable at required of the grid operator and requires that the plant bid into this program must be capable of stable operation at 25% of the contacted capacity. Should the plant run at this level, the total emissions of the plant over its lifetime will be 5.5 million tons CO₂e.

20.3.3 In the Competent Authority's view, climate change impacts were sufficiently assessed.

EVALUATION AND ASSESSMENT

20.4 In my evaluation of this ground of appeal, I considered the submissions of the Appellant, the responses of the Applicant and the comments of the Department. I also had regard to the information in the appeal record. In this regard:

20.4.1 I take note of the assertion by the CA that climate change impacts were sufficiently assessed and that the policy context within which the decision must be made was adequately considered.

20.4.2 A climate change impact assessment was undertaken as part of this project which concluded and assessed in the context of both GHG emissions from the project, as well as the potential positive impact the project will have for the transition to a low-carbon economy.

20.4.3 That the project is in response to the RMIPPPP RFP issued by the DMRE. Furthermore, the RMIPPPP and IRP 2019 [inclusive of the latest 2023 draft indicative of additional gas as part of the energy mix] was considered and which is in accordance with the country's JET and commitments under the Paris accord for transitioning to a decarbonised economy in line with the NDP.

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20.5 Having regard to the above, I determined that this ground of appeal is without merit and is accordingly dismissed.

21 THIRD APPELLANT'S SECOND ADDITIONAL GROUND OF APPEAL: THE FAILURE TO SPECIFY THE DURATION OF THE AUTHORISATION.

THIRD APPELLANT'S SUBMISSIONS ON ITS SECOND ADDITIONAL GROUNDS OF APPEAL

21.1 The Third Appellant submits, in relation to its second additional ground of appeal, as follows:

21.1.1 The failure to specify the duration results in a failure to determine the full extent of the impacts. It fails to take into account the policy context and thus the need and desirability of the project and therefore does not comply with regulation 18 of the EIA Regulations, 2014 (as amended).

21.1.2 It follows that the Department, in reaching a decision, also failed to adequately consider need and desirability.

APPLICANT'S RESPONSE TO THIRD APPELLANT'S SECOND ADDITIONAL GROUND OF APPEAL

21.2 The Applicant responds as follows to the Third Appellant's second additional ground of appeal:

21.2.1 The EIA and all related assessments conducted have fully met the Department's Guideline on Need and Desirability in terms of the 2014 EIA Regulations. The averment that the report does not satisfy these requirements are rejected outright.

21.2.2 The full extent of impacts was assessed in the specialists' studies, including the worst-case scenario in terms of duration. E.g. significance scoring with respect to duration, basing it on the length of the project (20 years) is a conservative approach undertaken. If the duration was based on ecological or biological thresholds, the significance would have been less.

21.2.3 The duration of the impact is the period during which the impact may occur. The scoring of duration was done in a conservative and precautionary approach. Although the duration is 20 years, i.e. not permanent, the highest scoring for duration (i.e. 5) was determined for both Beyond 10 years (i.e. 20 years) and/or Permanent.

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DEPARTMENT'S COMMENTS TO THIRD APPELLANT'S SECOND ADDITIONAL GROUND OF APPEAL

21.3 In response to this ground of appeal, the Department submits as follows:

21.3.1 The duration of the EA was not specified, as the Department could not specify when the powership must cease to produce electricity. This factor is considered through the DMRE procurement process.

EVALUATION AND DECISION

21.4 In my evaluation of this ground of appeal, I have considered the submissions of the Appellant, the responses of the Applicant and the comments of the Department. In this regard:

21.4.1 The appellant contends that as the EA does not specify the duration thereof, there has been a failure to determine the full extent of the impacts and a failure to take into account the policy context and need and desirability of the project.

21.4.2 I note the assertion by the Department that the duration of the EA was not specified, as the Department could not specify when the powership must cease to produce electricity which is considered through the DMRE procurement process.

21.4.3 Furthermore, the EIA and all related assessments conducted have fully met the Department's Guideline on Need and Desirability in terms of the Environmental Impact Assessment Regulations.

21.5 In light of the above, I determine that this ground of appeal lacks merit and is accordingly dismissed.

22 DECISION

22.1 In reaching my decision on this appeal, I have taken the following into consideration:

22.1.1 The application for the EA lodged on 30 August 2023;

22.1.2 The information contained in specialist studies contained in the appendices of the BAR dated 30 August 2023;

22.1.3 The CA's decision dated 14 November 2023;

22.1.4 The appeals submitted on behalf of the appellants on 13 and 14 December 2023, respectively;

22.1.5 The responding statement submitted by the Applicant on 22 January 2024; and

22.1.6 Comments by the Department on 13 February 2024.

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- 22.2 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.
- 22.3 Having carefully considered the information mentioned in paragraph 22.1 above and having had due regard to the change in circumstances since the submission of the applicant's application for an EA, I deem it appropriate to set aside the decision taken by the CD:IEA within the Department on 14 November 2023, to grant an EA to the Applicant for the development of a gas to power via Powership Project, within the Port of Saldanha.
- 22.4 In arriving at my decisions in this internal appeal, I have not responded to every statement set out in the appeal. However, where a particular statement is not directly addressed, the absence of such a response thereto, should not be misconstrued to mean that I agree with or abide by the statement made out in the appeal.
- 22.5 Should any party be dissatisfied with any aspect of my decision, they are at liberty to approach a competent court of law to have this decision judicially reviewed. The judicial review proceedings ought to be instituted within 180 days of notification hereof, in accordance with the provisions of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000).



DR DION GEORGE, MP

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

DATE: 4 / 11 / 2024