Our ref (Block 9 & 11A): LW/lw/1688-3

DMPR/PASA Ref (Block 9 & 11A): 12/3/61

11 July, 2025

To whom it may concern

Dear Interested and Affected Party:

AUDIT REPORT RECOMMENDATIONS: PETROSA BLOCK 9 AND 11A EXPLORATION RIGHT LOCATED OFF THE SOUTH COAST OF SOUTH AFRICA.

1 INTRODUCION

The Petroleum Oil and Gas Corporation of South Africa (Pty) Ltd (hereafter referred to as PetroSA) holds Exploration Rights over offshore exploration Block 9 (~30km south of Mossel Bay) and Block 11A (~50km south of Plettenberg Bay), off the south coast of South Africa. Regulation 34 of the Environmental Impact Assessment Regulations under NEMA requires PetroSA to have independent audits conducted on compliance with their Environmental Authorisation (EA) and Environmental Management Programme (EMPr).

PetroSA must meet all Regulation 34 requirements, including submitting recommendations to amend the EMPr if the audit finds inadequate mitigation or compliance. Environmental Impact Management Services (EIMS) recently completed such an audit and recommended amendments to the EMPr to address identified shortcomings. These recommendations must undergo a public participation process approved by authorities and be communicated to interested and affected parties.

This letter provides the auditor's recommendations as required by Regulation 34 and is hereby made available to all Interested and Affected Parties and relevant Stakeholders. For further information, please also consult the amended EMPr available for public review and comment.

2 AUDIT RECOMMENDATIONS

This section presents the recommendations made as a result of the Regulation 34 compliance audit, and includes recommendations to address identified shortcomings in the adequacy of the impact management requirements and compliance mechanisms, as well as recommendations to address shortcomings regarding the time that has lapsed since the compilation of the EMPr. Further, it is recommended that the documentation retention period requirement in the EMPr be amended to provide for retention for a minimum of 5 years after the validity of the petroleum right ends.

2.1 ADEQUACY OF IMPACT MANAGEMENT

This section aims to present the findings of an evaluation of the current EMPr and the ability of the measures contained in the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity. The approach taken included:

- Consideration of the impacts identified and presented in the EMPr, and to determine whether any additional impacts and associated management outcomes and actions should be included.
- Consideration of the current impact management actions, their adequacy and potential changes to align with good international industry practice (GIIP).

The findings of this evaluation are presented in Table 1.

Table 1: Recommended amendments and additions to the impact management outcomes and actions.

EMPr Section	Comments	Nature of change	Recommendations
EMPr for Seismic Activities (Environmental Resources Management, 2014)			
2.1.2	The current stakeholder communications requirements do not include the need to develop and maintain an effective grievance mechanism.	Amend	2.1.2. Compile a Communications Plan that outlines the communications procedures for all stakeholder engagement, including a Stakeholder Engagement Register, responsibilities for review of stakeholder comments, feedback to the stakeholder and close out actions and requirements. The plan must include an effective Grievance Mechanism aligned with the requirements of the IFC, considering mechanisms for grievance input, assessment, action, monitoring, and closure.
4.1.1	The current pre-survey notification is 15 days prior to the survey commencing. This should be extended to at least 3 weeks, and additional stakeholders should be included.	Amend	Fishing stakeholders and other marine users who operate in the area shall be notified in writing of seismic activities and the location and presence of exclusion and safety areas at least 3 weeks prior to the scheduled commencement of survey activities. Should seismic activities extent beyond the original time frame stakeholders should be notified within 24 hours. Stakeholders include: • Overlapping and neighbouring users with delineated boundaries in the marine petroleum and mineral prospecting and mining industries • South African and foreign fishing vessels, who can be informed through the recognized fishing associations and Department of Agriculture, Forestry and Fisheries (DAFF) examples include the South African Deep Sea Trawling Association, Inshore Pelagic, Rock Lobster and Tuna Associations, fishing companies and fishing agents • Government Departments with jurisdiction over marine activities, particularly DEA and PASA, SAN Hydrographer, South African Maritime Safety Authority (SAMSA) and local Port Captains. • DFFE Vessel Monitoring, Control and Surveillance Unit in Cape Town.
4.1.1	Additional engagement requirements for the fishing industry.	Additional	• An experienced Fisheries Liaison Officer (FLO) should be placed on board the seismic or escort vessel to facilitate communications with fishing vessels in the vicinity of the seismic survey area.

EMPr Section	Comments	Nature of change	Recommendations
			• Ensure project vessels fly standard flags and lights to indicate that they are engaged in towing surveys and are restricted in manoeuvrability. • Notify any fishing vessels at a radar range of 12 nm from the seismic vessel via radio regarding the safety requirements around the seismic vessel.
5.1.3	Included requirement for training on incident and reporting procedures.	Amend	5.1.3. All personnel shall receive regular training on the handling and management of waste, and incident response and reporting procedures.
6.1	Disturbance and behavioural changes in pelagic fauna due to vessel lighting vessel lighting on marine fauna was not specifically identified.	Additional	The lighting on the survey and support vessels should be reduced to a minimum compatible with safe operations whenever and wherever possible. Light sources should, if possible and consistent with safe working practices, be positioned in places where emissions to the surrounding environment can be minimised.
	Impacts of marine biodiversity through the introduction of non-native species in ballast water and on ship hulls was not specifically identified in the EMPr	Additional	• Avoid the unnecessary discharge of ballast water. • Use filtration procedures during loading in order to avoid the uptake of potentially harmful aquatic organisms, pathogens and sediment that may contain such organisms. • Ensure that routine cleaning of ballast tanks to remove sediments is carried out, where practicable, in mid-ocean or under controlled arrangements in port or dry dock, in accordance with the provisions of the ship's Ballast Water Management Plan. • Ensure all infrastructure (e.g. arrays, streamers, tail buoys etc) that has been used in other regions is thoroughly cleaned prior to deployment. • Comply with the requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention).
6.1.2	Expanded requirement for environmentally friendly streamers.	Additional	6.1.2. Ensure that solid streamers rather than fluid-filled streamers are used. Alternatively, low toxicity fluid-fill streamers could be used.
6.2.3	The existing EMPr requires that helicopter flights must follow set flight paths, the restrictions or guidance on how	Amend	6.2.3. Helicopter flight logs will be kept to demonstrate compliance with set flight paths. Pre-planned flight paths must avoid sensitive areas and colonies.

