		Date:	31 January 2024
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Dear Sirs

RE: Provision of Specialist Services for Offshore Bunkering and Ship to Ship Transfer of Liquid Bulk in the Nelson Mandela Bay Ports: Environmental Risk Assessment & Management Plan (November 2023) | Biodiversity Law Centre Comments

1. Introduction

1.1. The Biodiversity Law Centre (**BLC**) is a non-profit organization and law clinic, registered in 2021. Our vision is flourishing indigenous species and ecosystems that support sustainable livelihoods in Southern Africa. The BLC's mission is to use the law to protect, restore and preserve indigenous ecosystems and species in Southern Africa. Of key concern to the BLC, are the biodiverse and vulnerable ecosystems

found in Algoa Bay which support, *inter alia*, two of the seven African Penguin breeding sites in South Africa.[1]

1.2. Working with our partners in the conservation sector, including BirdLife South Africa (**BLSA**) and SANCCOB, we have sought to engage with the Minister of Forestry, Fisheries and the Environment (**Minister**), her department (**DFFE**), representatives of the Transnet National Ports Authority (**TNPA**) based at the Port of Ngqura, the South African Maritime Safety Authority (**SAMSA**) and yourselves regarding various aspects of offshore bunkering operators – in particular in relation to gaps in the regulatory regime; lack of clarity regarding operator licences and the critical impact of ocean-based noise exacerbated by bunkering activities on African Penguin breeding populations. We emphasise that we not only have particular concern for the population health and species survival of the African Penguin, but also for the proper operation of law and adherence by private and public entities to the obligations imposed by section 24(b) of the Constitution.

1.3. It is in this context that we provide our comments on the Draft Provision of Specialist Services for Offshore Bunkering and Ship to Ship Transfer of Liquid Bulk in the Nelson Mandela Bay Ports Environmental Risk Assessment & Management Plan dated November 2023 (**ERA**), including its three Appendices, namely: (1) the Marine and Coastal Ecological Risk Assessment (**MCERA**); (2) the Sound Transmission Loss Modelling (**Noise Assessment**); and (3) Socio-Economic Impact Assessment (**SEIA**). The Environmental Management Plan (**EMP**) appears as paragraph 8 of the ERA. In light of the holiday period, the BLC sought and was granted an extension of time provided by the original comment period until 31 January 2024.

1.4. The comments below pay particular regard to the utility of the ERA as a basis for decision-making by TNPA which has commissioned the study, noting the legal context in which TNPA operates,[2] the Scope of Works set out in Part C3 of Tender TNPA/2022/06/0489/5185/RFP (**SoW**) and TNPA's objectives of identifying and mitigating the risks arising from offshore bunkering (**bunkering**) and ship-to-ship transfer of liquid bulk (**STS Transfer**) in Algoa Bay and developing appropriate regulatory plans and procedures.[3]

1.5. In this regard, we have significant concerns regarding the approach taken in the ERA, its ability to rationally and comprehensively inform TNPA's guidelines, permit conditions, standard operating procedures and other regulatory instruments. Similarly, the ERA does not give adequate consideration to the necessary role of other

[1] See ERA p 1.
[2] This includes the National Ports Act, 12 of 2005 as recognised in the ERA p 1 and pp 16-17 but also the specific environmental obligations imposed by the National Environmental Management Act, 107 of 1998 (**NEMA**), and in particular the principles contained in section 2 of NEMA which apply to "*actions of all organs of state that may significantly affect the environment"* (see section 2(1) NEMA) as well as the obligations under section 24(b) of the Constitution read with the section 7(2) Constitutional obligation to "respect, protect, promote and fulfil" the rights in the Bill of Rights (which includes section 24).
[3] ERA p 2; SoW pp 9-12.

organs of state (such as SAMSA and the DFFE) who are in fact the public entities authorised to implement certain of the recommended mitigation measures. **Read as a whole, the documentation published for comment strongly indicates that bunkering and STS Transfers should not be carried out in Algoa Bay.** At a very minimum, the ERA and its Appendices confirm the need for the rigour of environmental impact assessment – and in its absence – for the continuation of the existing moratorium on new licences, if not the cessation of all bunkering and STS transfers pending proper investigation. There is certainly sufficient evidence collated through the ERA that any bunkering operator should be required to carry out environmental impact assessments prior to be granting an operator's licence or renewal thereof.

1.6. Our key concerns are summarised at paragraph 2 below. Thereafter, we set out:

1.6.1. General Comments (paragraph 3);

1.6.2. Comments relating to the Governance Framework set out in Section 4 of the ERA (paragraph 4);

1.6.3. Specific comments relating to aspects of the MCERA (paragraph 5);

1.6.4. Specific comments relating to the approach taking to noise impact assessment across the ERA, MCERA and Noise Assessment (paragraph 6);

1.6.5. Specific comments relating to the approach taken to the SEIA (paragraph 7); and

1.6.6. Recommendations in light of our review of the ERA and its appendices (paragraph 8).

2. Summary of Key Concerns

2.1. Offshore bunkering and STS Transfer operations pose inherently high risks to the receiving environment. This is reflected in the findings of the ERA which indicate that key impacts are not capable of mitigation and thus offshore bunkering and STS Transfers should not occur in Algoa Bay (see paragraph 3.1 below).

2.2. The ERA has been carried out in a regulatory vacuum and in the absence of the applicability of the Environmental Impact Assessment Regulations, 2014 (**EIA Regulations**). As set out in paragraph 3.2 below, the ERA reflects the critical need for offshore bunkering and STS Transfers to be including in the EIA listing notices. The absence of a recommendation to this effect is a critical omission.

2.3. No clear recommendations are provided and the TNPA is put in the position of having to assume the DFFE's role as guardian of biodiversity, without the appropriate statutory mandate (see further paragraph 3.3 below).

2.4. The EMP is not fit for purpose (see further paragraph 3.4 below).

2.5. The ERA does not facilitate rational decision-making by TNPA regarding avoidance or mitigation of environmental impacts of offshore bunkering and STS Transfer operations within the lawful scope of its powers (see further paragraph 3.5 below).

2.6. Critical information is absent from the ERA and its appendices, including but not limited to the HAZOP assessment; oil spill modelling report and carrying capacity assessment. In the absence of the underlying studies, it is difficult to assess the summaries provided in the ERA. It is also difficult to assess the approach taken by the MCERA, Noise Assessment and SEIA in respect of impacts and the availability and/or efficacy of mitigation measures. (See further paragraph 3.6 below).

2.7. The scope, details and nature of offshore bunkering and STS Transfer operations in Algoa Bay is unclear. This is partly due to the attempts to define "bunkering" and "STS Transfer" in the various documents which use this terminology inconsistently. As set out more fully at paragraph 3.7 below, we refer to "bunkering" and "STS Transfer" throughout on the assumption that these activities take place in either Anchorage 1 or Anchorage 2 in Algoa Bay; are subject to a licencing process administered by the TNPA; and currently include three companies operating as licenced bunkering operators. Critically, the ERA does not specify the number of current "mother" and "daughter" ships engaged in bunkering and STS Transfer operations, the source of their fuel, where exactly they operate in the Anchorages and the number of vessels served by each barge is similarly unspecified. We regard this as a critical omission in light of the stated purpose of the ERA as well as indications in the press that SAMSA hopes to "reopen" licence applications and expand the industry.[4]

2.8. The import and applicability of the various International Agreements and Obligations is unclear. In particular, there is undue reference to the set of international marine pollution conventions without a clear explanation of how these are domesticated through various South African statutes, and how this translates to obligations imposed on Government. This creates difficulties in identifying how best TNPA should approach any intended review of its operating procedures, guidelines, the Port Rules, permit conditions and so on. Similarly, key guidelines relevant to specific offshore bunkering and STS Transfer impacts are omitted where they operate at international level and consequent on "environmental" treaties including, but not limited to, the Convention on the Conservation of Migratory Species of Wild Animals and Agreement on the Conservation of African-Eurasian Migratory Waterbirds. We highlight this particular issue at paragraph 4.2 below, however, we flag that our comments are not comprehensive. We strongly recommend that TNPA and its consultants give careful

[4] See "Government discussions aim to resurrect offshore bunkering" (16 January 2024) *Maritime Review Africa*, available online < https://maritimereview.co.za/Articles/ArtMID/397/ArticleID/215/CategoryID/14/CategoryName/Shipping/Government-discussions-aim-to-resurrect-offshore-bunkering> (accessed 30 January 2024).

consideration to the relevant international framework and current guidelines to ensure that its conduct is lawful, fit for purpose and adheres to internationally recognised best available practice and recognition of best available technology.

2.9. We note the helpful reference to "Considerations for Bunkering and STS Operations" in the ERA's description of the National Statutory and regulatory environment. However, we note that this could be refined in order to provide necessary guidance to TNPA in addressing the risks highlighted through the ERA process. We set out some preliminary considerations regarding how such guidance can be provided and important considerations that need to be flagged at paragraph 4.3 below. In doing so, we draw attention to some practical issues. One key issue is the relationship between the restricted and controlled zones of the Addo Elephant Marine Protected Area and Anchorages 1 and 2. This relationship is not clear from the documentation and neither is the relationship between shipping lanes in and out of these Anchorage areas and the "restricted" and "controlled" zones designated under this MPA's Regulations. This regulatory matrix becomes key if considering recommendations in the study that only Anchorage 1 should be used for offshore bunkering and STS Transfer operations.

2.10. The MCERA recognises the sensitivity and vulnerability of Algoa Bay as highlighted in paragraph 5.1 below. This includes the particularly precarious status of the endangered African Penguin population of St Croix island. However, the sensitivity and vulnerability of Algoa Bay, its ecosystems and biota are not consistently carried through the assessment of risk in the MCERA, Noise Assessment and ERA or reflected in the mitigation measures set out as part of paragraph 8 of the ERA.

2.11. Related to this, the MCERA reflects a consistent "under-rating" of risks in terms of consequence and probability while the ERA minimises the "very high" significance of post-mitigation underwater noise. We address these issues, providing examples of the under-rating of risk at paragraph 5.2 below and commenting on ERA's approach to the underwater noise assessment at paragraph 6.1.2 below.

2.12. Significant questions remain unanswered in relation to oil spill impacts. This is concerning given the high risks associated with all stages of fuel transfer and bunkering activities and the emphasis on oil contamination in the SoW. As set out more fully in paragraph 5.3 below, the MCERA acknowledges that seabirds are particularly negatively affected by oil pollution – with endangered species such as the African Penguin particularly at risk. However, important questions remain unanswered in respect of the assumptions behind the oil spill modelling exercise including the failure to model mitigation options in respect of Anchorage 1 which is preferred by the Noise Assessment and MCERA over Anchorage 2 as the location for offshore bunkering and STS Transfer Operations. Moreover, there appears to be little relationship between the risks that are identified (some of which are "under rated" in terms of significance) and the recommended mitigation measures.

2.13. The assessment of cumulative impacts is inadequate. While the MCERA, ERA and Noise Assessment to some extent allude to cumulative impacts of oil pollution and noise, none of these studies engage in a thorough consideration of cumulative impacts of adding offshore bunkering and STS Transfer operations to the existing heavy uses of the marine and coastal environment of Algoa Bay. Despite the SoW including the mandate to consider existing environmental impact assessments applicable to the bay, no real consideration is given to the cumulative impacts of increased shipping; pressure for seismic exploration and offshore drilling; developments such as that associated with the Karpowership barges and planned expansion of, *inter alia*, manganese shipping and storage facilities at the Port of Ngqura. This information is in the public domain, known to TNPA (and its consultants) and it is troubling that a rigorous assessment of cumulative impacts has not been conducted – particularly as it pertains to ocean-based noise in a sensitive and vulnerable ecosystem. We address additional considerations pertaining to cumulative impacts at paragraph 5.4 below.

2.14. Concerns expressed in the MCERA (and ERA) regarding noise impacts should lead to cessation of offshore bunkering and STS Transfer operations. Noise impacts have been shown to have a particular impact on the behaviour of African Penguins, including their ability to forage for prey. This is acknowledged in the MCERA which reflects the impact of underwater noise as incapable of mitigation and "very high". This should be sufficient to halt offshore bunkering and STS Transfer activities in Algoa Bay. We elaborate further at paragraph 6.1 below.

2.15. The assessment of underwater noise risks in the Noise Assessment, MCERA and ERA are not properly integrated leading to the ERA minimising the impacts of underwater noise on behaviours of marine biota. In this regard, the emphasis on hearing loss in the Noise Assessment presupposes that offshore bunkering and STS Transfer operations will operate within the habitats of the various biota considered at close range and with incredibly severe effects. We note that no development activity can be "justified" or "ecologically sustainable" if it necessarily entails inevitable severe physiological harm to living organisms. This appears to be the finding of the Noise Assessment – even without regard to the detrimental impacts on mammal and seabird behaviour and consequences for endangered species, such as the African Penguin, to forage for prey. We elaborate further at paragraph 6.2 below.

2.16. Noise mitigation measures contemplate the continuation of offshore bunkering and STS Transfer activities. As set out at paragraph 6.3 below, the ERA does not include a "no go" option. While it appears that the Noise Assessment and MCERA indicate that Anchorage 2 is, in effect, a "no go" area for offshore bunkering and STS Transfer operations, proper consideration is not given to this recommendation and it is not integrated into firm recommendations in the ERA, nor the EMP.

2.17. Certain noise mitigation measures or "project controls" are not supported by evidence. See further paragraph 6.4 below.

2.18. The SEIA does not fulfil the requirements of the SoW and fails to consider socio-economic factors in a manner required by law. We note that the SoW in respect of the SEIA focuses only on the oil contamination impacts on fishing, aquaculture and tourism industries in Algoa Bay with a secondary requirement that the SEIA consider how to finance mitigation / remedy of oil impacts. This scope is overly narrow for an SEIA and fails to consider the requirements of all environmental decision-making – that it have regard to ecologically sustainable development (necessarily examining the socio-economic environment in which a development such as offshore bunkering and STS Transfers occur). The SEIA has not addressed the issue of how remediation of impacts should be funded. We elaborate on our concerns at paragraph 7.1 below.

2.19. While the SEIA has not provided clear guidance in terms of the SoW, it has provided economic data which purports to contextualise offshore bunkering and STS Transfer operations in Algoa Bay. Problematically, the economic data provided is vague, unsupported by evidence and unduly focused on economic benefits to bunkering operators. This does not enable TNPA to utilise this additional data in its considerations of the ecological sustainable or "justification" of offshore bunkering and STS Transfer activities. **In particular, reference to the primary value chains lying outside South Africa, begs the question of what domestic financial benefit, if any, derives from offshore bunkering activities in South African waters**. See further paragraph 7.2 below.

