



**mineral resources
& energy**

Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

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EAP Reg No.: 2022/5486

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**ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL
MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AS AMENDED ("NEMA") AND ENVIRONMENTAL
IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED**

**IN RESPECT OF
THE PROPOSED SPECULATIVE THREE-DIMENSIONAL (3D) SEISMIC SURVEY ACTIVITIES
OFFSHORE, OFF THE SOUTHEAST COAST, SOUTH AFRICA**

APPLICATION DETAILS

Application Reference Number	12/1/045
Holder of Environmental Authorisation	CGG Services SAS
Location of the Activity	The environmental authorisation application area is located between Gqeberha and about 120 km southeast of Plettenberg Bay offshore of the Eastern Cape Province. It covers several petroleum license blocks.
Size of the Environmental Authorisation application area	Approximately 12 750 km ²

This authorisation does not negate the holder of the authorisation of the responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the proposed activity.

DECISION ON THE AUTHORISATION

ACRONYMS

AGENCY	: Petroleum Agency SA
BAR	: Basic Assessment Report
DEPARTMENT	: Department of Mineral Resources and Energy
ECO	: Environmental Control Officer
EA	: Environmental Authorisation
EIA	: Environmental Impact Assessment
EIA REGULATIONS	: Environmental Impact Assessment Regulations, 2014, as amended.
EMPr	: Environmental Management Programme
I&APs	: Interested and Affected Parties
MPRDA	: Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), as amended.
NEMA	: National Environmental Management Act, 1998 (Act 107 of 1998), as amended.

The Department is satisfied with the information made available to it, and subject to compliance with the conditions of this authorisation, that the applicant should be authorised to undertake National Environmental Management Act, 1998 (Act No. 107 of 1998) Environmental Impact Assessment (NEMA EIA) listed activities specified below. Details regarding the basis on which the Department reached this decision are set out in Appendix 1 of this authorisation.

ACTIVITY (S) AUTHORISED

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") and the Environmental Impact Assessment Regulations, 2014 ("EIA Regulations") the Department hereby **grants** the authorisation to **CGG Services SAS** to undertake NEMA EIA listed activities specified in section 3 below and as described in the basic assessment report/environmental management programme (BAR/EMPr) submitted on **14 July 2023**.

The granting of this authorisation is subject to compliance with conditions specified under section 5 below.



1. DETAILS OF THE HOLDER OF THIS ENVIRONMENTAL AUTHORISATION

CGG Services SAS
Crompton Way, Manor Royal Estate
West Sussex
Crawley
England
RH10 9QN

Contact Person : Mr Emmanuel Nformi

2. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

SLR Consulting (South Africa) (Pty) Ltd
5th Floor, Letterstedt House
Newlands on Main, Corner of Main and Campground Roads
Newlands
7700

Contact Person : Mr Edward Perry

3. AUTHORISED ACTIVITY

The following activity as listed under the EIA Regulations, 2014: Government Notice No. R983 of 04 December 2014, as amended is authorised:

Listing Notice : 1
Activity Number : 21(B)
Listed Activity : Any activity including the operation of that activity which requires a reconnaissance permit in terms of section 74 of the Mineral and



Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the reconnaissance permit, excluding:

- (a) any desktop study; and
- (b) any arial survey.

The holder of this authorisation is authorised to conduct the following activities within the area described under section 4 below:

- Acquisition of three-dimensional (3D) seismic survey data in a survey area of approximately 9000 km² within the environmental authorisation (EA) application area will be conducted by a seismic vessel.
- The seismic vessel travels along a prescribed grid, within the survey area, crossing any known or suspected geological structure in the area at a speed of between four (4) and five (5) knots during acquisition of data.
- The survey vessel is restricted in maneuverability and hence other vessels should remain clear of the survey vessel. Therefore, one (1) support (escort) vessel must assist in keeping other vessels at a safe distance.
- In addition to the escort vessel, a support vessel will be used for personnel transfer and re-provisioning. In the event that the support vessel is not used for personnel transfer and re-provisioning, a helicopter will be used for the said functions.
- The acquisition involves the generation of high-level, low frequency sound pulses by an acoustic instrument towed by a survey vessel. The acoustic instrument is towed below the sea surface.
- The generated sounds are directed towards the seabed and the seismic signal is reflected by the geological interfaces below the seafloor. Seismic sources have an energy frequency range of between 4 and 200 Hz. Each seismic pulse duration is between five (5) and 30 milliseconds.
- The reflected seismic signals are received by an array of receivers or sets of hydrophones towed behind the survey vessel in a single or multiple streamer (3D) arrangement and are fed back to the recording instruments on board.
- The technical characteristics of the proposed seismic survey are as follows:
 - A seismic sound source and solid multiple hydrophone streamers are proposed. The hydrophones would be approximately 6 000 m to 12 000 m long. Between eight (8) and 12 streamers would be towed at a depth of between six (6) to 30 m below the sea surface. The streamers will not be visible, except for the tail-buoy at the terminal end of the cable.



- Two (2) air gun arrays with an operating pressure of 2 000 pounds per square inch (psi) will be spaced by 50 m to 100 m from each other.
- Approximately 18 active air guns per air gun array will be employed.
- The survey will be undertaken in accordance with the following phases:
 - **Mobilisation:** The application for vessel and other permits, acquisition of seaworthiness certificates and vessel insurance. Appointment of required service providers. Transit of the survey and support vessels to the survey area and discharge of ballast water and routine discharges.
 - **Operation:** Deployment of seismic equipment and acquisition of data. Provision of services by the support vessels and where necessary the helicopter. Routine discharges and bunkering at sea.
 - **Demobilisation:** Survey and support vessels leave the survey area as it was prior to operations.
- It is anticipated that the survey operations may be undertaken during the summer survey window period (i.e., December to May). The survey would take about four (4) to five (5) months to complete, starting from January 2024.

4. LOCATION OF THE APPLICATION AREA

The EA application area is located between Gqeberha and about 120 km southeast of Plettenberg Bay, offshore of the Eastern Cape Province. The distance between the inshore application area boundary and the coast is about 50 km from Gqeberha, 45 and 60 km from Gqeberha to St Francis Bay and 45 and 120 km from St Francis Bay to east of Plettenberg Bay. The application area coordinates are listed in Table 1 below.

Table 1: Coordinates of the application area

Number	Longitude	Latitude
A	23°51'30,791" E	35°2'14,135" S
B	25°10'48,484" E	34°29'51,891" S
C	25°44'43,618" E	34°30'2,729" S
D	25°44' 36,310" E	35°0'10,757" S
E	24°8'28,711" E	35°41' 49,146" S

5. CONDITIONS OF THE AUTHORISATION

5.1 SCOPE OF AUTHORISATION

- 5.1.1 The holder is authorised to undertake activities specified in section 3 above.
- 5.1.2 The authorised activities must only be carried out within the application area specified in section 4.
- 5.1.3 The holder of this authorisation is responsible for ensuring compliance with the conditions of this authorisation.
- 5.1.4 Any person(s) acting on behalf of the holder, inclusive of contractor(s), subcontractor(s), consultant(s), and employees are also subject to the conditions of this authorisation. This condition, however, does not exonerate the holder from its accountability and responsibility to ensure compliance with the conditions of this authorisation.
- 5.1.5 Any changes to, or deviations from, and amendments to the proposed activities and conditions of this authorisation must be approved in writing by this Department before such changes, deviations or amendments are effected. The Department reserves the right to request the submission of information deemed necessary to assess and evaluate the significance and impacts of such changes, deviations, and amendments. Any changes, deviations, and amendments with regards to this authorisation may be subject to the provisions of Chapter 5 of the EIA Regulations, 2014.