EMPr Section	Comments	Nature of change	Recommendations
	to define these flight paths is not provided. Depending on the specific location of future surveys, it may be necessary to adjust flight paths to avoid sensitive areas.		
6.3.2	Impacts of the unplanned loss of equipment to sea from the survey vessel on commercial fishing. The current controls do not include notification of such to the SAN Hydrographic Office (SANHO).	Amend	6.3.2. The incident management procedure should be followed in the event of a lost object or other materials (see Activity 11.1). Notify SANHO of any hazards left on the seabed or floating in the water column, and request that they send out a Notice to Mariners with this information.
6.5.5	Bunkering should be restricted from taking place at night or during periods of low visibility.	Amend	6.5.5. Offshore bunkering will not be allowed in the following circumstances: • Wind force and sea state conditions of 6 or above on the Beaufort Wind Scale, • During any workboat or mobilisation boat operations, • During helicopter operations, • During the transfer of in-sea equipment, and • At night or times of low visibility.
7.	Whilst the general impacts on marine ecology from seismic sources are identified, no acoustic sound transmission loss modelling (STLM) was done. This is accepted standard practice for current EIA's to be able to inform the impact assessment. Without this it is not possible to define the impact zones applicable to the survey and thereby assess the impact. Whilst the generic impacts of seismic surveys on marine ecology are listed, they are not substantiated on a site specific level. The Agulhas bank is a productive fishing area and includes sensitive marine receptors (incl penguins, Agulhas Bank Nursery Area, Shackleton Seamount Complex, Kingklip Ridge, adjacent to Agulhas Bank Complex MPA; Agulhas Muds MPA, overlaps with South	Additional	Once specific target areas for future seismic surveys are defined the following must be undertaken prior commencement: • Undertake survey (technical specifications) and location specific sound transmission loss modelling (acoustic modelling) in order to define the magnitude and extent of potential underwater noise. • A cultural heritage impact assessment should be undertaken by a suitable qualified specialist with specific focus on the intangible heritage. • Revise the impact assessment on the basis of the outcomes of the acoustic modelling (with inputs from relevant specialists including but not limited to marine ecology, and fisheries). Impact on Small Scale Fisheries must be included. • Supplement the impact management actions and impacts contained in the EMPr to account for the site and survey specific controls.

EMPr Section	Comments	Nature of change	Recommendations
	West Indian Seamounts MPA, close to De Hoop MPA, overlaps with defined CBA1 Natural Areas, overlaps with a defined Important Marine Mammal Area). This necessitates an update to the impact assessment, informed by site specific marine acoustic modelling once survey details are available. The potential impact on tangible and intangible cultural heritage has not been assessed. The coastal areas adjacent to Block 9 has significant sites of archaeological significance (including shell middens, fish traps, caves, etc). Whilst impacts on these tangible features is unlikely from normal seismic operations they may be impacted in the event of unplanned events (e.g. large spills). The nature and extent of the intangible attachments and cultural significance of the sea to the coastal communities has not been assessed. Intangible heritage is linked to the health of the marine ecosystem as a whole as well as the livelihoods that are dependent on the ocean in the area		• Obtain relevant approvals from the competent environmental authority in accordance with relevant legal requirements (e.g. amendments to EA and/or EMPR in accordance with NEMA requirements).
	The current marine mammal monitoring relies on daylight MMO observations only. It is current best practice to supplement the MMO's with Passive Acoustic Monitoring (PAM), especially during nighttime and low visibility conditions.	Additional	• All seismic vessels must be fitted with Passive Acoustic Monitoring (PAM) technology, which detects animals through their vocalisations. • The PAM technology must have enough bandwidth to be sensitive to the whole frequency range of sensitive marine life expected in the area. • The use of PAM 24-h a day must be implemented to detect deep diving species. • Ensure the PAM streamer is fitted with at least four hydrophones, of which two are HF and two LF, to allow directional detection of cetaceans. • Ensure the PAM hydrophone streamer is towed in such a way that the interference of vessel noise is minimised.