2.20. Mitigation measures recommended in the SEIA (and ERA) in respect of impacts of offshore bunkering and STS Transfer operations on aquaculture emphasise the need for marine spatial planning. This is both a practical necessity and policy objective (reflected through promulgation of the Marine Spatial Planning Act) and we agree that any consideration of the ecological sustainability of offshore bunkering and STS Transfer operations must be incorporated into (and adhere to) marine spatial planning tools. In this regard, we note that the ERA has not fully dealt with the impacts of Anchorages 1 and 2 overlapping with CBA 1:Restore areas and consisting primarily of ESA areas. Further, and as set out at paragraph 7.3 below, key risks are identified in the MCERA which are not flagged for mitigation in the SEIA which does not seem to pay adequate attention to the location of designated aquaculture sites in relation to the Anchorages.

2.21. The fisheries industry is poorly described and the SEIA only includes generic impacts on fisheries. As a result, the full impact of competing pressures on commercial fisheries, small-scale fishers and fish stocks are not adequately assessed. While certain best practice measures are presented as "mitigation" measures, these do not speak to the narrow issue of managing oil impacts on fish stocks and fisheries or wider impacts on the activities of the fisheries industry in Algoa Bay. See paragraph 7.4 below.

2.22. No consideration is given in the SEIA to loss of tourism revenue due to African Penguin population decline (acknowledged to be exacerbated by offshore bunkering

and STS Transfer operations in the MCERA). This impact is firmly within the SoW and failure to consider the relevant implications (as well as the appropriate means of financial remediation) is a material flaw in the SEIA. See further paragraph 7.5 below.

2.23. The SEIA does not consider the relationship between features of the Algoa Bay environment which attract tourists, recreational marine and coastal activities, economic benefits of these activities to the local, provincial and national tourism industry or opportunity costs lost due to offshore bunkering and STS Transfer operations (and the risk of oil spills). See further paragraph 7.6 below.

2.24. In light of the above:

2.24.1. The BLC contends that Algoa Bay is not an appropriate environment for offshore bunkering and STS Transfer operations – insufficient data is provided to render it an economically or socially "justified" activity and all indications in the ERA are that it cannot be considered "ecologically sustainable". Accordingly, the moratorium should become permanent, and existing bunkering operating licences withdrawn (or at the very least, not renewed with a period allowed for secondary industries to redirect their target-markets although the extent to which this is necessary is unclear).

2.24.2. In the event that TNPA is not in a position to permanently suspend offshore bunkering and STS transfer operations in Algoa Bay:

a) The existing moratorium on new bunkering operator licences should remain in place until better regulation is promulgated (including EIA requirements as set out below).

b) The existing moratorium should be extended to include renewals of offshore bunkering and STS Transfer operations pending establishment of an appropriate regulatory framework (including EIA requirements).

c) TNPA should engage pro-actively with DFFE and the Minister to ensure that DFFE adheres to its constitutional and statutory obligations in respect of the marine and coastal environment. This can most effectively be achieved by the Minister gazetting offshore bunkering and STS Transfer activities as "listed" activities for purposes of application of the EIA Regulations. Noting the medium-term duration of bunkering operator licences and the dynamism of the marine environment, both applications for new operator licences and renewals should be accompanied by an EIA. We note that such requirement should be in addition to any norms and standards promulgated by the Minister.

d) SAMSA should ensure that its Bunkering and STS Codes are updated to incorporate international safety and noise control standards. These should be republished with a clear timeline for finalisation.

2.24.3. TNPA should ensure that all revised operating procedures, guidelines, permit conditions or other regulatory controls are published for comment together with an amended and updated ERA and EMP.

2.24.4. Clear recommendations arising from the ERA should be specified with particular reference to the objective of updating TNPA's regulatory framework and with regard to important regulatory gaps. These should be presented in the executive summary and/or opening chapter of the ERA.

3. General Comments

3.1. The ERA indicates that offshore bunkering and STS Transfers should not occur in Algoa Bay: The ERA indicates that TNPA is committed to "*ensuring that Bunkering and STS transfers within Port Limits are undertaken responsibility and that all environmental and maritime safety risks are identified and sufficiently managed to avoid and/or minimise the impacts associated with these activities".*[5]

3.1.1. The ERA records that the moratorium on new bunkering licences will remain in place "*until the completion of the ERA and consideration of the findings"*.[6] It is notable that there is no reflection of a "no go" option – or the implications of cessation of bunkering activities.

3.1.2. However, key risks (including the impact of underwater noise on seabirds) are indicated as **very high risk** even after mitigation. Particularly given that Algoa Bay and the two Anchorage areas fall within the core foraging area of the endangered (and declining) African Penguin, the inability to adequately mitigate this risk indicates that offshore bunkering and STS Transfers should cease. We address this further at paragraph 6 below.

3.2. The documents reflect the need for EIA Regulation: At the outset, we note that the ERA acknowledges the problem of EIA Regulations not applying to offshore bunkering and STS Transfer operations.[7] The MCERA underlines this issue by stating "*Although this irregularity has been recognised by the Minister of Forestry, Fisheries and the Environment, there currently exists no legal requirement to undertake a full EIA process for bunkering operations"*.[8] Our reading of the ERA and the supporting annexures and engagement with TNPA and its consultants during the ERA process to date, indicates that the absence of such regulation is fatal to the ability of organs of state such as the TNPA, and private parties such as bunkering operators, to adhere to the statutory and constitutional obligations, *inter alia,* to prevent pollution and ecological degradation.[9]

[5] ERA p 1.
[6] ERA p 8.
[7] ERA p 19.
[8] MCERA p 1.
[9] See section 24(b)(i) of the Constitution.

3.2.1. The EIA Regulations, and accompanying guidance, provide a rigorous process for assessing environmental risk as understood and framed by South Africa's constitutional requirements – in particular, those expressed in section 24(b) which guarantees everyone's right 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"*.

3.2.2. Insofar as the EIA Regulations form part of the legislative measures enacted to give effect to these obligations, they provide the parameters in which development is to be assessed in terms of whether it is "*ecologically sustainable development"* and also to ensure that any economic or social development outcomes are properly "*justified*". A key element in testing such justification are the guidelines around statements of "Need and Desirability".[10] Similarly, the EIA process has given rise to a methodology applicable to the assessment of risk which has been utilised in the MCERA which expressly refers to the national management principles (i.e. those in section 2 of NEMA) "*including the precautionary principle and the mitigation hierarchy"*.[11]

3.2.3. While the ERA is not an EIA, it remains a *"measure"* (as contemplated by section 24(b) of the Constitution) with objectives clearly relating to TNPA's constitutional environmental obligations. There are, however, difficulties with the approach taken in the MCERA as well as the ERA as a whole in "cherry picking" from established EIA methodology without being bound to follow the rigour of multi-dimensional, integrated assessment of environmental, social and economic factors. Four important examples are highlighted here.

3.2.4. First, the MCERA is limited to a desktop study,[12] incorporating findings of previous EIAs conducted in the vicinity of the Anchorages such as the baseline marine environmental assessment provided as part of the EIA for the Coega Marine Pipeline Servitude at the Coega Industrial Development Zone and the benthic mapping assessment for the proposed Algoa Bay sea-bed aquaculture development zone.[13] While review of previous studies undertaken for the Port of Ngqura and Algoa Bay is part of the specified scope of the MCERA[14] the assessment of environmental risk excludes verification through site visits[15] (limiting the ability to update findings of previous studies). Accordingly, the reliance on previous studies precludes a detailed, site-specific assessment of the baseline environmental features of Anchorages 1

[10] Need and Desirability Guideline p 11; SoW p 9.
[11] MCERA pp 3-6.
[12] MCERA p 5.
[13] MCERA p 7.
[14] MCERA p 2.
[15] MCERA pp 2 and 7.

and 2 and the surrounding environment which are central to offshore bunkering and STS Transfer operations. The result is a set of assessments and descriptions that do not enable targeted avoidance or mitigation measures to be considered, assessed and recommended.

3.2.5. Second, the MCERA expressly excludes the potential effects of climate change on the study area.[16] Climate change impacts are now an accepted (and required) consideration in EIAs.[17] Were bunkering operations subject to EIA, climate impacts could not be excluded (with important implications for how the sustainability of offshore bunkering and STS Transfer operations are assessed and how TNPA adheres to its obligations in relation to climate mitigation and adaptation as they currently operate at international law and common law and as they will be framed by the Climate Change Act once promulgated).

3.2.6. Third, the absence of a "Need and Desirability" assessment is evident in the SEIA, approach to socio-economic considerations in the ERA and SoW pertaining to the SEIA. The narrow focus of the SoW on impacts of oil contamination does not allow for a comprehensive assessment of the economic and social justifications for bunkering (or expansion of bunkering operations) as a "development" and, while the SEIA goes beyond this scope, the absence of clear guidelines renders the study materially lacking in its assessment of social and economic benefits, impacts and disadvantages of offshore bunkering and STS Transfer operations at Algoa Bay (as set out more fully at paragraphs 7.1 and 7.2 below). We note that the clear absence of economic or social justification for bunkering as a "development" and absence of proper consideration of social and economic benefits / impacts / disadvantages of bunkering prevent assessment of whether bunkering can be considered "*ecologically sustainable*".

3.2.7. Fourth, we note that an important aspect of environmental decisions is the "no-go" option, which is notably absent from the ERA and its objectives.[18] In particular, we note that the SoW assumes the continuation of bunkering and STS Transfers and focuses on (a) regulation of STS Transfers and Bunkering; and (b) prevention and response to environmental and safety incidents – particularly prevention of spills.[19] Insofar as bunkering and STS transfers of fuel are currently permitted and ongoing, we consider these important objectives. However, we emphasise that the context of integrated environmental management and the biodiversity of Algoa Bay (including the importance of St Croix island to African Penguins) which are expressly referenced by TNPA in its SoW begs questions about whether the regulation

[16] MCERA p 3.
[17] See *Earthlife Africa Johannesburg v Minister of Environmental Affairs* [2017] 2 All SA 519 (GP).
[18] ERA pp 1-2.
[19] SoW p 9.

proposed by TNPA is merely a "stop-gap" until proper EIA is undertaken alternatively, whether the regulation envisaged by TNPA is to apply only if and when bunkering operators, agents and bunkering vessels are granted authorisation to conduct offshore bunkering and STS transfers of fuel. This is an important distinction as it is likely to alter the manner in which risks are identified, assessed and mitigated.

3.3. No clear recommendations are provided: There are no clear recommendations provided in the ERA which clearly link to the SoW.

3.3.1. In part this reflects the general lack of integration of the specialist studies provided with the ERA as well as an apparent lack of connection between certain of the activities incorporated in Tasks 1, 2 and 3 of the ERA. It is also likely a consequence of the ERA process adapting aspects of EIA procedures to the exercise at hand while omitting others – including the Environmental Assessment Practitioner's Recommendations.

3.3.2. While paragraph 8.5 of the ERA includes a table of mitigation measures, this is not integrated with existing control measures (which are expressly "not repeated").[20] Further, it appears that these mitigation measures are envisaged as part of the EMP rather than a set of recommendations informing TNPA's conduct and decision-making generally (which would include, but not be limited to, adoption of an EMP).

3.3.3. We note that there are no recommendations regarding TNPA engaging with other stakeholders to ensure effecting offshore bunkering and STS Transfer regulation – despite Table 12 which appears within the EMP which notes the regulatory role of various organs of state and references to co-operative government (see our comments in this regard at paragraph 4.3.1). Critically, this includes the environmental mandate of the DFFE.

3.3.4. With regard to the DFFE and Minister, we note that a critical recommendation which arises from the origins, structure and difficulties with the ERA should be that offshore bunkering and STS Transfer are gazetted as listed activities, subject to the EIA Regulations. Not only would this provide the TNPA and all stakeholders with a clear process for assessing environmental impacts and the ecological sustainability of bunkering operations on a case-by-case basis (accounting for new entrants and expansion of existing bunkering), but it would also ensure that TNPA can focus on adhering to its constitutional and statutory mandate without needing to assume the role of the DFFE as custodian of South Africa's biodiversity. We would add that the gaps and problematic nature of the ERA – as well as the "high risk" associated with underwater noise impacts on the endangered African Penguin – should also result in a clear recommendation that offshore bunkering and STS Transfer operations should

[20] ERA p 87.

cease in Algoa Bay – at least until the EIA regime can be put in place and the Minister can exercise her powers in terms of section 57(2) of NEM:BA. The absence of such recommendations, in our view, places TNPA in the invidious position of needing to expend time, resources and funds on extensive regulatory overhaul and implementation in a vacuum – and also provides extensive uncertainty regarding the Department of Trade and Industry and TNPA's management of port infrastructure, facilitation of maritime services and backing of primary and secondary vessel service industries.

3.4. The Environmental Management Plan appearing at paragraph 8 of the ERA is not fit for purpose: We acknowledge that an EMP should, in the ordinary course, be produced after production of an EIA and should contain a proper consideration of environmental risks and mitigation measures. In this case, the EMP suffers from simultaneous preparation and confusion regarding the place of the EMP in relation to other regulatory tools at TNPA's disposal including the Port Rules, ability to publish guidelines and harbour master instructions and so (as noted in relation to TNPA's powers under the National Ports Act, 12 of 2005 at paragraph 4.3.2(a) below. Some (but not all) of the "Environmental Regulatory Requirements" are listed at paragraph 8.2, however, without detail or clear cross-referencing to the mitigation measures listed in Table 14 which appears at paragraph 8.5.

3.5. The ERA does not enable TNPA to make rational decisions regarding mitigation of bunkering within the lawful scope of its powers: The TNPA has acknowledged that it has environmental responsibilities in terms of NEMA – including the requirement of integrated environmental management and public participation.[21] However, the TNPA is not the primary organ of state tasked with protection of the environment, its biodiversity, habitats and marine living resources. Accordingly, the TNPA has clearly sought to procure an ERA based on its own experiences and difficulties around offshore bunkering and STS Transfer operations (which are not set out in the ERA). However, this is limited by the specific role and obligations placed on TNPA regarding marine shipping and port management and the limitations are reflected in the SoW.

3.5.1. While we appreciate that the SoW has been divided into three tasks, with the ERA as part of Task 1 and the review and revision of the bunkering regulatory framework as part of Task 2, it would be logical for the ERA (and its accompanying studies) to be designed in such a way as to feed into the Task 2 review processes. We note that the lack of integration and clear purpose behind the ERA has resulted in a study report which is at times difficult to follow in terms of risk mitigation and clear recommendations. In particular, this is evident in the absence of clear recommendations which can be used by TNPA to inform its review of permitting conditions and guidelines.

