TotalEnergies EP South Africa B.V.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE OFFSHORE PRODUCTION RIGHT AND ENVIRONMENTAL AUTHORISATION APPLICATIONS FOR BLOCK 11B/12B – REF NO: 12/4/13 PR

Draft Environmental and Social Impact Assessment Report

CHAPTER 13

REPORT NO: 41105306-358669-10
SEPTEMBER 2023

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WSP

Building 1, Maxwell Office Park
Magwa Crescent West, Waterfall City
Midrand, 1685
South Africa

Phone: +27 11 254 4800

WSP.com

QUALITY CONTROL

Issue/revision	Final issue
Date	18 September 2023
Prepared by	Olivia Allen Rizqah Baker
Signature	
Checked by	Helen Crosby
Signature	
Authorised by	Olivia Allen
Signature	
Project number	41105306
Report number	41105306-358669-10

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13 CONCLUSIONS AND RECOMMENDATIONS

This chapter provides a summary of conclusions on the key findings of the Impact Assessment Phase undertaken for the Project. In addition, an Environmental Impact Statement, detailing the EAP's recommendations and conclusion regarding the issue of an EA for the Project, is provided.

13.1 IMPACT ASSESSMENT

The assessment of potential impacts has been informed by various technical (modelling and other specialist) studies that have been conducted for the Project. The potential impacts associated with normal operating conditions for the Project activities are addressed in Section 13.1.1, while potential impacts associated with accidental / unplanned events are assessed in Section 13.1.2. Impacts that were deemed to be insignificant were screened out and were not included in the assessment, for the reasons provided in Section 8.3.

13.1.1 NORMAL OPERATIONS

Impacts were assessed for each of the Project phases, namely exploration, offshore surveys, construction (which includes production and appraisal well drilling), and decommissioning. For each of these phases, the potential impact/s on receptors for the following aspects were assessed: air emissions, underwater noise, ambient air noise levels, light emissions, discharges to sea (produced water, drilling fluids and cuttings, ballast water and routine discharges), physical disturbance of seafloor sediments, presence of sea floor infrastructure, presence of above water infrastructure, maritime safety zones, impact on intangible cultural heritage, impact on household livelihood, impact on fisheries, and the economic effect of spend on local goods, services and labour.

Of these, the most significant potential negative impacts are:

- The impact of drill cuttings discharges on turbidity in the water column and suspended sediment concentrations on epifaunal communities (unmitigated=high; mitigated=medium).
- The potential impact related to the introduction of alien invasive marine species due to discharges of ballast water from the drill rig and vessels (unmitigated=high; mitigated=medium).
- Direct loss of epifauna living on hard substrata on the seabed along the production pipeline route or in the areas where concrete is placed (unmitigated=high; mitigated=low).
- Impact on various aspects which make up people's intangible cultural heritage, which include ancestry / spirituality and sense of place (unmitigated=medium to high; mitigated=very low to medium).
- The contribution of the Project to greenhouse gasses and climate change during exploration, construction and production (unmitigated=medium; mitigated=negligible).
- The impact on commercial and small-scale fisheries as a result of disturbances to marine habitat (unmitigated=medium; mitigated=low to negligible).
- The potential impact on health, safety and security resulting from Project workers spending leisure time in local communities and impacts on air quality as a result of emissions from support and supply vessels (unmitigated=medium; mitigated=low).

The most significant potential positive impacts are:

- Impact on economic output and GDP, jobs, household income and household livelihood as a result of spending on local goods, services and labour during the construction phase (high+).
- Impact on economic output and GDP, and on government, during production operations phase(medium+).
- Impact on jobs, household income and household livelihood as a result of spending on local goods, services and labour during the production operations phase (medium+).

Impact significance of the remainder of the potential impacts range from negligible to low. This includes underwater acoustics that has been modelled to identify the thresholds at which marine life is affected by Project activities, particularly, drilling, Vertical Seismic Profiling and sonar surveys.

The significant potential impacts are further described below.