EMPr Section	Comments	Nature of change	Recommendations
			• Ensure spare PAM hydrophone streamers (e.g. 4 heavy tow cables and 6 hydrophone cables) are readily available in the event that PAM breaks down, in order to ensure timeous redeployment. • An independent Passive Acoustic Monitoring (PAM) Operator is required on board at all times. As a minimum, at least one PAM must be on watch at all times while the acoustic source is active. The duties of the PAM operator would be to: o Provide effective regular briefings to crew members, and establish clear lines of communication and procedures for onboard operations; o Ensure that the hydrophone cable is optimally placed, deployed and tested for acoustic detections of marine mammals; o Confirm that there is no marine mammal activity within 500 m of the seismic source array prior to commencing with the "soft-start" procedures; o Record species identification, position (latitude/longitude), distance and bearing from the vessel and acoustic source, where possible; o Record general environmental conditions; o Record seismic source activities, including sound levels, "soft-start" procedures and pre-start regimes; o Request the delay of start-up and temporary termination of the seismic survey, as appropriate.
		Additional	Define and enforce the use of the lowest practicable seismic source volume for production. Design arrays to maximise downward propagation, minimise horizontal propagation and minimise high frequencies in seismic source pulses (have this verified by independent evaluators).
	Impacts on turtles and cetaceans due to ship strikes, collision and entanglement with towed equipment was not specifically identified.	Additional	• The vessel operators should keep a constant watch for marine mammals and turtles in the path of the vessel. • Keep watch for marine mammals behind the vessel when tension is lost on the towed equipment and either retrieve or regain tension on towed gear as rapidly as possible.

EMPr Section	Comments	Nature of change	Recommendations
			• Ensure that 'turtle-friendly' tail buoys are used by the survey contractor or that existing tail buoys are fitted with either exclusion or deflector 'turtle guards'. • Ensure vessel transit speed between the survey area and port is a maximum of 12 knots (22 km/hr), except in MPAs where it is reduced further to 10 knots (18 km/hr). • Should a cetacean become entangled in towed gear, contact the South African Whale Disentanglement Network (SAWDN) formed under the auspices of DEA to provide verbal specialist assistance in releasing entangled animals where necessary. • Report any collisions with large whales to the International Whaling Commission (IWC) database, which has been shown to be a valuable tool for identifying the species most affected, vessels involved in collisions, and correlations between vessel speed and collision risk
7.2.1	Clarified exclusion period to be inclusive for both June and November.	Amend	7.2.1. Seismic surveys should not be scheduled during whale breeding periods from 1st June to 30th November when higher numbers of whales are present.
7.2.5	The 500m mitigation zone should be defined as being from the seismic source and not the vessel.	Amend	7.2.5. Firing of seismic guns must not be initiated until observations have confirmed that the 500m radius around the seismic source is clear of marine mammals, no visible swimming or shoaling large pelagic fish, and that no turtles or diving sea birds are seen to be present. The MMO must be in close communication with the seismic airgun or seabed logging personnel and should issue an "all clear" signal prior to initiating seismic airgun firing or seabed logging.
13.2	As environmental monitoring information gathered during surveys is of high scientific value, such information should be made available (inter alia to SANBI, SAEON, and the DFFE) to contribute to the knowledge base of deep-water environments	Additional	The environmental monitoring data collected (including the MMO and PAM) must be made available to the DFFE, SANBI and SAEON for their use in future scientific research.
EMPr for Drilling Activities (Environmental Resources Management, 2014)			

EMPr Section	Comments	Nature of change	Recommendations
2.1.1.	Existing EMPr does not explicitly refer to requirements of MARPOL Annex 1 and associated Oil Pollution Emergency Plan.	Amend	2.1.1. Ensure that the service providers (drilling, support vessels etc) have the following subsidiary plans / procedures in place: • Oil Spill Contingency Plan • Emergency Response Plan, including MEDIVAC plan • Waste Management Plan • Incident Management and Reporting • Ballast Management Plan • Regulation 37 of MARPOL Annex I will be applied, which requires that all ships of 400 gross tonnage and above carry an approved Shipboard Oil Pollution Emergency Plan (SOPEP). The purpose of a SOPEP is to assist personnel in dealing with unexpected discharge of oil, to set in motion the necessary actions to stop or minimise the discharge, and to mitigate its effects on the marine environment.
2.1.1.	Specify additional requirements for oil spill contingency planning.	Additional	• Develop response strategy and plan (OSCP), aligned with the National OSCP that identifies the resources and response required to minimise the risk and impact of oiling (shoreline and offshore). This response strategy and associated plans must take cognisance to the local oceanographic and meteorological seasonal conditions, local environmental receptors and local spill response resources. The response strategy must be informed by an Oil Spill Drift Modelling study specific to the drill target area. The development of the site-specific response strategy and plans must include the following: o Develop an Oiled Wildlife Contingency Plan (OWCP) in collaboration with specialist wildlife response organisations with experience in oiled wildlife response. The OWCP should be integrated into the site-specific OSCP and include detailed protocols on the collection, handling and transport of oiled marine fauna. o Assessment of onshore and offshore response resources (equipment and people) and capabilities at time of drilling, location of such resources (in-country or international), and associated mobilisation / response timeframes.

EMPr Section	Comments	Nature of change	Recommendations
			○ Selection of response strategies that reduce the mobilisation / response timeframes as far as is practicable. Use the best combination of local and international resources to facilitate the fastest response. ○ Well-specific oil spill modelling for planning purposes taking into consideration site- and temporal-specific information, the planned response strategy, and associated resources. ○ Develop intervention plans for the most sensitive areas to minimise risks and impacts and integrate these into the well-specific response strategy and associated plans. ○ The OSCP must include an oiled wildlife contingency plan or any wildlife response strategy developed in consultation with specialist wildlife response organisations, e.g. SANCCOB. Such plan must consider and align with international best practice, including the IPIECA Wildlife Response Preparedness Guidelines. • Schedule joint oil spill exercises including the operator and local departments / organisations to test the Tier 1, 2 & 3 responses. • Ensure contract arrangements and service agreements are in place (e.g. OSRL) to implement the OSCP, e.g. capping stacks at a local venue and other international locations, surface response equipment (e.g. booms, dispersant spraying system, skimmers, etc.), dispersants, response vessels, etc. • Use low toxicity dispersants that rapidly dilute to concentrations below most acute toxicity thresholds. Dispersants should be used cautiously and only with the permission of DFFE. • Ensure a standby vessel is within 30 minutes of the drilling unit, equipped for dispersant spraying and can be used for mechanical dispersion (using the propellers of the ship and/or firefighting equipment). It should have at least $5m^3$ of dispersant onboard for initial response. • As far as possible, and whenever the sea state permits, attempt to control and contain the spill at sea with suitable recovery techniques to reduce the spatial and temporal impact of the spill