[21] ERA p 1.

3.5.2. The limitations of the ERA are evident throughout – but particularly in relation to the socio-economic study which is limited in scope to the effect of "*potential spillages on inter alia the Tourism, Aquaculture and Fishing Industries within Algoa Bay."*[22] It consequently fails to properly consider the full economic impacts of limiting and/or expanding and/or ceasing bunkering activities. Even within the scope of its mandate, this study has not included reference to "*possible funding mechanisms that could be initiated to sustain industries that may be directly affected by major oils spills that may emanate from Offshore Bunkering and STS Transfer of liquid bulk Operations within Algoa Bay".*[23] We discuss the difficulties relating to the SEIA in further detail at paragraph 7 below).

3.5.3. In the result the relationship between the ERA process and ERA documentation and TNPA's stated objective of improving / reviewing / updating its management controls is inconsistent. Moreover (and as discussed below) key information is absent from the documentation which suggests that TNPA may be precluded from considering all relevant considerations (and may, in fact, have regard to factors which are not relevant to the purpose and objects if the ERA).

3.6. <u>The ERA has been provided for comment in the absence of critical information</u>: We note that while there is an intention to compile a Stakeholder Engagement Report,[24] none has been provided indicating comments received to date. We emphasise the importance of doing so – and ensuring that both the ERA and Stakeholder Engagement Report are made publicly available in the interests of transparency and accountability. More pressing in the context of seeking public comment on the draft ERA, the documentation circulated for comment at this stage have omitted (1) the HAZOP assessment; (2) oil spill modelling (**OSM**) report; and (3) carrying capacity assessment.

3.6.1. The MCERA indicates that it has drawn on the HAZOP assessment and OSM report undertaken by PRDW Consulting Port and Coastal Engineers.[25]

a) We note in particular that the failure to provide the OSM report is a critical oversight that prevents assessment of the assumptions and findings in the MCERA (and ERA) regarding oil spills, the impact of oil contamination on the marine environment and its impact on sensitive receptors. As indicated below, this makes it enormously difficult to comment on this aspect of the MCERA (which refers the reader to the "*Oil Spill Modelling Specialist Study undertaken by PRDW as part of the project"* for further

[22] SoW p 11.
[23] SoW p 11.
[24] ERA, p 3.
[25] MCERA p 1 and 3. See also p 81. See also ERA pp 52-57.

detail.[26] Presumably this study is more extensive that the summary of "findings" presented in the ERA[27] which themselves cannot be assessed or interrogated in the absence of the underlying data – and, in a circular manner, state that "*the results of the Oil Spill Modelling were further interpreted as part of the Marine and Coastal Ecological Risk Assessment*".[28]

b) In respect of the HAZOP study, the findings provided at pp 56-57 of the ERA indicate critical operational issues in respect of bunkering operations leading to "Very High" and "High" ratings after mitigation. While noting that the context and accuracy for such assessment cannot be ascertained from the ERA itself, we draw attention to the statement that "*PRDW recommended that the additional mitigation measures as listed in Table 14 below are implemented or alternatively consider limiting or stopping these high-risk activities, if practical*". We question whether "alternatives" should be available: where post-mitigation risks remain high or very high, the activities should be halted. However, the lack of context and explanations makes it impossible to determine whether ceasing "*Insufficient or inadequate searoom to conduct STS underway*";[29] "*Rigging and use of the pilot ladder by crew is not carried out safely or incorrectly rigged transfer basket*"[30] and "*fuel/oil/vapour is exposed to a source of ignition*"[31] means that offshore bunkering and STS Transfer operations should cease.

3.6.2. Further, the scope of work described in paragraph 1.1 of the MCERA (which draws on an expands on the SoW), indicates that "*The findings and outcomes of the carrying capacity assessment should inform the holding capacity of the Anchorage areas*".[32]

a) We note that in the original SoW, the assessment of holding capacity appears to be part of Task 2.

b) It is not clear whether the holding capacity assessment has been undertaken and it is thus difficult to see how the MCERA can provide an assessment of environmental risk in the absence of "*the maximum number, types and sizes of vessels and commodities that can be accommodated within the Anchorage areas for Bunkering and STS Transfer Operations*".[33] The resultant difficulties are apparent in the

[26] MCERA p 115.
[27] ERA pp 53-55.
[28] ERA p 55.
[29] ERA p 56.
[30] ERA p 56.
[31] ERA p 57.
[32] MCERA p 2.
[33] SoW p 10.

context of the MCERA as well as the ERA, Noise Study and SEIA. As detailed further in paragraph 5.4 below, the MCERA does not, in fact, address carrying capacity – and nothing is added to the MCERA's assessment in the ERA which merely repeats the MCERA"s theoretical discussion around carrying capacity.

3.6.3. Generally, the absence of the HAZOP assessment, OSM report and carrying capacity / holding capacity assessment makes it difficult to comment on the adequacy or otherwise of the assessment of environmental risks and the proposed mitigation measures. This applies both in relation to existing offshore bunkering and STS Transfer operations and to any contemplation of their expansion (which seems to be implied in the ERA as a whole).

3.7. The scope and details of offshore bunkering and STS Transfer operations is unclear: The ERA differentiates between "bunkering" and "STS Transfer" in paragraph 3.3.[34] We note that the language of "bunkering" and "STS Transfer" is not always used consistently throughout the ERA. In particular, the fuel transfer "chain" could be better explained as it applies to offshore bunkering and offshore fuel transfer operations.

3.7.1. As we understand it, the relevant transfers may be:

a) Transfer of fuel (considered cargo) from a Supply Tanker to a Bunker Tanker for the ultimate purpose of the Bunker Tanker providing receiving vessels with fuel for their use; and

b) Transfer of fuel (considered bunker) from a Bunker Tanker to a receiving vessel which burns the fuel as their energy use.

3.7.2. The ERA does not clarify whether these transfers, as they occur within Algoa Bay, are those involving oil, petroleum products, liquified petroleum gas (**LPG**) or liquified natural gas (**LNG**). It also does not clarify which types of transfers have been the subject to increased licence applications (and shipping traffic) – nor the permitting and licencing process which is set out in the legislation described in Chapter 4 (although the relationship between bunkering and increased vessel traffic is reflected in the MCERA)[35]. Similarly, there is no clear indication of the transfer chain of bunker fuel and the various bunker fuel types – nor whether High Sulphur Fuel Oil is in fact permitted within South African waters (or will continue to be available). While this information should be clear to TNPA, it should also be evident from the face of the ERA as a self-standing document intended to inform a decision-maker and on which the public may meaningful comment.[36] In addition, such clarity is needed to

[34] ERA pp 8-9.
[35] MCERA p 83.
[36] See section 2(4)(f) and (k) of NEMA which entail the environmental principles of public participation and transparency which apply to the ERA and any decision-making consequent on its contents / recommendations.

demonstrate that the risks have been probably identified – particularly as they vary between types of fuel products and the particular methods through which fuel is transferred (whether as cargo or bunker) in Anchorage 1, Anchorage 2 and quayside.

3.7.3. Further, the distinction made between STS "operations" and bunkering in the SEIA, appears to differentiate between these activities not entirely by function (or type of transfer), but in terms of where such transfer takes place: suggesting that STS "operations" occur within port limits and bunkering beyond them.[37] The report then goes on to refer to "STS bunkering operations" occurring at Anchorages 1 and 2 – despite having so carefully indicated that "STS" and "bunkering" operations are distinct.[38] The lack of consistency and lack of clarity is inappropriate in the context of the ERA and the need to define specific risks, assessment impacts precisely and identify appropriate avoidance and mitigation measures.

4. **Governance Framework**

4.1. We support TNPA's acknowledgment of their responsibility in terms of the National Environmental Management Act, 107 of 1998 (**NEMA**) and the pro-active approach reflected by initiating the ERA in ensuring the environmental impacts are avoided and/or minimised.[39] We note, however, that to meet the objective of informing proper regulation of bunkering and STS Transfer, it is important that the existing regulatory framework is properly contextualised. In this regard, while certain treaty, statutory and regulatory obligations have been linked to bunkering, this is not consistent and, in many cases, there is little to no guidance as to implications for the decision-maker regarding necessary procedures, plans and/or other interventions.

4.2. The import of the listed International Agreements and Obligations in terms of the stated aim of the study (which covers environmental, social as well as maritime risk) is unclear.

4.2.1. First, while appreciating that International Marine Pollution Conventions are most directly related to maritime risks, these do not operate in a vacuum at international law – nor once domesticated within South Africa's legal framework. In particular, we note that there are clear intersections between the "Marine Pollution Conventions" and framework conventions such as the United Nations Framework Convention on Climate Change and Convention on Biological Diversity. The role of the IMO, in particular is not made clear. It would appear to be of more practical relevance to the TNPA to set out:

[37] SEIA pp 1-2.
[38] SEIA p 2. See also SEIA pp 25-26.
[39] ERA p 1, 2.

a) The role of the IMO as convening / acting as secretariat for a large range of maritime conventions including those listed at 4.2.1.2 to 4.2.1.4 and 4.2.1.6 to 4.2.1.9 including relevant protocols (such as MARPOL Annex 1).

b) The statutes which have domesticated the relevant "IMO" Treaties and, following the approach in relation to the national governance framework that has been adopted in the ERA, a specific explanation of how these provisions relate to offshore bunkering and STS Transfers.

c) Those IMO Conventions which include guidelines / protocols of particular relevance to the regulation of bunkering and/or STS Transfer including those to which South Africa has not yet acceded or which are not otherwise domesticated (key among these being the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001; and the Revised Guidelines for the Reduction of Underwater Radiated Noise from Shipping to Address Adverse Impacts on Marine Life[40]).

4.2.2. Second, the United Nations Convention on Law of the Sea, 1982 (**UNCLOS**) is a wide-ranging treaty which regulates the international law of the sea. There are, however, some obligations directly relevant to the purposes of the ERA including articles 61-68: Conservation of the living organisms within the exclusive economic zone (particularly insofar as provisions impose obligations of conservation in addition to rights of use).

4.2.3. Third, there are a number of treaties which, in addition to their domestication through the environmental legislative framework, contain specific protocols and guidelines to which TNPA's attention should be drawn in terms of best practice and best available science.

a) We note that the Conference of Parties to the Convention on the Conservation of Migratory Species of Wild Animals, 1979 (**Bonn Convention/CMS**) adopted Resolution 12.14 on the *Adverse Impacts of Anthropogenic Noise on Cetaceans and other Migratory Species* in 2017.[41] The annex to this Resolution is the *CMS Family Guidelines on Environmental Impact Assessments for Marine Noise generating Activities* (**CMS EIA Noise Guidelines**).[42] The CMS EIA Noise Guidelines include specific guidance for Shipping and Vessels Traffic (at Part V) as well as a generic guideline for noise-generating ocean-based activities (at Part V). Both sets of guidelines provide practical criteria / considerations for EIA which are expanded upon in the accompanying

[40] MEPC.1/Circ 906 of 22 August 2023.
[41] UNEP/CMS/Resolution 12.14, available online <https://www.cms.int/sites/default/files/document/cms_cop12_res.12.14_marine_noise_e.pdf >.
[42] UNEP/CMS/Resolution 12.14/Annex, available online <https://www.cms.int/sites/default/files/document/cms_cop12_res.12.14_annex_marine-noise_e_0.pdf >.

Technical Support Information documentation and can provide a practical basis for the TNPA developing its protocols and screening processes in respect of risk mitigation of noise impacts identified in the ERA. While we flag that these ought to be part of formal EIA considerations (as contemplated by the CMS), there is nothing stopping the TNPA from incorporating this guidance into its own best practice.

b) As pointed out by the MCERA, there are specific international obligations relating to seabird conservation under the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (**AEWA**) in respect of restoration and conservation of African Penguin and Cape Gannet populations.[43]

4.3. The applicability of the National Statutory and regulatory environment could be further clarified

4.3.1. We welcome the inclusion of "Considerations for Bunkering and STS Operations" in relation to each regulatory / statutory instrument as a helpful guide to TNPA. However, in light of the SoW and the specific task of revising guidelines / standard operating procedures and so forth, there are certain considerations that could be better highlighted – particularly so that TNPA is aware of the extent of its powers, how best to implement recommendations of the ERA and where it will need to engage with other organs of state to ensure that effect is given to the requirement of integrated environmental management.[44] In this regard, we suggest that:

a) the "Considerations for Bunkering and STS Operations" are reviewed and expanded to consider specific relevance to environmental and safety risks (and their mitigation);

b) TNPA's specific obligations under each statute / regulatory instrument are clarified;

c) where another organ of state bears a particular statutory / regulatory obligation vis-à-vis bunkering, STS Transfers, environmental and/or safety risks and their avoidance/mitigation, the relevant organ of state is identified together with a recommendation for consultation and/or co-operation by the TNPA in respect of appropriate regulation and its implementation;[45] and

d) in order for TNPA to properly address regulatory amendment, where regulations, guidelines, standards or other regulatory instruments are

[43] MCERA p 48.
[44] NEMA s 2(4)(b) read with Chapter 5 and s 41(1) of the Constitution.
[45] See the specific obligations placed on the TNPA in respect of co-operative governance in NPA s 13.

outlined, these are included together with the empowering legislation (e.g. the reference to the Guidelines for Agreements, Licences and Permits, 2008 and Port Rules (Notice No. 255 of 6 March 2009 set out at paragraphs 4.3.15.1 and 4.3.15.2 respectively are included as part of the section dealing with the National Ports Act at paragraph 4.3.4).

4.3.2. With the comments in paragraph 4.3.1 above in mind, we note some specific areas where amendments to paragraphs 4.3.2 to 4.5 would be of assistance in the table which follows.