13.1.1.1 Greenhouse Gas Emissions and Climate Change

GHG emissions from Project activities would result from possible well flow testing (non-routine flaring), and the mobile GHG emissions associated with the drill unit, helicopters, supply vessels and tug boat. The key GHGs for the Project include CO_2, CH_4 and N_2O. It is anticipated that the direct GHG emissions resulting from Project activities that are operated and controlled by TEEPSA will amount to a total of 1,5 $MtCO_2e$. The GHG emissions from the re-commissioning of the F-A platform will total to 4 $MtCO_2e$ over the Project life span.

Within the context of the national GHG inventory and targets, this contribution of GHG emissions is considered to be **medium**, before mitigation, and **negligible**, with mitigation. Key mitigation measures include the use of a high-efficiency burner for flaring during well flow testing, and for TEEPSA to continue to engage with PetroSA regarding the use of good international industry practices in the operation and maintenance of the F-A Platform.

13.1.1.2 Discharge of Drilling Fluid and Cuttings

The installation of exploration, appraisal and production wells in Block 11B/12B is expected to result in a discharge of drill cuttings, WBMs. Drilling materials can impact both water and sediment quality through the introduction of toxic compounds, decreased oxygen levels, deposition of particle matter on the sea floor and changes in sediment grain structure. Discharge directly onto the seafloor adjacent to the wellbore would also smother sedentary benthic species. Furthermore, discharge of excess cement around the wellbore and leaching of cement additives into the surrounding water column can be toxic to marine life.

WBMs will be used in the initial stages of well drilling (riserless stage) and the riser stage of drilling. The main ingredient of WBM is freshwater or seawater, making up to 85-90% of the total volume of the WBM. The impacts of discharged WBMs toxicity levels and potential for anoxia is therefore considered to be low. However, the impact significance of increased turbidity in the water column and elevated suspended sediment concentrations on epifaunal communities has been assessed as **high**, without mitigation.

Drill discharge modelling results show that, depending on the well location, potential impacts can extend beyond the confines of the 11B/12B Application Area, with the worst-case upper water column impacts' intersecting with the Southwest Indian Seamounts Marine Protected Area (MPA) to

the southwest of Block 11B/12B. The area where cumulative environmental risks are expected within the modelled plume covers approximately 5 to 10% of the surface water area of the MPA, and approximately 2.5% of the bottom water area of the MPA.

The key mitigation measure recommended is to undertake supplementary baseline surveys within Block 11B/12B, to inform placement of wells, with the aim of preventing disturbances to declared / proclaimed sensitive areas and habitats, such as the Southwest Indian Seamounts MPA to the southwest of the Block.

13.1.1.3 Discharge of Ballast Water

Ballast water will be used and discharged by, for example, support vessels and the drilling unit (rig) when the pontoons are partially ballasted with seawater for stability). Ballast water and infrastructure associated with oil and gas production will, over time, develop a fouling community of marine epifauna which may consist of alien invasive species. The potential impact related to the introduction of alien invasive marine species is considered to be **high**.

However, due to the highly dynamic, wave-exposed coastline of South Africa, which contributes to minimising the establishment of alien invasive species this impact is unlikely. The key mitigation measures is to thoroughly clean infrastructure (e.g. wellheads, BOPs and guide bases) used in other locations before deployment. With this mitigation, impact significance can be reduced to **medium**.

13.1.1.4 Physical Disturbance of Seafloor Sediments

Anchoring and laying of infrastructure over hard ground or boulder fields will result in physical damage to rock outcrops or the inversion of boulders on the seabed. Construction of pipelines (for either routing option) across subtidal reefs will require permanently attaching the structure to the substratum in a manner that is sufficiently strong to resist the action of the sea. The use of concrete to cement pipelines in place is the most feasible option. This would result in the direct loss of epifauna living on these hard substrata along the pipeline path or in the areas where concrete is placed. This impact has been assessed to be of **high** significance, before mitigation, mostly since recovery of disturbed deep-sea coral communities can take up to 30 years, or longer.

The key mitigation will be to ensure that infrastructure is not located within one km of any sensitive communities, habitats or structures. If this is not possible, an out-of-kind /compensatory mechanism needs to be developed as part of a Biodiversity Action Plan (BAP), if required.