EMPr Section	Comments	Nature of change	Recommendations
			• In the event of a spill, use drifter buoys and satellite-borne Synthetic Aperture Radar (SAR)-based oil pollution monitoring to track the behaviour and size of the spill and optimise available response resources. • The Operator is to submit all forms of financial insurance and assurances to PASA to manage all damages and compensation requirements in the event of an unplanned pollution event.
2.1.	Whilst the general impacts on marine ecology from drilling are identified, no site specific oil spill/ blowout modelling or drilling discharge modelling was done. This is accepted standard practice for current EIA's to be able to inform the impact assessment. Without this it is not possible to define the impact zones applicable to the survey and thereby assess the impact. Whilst the generic impacts of drilling on marine ecology are listed, they are not substantiated on a site specific level. The Agulhas bank is a productive fishing area and includes sensitive marine receptors (incl penguins, Agulhas Bank Nursery Area, Shackleton Seamount Complex, Kingklip Ridge, adjacent to Agulhas Bank Complex MPA; Agulhas Muds MPA, overlaps with South West Indian Seamounts MPA, close to De Hoop MPA, overlaps with defined CBA1 Natural Areas, overlaps with a defined Important Marine Mammal Area). This necessitates an update to the impact assessment, informed by site specific modelling once drilling target area details are available. The potential impact on tangible and intangible cultural heritage has not been assessed. The coastal areas adjacent to Block 9 has significant sites of archaeological	Additional	Once specific target areas for future drilling are defined the following must be undertaken prior commencement: • Undertake drilling (technical specifications) and location specific oil spill drift modelling and drilling discharge modelling in order to define the magnitude and extent of potential impacts from unplanned well blowouts and discharges of drill cuttings and muds. • Undertake survey (technical specifications) and location specific sound transmission loss modelling (acoustic modelling) in order to define the magnitude and extent of potential underwater noise from drilling and siting activities (e.g. vertical seismic profiling (VSP), Multibeam Echosounder (MBES)). • A cultural heritage impact assessment should be undertaken by a suitable qualified specialist with specific focus on the intangible heritage. • Revise the impact assessment on the basis of the outcomes of the modelling (with inputs from relevant specialists including but not limited to marine ecology, and fisheries). Impact on Small Scale Fisheries must be included. • Supplement the impact management actions and impacts contained in the EMPr to account for the site and drill specific controls. • Obtain relevant approvals from the competent environmental authority in accordance with relevant legal requirements (e.g. amendments to EA and/or EMPR in accordance with NEMA requirements).

EMPr Section	Comments	Nature of change	Recommendations
	significance (including shell middens, fish traps, caves, etc). Whilst impacts on these tangible features is unlikely from normal exploration operations they may be impacted in the event of unplanned events (e.g. large spills). The nature and extent of the intangible attachments and cultural significance of the sea to the coastal communities has not been assessed. Intangible heritage is linked to the health of the marine ecosystem as a whole as well as the livelihoods that are dependent on the ocean in the area		
2.1.2.	The current stakeholder communications requirements do not include the need to develop and maintain an effective grievance mechanism.	Amend	2.1.2. Compile a Communications Plan that outlines the communications procedures for all stakeholder engagement, including a Stakeholder Engagement Register, responsibilities for review of stakeholder comments, feedback to the stakeholder and close out actions and requirements. The plan must include an effective Grievance Mechanism aligned with the requirements of the IFC, considering mechanisms for grievance input, assessment, action, monitoring, and closure.
4.1.	Additional engagement requirements for the fishing industry.	Additional	• An experienced Fisheries Liaison Officer (FLO) should be placed on board the drilling or support vessel to facilitate communications with fishing vessels in the vicinity of the drilling activities. • Ensure project vessels fly standard flags and lights (as appropriate) to indicate that they are engaged drilling activities and are restricted in manoeuvrability. • Notify any fishing vessels at a radar range of 12 nm from the drilling vessel via radio regarding the safety requirements around the rig.
4.1.2.	Added additional fisheries sector stakeholders	Amend	4.1.2. Fishing stakeholders, and other marine stakeholders who operate in the area shall be notified of drilling operations and the timing and location of exclusion zones at least 30 days prior to the scheduled commencement of drilling activities. Fishing stakeholders should include; the Agulhas Offshore Forum, Association of Small Hake Industries, FishSA, SA Tuna Longline Association, South African Hake Longline Association (SAHLLA), DFFE Vessel Monitoring, Control and Surveillance (VMS) Unit in Cape Town, SA Deep Sea Trawling Industry Association (SADSTIA), SA Inshore Fishing