Table 1	
Act	**Comments**
a) National Ports Act, 12 of 2005 (**NPA**)[46]	i) At paragraph 4.3.4.2, the relevance of section 56 of the National Ports Act to Bunkering and/or STS Transfer operations (and/or environmental/safety risk) is unclear. ii) It is important to clarify the functions of the TNPA set out in section 11 of the NPA – in particular the function of regulating and controlling, *inter alia*, vessel movement and operations in, to and from ports; cargo unloading and storage; off-shore cargo handling; pollution and environmental protection and safety and security within port limits[47] as well as the functions of licencing offshore cargo-handling facilities and related services;[48] and discharging international obligations relevant to ports.[49] Similarly, it is important to draw attention to the aims of the TNPA set out in section 12 of the NPA, including the obligation to "*integrate biophysical, social and economic issues in all forms of decision-making with regard to port development and operations"*.[50] iii) As stated above, this paragraph would benefit from inclusion of the import of the Guidelines for Agreements, Licences and Permits, 2008 (to the extent that these will inform TNPA's review of relevant agreements, licences and permits in light of the ERA) as well as the Port Rules (as applicable). It would also be of assistance to integrate reference to the Bunkering Licence Manual (referenced at paragraph 4.5) here together with an outline of the licence conditions (see further below). We note that specific comment on the relationship between these documents and section 62(2)(a)(v) should be provided, namely,

[46] ERA p 16 (para 4.3.4).
[47] National Ports Act (**NPA**) s 11(1)(g).
[48] NPA s 11(1)(s).
[49] NPA s 11(1)(t).
[50] NPA s 12(i).

	how the various guidelines, manuals and permit conditions reflect the obligation on bunkering operators to submit annual reports to TNPA including "*the quality and level of performance with regard to such environmental criteria and social responsibility requirements as may be set by the Authority or required by other national legislation".* iv) Similarly, it would be helpful to incorporate reference to the management instruments set out at paragraph 4.7 here (including Harbour Master's Written Instruction 01 of 2019 and the Standard Operating Procedure issued under reference number TNPA-IMS-PNGQ-ENV-SOP-15). To the extent that the provisions referenced at paragraph 4.7 (including these particular instructions / standard operating procedures) are to be amended or reviewed in light of the ERA, it is important that these are described – and made available for comment together with the revised versions. v) We draw attention to the requirement of section 69 of the NPA (highlighted at p 17 of the ERA). We flag that section 69 is not restricted to ensuring a "*reasonable balance is achieved between protection of the environment and the establishment, development and maintenance of ports"* as expressed in section 69(1). In addition, TNPA is obliged to ensure that port planning processes are "sustainable and transparent"[51] and that during such processes "*all relevant biophysical and economic aspects are taken into account*".[52] vi) We flag that the obligations in section 69 apply to the current ERA and the processes which follow in terms of TNPA's revision of regulations / guidelines / permit conditions / standard operating provisions. It is, accordingly, critical that the ERA itself is assessed according to whether it can in fact support these obligations (and as indicated below, in certain respects it cannot).
b) National Environmental Act, 107 of 1998 (**NEMA**)[53]	i) We note that the ERA refers to certain of the principles that apply to all environmental decision and which are set out in section 2 of NEMA. Critically, the ERA omits reference to the "precautionary principle" (i.e. "*that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and action"*).[54]

[51] NPA s 69(2)(a).
[52] NPA s 69(2)(b).
[53] ERA pp 17-19.
[54] NEMA, s 2(4)(a)(vii).

	This is critical in light of the gaps in knowledge reflected in the ERA itself (and particularly in relation to the noise impacts recorded in the ERA read with the MCERA and Noise Assessment). ii) We also note omission of the principle set out at section 2(4)(r) of NEMA, namely that "*Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries and wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure*". This principle is of particular application to the Algoa Bay environment which not only hosts a formally recognised "vulnerable" ecosystem,[55] "vulnerable" reefs,[56] and important estuaries (see below) but also is subject to particular development pressure,[57] significant human resource and, as recognised in the ERA and MCERA is both sensitive and highly dynamic.[58] iii) We note that the "polluter pays" principle (reflected in section 2(4)(p)) is highlighted – and this is relevant to the SoW relevant to the SEIR insofar as its scope includes reference to bearing the costs of negative impacts on oil contamination on tourism, fishing and aquaculture. iv) We further note that the ERA correctly reflects the definition of "pollution" in NEMA as covering not only "substances" but "noise odours, dust or heat" which are emitted from <u>any</u> activity which has an impact, *inter alia*, on the "*composition, resilience and productivity of natural or managed ecosystems*".[59] When read with the section 2 environmental principles and the duty of care contained in section 28, this means that TNPA is obliged to avoid the generation of ocean-based noise by bunkering activities – or at the very least to minimise such noise (noting that "remedy" in this instance is not feasible). v) See our comments regarding the EIA process at paragraph 3.2 above.

[55] ERA pp 44-45; MCERA pp 10; 77-78; 78-79.
[56] MCERA p 26.
[57] See for example, MCERA p 58.
[58] ERA p 42. See also MCERA pp 17-18.
[59] ERA p 18; NEMA s 1(1).

c)	National Water Act, 36 of 1998[60]	i) We note that the ERA reflects the relationship between water pollution caused by Bunkering and STS Transfers and contamination of the estuarine systems at the mouths of the Swartkops and Sundays rivers[61] (both of which are classified as "vulnerable" and ranked of "high estuarine importance for fish"[62] and the Swartkops estuary being particularly close to the anchorages).[63] This is an important consideration in relation to the possibility of mitigation of environmental impacts of bunkering and STS Transfers. In assessing such effects, the obligations under the NWA must be read with the obligations and principles prescribed by NEMA – including the particular care to be taken in respect of estuarine environments. The relationship between the NWA and NEMA is important in this regard – particularly when considering the impacts of oil contamination and the relationship between estuaries and aquaculture, tourism and fishing activities in the area[64] – together with the financial and legal implications of contamination of the estuarine zones of the bay due to STS Transfer and/or bunkering. ii) It would be helpful to cross-refer to the DWS' obligation for safeguarding estuaries reflected at p 37, noting the implications for TNPA.
d)	National Environmental Management: Integrated Coastal Management Act, 24 of 2008 (**NEM:ICMA**)[65]	i) While reference is made to the "Coastal Committees" involved in co-operative coastal governance, it would assist to be precise in terms of <u>which</u> specific committees deal with (or ought to deal with) the relationship between the Port area and coastal zone.[66] In particular, it would assist to specify the <u>environmental</u> role of TNPA in terms of NEM:ICMA; the area over which the TNPA is required to exercise environmental jurisdiction under this legislation; and how the Anchorage areas relate to authority exercised under this Act. ii) Similarly, the reference to section 58 of NEM:ICMA is welcome. However, the obligations falling to TNPA in terms of this provision (and/or falling to bunkering operators) is not clarified.

[60] ERA pp 19-22.
[61] MCERA p 110; 116-121; 125-128.
[62] MCERA p 57.
[63] ERA pp 20-21; 42; 43.
[64] See ERA p 100; SEIA p 45; MCERA pp 58; 60; 68; 121.
[65] ERA pp 21-22.
[66] As far as we are aware, the working groups set out at p 39 of the ERA (the Offshore Operations Stakeholders Forum; Offshore Environmental Working Group; Offshore Industry Development Working Group; and Offshore Technical Working Group) are not the full range of working groups with an interest in the environmental impacts of Algoa Bay and all working groups have specific mandates in terms of how they support decision-makers exercising powers derived from different legislation – which extends far beyond that of NEM:ICMA.

	This is particularly important, as such obligations need to be reflected in any amended guidelines, operating procedures and/or permit conditions contemplated by TNPA in the event that offshore bunkering and/or STS Transfers are permitted to continue (even in the event of EIA requirements applying – as we maintain they should). In this regard, cross-reference to the DFFE: Oceans & Coasts obligations reflected at p 37 of the ERA would be helpful, together with an explanation of how TNPA needs to co-operate with the DFFE in respect of NEM:ICMA requirements.
e) National Environmental Management: Biodiversity Act, 10 of 2004 (**NEM:BA**)[67]	i) It is correct that NEM:BA includes the requirements for protecting threatened species – including the African Penguin.[68] It is also accurate that the draft African Penguin Biodiversity Management Plan, 2022 reflects bunkering as an important threat to African Penguins with particular measures including appropriate zonation of shipping activities and minimisation of underwater noise.[69] ii) While the BLC is particularly concerned with the population health of the African Penguin, we flag that NEM:BA is relevant to the classification of a number of species in Algoa Bay as threatened – as well as to a wide range of obligations and protections of living organisms in the bay and which are affected by bunkering operations. A sampling of other species listed as impacted in the ERA includes the great white shark, ragged tooth shark, mako shark, leatherback turtle, loggerhead turtle, cape gannet, Cape cormorant, Indian yellow-nosed albatross, Damara tern, humpback dolphin and Indo-Pacific bottlenose dolphin.[70]
f) National Environmental Management: Protected Areas Act, 57 of 2003 (**NEM:PAA**)[71]	i) We note that the ERA correctly identifies the presence of the Addo Elephant Marine Protected Area as declared in terms of NEM:PAA and subject to published regulations.[72] However, the map included as Figure 8 in the ERA[73] reflects the restricted zones applicable to the MPA without indicating where Anchorage 1 and 2 are located. In other words, the relationship between the restricted and controlled zones of the MPA and site of offshore bunkering and STS Transfer operations (stated elsewhere as "*adjacent to the MPA*"[74]) is not clear – and thus the impact of

[67] ERA pp 23-24.
[68] ERA p 24.
[69] ERA p 24.
[70] ERA pp 42-43.
[71] ERA pp 24-26.
[72] ERA pp 25-26; MCERA p 59.
[73] ERA p 26.
[74] ERA p 43. See also ERA p 58; MCERA p 59; 77; 82.

	NEM:PAA for such activities is not clarified. **This is important given the recommendation regarding not using Anchorage 2 for purposes of bunkering due to its proximity to the MPA and St Croix Island**.[75] It is similarly critical in terms of the viability of the mitigation measure in respect of navigational measures and the prohibition of operational discharge when transiting through the MPA.[76] ii) Cross-reference to the role of SANParks in managing the MPA, as well as the more detailed requirements of the regulations governing the MPA, (as indicated at p 38 of the ERA) would be helpful. iii) There is no indication of whether access restrictions under NEM:PAA apply to shipping traffic approaching Anchorage 2 (with reference to section 45 of NEM:PAA) – and if so, what implications arise.[77]
g) Marine Spatial Planning Act, 16 of 2018 (**MSPA**)[78]	i) While not expressly published in terms of the MSPA, we note that the National Coastal and Marine Critical Biodiversity Area (**CBA**) Map (version 1.2 published on 12 April 2022) provides important input into the Marine Spatial Planning process.[79] The significance of these guidelines is reflected in both the ERA and MCERA which note that both Anchorages overlap with CBA1: Restore and that the remainder of Anchorage 1 as well as the whole of Anchorage 2 fall within Environmental Support Areas (**ESAs**).[80] ii) The implications are critical for the approach to regulation and mitigation taken in the ERA as a whole (particularly when consideration is given to the relationship between these guidelines, the accompanying compatibility guidelines, the Marine Spatial Planning process that is underway and the contemplated review of TNPA's regulatory instruments). No links are made in terms of this nexus between statute and scientific assessment context. Accordingly, it is not made clear to TNPA that the import of CBA:1 Restore areas means that these parts of <u>both</u> Anchorages cover areas of

[75] ERA p 66; Noise Assessment p 39.
[76] ERA p 93; MCERA p 88.
[77] See for example Addo Elephant National Park Marine Protected Area Regulations (GNR777 in GG42479 of 23 May 2019) Regs 4(10)-(12) and 5.
[78] ERA pp 26-28.
[79] DFFE, SANBI and NMU (2022) *National Coastal and Marine Spatial Biodiversity Plan: Technical Summary*, available online <https://cmr.mandela.ac.za/cmr/media/Store/documents/EBSA/CBA%20Map%20v1/NCMSBPV1.2_Technical-summary.pdf> (accessed 30 January 2024).
[80] ERA p 43; 46.

	irreplaceable or near-irreplaceable biodiversity required to meet biodiversity targets and that the remainder of the Anchorage areas are in Ecologically or Biologically Significant Areas with "*identification of features of higher ecological value that may require enhanced conservation and management measures*".[81] iii) We note, in particular, that the Sea-use guidelines version 1.2 specify that bunkering is <u>not</u> compatible with CBA:1 areas and has restricted compatibility with ESA areas.[82] We note that "restricted compatibility" entails that "*A <u>robust site-specific, context-specific assessment is required</u> to determine the activity compatibility depending on the biodiversity features for which the site was selected. Particularly careful attention would need to be paid in areas containing irreplaceable to near-irreplaceable features where the activity may be more appropriately evaluated as not permitted. The ecosystem types in which the activities take place may also be a consideration as to whether or not the activity should be permitted, for example. Where it is permitted to take place, strict regulations and controls over and above the current general rules and legislation would be required to be put in place to avoid unacceptable impacts on biodiversity features. Examples of such regulations and controls include: <u>exclusions of activities in portions of the zone; avoiding intensification or expansion of current impact footprints; additional gear restrictions; and temporal closures of activities during sensitive periods for biodiversity features</u>.*"[83] iv) These considerations have <u>not</u> been included in the ERA in respect of the particular vulnerable and endangered species in the area – including the African Penguin. This is despite the MCERA stating that "*Activities with restricted compatibility require a <u>detailed assessment</u> to determine whether the recommendation is that they should be permitted (general), permitted subject to additional regulations (consent), or prohibited*".[84]
h) The Marine Living	i) Very little is specified in relation to either piece of legislation – other than the need to safeguard the species protected by these

[81] ERA pp 45-46.
[82] Harris et al (2022) *National Coastal and Marine Spatial Biodiversity Plan, Version 1.2 (Released 12-04-2022): Technical Report* (**MSBP Technical Report**), p vi.
[83] MSBP Technical Report p 193.
[84] MCERA p 63.

	Resources Act, 18 of 1989 (**MLRA**) and Seabirds and Seals Protection Act, 46 of 1973[85]		statutes. It would, accordingly, be beneficial for a specific reference to the manner in which the obligations under these statutes affect TNPA's regulation of bunkering and/or STS Transfer operations – as well as issues to be considered in light of the MCERA and Noise Assessment findings on the behaviour of marine living resources, seabirds and seals.
i)	South African Maritime Safety Authority Act, 5 of 1998[86]	i)	Given the critical role of SAMSA in the permitting process and in respect of ensuring safety regulations of vessels, it would be helpful to set out the powers through which SAMSA operates as well as the basis on which SAMSA and the TNPA consult. This is particularly important in light of the moratorium ostensibly having been formally imposed by SAMSA and SAMSA being responsible for the Bunkering and STS Codes of Practice (Referenced at paragraphs 4.3.15.4). It is further critical in light of SAMSA having been designated in respect of preventing and combating pollution in terms of the National Oil Spill Contingency Plan described at paragraph 4.6.2.1.1.
		ii)	It would assist to incorporate these Codes of Practice as well as the Marine Notices set out at paragraph 4.3.15.3 in paragraph 4.3.13 dealing with SAMSA's powers so that they can be properly understood.
		iii)	We note that no mention has been made of the draft Bunkering and STS Codes of Practice published for comment in September 2022 and which appear not to have been finalised or withdrawn.