13.1.1.5 Spending on Local Goods and Services and Labour

Procuring goods and services in South Africa for the various Project phases will result in an increase in local economic activities, resulting in GDP growth, and will positively impact jobs, either by sustaining existing jobs or creating new jobs. These economic opportunities could have a positive impact by creating and/or enhancing household income, whether direct, indirect or induced, thereby contributing to the local communities.

The positive impact on household income will also positively impact the government in terms of household income (personal and corporate) tax generation. Furthermore, given the nature of the Project, the national government will benefit from the Mineral and Petroleum Resource Royalty (MPRR) taxes as well as a carbon tax.

Economic modelling results indicate that the total local spend on goods and services during the Project's construction period would contribute R27 billion to economic output, of which R13.9 billion

will be a direct impact. This will increase GDP by R8.2 billion. R25 billion will result from the re-commissioning and refurbishing or modifying of the F-A Platform that is expected to have a high local content.

The Project's construction phase will support 5 547 direct jobs, the majority of which will be created by PetroSA for the re-commissioning of the F-A Platform and refurbishment/modifications. The Project Construction Phase, excluding the F-A Platform upgrade, is expected to support 634 direct jobs.

The main sectors estimated to benefit from employment during construction include mining, manufacturing, trade and accommodation, and general government and community services.

The drilling of the production, appraisal and exploration wells, installation of the production pipeline and subsea production system, and subsequent decommissioning will create fewer local, direct jobs, given the specialised nature of the work to be done.

The production phase will increase economic output by R3.0 billion per annum, of which R1.4 billion will be directly related to the Project. The GDP impact due to the increase in economic output is an estimated R1.4 billion per annum. The main sectors estimated to benefit from production and GDP during the operation phase include mining, transport and storage, real estate and business, and manufacturing. In conjunction with the economic benefits linked to Project activities, there will be investment into local economic development initiatives through the SLP prepared as a requirement of the PR application.

The positive impacts linked to spending on local goods, services and labour have been assessed as **low(+) to high(+),** depending on the relevant Project phase. One of the key measures that could enhance the economic benefits of the Project would be for TEEPSA to investigate options for local procurement for the production pipeline construction.

13.1.1.6 Impact on Intangible Cultural Heritage

Any impact on the integrity of the coastal and marine ecosystem through disturbance, pollution, noise impacts from the various Project phases could negatively affect aspects which make up the intangible cultural heritage of communities situated in the coastal zone. These aspects include ancestry/spirituality and sense of place. Because the bulk of the Project activities will take place offshore, and exploration, construction and decommissioning activities will take place over the short to medium terms, the impact of the Project on intangible cultural heritage, for these phases, has been assessed as **medium**. For the longer production phase, the impact has been assessed as **high**.

Engaging with relevant communities to undertake a ritual event/s that supports communities' engagement with ancestral spirits and with living communities/indigenous people to allow for the usage of the sea, is recommended. This aspect will be included in the Project-specific stakeholder engagement plan for the Project.

13.1.1.7 Impact on Livelihood of Fishers

There is no overlap between Block 11B/12B and fishing grounds for inshore hake trawling, demersal longline fishing, mid-water trawl fishing, traditional/commercial line fishing, small pelagic purse seine fishing and south coast rock lobster fishing.

There is an overlap of Block 11B/12B with established fishing grounds for deep-sea hake trawling but this is outside of the Project Development Area and the overlap with the Exploratory Priority Area is limited to a small area along the northern boundary. There is an overlap with large pelagic longline fishing grounds and Block 11B/12B; however, the assessment indicated that this area is fished 38.5% of the time, on average, per annum. There is also limited overlap in the north-east corner of Block 11B/12B with squid jig fishing, and the intensity of fishing is described as 'high' in this area.

The establishment of temporary and permanent safety zones within areas of Block 11B/2B is limited to a 500 m radius around the specific locations where Project activities take place. During the exploration, construction and closure phases and while survey work is undertaken, TEESPA will notify SAMSA who will issue a Notice to Mariners regarding the establishment of temporary safety zones for the duration of activities, prior to the commencement of works.

The permanent safety zone around the production wells, subsea infrastructure installation and pipeline will possibly prevent large pelagic longline fishing and squid jig fishing in certain areas of Block 11B/12B.