EMPr Section	Comments	Nature of change	Recommendations
			Industry Association, South East Coast Inshore Fishing Association, SA Midwater Trawling Association, SA Tuna Association, Fresh Tuna Exporters Association, South Coast Rock Lobster Association, SAMSA, relevant Port harbourmasters, the naval hydrographic office and the DFFE (Fisheries branch).
5.1.2.	Added requirement to train on incident response procedures.	Amend	5.1.2. All personnel shall receive regular training including tool box talks on the handling and management of waste, and incident response and reporting procedures.
6	Impacts on turtles and cetaceans due to ship strikes, and collision was not specifically identified.	Additional	• The vessel operators (incl Captain and crew) should keep a constant watch for marine mammals and turtles in the path of the vessel. • Ensure vessel transit speed between the area of interest and port is a maximum of 12 knots (22 km/hr), except in MPAs where it is reduced further to 10 knots (18 km/hr), as well as when sensitive marine fauna are present in the vicinity. • Report any collisions with large whales to the International Whaling Commission (IWC) database. • Contractors will ensure that the proposed drilling campaign is undertaken in a manner consistent with good international industry practice and BAT. All whales and dolphins are given protection under the South African Law. The Marine Living Resources Act, 1998 (No. 18 of 1998) states that no whales or dolphins may be harassed, killed or fished. No vessel or aircraft may, without a permit or exemption, approach closer than 300 m to any whale and a vessel should move to a minimum distance of 300 m from any whales if a whale surfaces closer than 300 m from a vessel or aircraft.
6.1.	Disturbance and behavioural changes in fauna due to vessel lighting or light from flaring, was not specifically identified.	Additional	The lighting on the drill unit and support vessels should be reduced to a minimum compatible with safe operations whenever and wherever possible. Light sources should, if possible and consistent with safe working practices, be positioned in places where emissions to the surrounding environment can be minimised. Where possible flaring to take place during daylight hours.

EMPr Section	Comments	Nature of change	Recommendations
6.2.3.	The existing EMPr requires that helicopter flights must follow set flight paths, the restrictions or guidance on how to define these flight paths is not provided. Depending on the specific location of future surveys, it may be necessary to adjust flight paths to avoid sensitive areas.	Amend	6.2.3. The following impact management actions apply to helicopter flights: • Helicopter flight logs will be kept to demonstrate compliance with set flight paths. • Pre-planned flight paths must avoid sensitive areas and colonies. • Brief all pilots on the ecological risks associated with flying at a low level along the coast or above marine mammals.
		Additional	• All whales and dolphins are given protection under the South African Law. The Marine Living Resources Act (Act No. 18 of 1998) states that no whales or dolphins may be harassed, killed or fished. No vessel or aircraft may, without a permit or exemption, approach closer than 300m to any whale and a vessel should move to a minimum distance of 300 m from any whales if a whale surfaces closer than 300 m from a vessel or aircraft.
6.3.3.	Additional actions related to minimising and managing the risk of dropped objects.	Additional	6.3.3. Additional Actions: • Ensure containers are sealed / covered during transport and loads are lifted using the correct lifting procedure and within the maximum lifting capacity of crane system. • Undertake a post drilling ROV survey to scan seafloor for any dropped equipment and other removable features around the well site. In the event that equipment is lost during the operational stage, assess safety and metocean conditions before performing any retrieval operations. • Notify SAN Hydrographer of any hazards left on the seabed or floating in the water column, with the dates of abandonment/loss and locations and request that they send out a Notice to Mariners with this information.
6.7.1.	Update ballast water management requirement to align with current best practice and obligations.	Amend	6.7.1. Ballast water from all vessels, discharged will follow the requirements of the International Maritime Organisation's (IMO) 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments. Including:

EMPr Section	Comments	Nature of change	Recommendations
			• Establishing standards and procedures for the management and control of ships' ballast water and sediments. • Ships are required to implement a Ballast Water Management Plan, which includes a detailed description of the actions to be taken to implement the Ballast Water Management requirements. • All ships using ballast water exchange should, wherever possible, do so at least 200 nautical miles (± 370 km) from nearest land in waters of at least 200 m deep. Where this is not feasible, the exchange should be as far from the nearest land as possible, and in all cases a minimum of 50 nm (± 93 km) from the nearest land and preferably in water at least 200m in depth. • Ships will also have a Ballast Water Record Book to record when ballast water is taken on board; circulated or treated for Ballast Water Management purposes; and discharged into the sea. • Avoid the unnecessary discharge of ballast water. • Use filtration procedures during loading in order to avoid the uptake of potentially harmful aquatic organisms, pathogens and sediment that may contain such organisms.
6.7.2.		Additional	6.7.2. Ensure all equipment (e.g. drill string, wellhead, BOP etc.) that has been used in other regions is thoroughly cleaned prior to deployment Avoid the unnecessary discharge of ballast water.
7.1.	The EMPr makes reference to using sonar or other techniques during the Rig site survey and positioning process. The impacts associated with these techniques have not specifically been identified, assessed, or impact management actions specified.	Additional	The following management actions should be implemented to control impacts from noise on the marine environment: • For Sonar Surveys, recommendations for mitigation include: o Appoint a minimum of two dedicated Marine Mammal Observer (MMO)[1], with a recognised MMO training course, on board for marine fauna observation (360 degrees around survey vessel),

[1] Non-dedicated MMOs can be implemented for short surveys using low-energy sources. Such personnel are trained MMOs who may undertake other roles on the vessel when not undertaking their mitigation role (JNCC 2017).