5.2 NOTIFICATION AND APPEAL OF AUTHORISATION

- 5.2.1 The holder must, in writing, within fourteen (14) days of the date of this authorisation, notify all interested and affected parties (I&APs) of the outcome of the application.
- 5.2.2 The notification contemplated above must, amongst other issues:
- 5.2.2.1 Stipulate the date of the decision, and the date of issue of the authorisation.
 - 5.2.2.2 Provide reasons for the decision.
 - 5.2.2.3 Inform I&APs of the appeals procedure in terms of the National Environmental Management Act, 1998: National Appeals Regulations (GN R 993 of 08 December 2014).



- 5.2.2.4 Draw the attention of the I&APs to the manner in which they may access the decision, including obtaining the copy of the authorisation.

5.3 COMMENCEMENT OF THE ACTIVITY(S)

- 5.3.1 This authorisation will only be effective in the event that an application for a reconnaissance permit is granted in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002). None of the activities listed in this authorisation may therefore commence without a reconnaissance permit.
- 5.3.2 The authorised activities shall not commence within twenty (20) days of the date of the notification of this authorisation, pending potential lodgement of appeal(s).
- 5.3.3 Where an appeal is lodged against the decision by any party, this authorisation or any provision or condition thereof will be suspended in accordance with section 43(7) of the National Environmental Management Act, 1998 (NEMA); and as such you may not commence with any activity, until a decision on the appeal(s) is taken.
- 5.3.4 The authorised activities must commence within a period of two (2) years from the date of issue of this authorisation. If commencement of the authorised activities does not occur within the said period, the authorisation lapses, unless an extension is granted in terms of regulation 30 of the Environmental Impact Assessment Regulations, 2014 (EIA Regulations). If the authorisation lapses and the holder intend to undertake the authorised activity(s), a new authorisation in terms of the EIA Regulations must be obtained.

5.4 MANAGEMENT, MONITORING AND AUDITING OF OPERATIONS INCLUDING REPORTING REQUIREMENTS

- 5.4.1 The basic assessment report/ environmental management programme (BAR/EMPr) is hereby approved. It is hence mandatory for the holder to implement all the recommendations and management measures stipulated in the EMPr throughout all phases of the proposed activities.
- 5.4.2 Any non-compliance with the EMPr constitutes non-compliance with this authorisation, and any non-compliance with this authorisation may result in its suspension and may render the holder guilty of an offence in terms of section 49A of NEMA and may, if convicted, be liable for penalty as contemplated in terms of section 49B (1).



- 5.4.3 Should there be changes in the operation and management of the authorised activities, the EMPr must be amended to accommodate those changes and be submitted to the competent authority for approval before implementation commences.
- 5.4.4 The holder of this authorisation must undertake the necessary measures, to ensure that operators, contractors, subcontractors, and any person(s) acting on behalf of the holder, has full awareness of the recommendations of the EMPr before commencing with any authorised activity.
- 5.4.5 The EMPr must be included in all contractual documentation entered thereto between the holder and contractor(s).
- 5.4.6 A copy of the EMPr must always be kept onboard all project vessels.
- 5.4.7 The holder must, before the commencement of the authorised activity, appoint the following:
- 5.4.7.1 An independent and experienced Environmental Control Officer (ECO) who will ensure that the conditions of this authorisation and recommendations of the EMPr are implemented and adhered to.
- 5.4.7.2 Independent, qualified, and experienced Marine Mammal Observers (MMO), Passive Acoustic Monitoring (PAM) Operators and Fisheries Liaison Officer (FLO) to monitor the interaction between marine mammals and survey operations and interactions with other marine users for the duration of the activity.
- 5.4.8 The holder of this authorisation must submit daily and monthly environmental monitoring reports during seismic survey operations. Furthermore, the holder must, within sixty (60) days of completion of the 3D seismic survey, submit a survey closure report, completed by the ECO.