The reduction in fish catch due to disruption to the abundance of valuable fish species will increase the effort required by fishers to fill quotas. This may result in fishers abandoning the fishing ground altogether or fishers having to leave the industry due to fewer fishing licenses being issued due a reduction in the total allowable catch.

The impact significance of safety zones on commercial, recreational, small-scale fisheries and mariculture fisheries is assessed as very low to negligible. However, the impact significance of reduction in fish habitat is assessed as **medium**.

A key mitigation measure for this impact is for TEEPSA to conduct pre-screening surveys to identify the most appropriate location for well drilling and installation of subsea infrastructure and the pipeline to minimise disturbance to benthic habitat.

13.1.1.8 Community Health, Safety and Security

The potential for anti-social behaviour within communities, including an increase in communicable diseases resulting from Project workers spending leisure time in local communities, even if the opportunity for interaction with the local community is limited. Local communities are aware that security and safety issues are linked to the lack of work opportunities for unskilled or low-skilled job seekers and the anti-social behaviour of criminal activity and substance abuse are linked to the lack of constructive alternatives.

A lack of understanding of local culture and traditions may result in tensions between Project personnel who are newcomers to the community and established community members. The potential for this is limited by the low number of local personnel required for most Project phases. However, the production phase over a 25-year period has the greatest potential for community health, safety and security issues to arise as newcomers seek opportunities associated with the Project.

The emissions from support and supply vessels while they are in port and utilise diesel-powered on-board generators for power supply will potentially increase emissions in the local airshed. There is not sufficient information to confirm the anecdotal attribution of poor health to exceedances of

ambient air quality limits, but communities are concerned that Project activities may result in a decrease of ambient air quality with consequent health effects.

These impacts in the absence of mitigation measures are considered to be medium. It has been recommended that TEEPSA engage with communities, government agencies, and other stakeholders throughout the Project process to understand community concerns regarding health, safety and security issues. TEEPSA should also ensure that Project personnel are made aware of local customs and traditions and the need to respect cultural norms.

13.1.1.9 Underwater Acoustics

For drilling activities, temporary threshold shifts (i.e., a temporary loss of hearing sensitivity - TTS) and permanent threshold shifts (i.e., a permanent increase in the hearing threshold, that has behavioural consequences - PTS) for the 30-minute exposure scenarios modelled the maximum temporary threshold shift distance as 790 m for very high-frequency cetaceans, and 380 m for high frequency cetaceans, while the maximum 30-minute exposure distance for permanent threshold shift was modelled as 20 m for low frequency cetaceans and very high-frequency cetaceans.

For fish with a swim bladder, drilling noise TTS impacts is predicted to occur only very close to the drilling activity (within 160 m), and 30 m for a recoverable injury. The maximum distance from the drilling source for PTS was modelled to be 66 km for marine mammals in all hearing groups, 11.8 km for penguins and diving birds, and 10 m for turtles.

For Vertical Seismic Profiling (VSP) and sonar exploration activities, the noise modelling results showed that the permanent threshold shifts were 2 km for marine mammals in all hearing groups, 350 m for turtles, and 19.2 km for penguins and diving birds.

Model results show that cumulative impacts (for the estimated 250 pulses over a 24-hour period) had a greater extent of impact, with temporary damage occurring at up to 2.2 km for baleen whales and at 170 m for turtles, with permanent damage predicted at a distance of 200 m for baleen whales. For fish, cumulative impacts of 250 pulses over 24-hours predicted temporary damage to fish both with and without swim bladders at a distance of 370-400 m, and mortality and potential mortal injury of both fish, fish eggs and larvae at 10-30 m.

Given the sensitivity of the Block 11B/12B area, the recorded occurrence of a number of sensitive species within the site, and the uncertainty surrounding the implication of behavioural impacts over the long term, the significance of the impact on marine fauna as result of drilling related noise is considered to be very low to low.

A key mitigation measure that has been recommended is to undertake supplementary baseline surveys, to inform placement of wells (and hence where VSP will be undertaken), with the aim of preventing disturbances to sensitive and significant VME epifaunal communities, vulnerable habitats (e.g., hard grounds), and structural features (e.g., rocky outcrops).