EMPr Section	Comments	Nature of change	Recommendations
	Further the EMPr does not identify, assess or mitigate the potential impacts that noise from drilling operations might have on the marine environment. Additional mitigation measures or impact management actions should be included to address impacts associated with MBES, VSP, .		distance estimation and reporting. One MMO should also have Passive Acoustic Monitoring (PAM) training. The MMO must ensure compliance with mitigation measures during seismic geophysical surveying. o Ensure survey vessel is fitted with PAM technology (one or more hydrophones), which detects animals through their vocalisations, should it be possible to safely deploy PAM equipment. o Pre-survey scans should be limited to 15 minutes prior to the start of survey equipment. o "Soft starts" should be carried out for any equipment of source levels greater than 210 dB re 1 µPa at 1 m over a period of 20 minutes to give adequate time for marine mammals to leave the vicinity. o If several types of sonar equipment are to be started sequentially or interchanged during the operation, only one pre-shoot search is required prior to the start of acoustic output. A pre-shoot search will, however, be required for gaps in data acquisition of greater than 10 minutes. o Terminate the survey if any marine mammals show affected behaviour within 500 m of the survey vessel or equipment until the mammal has vacated the area. o Preference should be given to planning sonar surveys to avoid the migratory periods for cetaceans. o No sonar survey-related activities are to take place within declared Marine Protected Areas. • For Drilling Operations, recommendations for mitigation include:

EMPr Section	Comments	Nature of change	Recommendations
			○ The drilling contractor will ensure that the proposed exploration activities are undertaken in a manner consistent with good international industry practice and BAT. ○ All whales and dolphins are given protection under the South African Law. The Marine Living Resources Act, 1998 (No. 18 of 1998) states that no whales or dolphins may be harassed, killed or fished. ○ No vessel or aircraft may, without a permit or exemption, approach closer than 300 m to any whale and a vessel should move to a minimum distance of 300 m from any whales if a whale surfaces closer than 300 m from a vessel or aircraft. ○ The generation of vessel noise and drilling noise cannot be eliminated due to the nature of the drilling operations. The following measures will be implemented to reduce noise at the source: ▪ Implement a maintenance plan to ensure all diesel motors and generators receive adequate maintenance to minimise noise emissions. ▪ Ensure vessel transit speed between the site and port is a maximum of 12 knots (22 km/hr), except within 25 km of the coast where it is reduced further to 10 knots (18 km/hr). • For VSP, recommendations for mitigation include: ○ Key personnel and equipment: ▪ Appoint a minimum of two dedicated Marine Mammal Observer (MMO), with a recognised MMO training course, on board for marine fauna observation (360 degrees around drilling unit), distance estimation and reporting. One MMO should also have Passive Acoustic Monitoring (PAM) training should a risk assessment, undertaken ahead of the VSP

EMPr Section	Comments	Nature of change	Recommendations
			operation, indicate that the PAM equipment can be safely deployed considering the metocean conditions (specifically current). ▪ Ensure drilling unit vessel is fitted with PAM technology (one or more hydrophones), which detects animals through their vocalisations, should it be possible to safely deploy PAM equipment. o Pre-start Protocols for airgun testing and profiling: ▪ VSP profiling should, as far as possible, only commence during daylight hours with good visibility. However, if this is not possible due to prolonged periods of poor visibility (e.g. thick fog) or unforeseen technical issue which results in a night-time start, refer to "periods of low visibility" below. ▪ Undertake a 1-hr (as water depths > 200 m) pre-shoot visual and possible acoustic scan (prior to soft-starts / airgun tests) within the 500 m radius mitigation zone in order to confirm there is no cetaceans, turtles, penguins and shoaling large pelagic fish activity close to the source. ▪ Implement a “soft-start” procedure of a minimum of 20 minutes’ duration when initiating the acoustic source (except if testing a single airgun on lowest power). This requires that the sound source be ramped from low to full power rather than initiated at full power, thus allowing a flight response by marine fauna to outside the zone of injury or avoidance. ▪ Delay “soft-starts” if cetaceans, turtles and shoaling large pelagic fish are observed / detected within the mitigation zone during the pre-shoot visual / acoustic scan. A “soft-

EMPr Section	Comments	Nature of change	Recommendations
			start" should not begin until 20 minutes after cetaceans depart the mitigation zone or 20 minutes after they are last seen or acoustically detected by PAM in the mitigation zone. In the case of penguins, shoaling large pelagic fish and turtles, delay the "soft-start" until animals move outside the 500 m mitigation zone. ▪ Maintain visual and possibly acoustic observations within the 500 m mitigation zone continuously during VSP operation to identify if there are any cetaceans present. ▪ Keep VSP operations under 200 pulses to remain within the 500 m exclusion zone for LF cetaceans. o Shut-Downs: Shut down the acoustic source if cetaceans, penguins, shoaling large pelagic fish or turtles are sighted within 500 m mitigation zone until such time as the mitigation zone is clear of cetaceans for 20 minutes or in the case of penguins, shoaling large pelagic fish or turtles, the animals move outside the 500 m mitigation zone before the soft-start procedure and production may commence. o Breaks in Airgun Firing ▪ Breaks of less than 20 minutes: • there is no requirement for a soft-start and firing can recommence at the same power level as at prior to the break (or lower), provided that continuous monitoring was ongoing during the silent period and no cetaceans, penguins, shoaling large pelagic fish or turtles were detected in the mitigation zone during the breakdown period.