5.5 SPECIFIC CONDITIONS

- 5.5.1 The holder or appointed ECO must, thirty (30) days before the commencement of the seismic surveys, distribute notifications to the I&APs including the Agency informing them of the operational plans. The said notifications must include the following:
- 5.5.1.1 Commencement date, including survey and support vessel(s) mobilisation date, and anticipated duration of the survey.
- 5.5.1.2 Details of the seismic survey and support vessels.
- 5.5.1.3 Sketch plans showing the operational area(s) including survey grids.
- 5.5.1.4 Details of the ECO, FLO, MMO, PAM Operators and contact details for reporting environmental issues associated with the planned activities.
- 5.5.1.5 Invitation to I&APs to confirm if they should be included in the distribution list for daily MMO, PAM and FLO reports.



- 5.5.2 Avoid operating during key whale migration period (June to November), and key squid and commercial fish spawning periods (September to December).
- 5.5.3 A 5 km buffer zone must be implemented around Marine Protected Areas during seismic survey data acquisition.
- 5.5.4 Passive Acoustic Monitoring (PAM) is mandatory where visual observations are not possible due adverse weather conditions or at night. All procedures stipulated in the EMPr must be followed during the malfunctioning of the PAM system.
- 5.5.5 As a minimum, the independent FLO must speak languages spoken within the area of operation and be familiar with fisheries operations within the survey area.
- 5.5.6 As a minimum, one (1) MMO must be on watch during daylight hours for the pre-shoot observations and when the acoustic source is active.
- 5.5.7 As a minimum one (1) PAM operator must be on duty during daylight and night-time hours for the pre-shoot observations and when the acoustic source is active.
- 5.5.8 The holder must submit a Shipboard Oil Pollution Emergency Plan (SOPEP) in accordance with MARPOL 73/78 Annex I and the National Oil Spill Contingency Plan (NOSCP) to the Petroleum Agency SA. In addition to SOPEP, the Emergency Response Plan, Medical Evacuation Plan, Waste and Discharges Management Plan, Preventive Maintenance Plan, Chemical Management Plan and Corrective Action Plan must also be submitted to the Agency. The said plans must take into consideration all resources that may be required in case of an accidental oil spill incident or any emergency incident. The plans must be submitted to the Agency sixty (60) days before the mobilisation of the seismic survey vessel.
- 5.5.9 Ensure that 'turtle-friendly' tail buoys are used by the survey contractor or existing tail buoys are fitted with either exclusion or deflector 'turtle guards.
- 5.5.10 Ensure that solid streamers are used instead of fluid-filled streamers to avoid leaks. Alternatively low toxicity fluid-filled streamers may be used.
- 5.5.11 Maintain a pre-acquisition watch of sixty (60) minutes before any instances of seismic source testing. If only a single lowest power seismic source is tested, the pre-acquisition watch period can be reduced to thirty (30) minutes. The pre-acquisition watch enables the confirmation that there are no faunal species within 800 m of the seismic source. Should there be no faunal observations, implement a "soft- start" procedure as defined in the approved BAR/EMPr. If faunal observations are made within the 800m mitigation zone, delay the "soft-start" procedure and follow the protocol as recommended in the BAR/EMPr
- 5.5.12 Line changes and break in acquisition must follow the procedures defined in the approved BAR/EMPr and must be synchronized with "soft-start" procedures as defined in the approved BAR/EMPr.



- 5.5.13 Terminate seismic source on detection and/or observation of mortality or injuries of marine life within the 800m mitigation zone.
- 5.5.14 Illegal dumping of waste or any equipment aboard the vessels is prohibited. In the event of loss of any equipment that presents risks to the navigational activities, other marine users and the environment, measures to retrieve lost equipment must be undertaken, and such incidents must be reported to the Agency and South African National Hydrographic Office within twelve (12) hours of occurrence.
- 5.5.15 During the demobilisation process, the holder must ensure that the survey area is left as it was prior to the operations and all I&APs must be informed of the completion of the survey.
- 5.5.16 The seismic survey vessels must avoid, wherever possible, passing through, near or above sites of archaeological, and underwater cultural heritage significance.
- 5.5.17 All recommended mitigation measures included in the BAR/EMPr dated 14 July 2023 are deemed to be conditions of this authorisation and must therefore be adhered to.