13.1.2 UNPLANNED EVENTS

The undertaking of the Project presents the potential for a range of unplanned events to occur. Unplanned events or accidents linked to the Project that could have the greatest environmental impact is a major spill of hydrocarbons from a subsea well blowout, or rupture of the production pipeline. In addition, other unplanned events that would also have environmental impacts include accidental hydrocarbon spills during refuelling or vessel collisions, vessel strikes on mega fauna,

vessel-on-vessel collision, or trawling vessel collisions with the subsea production infrastructure with subsequent loss of equipment at sea.

13.1.2.1 Well Blowout and Production Pipeline Rupture

The greatest threat on the marine environment from the Project is the risk of a major spill of hydrocarbons occurring either from a blowout or loss of well control, or rupture of the production pipeline. Hydrocarbons spilled in the marine environment would have an immediate detrimental effect on water quality. Most of the toxic effects are associated with the mono-aromatic compounds and low molecular weight polycyclic hydrocarbons, as these are the most water-soluble components of the spill. Hydrocarbon spills are most toxic in the first few days after the spill, losing some of its toxicity as it begins to weather and emulsify. The magnitude of coastal impacts related to such spill events are also dependent on the location (inshore/offshore) and volume of hydrocarbons spilled i.e., large volumes spilled in close proximity to the coast would have a greater impact than smaller amounts spilled offshore.

The impact of a blowout on the marine environment is largely dependent on the quantity and physical state of the hydrocarbons released. A blowout would result in a jet release rising through the water column of two-phase material (gas and liquids). Gaseous components would be released to the atmosphere, while liquid components would form a slick on the sea surface. Some oil would, however, be dispersed and dissolved into the water column. A seabed blowout would form a crater as a result of the escape of high-pressure gas. Escaping hydrocarbons would form a plume of bubbles, liquids and re-suspended sediments as the gas and liquids are ejected through the water column. The potential hazards to the marine ecosystem are associated with the toxicity of the hydrocarbons, damage to the benthic community, the effects of increased turbidity generated by the rising gas/sediment loaded plume and impacts associated with hydrocarbons in the water column and a slick on the sea surface.

A well blowout and pipeline rupture has the potential to affect various marine ecological receptors, including phytoplankton, zooplankton and microbes; benthic fauna; fish; seabirds; turtles and other marine mammals; the coastal environment; as well as fishery and mariculture activities. In addition, impacts on the afore-mentioned aspects has the potential to have knock-on effects on other receptors and aspects, including tourism, household livelihoods, community health, safety and security and intangible cultural heritage; the full extent of the impact would be dependent on prevailing metocean conditions at the time of the spill, the time of year, duration of the spill and extent and the plume.

Impact significance of a well blowout or pipe rupture in Block 11B/12B ranges from **high** to **very high**. Impact significance for a well blowout could be reduced through the implementation of TEEPSA's Oil Spill Contingency Plan which consists of a "multi-barrier" approach to deal with the risk of oil spills. Furthermore, it must be noted that the probability of a well blowout occurring is considered to be extremely low. Offshore South Africa, 358 wells have been drilled to date and no well blowouts have been recorded to date.

13.1.2.2 Accidental Hydrocarbon Spills during Refuelling or Due to Vessel Collisions

Accidental, or non-routine discharges of hydrocarbons may occur as a result of the Project, due to unintentional loss of fuel during refuelling, ship-to-ship bunkering or vessel collisions. Hydrocarbon spills of oil, diesel or hydraulic fluid in the marine environment would have an immediate harmful and

negative effect on water quality. Due to its highly toxic properties, an accidental hydrocarbon spill would negatively affect any marine fauna in which it comes into contact with.

In the offshore environment, coastal and pelagic seabirds are most vulnerable to hydrocarbon spills. Furthermore, hydrocarbon spills are toxic to aquatic organisms. Impact significance of a minor hydrocarbon spill on marine ecology is considered **medium** without mitigation. Mitigation measures identified for implementation include ensuring that accidental spills be sprayed with dispersants; that personnel be trained to capture, handle and transport pelagic seabirds; and that adequate resources are available to collect and transport oiled pelagic seabirds to an adequate cleaning station when necessary.