4.4. We note with concern the omission of the National Environmental Management: Waste Act, 59 of 2008 (**NEM:WA**) which contains specific obligations regarding management of waste, including express duties on the state (which includes TNPA)[87] and general duties on sellers of products that may result in hazardous waste including investing and assessing waste impacts; eliminating and remedying the source and effects of pollution on environmental degradation and taking measures to "*cease, modify or control any act or process causing pollution, environmental degradation or harm to health".*[88] While the "marine pollution" conventions and implementing statutes primarily regulate waste generated by offshore bunkering and STS Transfer operations, we flag the importance of considering responsibilities relating to waste management – particularly as this applies to spill clean-ups and waste effects reaching the shore and requiring onshore handling and management. These impacts

[85] ERA p 28.
[86] ERA p 28.
[87] NEM:WA, s 3.
[88] NEM:WA, s 16(3).

and regulatory considerations should be reflected in the TNPA's review of its standard operating procedures, guidelines and so on and should also be part of its considerations of co-operative government obligations vis-à-vis the Nelson Mandela Bay and Sunday's River Municipalities in respect of environmental impacts.[89]

5. The Marine and Coastal Environmental Risk Assessment (MCERA)

5.1. The MCERA recognises the sensitivity and vulnerability of Algoa Bay: The MCERA records in some detail the level of sensitivity of Algoa Bay[90] and pays specific attention to the vulnerability of its ecosystem.[91] Algoa Bay is known to support a high biodiversity of marine life, particularly reef-associated invertebrates and fish, as well as several breeding colonies of "critically endangered" (Damara tern), "endangered" (African Penguin, Cape Cormorant, Cape Gannet, Roseate Tern) or "vulnerable" (Caspian Tern) seabirds.[92] It notes that Algoa Bay has an ecological threat status of "vulnerable",[93] contains reefs classified as "vulnerable",[94] and that the bay is a major fish spawning and migration route,[95] as well as being a migrant route for whales[96] and dolphins[97] with "vulnerable" great white sharks and "near threatened" spotted ragged-tooth sharks found in the bay (both species also listed in CITES).[98]

5.1.1. While the ERA repeats the list of "sensitivities",[99] it somewhat modifies the MCERA's description of vulnerability.[100] Nevertheless, it retains the statement that "*Cumulative impacts within Algoa Bay are considered high and the ecological condition of the marine realm severely and severely modified…. Nonetheless, it can be expected that many of the biota and user groups within Algoa Bay would show vulnerability to some of the anticipated impacts associated with STS bunkering operations. This would not only include vulnerability to potential oil spills, but also to the noise and increased lighting associated with increased vessel traffic, the discharge of ballast water, and potential structural damage to mariculture operations".*[101]

5.1.2. Similarly, it repeats the statement that the taxa most vulnerable to hydrocarbon spills are coastal seabirds and that oil spill impacts on declining

[89] Note that municipalities are ordinarily responsible for land-based waste. No consideration is given to the "waste chain" following from bunkering-related ocean-based waste.
[90] See summary at MCERA pp 77-78.
[91] MCERA pp 78-80.
[92] MCERA p 10.
[93] MCERA p 10; 78-79.
[94] MCERA p 26.
[95] MCERA pp 13; 14; 16.
[96] MCERA pp 49-50.
[97] MCERA pp 66-67.
[98] MCERA p 39.
[99] ERA pp 42-43.
[100] ERA p 44.
[101] MCERA p 78; ERA p 47.

populations of seabirds in the bay (including the African Penguin) would be "*significant, not only on a national scale but also internationally".*[102]

5.1.3. We note that, in respect of African Penguins, it is not only the impact of spills and contaminants that need to be considered. The MCERA includes data indicating that Anchorage 2 lies at the centre of the core foraging area of breeding penguins from St Croix Island while a significant area of Anchorage 1 similarly lies within this key penguin population's core foraging range.[103] As indicated below, there are thus direct impacts on this key threatened species relating to its foraging ranges and noise impacts – in addition to the "unplanned" risks associated with release of hazardous substances into the marine environment.

5.2. <u>The significance ratings attributed to identified risks are in many cases "under-rated" in terms of consequence and probability.</u> Further, mitigation measures are often proposed without providing peer reviewed evidence of where (and whether) such mitigation measures have been effective. The result is that various risks reflect incorrectly classified pre- and post-mitigation significance. It is thus likely that the risks associated with both ordinary offshore bunkering and STS transfer operations, as well as unforeseen events are much more significant than presented in the MCERA. We provide examples of the difficulties with the risk assessments in the table which follows.

Table 2	
Risk	**Comments**
a) Collision of vessels with marine fauna / entanglement [104]	i) The MCERA notes that there has been a significant increase in vessel traffic (rising from an average of 96 to 245 vessels per month between 2013 and 2019 – prior to the Covid-19 pandemic). ii) The risks associated with increase in vessel traffic include physiological injury or mortality of cetaceans, turtles or other large marine fauna due to collision of vessels with animals basking or resting at the sea surface. The chances increase from May to December when humpback and southern right whales migrate through the area.[105] Critically, over the medium term, ship strikes are indicated as leading to evasive behaviours in stressed animals or long-term impacts including "*decreased fitness or habitual avoidance of areas where disturbance is common and in the worst case death"*.[106]

[102] MCERA p 80; ERA p 49.
[103] MCERA p 46.
[104] MCERA pp 83-84.
[105] MCERA p 83.
[106] MCERA p 83.

	iii) The MCERA acknowledges that an increase in vessel traffic will result in an increase in risk of collision and entanglement. While mitigation measures are recommended, there is no certainty or evidence presented that these mitigation measures will be effective. It is unclear, for example, how reporting a whale sighting will reduce the likelihood of collision or entanglement. In addition, the basis for recommended vessel speed reduction is unclear (nor is any evidence provided of vessel speeds where collisions with marine wildlife had occurred). iv) Further, the duration of the impact should at least be medium-term rather than short-term, and the probability "probable" rather than "possible" (particularly if one adopts a more risk averse and cautious approach taking seasonal variability of species presence into account). This would raise the consequence rating to medium, which would result in a more plausible significance rating of "medium", without mitigation. Given the uncertainty around the efficacy of mitigation measures, the significance rating ought to remain "medium" even with mitigation.
b) Seabed disturbance through anchoring and anchor dragging[107]	i) In the absence of a site-specific risk assessment having been conducted (the baseline environmental data having been determined by a desktop study rather than a site-based assessment of the actual ecological baseline at Anchorage 1 and 2), it is impossible to determine what the risks to the benthic environment will be, or to comment conclusively in this regard. (It also seems odd that one of the mitigation measures is to restrict bunkering activities to these Anchorage sites,[108] when we understand these to be the marine areas subject to study – and, further, Anchorage 2 has been identified as unsuitable for operations as set out in paragraph 6.3.4 below). ii) We recommend that a site-specific assessment of the environmental baseline of Anchorage 1 and 2 be conducted.
c) Lighting from tankers[109]	i) The MCERA notes that "*strong operational lighting used to illuminate the tanker at night can be a significant source of artificial light*."[110] It further indicates that this lighting can disturb and disorientate pelagic seabirds feeding in the area, or result in physiological and behavioural effects of fish and cephalopods. The artificial light can also lead to seabirds becoming disoriented and colliding with vessels (and the MCERA notes that Cape

[107] MCERA pp 85-86.
[108] ERA p 92.
[109] MCERA pp 91-92.
[110] MCERA p 91.

	Gannets and African Penguins – both endangered species – are to be expected within the Anchorages).[111] The extent of this impact, however, is indicated as being unknown, due to the absence of independent observers from vessels engaged in bunkering operations. ii) Despite these seemingly significant risks (and the acknowledged likelihood of endangered seabirds foraging in the Anchorages), the MCERA rates the risk as being of low intensity and limited to the area in the immediate vicinity of the vessel (local) over the short-term, resulting in very low consequence. However, while the extent may be local, the intensity (which the MCERA itself describes as "significant") should at least be "medium", and the duration, "long-term", given that bunkering has been conducted in Algoa Bay since 2016. This would result in a consequence rating of at least "medium". iii) The probability has similarly been underestimated, given that bunkering operations have currently resulted in an increase in ambient lighting and this impact is likely to persist into the future as long as bunkering operations continue. Indicating an appropriate probability rating of "definite" would result in an overall significance rating of "medium". The significance ratings should be rectified, as the impact associated with artificial lighting has been severely underestimated.
d) Underwater noise from explosion[112]	i) The MCERA records that "*underwater blasts…travel large distances before attenuating sufficiently to be harmless*."[113] Marine organisms may be subjected to an immediate kill zone (disruption of body tissue as a result of the blast) or a more extensive remote damage zone caused by negative pressure pulses. The MCERA notes, however, that "*as the blast levels of an unplanned event cannot be predicted, the assessment [of its impact on marine macrophytic algae, major invertebrate macrofaunal taxa, fish, turtles and marine mammals] is generic only, with only medium confidence in the assessment*."[114] Consequently, the conclusions and potential mitigation measures proposed in respect of this risk must be considered with extreme caution. ii) Noting the caution with which the MCERA's conclusion must be treated, the assessment does suggest that significant impacts

[111] MCERA p 91.
[112] MCERA pp 100-105.
[113] MCERA p 101.
[114] MCERA p 101.

	may be occasioned by an underwater explosion associated with bunkering activities: - Fish with swim bladders are significantly affected by underwater explosions, with the swim bladder rupturing and causing associated damage to adjacent organs including kidney, liver and spleen. The shock waves from an explosion in Algoa Bay are likely to affect fish both lethally and sub-lethally, depending on their distance from the blast. - Information on the effects of underwater explosions on swimming and diving birds is limited to experiments on ducks. The MCERA does not make any assessment of the impact of underwater explosions on diving seabirds, including the endangered African Penguin. - A number of studies have demonstrated that sea turtles are killed and injured by underwater explosions. - Similar to fish, injuries to mammals generated by underwater explosions are primarily trauma of various levels to organs containing gas, such as lungs, ears, and the intestinal tract.[115] iii) Again, the MCERA is highly deficient in its assessment of the impact of underwater explosions on marine biota. This is because first, the assessment is vague and fails to detail the source of potential explosions, and second, because the assessment again relies on a desktop analysis without conducting site-specific modelling of an explosion in Anchorage 1 and 2. It is therefore extremely difficult to comment on the assessment of this risk, as the risk has been inadequately described and seemingly underestimated. iv) The MCERA notes that an increase in underwater noise from an explosion resulting from a vessel collision would be of medium to high intensity depending on the taxa involved and their proximity to the blast. The effect would be limited to the Algoa Bay area (regional) over the short-term only, resulting in "medium" consequence.[116] However, the MCERA rates the likelihood of such an explosion occurring as improbable, and consequently rates the risk of physiological injury to marine biota as a result of underwater noise associated with an explosion as being of "low" significance. No mitigation is possible. v) While insufficient information has been provided in relation to this risk, it appears that describing the risk as "improbable" is

[115] MCERA pp 101-103.
[116] MCERA p 103.

	inconsistent with adopting a risk averse and cautious approach given the physiological damage that such an explosion could cause. The likelihood should rather be rated as "probable", which would bring the overall significance to "medium".

5.3. Significant questions remain unanswered in relation to the assessment of oil spill impacts: The MCERA records that 7% of the annual global spills originate from bunkering operations, and that in the coastal waters of Namibia and South Africa, STS Transfers contributed 14% to those spills affecting seabirds.[117] Since bunkering commenced in Algoa Bay in 2016, four major oil spills have occurred that have impacted seabirds. Each spill released roughly 200 L of oil into the marine environment, except for the MT Umnenga, which released 2000 L.[118]

Table 3

Year	STS Fuel Bunkering operator	Cause of spill	Receiving vessel	Species and numbers affected
2016	Aegean Oil Petroleum Network (now renamed and operating as Minerva Bunkering)	Ship was bunkering in bad weather. A bunker tank overflowed while bunkering. Initial reports estimated around 100 - 200 L. However, the actual amount spilled is thought to be much higher.	*MV* Energy Challenger	150 African Penguins
2019	South African Marine Fuels	Fuel leaked from a tank into the ocean that was not being actively filled at the time. Approximately 200 litres of bunker fuel spilled into the ocean,	*MV* Chrysanthi S	109 African Penguins 13 Cape Gannets 3 Cape Cormorants
2021	Heron Marine	Heavy fuel oil overflowed from the receiving fuel tank. It was estimated that at least 200 L of heavy fuel oil entered the sea.	*MV* Solin	1 African Penguin 3 Cape Gannets Note that it was a stroke of luck that the spill occurred during

[117] MCERA p 105.
[118] Data sourced from SANCCOB.

				the annual moult cycle for African penguins, thus they were confined to the islands.
2022	Minerva Bunkering	Hose transferring fuel between the Lefkas and Umnenga II ruptured. Around 2000 L of oil entered the ocean.	*MT* Umnenga	No oiled seabirds reported Note: the number of African Penguins on St Croix is now so low that the few remaining individuals could have avoided the slick.

5.3.1. The MCERA records, correctly, that oil spilled in the marine environment will have immediate detrimental effect on water quality. These effects include physical oiling and toxicity impacts to marine fauna and flora, localised mortality of plankton (particularly copepods), pelagic eggs and fish larvae, and habitat loss or contamination.[119] Should the spill coincide with a major spawning peak, it could therefore result in severe mortalities and consequently a reduction in recruitment.[120]

a) Seabirds are particularly negatively affected by oil pollution, and the MCERA records this: "*Chronic and acute oil pollution is a significant threat to both pelagic and inshore seabirds, many of which breed on the Algoa Bay Islands, which could be impacted by a spill. Diving sea birds that spend most of their time on the surface of the water are particularly likely to encounter floating oil and will die as a result of even moderate oiling, which damages plumage and eyes. The majority of associated deaths are as a result of the properties of the oil and damage to the water repellent properties of the birds' plumage…For species in Algoa Bay considered 'endangered' or 'critically endangered' deaths from oil exposure would remove them from the breeding population, with likely significant impacts on global populations*."[121]

b) Impacts of oil spills are also likely to affect turtle hatchlings which travel south on the Agulhas current from their hatching grounds further north.[122]

c) Seals are expected to be particularly vulnerable as oil would clog their fur and depending on how they maintain their core body temperature, they

[119] MCERA p 107.
[120] MCERA p 111.
[121] MCERA p 111.
[122] MCERA p 111.

may die of hypothermia (or starvation, if they had taken refuge on land). The seal colony at Black Rocks would most likely be affected by a spill, and population-level impacts are also likely if spilled oil reaches the haul-out sites and rookeries where these seals rest or annually mass to breed.[123]

d) Although cetaceans are able to detect and avoid oil slicks, they may still be impacted by the inhalation of volatile, toxic benzene fractions when the oil slick is fresh and unweathered.[124] However, coastal-oriented odontocetes that show strong site fidelity restricted to nearshore habitats could be significantly impacted by a spill oiling nearshore waters. If those habitats were oiled, the animals would experience both acute and chronic exposure through their respiratory system and through ingestion of oil-contaminated prey. This may have long-term effects on population structure and size.[125]

5.3.2. Based on the above, there can be no doubt that a hydrocarbon spill will have significant impacts on the marine environment and biota inhabiting it. However, the MCERA does not appear to have properly assessed the impacts associated with oil spills.