6. GENERAL

A copy of this authorisation and the EMPr must be kept onboard all project vessels to ensure appropriate implementation of the mitigation measures.

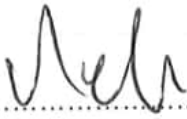
7. DISCLAIMER

The Department shall not be responsible for any damages or losses suffered by the holder in an instance where the operation is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.



8. RECOMMENDATION

In view of the above, and having taken into consideration environmental management principles as set out in section 2 of NEMA, and information presented in the environmental authorisation application and BAR, and subject to compliance with conditions of this authorisation, this Department is satisfied that the proposed activities will not be in conflict with the objectives of the Integrated Environmental Management set out in Chapter 5 of NEMA and will not result to any detrimental risks to the environment and public. **The authorisation is accordingly granted.**



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MR JACOB MBELE

DIRECTOR-GENERAL

DATE OF THE EA: 16/11/2023

APPENDIX 1: REASONS FOR DECISION

1. Information Considered in Making the Decision

All the information presented to the Department was considered in making this decision. The said information includes amongst others:

- 1.1 The provisions of Chapter 5 of the National Environmental Management Act, 1998 (NEMA) which relates to the Integrated Environmental Management and section 2 NEMA principles; the Environmental Impact Assessment Regulations, 2014 (EIA Regulations) and other relevant NEMA regulations and guidelines.
- 1.2 Environmental authorisation application dated 17 March 2023.
- 1.3 The information contained in the final BAR/EMPr, compiled by SLR Consulting (South Africa) (Pty) Ltd, submitted on 14 July 2023.
- 1.4 The information contained in the following specialist reports submitted with the BAR/EMPr:
 - 1.4.1 Biodiversity and Ecosystem Services Assessment prepared by Pisces Environmental Services (Pty) Ltd.
 - 1.4.2 Commercial Fisheries Impact Assessment prepared by Capricorn Marine Environmental (Pty) Ltd.
 - 1.4.3 Cultural Heritage Impact Assessment prepared by Prof. MJR Boswell, DSI-NRF Chair in Ocean Cultures and Heritage, Nelson Mandela University, South Africa.
 - 1.4.4 Sound Transmission Loss Modelling prepared by SLR Consulting Australia (Pty) Ltd.
- 1.5 The results of the public participation process submitted with the BAR/EMPr, which highlighted issues, objections, concerns, and comments raised by various interested and affected parties (I&APs) and responses by the EAP.

2. Submission and Consideration of the Basic Assessment Report and Environmental Management Programme

- 2.1 In terms of regulation 19(1)(a) and (b) of the EIA Regulations, 2014, the applicant must, within ninety (90) days of receipt of the application by the competent authority, submit to the competent authority-
 - (a) A basic assessment report, inclusive of specialist reports, an EMPr and where applicable a closure plan, which was subjected to a PPP of at least thirty (30) days

and which reflects the incorporation of comments received, including any comments of the competent authority; or

- (b) A notification, in writing, that the basic assessment report, inclusive of the specialist reports, and EMPr and where applicable a closure plan, will be submitted within one hundred and forty (140) days of receipt of the application by the competent authority, as significant changes were made or significant new information was added to the basic assessment report or EMPr or, where applicable, a closure plan, which changes or information was not contained in the report or plans consulted on during the initial PPP contemplated in sub-regulation (1)(a) and that the revised reports or EMPr or, where applicable, a closure plan will be subjected to another public participation process of at least thirty (30) days.