13.1.2.3 Accidental Vessel-on-Vessel Collision or Subsea Production System and Trawling Vessel Collision

The increase in vessel traffic as a result of the Project could increase the risk of vessel-on-vessel collisions. In addition, there is a potential for fishing trawling nets to get caught on the SPS and well heads located on the seafloor. An important factor to consider in order to contextualise the impact is to note that Block 11B/12B is located within one of the main vessel traffic routes that pass around southern Africa. Additionally, it is noted that there is limited overlap of Block11B/12B with commercial fishery activity, therefore it is unlikely that trawling nets would get caught on subsea infrastructure.

The significance of the impact is considered to be **high** before mitigation. Mitigation measures identified for implementation include ensuring that vessels are aware of navigational management system outside of the Mossel Bay port, and to provide sufficient support to sea rescue services to ensure that the organisation has sufficient resources and training to deal with collisions.

13.1.2.4 Faunal Strikes

The increase in vessel traffic as a result of the Project could increase the risk of vessel collisions with cetaceans. In addition, vessel traffic between Block 11B/12B and the coast can have a significant disturbance impact on cetaceans during their breeding and mating season. Of particular concern are the potential overlaps in vessel movement with migrating Humpback whales and Southern Right whales inshore of Block 11B/12B (the former April to December, with between Cape Town and Gqeberha. It is highly likely that several hundred right whales can be expected to pass directly through Block 11B/12B between May and June and then again November to January.

The significance of the impact of faunal strikes is considered to be **low** before mitigation**.** Mitigation measures identified for implementation include ensuring vessel transit speeds between Block 11B/12B and port is a maximum of 12 knots (22 km/hr), except within 25 km of the coast, where it should be reduced further to 10 knots (18 km/hr).

13.1.2.5 Loss of Equipment at Sea

Accidental loss of equipment from the drilling unit and Project vessels may occur during transit, during transfers from one vessel to another (via e.g., crane), and/or during operations. Loss of equipment will cause disturbance to the benthic substrate and potentially crushing of biota.

The significance of the potential impact of loss of equipment at sea on the benthic substrate and biota is considered to be **low** before mitigation**.** This impact can be adequately mitigated with the implementation of the proposed mitigation measures which include among others, the undertaking of ROV surveys to scan the seafloor for dropped equipment; maintaining an inventory of all

equipment; undertaking frequent checks to ensure equipment is stored safely and securely; and retrieving lost equipment, where possible (i.e. should safe metocean conditions exist).

13.2 CUMULATIVE IMPACT ASSESSMENT

The assessment of cumulative impacts is based on information available for offshore and onshore activities that have been authorised, or where an application for EA has been submitted, in areas within reasonable proximity to Block 11B/12B or the Mossel Bay area, where most support activities will occur.

Potential cumulative impacts occur when impacts arising from activities undertaken in Block 11B/12B coincide with impacts that have the same effect on the receiving environment, to enhance the severity or duration or extend the area or time over which the impact occurs. The cumulative nature of the impact arises from the activities overlapping due to them occurring in proximity to Block 11B/12B or from activities being undertaken within the same or similar timeframes.

Of all the developments that have been identified as proposed or authorised, the following have potential for cumulative impacts to occur with Block 11B/12B:

- The proposed 3D seismic survey covering an area of up to 9 000 km^2 in a 12 750 km^2 area of interest located offshore between Gqeberha in the east and a point approximately 120 km southeast of Plettenberg Bay in the west. A portion of the area of interest overlaps with the eastern section of Block 11B/12B and there is potential for cumulative impacts in terms of underwater noise generated by the seismic survey activities coinciding with the exploration well drilling activities undertaken in the Exploratory Priority Area of Block 11B/12B.
- The PetroSA F-A Platform – if the Platform is re-commissioned, the timing of these activities may coincide with the activities of the Block 11B/12B drilling and construction phases. Although Block11B/12B is approximately 40 km to the south of the F-A Platform, there is potential for cumulative impacts due to a decrease in air quality and a simultaneous increase in carbon emissions resulting from the greater number of vessels manoeuvring within and around the Project Development Area and the F-A Platform; and
- Karpowership Gas to Power Powership Project – with the commencement of the 450MW Gas to Power Powership Project at the Port of Ngqura, within the Coega Special Economic Zone in the Eastern Cape, the potential exists for cumulative impacts such as a decrease in air quality and a simultaneous increase in carbon emissions due to the Block 11B/12B 20-year production phase coinciding with the proposed 20-year contract for electricity generation from the Gas to Power Powership Project.