5.3.3. The MCERA advises that three OSM scenarios were considered, namely:

a) Small instantaneous spill of Marine Gas Oil (MGO) and Very Low Sulphur Fuel Oil (VLSFO) (0.5 m^3), due to rupture of the transfer hose during bunkering operations.

b) A 3 hour spill of MGO and VLSFO from one cargo tank (740 m^3) of the product tanker due to vessel collision resulting in loss of containment.

c) A 3 hour spill of MGO and VLSFO from one cargo tank (15,600 m^3) of the product tanker due to vessel collision resulting in loss of containment.[126]

5.3.4. However, in the absence of being able to interrogate the findings of the OSM Report, critical questions remain unanswered:

a) How did PRDW decide on the volumes of oil spilled to be modelled?

b) What is the speed of the release in each scenario?

c) Why was the threshold thickness of 0.3 µm of oil on the surface used for the modelling?

d) Why was a threshold of 1 g/m2 of oil used for shoreline oiling used for modelling?

[123] MCERA p 112.
[124] MCERA p 112.
[125] MCERA p 112.
[126] See also ERA p 54.

e) How were the three different ecological thresholds (1 ppb, 10 ppb and 100 ppb) for acute exposure (1 hour or less) to dissolved aromatic hydrocarbons at each layer in the water used in the modelling decided?

f) Why did PRDW explore mitigation options for an instantaneous spill of product (0.5 m^3) during bunkering operations at Anchorage 2 only?

g) Why were mitigation measures not applied in all scenarios?

h) How were the mitigation measures of booms, and following the spill, skimmers or sorbents to be used to recover spilled oil, decided?

i) Critically, the bunkering operations are taking place in the vicinity of the Agulhas Current. The Agulhas Current system has been described as one of the strongest western boundary currents, in the world's oceans, which can reach speeds of up to 2 m/s.[127] How has this been accounted for in the OSM? What impact will the Current have on the time oil takes to reach the shoreline? What are the implications of this strong current for the risks associated with conducting bunkering activities?

j) How does the bathymetry of the area affect sea currents, and consequently the movement of spilled oil and how quickly it reaches land?

k) The MCERA refers to "sensitive receptors" in Algoa Bay but nowhere are these specified. Commenting on the impacts of oil spills on "sensitive receptors" is accordingly not possible.

5.3.5. We reiterate that it is extremely difficult to comment with any specificity on the OSM results without having sight of the OSM Report. However, it is apparent from the Tables included in the MCERA[128] that even on PRDW's version, the extent and impact of oil spilled will be significant.

a) Even for a small instantaneous oil spill of MGO or VLSFO, there is a probability of shoreline oiling in exceedance of the 1g/m^2 threshold for St Croix Island and the Swartkops River Estuary from a spill at Anchorage 1,[129] and for all sensitive receptors from a spill at Anchorage 2.[130] The highest risk of oiling where the surface oil thickness exceeds 0.3 µm includes Brenton Island, St Croix Island and Jahleel Island. Even with mitigation, there is still a risk of surface oiling at Jahleel Island and the Sundays Estuary, and the probability of shoreline oiling in exceedance of the threshold remains unchanged.

b) The risks only increase in relation to a 3-hour spill of 740 m^3 of MGO or VLSFO from one cargo tank at Anchorage 1 and 2. In this scenario, there

[127] S Ponce de Leon, C Guedes Soares (2022) "Numerical study of the effect of current on waves in the Agulhas Current Retroflection" *Ocean Engineering* Vol 264.
[128] MCERA pp 116-121.
[129] MCERA pp 116 and 125.
[130] MCERA pp 117 and 125.

is a much higher chance of surface oiling where the surface oil thickness exceeds 0.3 µm for sensitive receptors as a result of a spill at Anchorage 1 or Anchorage 2. The probability of shoreline oil exceeding 1 g/m^2 also increases for sensitive receptors in Algoa Bay.[131]

c) In the scenarios modelled for a 3-hour spill of 15,600 m^3 of MGO and VLSFO from one cargo tank at Anchorage 1 and Anchorage 2, the risks are very high. The probability of surface oiling of >70% where the surface oil thickness exceeds 0.3 µm is confined to the Anchorages, but exceeds 30% for most places along the coastline. All sensitive receptors are at risk of surface oiling.[132] There is also a high (30% to 50%) probability of shoreline oiling along the coastline of the entire bay exceeding the 1g/m^2 threshold, with a probability of shoreline oiling on Brenton, Jahleel Island, and St Croix Island.[133]

d) In most scenarios, oil would reach the shoreline within 6 hours of the spill event. In almost all scenarios, sensitive islands including Jahleel and St Croix are impacted by both surface oiling and shoreline oiling. These islands are important seabird colonies. In multiple scenarios, oil spill impacts would extend beyond Algoa Bay and affect other receptors such as the Gamtoos and Kowie Estuaries. The MCERA records that "*A spill during transfer of product would be of medium to high intensity for most receptors depending on the taxa involved. Modelling results, however, show that the under certain scenarios the effect would extend beyond Algoa Bay area*."[134] There can be no doubt that the impacts associated with a spill of MGO or VLSFO at Anchorage 1 or 2, even in the smallest modelled amount of 0.5m^3, would be significant.

5.3.6. The MCERA assesses the significance of the risks associated with each spill scenario. However, only mitigation associated with small spills at Anchorage 2 was modelled, not in relation to Anchorage 1. Instead, the results of mitigation for Anchorage 2 were used as a "gauge" for mitigation of small spills at Anchorage 2. Similarly, modelling for the mitigated scenarios for larger spills was not done. Nevertheless, the MCERA proceeds to conduct a risk assessment of each spill scenario, taking into account mitigation. This is misleading. If mitigation has not been modelled – and there is no explanation provided as to why this is the case – then the risk assessment should be presented as without mitigation. This has not been done. In fact, the MCERA itself casts doubt on the risk assessment, noting that "*[w]ithout quantitative modelling results, however, the confidence in the risk significance for these scenarios is reduced*."[135] The risk assessment is speculative at best. This is

[131] MCECRA pp 118; 119; 126 and 127.
[132] MCERA pp 120; 121; 127 and 128.
[133] MCERA pp 120, 121; 127 and 128.
[134] MCERA p 131.
[135] MCERA p 132.

extremely concerning, given the purpose of the ERA being to inform standard operating procedures for bunkering going forward, and considering the role of the ERA in decisions concerning whether the moratorium on new bunkering licences should be lifted.

5.3.7. We do not propose to deal with each and every risk. We do however highlight the deficiencies in the risk assessment methodology.

a) First, there is no clear correlation between the OSM for the various spill scenarios, and the risks assessed. There is consequently no explanation of how the various consequence and probability ratings have been arrived at. It is therefore difficult to correlate the findings of the OSM in relation to, for example, probability of shoreline and surface oiling, with the consequence and probability of "very low" and "probable" in terms of spill effects on marine mammals.[136]

b) Second, there is no explanation of what the mitigation measures accounted for will entail in relation to each risk. In the absence of this detail, it is impossible to comment on the efficacy of mitigation measures, and whether their implementation is even possible.

c) Third, in many instances the consequence and probability of the risk have been significantly underestimated. The risk of spill effects on, for example, sandy beach and rocky shores, is listed as "possible" for 740m^3 and 15 600m^3 spills, and "probable" for a 0.5m^3 spill. The risk is reduced to "improbable" and "possible" respectively when mitigation measures are applied. This brings the overall risk rating from "medium" and "low" to "insignificant". Having regard to the OSM, and the probabilities associated with surface and shoreline oiling in each spill scenario, there is a very real possibility that the probability of the risks occurring have been significantly understated.

d) Fourth, in most instances, mitigation measures – which are not adequately described in relation to the specific risks – have been applied to bring the overall significance scores from "medium" or "low", to "insignificant". It is inconceivable that the risk of oil spills on the marine environment is "insignificant". This is most evident in relation to spill impacts on seabirds. The risk without mitigation is listed as "high" and is reduced to "very low" with mitigation.[137] This simply is not an accurate reflection of the risks to seabirds associated with oil spills. When the MV Energy Challenger released 100-200 litres of fuel in 2016, this impacted 150 African Penguins. The impacts associated with release of 200 litres (or 0.2m^3) were consequently devastating, notwithstanding the fact that the amount of oil released was far less than the minimum of 0.5m^3

[136] MCERA p 134.
[137] MCERA p 134.

modelled. A significance rating of "very low" in relation to impacts of oil spills is also inconsistent with the MCERA's finding that: "*The African penguin in particular, is also highly sensitive to hydrocarbon pollution from operational discharges and unplanned spill events, which with increasing traffic in the bay are likely to increase.*"[138]

e) Risks for endangered species should be categorised as "national", even for a 0.5m^3 oil spill. This is because an impact on, for example, endangered African Penguins, as a result of oil spills in Algoa Bay, will have implications for the population nationally.

5.4. The assessment of cumulative impacts is inadequate: The assessment of cumulative impacts is sparse. Save for listing a number of factors that are contributing to cumulative impacts, particularly anthropogenic noise[139] and oil pollution (linked to particular concern for populations of the endangered African Penguin and Indian Ocean humpback dolphin)[140] the MCERA does not engage with the interrelationships between these impacts, and how (1) existing bunkering; and/or (2) any additional bunkering will aggravate existing impacts on the marine environment (including those consequent on increased vessel traffic).[141]

5.4.1. The MCERA undertakes to provide "*a brief discussion of potential population-level and ecosystem-wide effects of disturbance and the application of the integrated ecosystem assessment framework for evaluating the cumulative impacts of multiple pressures on multiple ecosystem components*."[142] However, no such application is done and, besides detailing the theoretical aspects of assessing cumulative impacts, the MCERA fails entirely to conduct a rigorous assessment of these in relation to existing and anticipated bunkering in Algoa Bay.

5.4.2. This is a critical oversight. Algoa Bay, as the MCERA points out, is known to support a high biodiversity of marine life but also experiences high use by both commercial and recreational industries and the MCERA (and ERA) refer to existing cumulative impacts on the marine environment which have increased and are already considered "high".[143] It is therefore crucial to understand the impact that existing bunkering is having on the marine environment, taking into account the existing anthropogenic pressures, and whether the environment can sustain both existing bunkering, and anticipated bunkering.

5.4.3. In this regard, there are a number of references to "potential" cumulative effects which nevertheless result in "very low" significance (including the

[138] MCERA p 157.
[139] ERA pp 64-66; MCERA pp 92-98.
[140] ERA p 47 ("*Any release of liquid hydrocarbons… has the potential for direct, indirect and cumulative effects on the marine environment*"). See also MCERA p 78; 157.
[141] MCERA p 82; 153-154; ERA p 58.
[142] MCERA p 156.
[143] ERA p 47; 75; MCERA p 78.

impact of anchorage on sea-bed disturbance)[144] and areas where cumulative impacts of are not considered at all (including in relation to ship discharge in cases of non-compliance with MARPOL 73/78).[145]

5.4.4. In addition, the notion of cumulative impacts is not adequately considered in relation to the carrying capacity of Algoa Bay, shipping routes and each of the Anchorage areas.

a) Paragraph 3.6 of the MCERA (and paragraph 7.3 of the ERA) purports to deal with "marine ecological carrying capacity" which it describes as "*the maximum use that the physical processes of an area and the biota can withstand before becoming unacceptably or irreversibly damaged*."[146] However, no assessment of carrying capacity is presented. The MCERA simply records that "*It would therefore be of interest to scientifically measure the bays [sic] marine carrying capacity, in the light of the rapid development of the coastal economy and the growing marine industry and establish an effective evaluation index system to monitor the ecosystem carrying capacity.*"[147]

b) Despite this, it is recognised that "*ship-to-ship services in Algoa Bay promote South African Maritime Industry Development and encompass a whole set of value added services... **However, the benefit of bunkering for society must be weighed up carefully against the environmental sensitivity of a bay that has been experiencing increasing cumulative impacts over the past few decades**. Mitigation measures proposed for bunkering need to be thoroughly tested and meticulously adhered to, and environmental audits strictly and regularly undertaken, with severe penalties being imposed for non-compliance.*"[148]

c) As indicated in paragraph 3.6.2 above, the SoW (repeated in the scope of the MCERA) includes the requirement to consider the findings and outcomes of the carrying capacity assessment to inform the holding capacity of the Anchorage areas.[149] The ecological carrying capacity assessment presented in the MCERA and ERA has failed to address this requirement and therefore cannot serve a key purpose for which the MCERA (and ERA as a whole) was procured.

d) We emphasise that a thorough understanding ecological carrying capacity is critical to determining whether offshore bunkering and STS transfers should be permitted at all in Algoa Bay, and certainly whether there can be any expansion of offshore bunkering and STS transfer

[144] MCERA p 86.
[145] See MCERA p 88.
[146] MCERA p 156; ERA pp 69-70.
[147] MCERA p 157.
[148] MCERA p 157.
[149] MCERA p 134.

operations. This goes well beyond being "of interest". It is also material to the TNPA's considerations of its own obligations in relation to regulatory revision and gap analysis – as well as to considerations relating to the moratorium which are stated to rest on the outcomes of the ERA.

6. Noise

6.1. Concern regarding minimisation of noise impacts which should lead to cessation of offshore bunkering and STS Transfer operations: As indicated in paragraph 5.4.1 above, noise exposure is an environmental impact which the MCERA and ERA appear to consider, at least notionally, from a cumulative perspective.

6.1.1. To the extent that they do so, the MCERA notes: "*Of greatest concern [in terms of undeniable impacts of bunkering on the marine ecology] is the continuous decline in numbers of the endangered African Penguin and Indian Ocean humpback dolphin, both of which show immediate behavioural responses to the non-impulsive noise emissions from in-transit marine traffic and from stationary bunkering operations.*"[150] Noticeably, this conclusion is not repeated in the ERA.