2.2 An application for the authorisation was submitted on 17 March 2023 and acknowledged on 23 March 2023. The applicant was directed to submit a BAR/EMPr on or before 21 June 2023, however a request to submit the BAR/EMPr on 14 July 2023 was granted. The BAR/EMPr was therefore submitted on 14 July 2023.

3. Key Findings

Careful consideration of information submitted to the Department, thus resulted in the following conclusions:

- 3.1 All fundamental and procedural requirements prescribed in the applicable legislation are satisfied.
- 3.2 The proposed three-dimensional (3D) seismic survey is a widely used oil and gas exploration technology worldwide. The said technology is currently used in South Africa and is generally regarded as non-intrusive in nature. The technology poses potential impacts on fisheries and marine fauna. However, the majority of the impacts were assessed to range between negligible to low significance with mitigation, except for the potential noise impact on hatchling turtles which remains of medium significance.
- 3.3 The identification and assessment of potential impacts of the activity, including cumulative impacts, was adequately undertaken, and the proposed mitigation and management measures are aligned with potential impacts. Furthermore, the implementation of mitigation measures in all phases of the proposed 3D seismic survey activities will ensure that the planned activities will not result in any detrimental impacts on the environment.

3.4 The motivation for the need and desirability of the proposed 3D seismic survey activity is in line with the requirements of the EIA Regulations, 2014 and it addressed key issues in the Need and Desirability Guideline.

3.5 Project Alternatives: The site/location, timing/scheduling, technology, and no-go alternatives were considered and briefly assessed where possible. However due to the nature of proposed exploration operations, no in-depth assessments were carried out. The preferred location was selected based on its high likelihood of containing significant hydrocarbon reserves. The preferred 3D seismic survey is considered a suitable technology to achieve the intended objective of the proposed project. In addition, seismic survey technology is currently the only commercially available technology to achieve the desired objectives of the project. The no-go alternative was not preferred due to the positive impacts that might be derived from undertaking the planned project. The timing/scheduling alternatives were assessed in consideration of sensitive areas, periods of peak fishing activity and marine fauna movements.

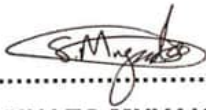
3.6 The PPP complied with Chapter 6 of the EIA Regulations, 2014 and related guidelines. The PPP included the following:

- (a) Identification and notification of I&APs inclusive of authorities, fisheries, and non-governmental organisations.
- (b) Notification of the availability of the draft BAR, comment period and meetings, written in English, Afrikaans, and isiXhosa, was distributed to pre-identified I&APs through registered mails; fax, emails, and SMS's.
- (c) Site notices were placed at harbours or central locations along the inshore of the application area at Plettenberg Bay, Storms River Village, St Francis Bay, Jeffreys Bay and Gqeberha.
- (d) Newspaper advertisements were published in two (2) local and two (2) regional newspapers.
- (e) Radio announcements were aired in one (1) local and one (1) regional radio stations twice a day on 11 and 12 April 2023.
- (f) Six (6) public and eleven focus group meetings were held in various locations along the coast inshore of the application area during the draft BAR comment period.
- (g) The comment period was extended for an additional eighteen days, and I&APs were notified of the extension period.
- (h) Comments and issues raised by I&APs were adequately addressed in the BAR/EMPr.



4. Conclusion

In view of the above and having taken into consideration environmental management principles as set out in section 2 of NEMA, this Department is satisfied that the proposed activities will not conflict with the objectives of the Integrated Environmental Management set out in Chapter 5 of the National Environmental Management Act, 1998 and will not result to any detrimental risks to the environment and public. This environmental authorisation is accordingly granted.



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MS SINAZO MNYAKA

EAP REG NO.: 2022/5486

DATE: 02/11/2023



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MR JACOB MBELE

DIRECTOR-GENERAL

DATE OF THE EA: 16/11/2023