13.3 COMPARATIVE ASSESSMENT OF PROJECT ALTERNATIVES

13.3.1 PRODUCTION PIPELINE CORRIDOR

Two corridors have been identified for the alignment of the production pipeline:

- The base case is a direct route of approximately 109 km from the anticipated well location to the F-A platform; and
- The alternative is approximately 115 km, routing slightly northeast from the base case, overlapping an EBSA, with a bend to reach the F-A Platform.

The potential impacts associated with each pipeline corridor option have been assessed – see impact tables in Appendix 4.

The following key considerations have informed the assessment of the corridors:

- The base case corridor follows an area already disturbed by previous oil and gas activities.
- Both pipeline corridor options go through an area of high sensitivity associated with rich epifaunal community and rare fossils. However, the base case corridor avoids overlap or vicinity of an EBSA. The shorter base case corridor also has a smaller footprint on the proposed[52] marine CBA that it traverses.
- The shorter base case corridor reduces the risk of palaeontological impacts by reducing the physical footprint of the pipeline on the seabed.

Based on the results of the assessment, the base case pipeline corridor is the preferred corridor for the production pipeline. The final pipeline alignment within the corridor will however still need to be confirmed pending the outcomes of:

- The final positions of the production well(s); and
- Further, supplementary bathymetry, geotechnical, benthic and ROV surveys, which will possibly be used to confirm the absence of seafloor obstacles or stability issues as well as any sensitive features prior to finalising the route.

13.4 ENVIRONMENTAL IMPACT STATEMENT

The S&EIA Process for the Project has been undertaken in accordance with the EIA Regulations, 2014, as amended, promulgated under NEMA. The Scoping Phase of the S&EIA Process undertaken for the Project identified several potential impacts associated with the Project activities to be considered for assessment in the EIA Phase. In accordance with the key objectives of the EIA Phase, the ESIA Report presents an assessment of the potential environmental and social impacts identified for the Project and alternatives; identifies measures to avoid, minimise or otherwise manage identified impacts; and presents a monitoring programme to assess performance of implemented measures.

To adequately assess potential impacts arising from the Project, the EIA Phase entailed the undertaking of Specialist Assessments, all of which have been prepared in accordance with Appendix 6 of the EIA Regulations, 2014, as amended.

In this regard, WSP, as the appointed EAP for the Project, is of the opinion that the ESIA Report prepared for the Project presents an appropriate level of information related to the anticipated

[52] SANBI 2017, Proposed Approach to Spatial Development and Management for South Africa's Marine Planning Areas 2019, and the Draft marine sector plan for the Biodiversity Sector 2023

environmental and social impacts associated with the Project. In addition, WSP is of the opinion that given the implementation of the identified mitigation and enhancement measures as detailed in the EMPr included in this Report, there is no reason for the Project not to proceed.

The recommendation is based on all the mitigation measures contained in the EMPr to be implemented, with the following specific measures to be included as conditions in the EA:

- Pre-drilling baseline surveys must be undertaken to supplement baseline information obtained in previous environmental baseline surveys for Block 11B/12B, to inform placement of wells, with the aim of preventing disturbances to declared/proclaimed sensitive areas and habitats.
- If complete avoidance mitigation is not possible, an out-of-kind offset or compensatory mechanism needs to be developed as part of a BAP, if required.
- Establish a stakeholder engagement forum to facilitate ongoing engagement with indigenous people, coastal communities and fisheries associations / organisations, while carrying out its business in the IZoI. Encourage communities to document and report any adverse health effects, incidents, or concerns related to the Project operations.

Building 1, Maxwell Office Park
Magwa Crescent West, Waterfall City
Midrand, 1685
South Africa

wsp.com