EMPr Section	Comments	Nature of change	Recommendations
			• If a cetaceans are detected in the mitigation zone during the breakdown period, there must be a minimum of a 20-minute delay from the time of the last detection within the mitigation zone and a soft-start must then be undertaken. In the case of penguins, shoaling large pelagic fish or turtles, the animals move outside the 500 m mitigation zone within the 20 minute period. ▪ Breaks of longer than 20 minutes: • If it takes longer than 20 minutes to restart the airguns, a full pre-watch and soft-start process should be carried out before the survey re-commences. If an MMO/PAM operator has been monitoring during the breakdown period, this time can contribute to the 60-minute pre-watch time. o Period of low visibility ▪ Ensure that during periods of low visibility (where the mitigation zone cannot be clearly viewed out to 500 m), including night-time, the VSP source is only used if PAM technology is in place to detect vocalisations (subject to a risk assessment indicating that the PAM equipment can be safely deployed considering the metocean conditions) or: • there have not been three or more occasions where cetaceans, penguins, shoaling large pelagic fish or turtles have been sighted within the 500 m mitigation zone during the preceding 24-hour period; and

EMPr Section	Comments	Nature of change	Recommendations
			• a two-hour period continual observation of the mitigation zone was undertaken (during a period of good visibility) prior to the period of low visibility and no cetaceans, penguins, shoaling large pelagic fish or turtles were sighted within the 500 m mitigation zone. The operations will be managed in compliance with the IFC EHS Guidelines for Offshore Oil and Gas Development, 2015.
7.1.1.	Expanded on the requirements for a pre-drill survey.	Amend	7.1.1. Undertake a seabed survey using side scan sonar, ROV, or other appraisal method to: • determine the presence of sensitive reef habitats or shipwrecks, • confirm whether any infrastructure might be affected (pipelines etc), and • to confirm the state of the seabed. The survey should extend over the area likely to be affected by drill cuttings and mud discharges, as defined by a drill cuttings and muds discharge modelling study. The findings of the survey should be documented and shared with the DFFE and the South African National Biodiversity Institute (SANBI) for biodiversity research purposes.
7.1.4.		Amend	7.1.4. Use the seabed survey data to prepare a rig positioning plan taking into account the presence of sensitive features. The infrastructure position should be adjusted to avoid the identified sensitive habitats or features. If sensitive and potentially vulnerable habitats are detected, seek the advice of a benthic specialist and, adjust the well position accordingly or implement appropriate technologies, operational procedures and monitoring surveys to reduce the risks of, and assess the damage to, vulnerable seabed habitats and communities.
7.3.4.	Bunkering should be restricted from taking place at night or during periods of low visibility.	Amend	7.3.4. Offshore bunkering will not be allowed in the following circumstances: • Wind force and sea state conditions of 6 or above on the Beaufort Wind Scale,

EMPr Section	Comments	Nature of change	Recommendations
			• During any workboat or mobilisation boat operations, • During helicopter operations, • During the transfer of in-sea equipment, and • At night or times of low visibility. Compliance with COLREGS (the Convention dealing with safety at sea, particularly to reduce the risk of collisions at sea) and SOLAS (the Convention ensuring that vessels comply with minimum safety standards).
8.1.	The current EMPr doesn't address the potential risk of cement discharges to the seabed.	Additional	Monitor cement returns and if significant discharges are observed on the seafloor terminate cement pumping.
8.1.1.	Expanded on the requirements for selecting and utilising drilling fluids.	Amend	8.1.1. In compliance with industry standards, select the lowest toxicity drilling fluid (or mud) available to meet the technical drilling requirements. Water based drilling fluids (WBDF) should be selected in preference to Non-Aqueous drilling fluids (NADF) wherever possible. NADF should not be used in the upper part of a well (with the exception in cases of safety or geological reasons to be described in the Notification Report). Where NADFs are required, use Synthetic Based Drilling Fluid (OGP Type III) with low polycyclic aromatic hydrocarbon content. This information will be documented in the Drilling Fluids programme section of the Drilling Programme. Careful selection of drilling fluid additives taking into account their concentration, toxicity, bioavailability and bioaccumulation potential. Ensure only low-toxicity, low bioaccumulation potential and partially biodegradable additives are used.
8.1.4.	It is recent practice to release drill cuttings during the risered stage at a depth of greater than 10m below sea surface.	Amend	8.1.4. Drill cuttings brought to the surface for processing should be released via a shunt pipe or caisson placed at least 10m below the sea surface to reduce turbidity plumes and to limit the impact area.
9.1.	The management of Produced water is not specifically managed in the EMPr.	Additional	Once the produced water has been separated from the hydrocarbon component, the hydrocarbon component will be burned off via the flare booms, while the water will be temporarily collected in a slop tank. The product water is then either directed to:

EMPr Section	Comments	Nature of change	Recommendations

			• a settling tank prior to transfer to support vessel for onshore treatment and disposal; or
			• a dedicated treatment unit where, after treatment, it is either:
			  ○ if hydrocarbon content is < 30 mg/l, discharged overboard; or
			  ○ if hydrocarbon content is > 30 mg/l, subject to a 2nd treatment or directed to tank prior to transfer to support vessel for onshore treatment and disposal.

10.1.8	Proactive monitoring and management of uncontrolled discharge of hazardous substances.	Additional	Implement leak detection and repair programs for valves, flanges, fittings, seals, etc
10.1.9	Enhanced controls through Marine Protected Areas.	Additional	Prohibit operational discharges within MPAs during operations, and transit to and from the drill site.
10.2.1	Clarify full compliance requirements with MARPOL.	Amend	10.2.1. Sewage and grey water discharges from vessels are regulated by MARPOL 73/78 Annex IV.
		Additional	10.1.8. Discharges of oily water (deck drainage, bilge and mud pit wash residue) to the marine environment are regulated by MARPOL 73/78 Annex I, which stipulates that vessels must have: • A Shipboard Oil Pollution Emergency Plan (SOPEP). • A valid International Oil Pollution Prevention Certificate, as required by vessel class. • Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks, e.g. oil separating/filtering equipment and oil content meter. Oil in water concentration must be less than 15 ppm prior to discharge overboard. • Oil residue holding tanks. • Oil discharge monitoring and control system. The system will ensure that any discharge of oily mixtures is stopped when the oil content of the effluent exceeds 15 ppm.