6.1.2. The ERA does reproduce the risk ratings appearing in the MCERA including the indication of "Very High" risk of increase in ambient underwater noise both with and without mitigation.[151] Curiously, the ERA states that the reason for this "Very High" post-mitigation rating in the MCERA was "*due to the very low confidence in the results due to lack of noise modelling at the time when this report was compiled*".[152] However, the "subsequent" Noise Assessment is expressly referenced in the MCERA[153] and the specific impacts leading to the risk rating relate to behavioural disturbance, rather than the modelling of TTS and PTS impacts which are the focus of the Noise Assessment.

6.1.3. Further, the ERA does note the following in respect of behavioural responses which draw from the Noise Assessment:

a) "*For marine mammals of all hearing groups…. Behavioural response caused by cumulative noise exposure from marine ship traffic with up to four containerships transiting simultaneously for 1 hour at close distance is predicted to occur up to approximately 22km for all marine mammals*"[154] (emphasis added); and

[150] MCERA p 157.
[151] ERA p 59.
[152] ERA p 61.
[153] MCERA pp 97-98.
[154] ERA p 65. See also Noise Assessment p iv.

b) "*behaviour responses [for seabirds including penguins] may be experienced within 2.27 and 3.45 km from the closest bunkering site for stationery operations. For 1-hr cumulative in-transit scenarios, the zones of impact are larger, reaching up to 22.13km from the marine ship traffic transect*"[155] (emphasis added).

6.1.4. If regard is had to the foraging range of African Penguins relative to the Anchorage Areas as well as the location of St Croix island in particular (5-15 km from the area of highest shipping intensity), the cumulative in-transit impact of marine traffic appears certain to effect African Penguin behaviours. As pointed out by Pichegru et al[156] increased underwater noise negatively effects communication of African Penguins required for group foraging and the cumulative impacts of noise caused by offshore bunkering and STS Transfer operations is predicted to exacerbate existing threats to prey availability – the primary driver of global African Penguin population declines.

6.2. Lack of integration of Noise Assessment, MCERA and ERA conclusions: Related to the minimising of noise impacts described above, it is concerning that the details regarding behavioural impacts of noise reflected at paragraph 3.3.6 of the MCERA are not reflected in the body of the ERA (which draws selectively on the separate Noise Assessment). This results in the full extent of the impacts on behaviour of African Penguins being minimised.

6.2.1. This is despite the MCERA referring to the findings of Pichegru et al[157] in respect of the correlation between bunkering activity, increased shipping noise and African Penguin population declines on St Croix Island[158] and direct physical injury being one of a number of noise impacts – including interference with communication, echolocation, signals and sounds produced by predators or prey and behavioural changes or displacement from feeding or breeding grounds.[159]

6.2.2. The Noise Assessment does address behavioural responses, however, uses direct physical injury (in the form of hearing loss) to determine modelling thresholds.[160] This is repeated in the ERA which refers to behavioural and communication impacts but focuses on physiological effects in reference to

[155] ERA p 66. See also Noise Assessment p v.
[156] Pichegru et al (2022) "Maritime Traffic Trends around the Southern Tip of Africa – Did Marine Noise Pollution Contribute to the Local Penguins' Collapse? *Science of the Total Environment* 849: 157878 (**Pichegru et al**) p 7.
[157] Pichegru et al (2022) "Maritime Traffic Trends around the Southern Tip of Africa – Did Marine Noise Pollution Contribute to the Local Penguins' Collapse? *Science of the Total Environment* 849: 157878.
[158] MCERA pp 92-94.
[159] MCERA p 95.
[160] See reference to Masking and Behavioural Response in Noise Assessment pp 13 to 14. These impacts are not clearly accounted for in the modelling exercise which is focused on permanent and temporary hearing loss using the TTS and PTS thresholds and the description of zones of impact at p 34 .

noise impact criteria without the full explanation as to how hearing loss thresholds may be used as an indicator of wider impacts.[161]

6.2.3. Insofar as the ERA focuses on underwater noise impacts in terms of hearing loss, such physiological impacts are extreme and should never be an "anticipated" and regularly occurring impact which is intrinsic to a development (if it is to meet the constitutional requirement of being "ecologically sustainable"). Any development activity having such effects raises critical questions regarding whether it can ever be "ecologically sustainable". When viewed together with the potential behavioural impacts, and adhering to the precautionary principle, TNPA would be well-advised to call a halt to offshore bunkering and STS Transfer activities and engage in a thorough investigation of the carrying capacity of Algoa Bay.

6.3. Mitigation measures contemplate the continuation of bunkering and STS Transfer activities: While the Noise Assessment indicates that Anchorage 1 is "preferable" as a bunkering site in respect of noise impacts,[162] problematically, the recommended noise mitigation measures do not contemplate a "no go" option. We emphasise that in the context of an EIA, an impact with a significance rating of "very high" would constitute a fatal flaw for the project. This risk assessment appears entirely accurate, considering that there is no assurance that mitigation measures (reduction in vessel speed, vessel design adaptations, or vessel number reduction) are reasonable or indeed feasible.

6.3.1. While we support the incorporation of vessel design modifications through application of international recognised guidelines, it is not clear whether (or how) TNPA would be able to enforce regulation of receiving vessel design (or for that matter bunker barge / tanker design – and the role of SAMSA is unclear).

6.3.2. It appears that there is a policy imperative to expand port use, vessel traffic and bunkering activities. This indicates an intention to increase vessel numbers – not reduce them.

6.3.3. There is no basis for determining the numbers of vessels which may be accommodated in the bay to give effect to the mitigation measure of "minimising" noise impacts.[163]

6.3.4. The recommendation regarding use of Anchorage 1 for bunkering in the Noise Assessment has not been considered in relation to, *inter alia*:

[161] ERA pp 63-66.
[162] Noise Assessment p 39; 40.
[163] MCERA p 99.

a) the impacts of concentrating bunkering in that area on non-motorised water sports and recreational fishing activities;[164]

b) whether use of Anchorage 1 (with its shallower depth) renders bunkering viable in light of the primary vessels targeted for receiving bunker / fuel transfer offshore (and the observation that Anchorage 1 cannot accommodate vessels over 300m LOA);[165] whether use of Anchorage 2 should be "minimised" as suggested in the MCERA[166] or not used at all;

c) how this recommendation should be reconciled with the reported oil modelling finding that lower dissolved hydrocarbon concentrations were identified at Anchorage 2 than at Anchorage 1 (where shoreward movement of dissolved hydrocarbon concentrates would likely affect the Algoa 1 and 6 mariculture zones);[167]

d) how this recommendation should be reconciled with the notion that Anchorage 2 may be required for larger vessels "to be considered on a case-by-case basis" and with "*an unknown effect on the penguins in the proximity"* of this Anchorage;[168] or

e) the restrictions required in Anchorage 1 related to the applicable CBA1: Restore and ESA guidelines.

6.4. Certain mitigation measures or "project controls" are not supported by clear evidence. As noted above, this is a general flaw of the ERA. In relation to Noise impacts, however, we specifically note that the "Project Controls" at p 85 of the MCERA do not appear to have been adequately cross-referenced with those of the Noise Assessment. Both studies refer to the need for speed reduction with specific parameters included in the MCERA but not the Noise Assessment. While providing specific parameters is helpful in alerting TNPA to practical interventions, the source of the speed parameters is not stated – nor is there any reference to current speed limits. Accordingly, it is entirely unclear whether this is in fact a measure which can mitigate noise impacts. It is equally unclear which noise impacts speed reduction is likely to mitigate – noting, as we have above, that the MCERA indicates that behavioural harms cannot be mitigated.

[164] ERA p 43.
[165] ERA p 74.
[166] MCERA p 161.
[167] ERA p 54. We note that this also may have an impact on how mitigation of oil spills through pre-booming should be assessed as the MCERA notes that the OSM Study only modelled this mitigation option for instantaneous spill of product at Anchorage 2 (see MCERA p 115).
[168] ERA p 74.

7. Socio-Economic impact Assessment (SEIA)

7.1. The SEIA does not fulfil the requirements of the SoW and fails to consider socio-economic factors in a manner required by law: As a general proposition, we question the basis on which the SEIA has been prepared.

7.1.1. The SoW is narrow and confined only to the impacts of contamination on the fishing, aquaculture and tourism industries and recommendations for funding of appropriate mitigation measures. Assuming for the moment that this is appropriate (and we contend that it is neither appropriate nor the approach required by law), the SEIA does not appear to have answered the specific questions raised by this scope. While impacts on fishing, aquaculture and tourism are touched on, this section of the study is short, characterised by generalities and embedded among data referring to the purported economic benefits of the offshore bunkering industry. By way of example, the figures provided at paragraph 5.9 ("Scale of Bunkering in Algoa Bay") go well beyond oil impacts on the three industries operating in the bay. Further comments in paragraph 5.1 about the inadequacy of South Africa's maritime sector do not appear relevant nor do the complaints of the Maritime Business Chamber in relation to the SARS attachments in late 2023.[169]

7.1.2. Significantly, the socio-economic study fails to consider how costs of mitigating oil spills should be managed. We draw attention to the policy environment, including the principles for applied by the NDP, 2030 to "*Ensuring environmental sustainability and an equitable transition to a low-carbon economy"*. These include the principle of "*full cost accounting"* i.e. internalising environmental (and social) costs in development and investment decisions.[170] These principles are set out as part of the relevant strategic context in the *Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations, 2010.*[171] The Need and Desirability Guidelines generally set out the important relation between ecosystem and environmental conservation and preservation and economic development – including referring to the National Strategy for Sustainable Development and Action Plan 2011-2014 which defines "*Sustainability"* in line with the constitutional understanding of "*ecological sustainable"* i.e. "*it recognises that the maintenance of healthy ecosystems and natural resources*

[169] See SEIA p 30.
[170] Republic of South Africa, National Planning Commission (2012) *National Development Plan 2023: Our future – make it work* (**NDP**) p 200.
[171] DEA (2010) *Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations 2010* (GN891 in GG38108 of 20 October 2014) (***Need and Desirability Guideline 2010***) p 9; DEA (2017) *Guideline on Need and Desirability* (***Need and Desirability Guideline 2017***) p 6.

are preconditions for human wellbeing…. [and] there are limits to the goods and services that can be provided."[172]

7.1.3. The difficulties with the SEIA are reflected in the ERA which addresses socio-economics at paragraph 7.2.5. The tables produced in this section of the ERA (commencing at p 66) are not properly contextualised and omit critical detail provided in the scenarios and estimates produced in the Socio-Economic Study at paragraph 7.2 onwards.

a) By way of example, Table 6 at pp 66-67 of the ERA reflects details regarding the assumed impact of three different scenarios (leading to different volumes of spilled oil and varying scales of impact). The "small" scale spill, in a scenario of spillage of "*product during bunkering operations*" (with an estimated volume of 500 l and assumed impact of "*surface oil reaching scattered locations along the shoreline"* is very different form the "medium" scale scenario of "*spill of product due to vessel collision resulting in loss of containment"* (with an estimated volume of 740,000 l and assumed impact of "*surface oil reaching most of the shoreline of the bay"*) and the "large" scale scenario of "*spill of product due to vessel collision resulting in loss of containment"* of a volume of 15. 6 million l (and an assumed impact of "*surface oil reaching all the shoreline of the bay"*).[173]

b) The SEIA includes considerations of the frequency of the different types of spills and the socio-economic impacts (which are not supported by researched data and in fact exclude social impacts). However, the critical impact of ecological damage appears to be referred to the "marine ecological specialist". It is very difficult to understand, in light of this partial and unsupported assessment, how the summary table which appears as Table 6 can possibly be either accurate or at all meaningful.

7.1.4. This said, the SoW for the SEIA is patently problematic. As indicated above, even if considering that the ERA is not conducted in terms of the EIA, it must of necessity, comply with the requirements of environmental decision-making set out in NEMA. The Constitutional Court has made it clear that "*NEMA makes it abundantly clear that the obligation of the environmental authorities includes the consideration of socio-economic facts as an integral part of its environmental responsibility"*.[174]

7.1.5. This is not limited to the consideration of socio-economic factors in the context of an EIA: the principle confirmed by the Court is that a government

[172] Cited in Need and Desirability Guideline 2010 p 10; Need and Desirability Guideline p 7; *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province* 2007 (6) SA 4 (CC) (***Fuel Retailers***) para 44.
[173] SEIA p 58.
[174] *Fuel Retailers* para 62.

department tasked with environmental regulation must consider socio-economic factors as part of its environmental assessment processes. This principle applies to TNPA in this case – where TNPA has called for the ERA in order to exercise its environmental obligations.[175]

7.1.6. With this legal requirement in mind, we question the utility and lawfulness of the limited scope of the SEIA as well as statements made in the ERA which allude to the relevant legal requirements in statements such as "*a balanced approach is required involving sustainable STS bunkering operations that contribute towards maritime development while preserving the region's ecological values and the well-being of its communities"*.[176]

7.2. The economic assessment provided is confusing, lacks proper contextualisation includes errors and is unduly focused on economic benefits to bunkering operators: Given what does appear in the SEIA, we are particularly puzzled by the lack of insight it provides into socio-economic context of the offshore bunkering and STS Transfer business in Algoa Bay.

7.2.1. Paragraph 5.1, for example, does not contextualise these activities in terms of the role of the Ports of Ngqura and Port Elizabeth in facilitating maritime trade, shipping routes and shipping traffic or in relation to port-side re-fuelling services available at these ports or the ports north and south-west of Algoa Bay (i.e. East London, Durban, Richards Bay and Cape Town). While paragraph 5.8 does provide some of this context, the analysis provided simply does not allow for a proper understanding of the socio-economics of offshore bunkering and STS transfer in Algoa Bay.

a) An account of the economic landscape which was capable of informing the TNPA's assessment of whether bunkering is a "justified economic and social development" or "ecologically sustainable" within the legal meanings of these terms, would need to describe the *status quo* of Algoa Bay offshore bunkering and STS Transfer operations and consider the impacts of increasing, reducing or eliminating offshore bunkering and STS Transfer activities in the bay and in relation to the various value chains / service industries benefiting from bunkering and STS Transfer operations as well as those which might benefit from the cessation or minimisation of such activities. This information is simply not provided and baseline economic data (as well as economic modelling to account for different scenarios) is entirely absent.

b) Not only is this illogical, but it fails to address the cumulative impacts of existing and future economic activities which is critical for sound

[175] See NEMA s 2(1); *Fuel Retailers* para 67.
[176] ERA p 75.

integrated environmental decision-making.[177] If offshore bunkering and STS Transfer operations cannot be sustained, this is itself a reason to consider it an undesirable development / economic activity which should not expand and should potentially cease.[178]

7.2.2. Comments at paragraph 5.6 regarding Ship Chandlery are similarly vague. No reference is made to the specific agents involved, the charges and costs involved, the precise goods and services offered (including whether the economic benefit is to the immediate vicinity of the port or extends wider), and the extent to which markets created through chandlery services are dependent on, *inter alia,* offshore bunkering, increased shipping traffic, size of vessels.

a) Problematically, statements regarding the nature of chandlery services appear to be highly generalised and unrelated to the specifics of the Port of Ngqura (or Port of Port Elizabeth).

b) We note the statement at p 28 that "*Economic literature on the maritime services industry in South Africa, into which the chandlery industry falls, is limited. However, the economic multipliers associated with ship chandlery can be understood in terms of direct, indirect and induced impacts"*. What follows in the SEIA, however, does not link such effects to the specifics of the Ports in question; explain how these are effects are contingent upon / influenced by ships engaged in offshore bunkering – and no figures are put to any of the statements in terms of costs, financial benefits, volume of goods provided or other economic indicators.