EMPr Section	Comments	Nature of change	Recommendations
12.1.1.	Expand condition to require training and response materials.	Amend	12.1.1. The Drilling Contractor will comply with the Incident Management Procedure and Oil Spill Contingency and Emergency Response Plans developed prior to drilling (see section 1.2). Project vessels will be equipped with appropriate spill containment and clean-up equipment, e.g. booms, dispersants and absorbent materials. All relevant vessel crews will be trained in spill clean-up equipment use and routine spill clean-up exercises.
13.5.1.	Revise insurance cover amounts to reflect current and location specific risks.	Amend	13.5.1. Environmental management actions that would be required as a result of an incident or accident would be covered by PetroSA's insurance, as described below: • Third Party liability which includes personal injury, property damage and seepage and pollution as a result of any offshore exploration and production operations is covered up to USD150,000,000 per occurrence. • Well control insurance which would include blowouts and seepage and pollution is covered up to USD150,000,000 per occurrence. Insurance cover amounts must be updated to reflect activity specific risks. If there are actual losses due to the activities performed by the Applicants, the claimants should be compensated for their losses at market rates. The Applicants must have a claims procedure appropriate to their activities. Compensation should follow the international standards such as the IFC principles, which states that market related prices should be paid, and if anything is restored, it must be to the same or better standards than before.

2.2 ADEQUACY OF COMPLIANCE MECHANISMS

It is necessary to evaluate the ability of the EMPr to ensure compliance with the provisions contained therein. The EMPr provides clear mechanisms for reporting and auditing, which are aligned with current practice. The EMPr does not however specifically provide for independent auditing as is required by Regulation 34 of the EIA Regulations. It is recommended that the EMPr be amended to incorporate this requirement (Activity 1 of Section 3). The following requirements should be added to the EMPr:

- The Holder must appoint an independent Environmental Control Officer (ECO) prior to commencement of any offshore exploration activities.
- The ECO should have appropriate training and/or experience in the implementation of environmental management specifications. The ECO must preferably have a tertiary qualification in an Environmental Management or appropriate field. The ECO's key role is auditing the implementation of the EMPr.
- The ECO will be responsible for the auditing function as well as the clarification of environmental conditions contained in this EMPr to anyone working on the site. For the purposes of this project, the role of ECO and MMO can be fulfilled by the same person.
- The ECO roles include:
    - Recommendations for review and update of the EMPr;
    - Liaison between the Applicant, Contractors, authorities and other lead stakeholders on high importance environmental concerns;
    - Ensures that correct shape files have been uploaded into the vessel navigation systems to support effective implementation of spatial controls
    - Review the project induction training to ensure environmental issues receive adequate attention and important site-specific issues are included;
    - Conduct environmental audits of the contractors including relevant documentation on a monthly basis;
    - Validating the regular inspection reports, which are to be prepared by the relevant contractor's EO or Lead MMO/PAM (who may be tasked with the onsite responsibilities of the ECO);
    - Maintain a record of all non-conformances and incidents to ensure that measures are put in place to remedy such;
    - Maintain a public consultation register in which all complaints are recorded, as well as action taken; and
    - Verification that all environmental monitoring programmes (sampling, measuring, recording etc. when specified) are carried out according to protocols and schedules.
- It is important to note that where opportunity for interpretation occurs within the conditions of this EMPr, the interpretation of the ECO will take preference.

2.3 EMPR SHORTCOMINGS AND RECOMMENDATIONS

It was the auditor's opinion that the 2014 EMPr's offer generic, sometimes outdated impact management actions and failed to address specific activity and site impacts adequately. Further assessment is needed when specific location details and technical specifications are available, likely necessitating amendments and supplements to the current EMPr. This requirement has been incorporated into the recommended amendments to the EMPr presented in the preceding sections.

Based on the time that has lapsed between the latest EMPr update in 2014 the following is recommended:

- The social landscape may have changed significantly since the latest 2014 EMPr update. It is recommended that additional stakeholder engagement be undertaken once the project plans are finalized in order to determine if any updates to the EMPr are required and to determine if the list of stakeholders identified in the EMPr is still adequate. If significant new issues are raised during the engagement process, then the EMPr may need to be amended to address these issues.
- At the time the original EIA was conducted no climate change assessment was required to be undertaken. It is recommended that a climate change specialist be engaged to determine if any updates are required to the EMPr in order to effectively deal with climate change adaptation and vulnerability.

3 CONCLUSION AND WAY FORWARD

This letter contains the recommendations that were made in the audit report by the auditor. As stated, these recommendations must undergo a public participation process approved by authorities and be communicated to interested and affected parties, and is hereby, made available to all Interested and Affected Parties as per Regulation 34. For further detail and information, please refer to the amended EMPr, which has also been made available for public review and comment.

As required by Regulation 34, the independent Environmental Assessment Practitioner will collate all submissions made by Interested and Affected Parties and Stakeholders on these recommendations and the amended EMPr and submit these to the Competent Authorities i.e. the Petroleum Agency of South Africa (PASA) and the Department of Mineral and Petroleum Resources (DMPR), together with the final audit report and amended EMPr for decision making. Further, as per Regulation 34, within seven days of submitting the audit report, PetroSA will notify stakeholders and make the report publicly available.