7.2.3. Similarly, the reference to crew changes at paragraph 5.7 becomes meaningless without linking such changes to offshore bunkering or STS Transfer activities; or providing any details regarding consequential financial flows. The data at paragraph 5.9.4 include a number of assumptions which make it very difficult to connect the numbers of crew changed at-anchorage with the reason for vessels being at anchorage being tied to bunkering (or, conversely, that no crew change would occur if bunkering was quayside, or if offshore bunkering was not possible). Statements about "*economic activity throughout the hospitality industry"* are, further, not linked to actual income.[179]

a) We note that the comparator between estimated annual average crew change and estimated bed nights provided at p 34 has been referenced against the average duration of stay in South Africa and estimate of bed nights generated in 2022.

[177] *Fuel Retailers* para 72.
[178] See *Fuel Retailers* para 74.
[179] SEIA p 34.

b) These statistics are an inappropriate comparator. While (presumably) they cover bed nights linked to both the leisure / tourism sector and business sectors, bed nights associated with crew changes would be linked to business travel with attendant services differing. Moreover, while not specified in the study, the "bed nights" referenced at p 34 presumably refer to accommodation which is local to the Port of Ngqura and/or Port of Port Elizabeth. There is no indication of whether the "beds" in question are in establishments dependent on business travel and/or business from bunkering crews (or even Port activities) or whether hospitality options in the area are otherwise well served by other business travellers and/or tourists.

c) In addition, there is no intersection with the analysis provided at paragraph 6.4.3 which focuses on "bed night" figures obtained in respect of the Nelson Mandela Bay Municipality (a comparison suggests that the "bed nights" generated by crew change remains a very small fraction of the total bed nights in the NMBM).

d) In terms of actual financial gains in the immediate vicinity, the closest the SEIA comes to figures is the hearsay of industry "Stakeholders" indicating that "*a crew change of 10 people, with three nights' accommodation, flights and transfers would cost the shipper in the order of R120,000*".[180] There is no basis for assessing whether this spend (which appears relatively small) is meaningful within the context of the local economy (and how an increase or decrease or cessation of offshore bunkering might have an impact on this income).

7.2.4. Paragraph 5.9.1 which addresses refuelling provides volumes of fuel and numbers of STS fuel transfers (Figure 7), would benefit from clarity in terminology which made it clear that all values included related to offshore bunkering activities. Further, there is no differentiation in terms of price or customs paid (apparently nil)[181] – including in respect of different fuel types (VLSFO, MGO, HFO). We note the statement that "*An indicative cost / ton of the bunkers was not obtained for the purposes of the study since this is being commercially sensitive. The status quo however is that very little of the value chain of the fuel supply falls within South Africa*".[182] **This begs the question of what financial benefit, if any, derives from offshore bunkering activities**. In addition, it is unclear why cost/ton of bunker is "commercially sensitive" (when these rates are publicly available) and why it was not possible, as part of the economic aspect of this study, to model income from fuels that benefits South Africa. The lack of information and certainty expressed in paragraph 5.9.1 is highly problematic. Given the environmental

[180] SEIA p 54.
[181] SEIA p 31.
[182] SEIA p 31.

risks, it is not clear how there can be any notion that development including offshore bunkering can be "ecologically sustainable" or how this can be a "justified social and economic development" as contemplated by section 24(b)(iii) of the Constitution.

a) We flag that the number of directly employed staff (238) is relatively small and there is no indication of how many of such staff are South African and/or local. Figures provided by the Minister of Transport on 6 May 2022 in a response to a parliamentary question indicate that the three barge operators at the time employed "*119 seafarers of which 9 are South African seafarers and the remainder foreign seafarers, on oil tankers".* No information was provided about management personnel and figures for South African staff employed by Off Port Limit Operators (32 persons); OPL boats servicing bunker calling ships (44 persons) were small in number.[183] It is highly unlikely that the number of South Africans employed by the barge operators and/or OPLs would have increased dramatically in the period between 6 May 2022 and 27 October 2023 (the date of publication of the SEIA).

7.2.5. Paragraph 5.9.2 references unnamed and unidentified "stakeholders" who "*mentioned that the primary reason for ship's anchoring in the bay is to take on bunkers, and that typically one load is taken on by each ship"*. The absence of record-keeping is problematic – particularly as the figures which are used in the remainder of the paragraph are based on an assumption that "*no vessels visit the anchorage solely for service reasons*". It is unclear how this assumption can be made in the absence of data regarding reasons for vessels anchoring in Algoa Bay.

7.2.6. Paragraphs 6.1-6.3 deal with the economies of the Eastern Cape, Nelson Mandela Bay Municipality and Sundays Valley Municipality. The data here, however, does not appear linked to the role of offshore bunkering and STS Transfers (or even secondary industries benefiting from these operations). Moreover, these links do not appear to have been made in paragraph 6.4 addressing "*industries impacted by STS bunkering"*. Critically, there is little attention to paid to the possibility of changing technologies in fuelling of vessels or any associated timelines. A key aspect of assessing economic and social impacts is continuity. This is linked to the principles of inter- and intra-generational equity embodied in section 24(b) of the Constitution as well as NEMA's directive principles. A critical set of questions in this regard include: Who benefits from bunkering? Whose needs does bunkering serve? Is bunkering in the developmental, cultural and social interests of the people of the NCEM and Sundays River Municipalities; Eastern Cape and South Africa

[183] Available online <https://pmg.org.za/committee-question/18655/> (accessed 30 January 2024).

as a whole? It is sufficient to consider economic needs only from the point of view of bunkering operators and/or shipping traffic.[184]

7.2.7. We note that the description of the STS Transfer Industry Participants at paragraph 6.5.2.1 contains material errors. These include incorrectly indicating that the holding company of Aegean Marine Petroleum (Pty) Ltd "*is listed on the New York Stock Exchange*". As a consequence of Chapter 11 proceedings, Aegean Marine Petroleum (Pty) Ltd was bought by Mercuria Energy Group Limited which is fact an entity registered in Cyprus which at the time of the merger filing in South Africa was ultimately controlled by MDJ Oil Trading Company.[185] No reference is made to the identity or holdings of the remaining two licenced bunkering operators.

7.3. Mitigation measures recommended for impacts on aquaculture emphasise planning but neither address the SoW nor critical risks identified in the remainder of the ERA: The SEIA notes "oil spill risk" and "water quality concerns" without reference of discussion (beyond a brief paragraph describing each impact).[186] Significantly, there is little connection between the reference "Water Quality Concerns" here and the description of risk of invasive species and pathogens in the MCERA. Potentially due to the lack of analysis, the mitigation measures reflected under the "*Path Forward: Sustainability and Environmental Stewardship*" are in many ways generic and do not address the issue of how to fund remedial measures.

7.3.1. This said, the description of an appropriate regulatory framework reflects a truism i.e. that "*Effective regulation and enforcement of environmental standards for bunkering operations are essential. Stringent rules should be in place to minimize the risk of oil spills, have in place an adequate clean-up strategy in the event of a spill and control the discharge of ballast water*".[187] We would add that the regulatory environment needs to address marine spatial planning and ensure that rigorous EIA processes are put in place in respect of all activities development activities in the bay. We note that the specific recommendations appearing at p 44 do not appear in the body of the ERA Report.

7.3.2. In addition, we note that the issue of structural damage to mariculture operations considered by the MCERA (including consequences of non-native salmonid species entering the bay's ecosystem)[188] is not clearly addressed by the SEIA. While the MCERA reflects this risk as "very low", the relevant mitigation measures include the consideration of exclusion zones and identifying alternate site locations. It is not clear whose responsibility it is to

[184] See *Fuel Retailers* paras 75-76.
[185] *Mercuria Energy Group Limited / Aegean Marine Petroleum Network Inc* (Competition Tribunal Case No. LM261Feb19) para 3.
[186] SEIA p 43.
[187] SEIA pp 43-44.
[188] MCERA pp 99-100.

initiate these processes – and how such "best practice measures" are to be implemented by the TNPA (and if not by the TNPA, which body should be responsible). In this regard, we repeat what we state in relation to the MSPA at paragraph 4.3.2(g) above regarding the need for proper spatial planning and regard being had to the relevant sea-use guidelines. It should also be noted that this recommendation needs to be considered in the context of the indication by the Noise Assessment and MCERA that only Anchorage 1 should be utilised with the attendant consequences, including those we raise at paragraph 6.3.4 above.

7.4. <u>The fisheries industry is poorly described and impacts on fisheries are generic</u>: Paragraph 6.4.2 of the SEIA does not deal with the impacts or operation of purse-seine fishery in the bay (as is highlighted in paragraph 2.4.2 in the MCERA). Similarly, no reference is made to the traditional linefish, squid, demersal shark longline or South Coast rock lobster fisheries, nor to the recreational fishing sector – including its related revenue streams (noting the estimates of 2,118 boats per day in Algoa Bay reflected in the MCERA).[189] As is the case with the intersection between Aquaculture and offshore bunkering, "challenges posed" are generic with little to no data supporting the risks of oil spill, water quality and pollution and navigational safety. This is concerning as while the steps proposed in respect of a "*path toward sustainable coexistence"* are, in our view, key to best practice / truisms, there is no actual assessment of impacts by offshore bunkering and increased marine traffic to the specific industries highlighted in paragraph 6.4.2. Of particular note is the reference to the need to permit over-fished stocks to recover in the interest of benefiting small-scale fishing communities. Against the socio-economic data provided in paragraphs 6.1 to 6.3, this would appear to be a critical consideration. We also note a number of assumptions made about the "sustainable practices" of the fishing industry itself without regard to challenges in that sector as it intersects with the ecosystem services of the bay.[190]

7.5. <u>Loss of tourism revenue due to African Penguin population decline is not considered</u>: A key consideration in relation to the impact of bunkering on tourism in paragraph 6.4.3 is not properly considered. While oil spill risk, the impact on the marine ecosystem and "perceived environmental risks" are listed, there is no calculation of actual losses to tourism in the event of detrimental ecological impacts – including the continued decline (and risk of extinction) of the African Penguin population. In this regard, there is no intersection between this risk and those highlighted by the Noise Assessment and MCERA. While the reference to a regulatory framework, environmental monitoring, collaboration, investment in technology and "sustainable practices" are undoubtedly important risk mitigation measures (and the issue of the absence of clear regulatory of bunkering is a clear issue), the absence of proper analysis of the intersection between bunkering impacts and economic effects on

[189] MCERA p 68.
[190] See MCERA pp 33-34.

tourism means that specific recommendations are absent. This is highlighted by what appears at paragraph 6.5.1 (including concerns regarding biodiversity impacts, noise impacts on endangered species; the economic effects of Humpback Whales and Southern Right Whales moving further offshore).

7.6. Impacts on tourism exclude the intersection between tourist attractants, recreational marine activities and economic benefits or opportunity costs: The description and consideration of impacts on tourism, does not appear to take account of the "recreational marine activities" reflected in the MCERA (including, recreational ski boat fishing; scuba diving; yacht sailing; open water swimming; surfing; surf skiing; kayaking; windsurfing; kite surfing and marine-based ecotourism).[191] Accordingly lost revenue / opportunity costs related to "*organised sporting events, gear rental, retail and restaurants"* as well as shopping areas identified in the MCERA is not considered – nor is the statement "*Should water quality in Algoa Bay be compromised, this would directly affect income generated by these areas"*.[192]

8. Conclusion

8.1. The BLC contends that Algoa Bay is not an appropriate environment for offshore bunkering and STS Transfer operations – insufficient data is provided to render it an economically or socially "justified" activity and all indications in the ERA are that it cannot be considered "ecologically sustainable". Accordingly, the moratorium should become permanent, and existing bunkering operating licences withdrawn (or at the very least, not renewed with a period allowed for secondary industries to redirect their target-markets although the extent to which this is necessary is unclear).

8.2. In the event that TNPA is not in a position to permanently suspend offshore bunkering and STS transfer operations in Algoa Bay:

8.2.1. The existing moratorium on new bunkering operator licences should remain in place until better regulation is promulgated (including EIA requirements as set out below).

8.2.2. The existing moratorium should be extended to include renewals of offshore bunkering and STS Transfer operations pending establishment of an appropriate regulatory framework (including EIA requirements);

8.2.3. TNPA should engage pro-actively with DFFE and the Minister to ensure that DFFE adheres to its constitutional and statutory obligations in respect of the marine and coastal environment. This can most effectively be achieved by the Minister gazetting offshore bunkering and STS Transfer activities as "listed" activities for purposes of application of the EIA Regulations. Noting the medium-term duration of bunkering operator licences and the dynamism

[191] MCERA pp 67-68.
[192] MCERA p 68.

of the marine environment, both applications for new operator licences and renewals should be accompanied by an EIA. We note that such requirement should be in addition to any norms and standards promulgated by the Minister

8.2.4. SAMSA should ensure that its Bunkering and STS Codes are updated to incorporate international safety and noise control standards. These should be republished with a clear timeline for finalisation.

8.3. TNPA should ensure that all revised operating procedures, guidelines, permit conditions or other regulatory controls are published for comment together with an amended and updated ERA and EMP.

8.4. Clear recommendations arising from the ERA should be specified with particular reference to the objective of updating TNPA's regulatory framework and with regard to important regulatory gaps. These should be presented in the executive summary and/or opening chapter of the ERA.

We welcome your engaging with us further regarding our comments and suggested way forward. We are mindful of the regulatory vacuum in which the ERA has been conducted and the material risks to TNPA in basing its decision-making on documentation that contains material gaps or is otherwise unrelated to TNPA's stated objectives and statutory and constitutional obligations. Accordingly, we trust that the TNPA as well as its consultants will continue to engage with ourselves and other stakeholders in taking this process to conclusion.

Yours faithfully,

BIODIVERSITY LAW CENTRE NPC

***Per* Nina Braude and Kate Handley**