**From:** Werner Petrick [mailto:wpetrick@namisun.com]

Sent: Wednesday, 17 April 2024 15:30

Subject: EIA PROCESS FOR GALP'S FURTHER EXPLORATION ACTIVITIES IN PETROLEUM EXPLORATION

LICENCE 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA

Dear Sir / Madam

## ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR GALP'S FURTHER EXPLORATION ACTIVITIES IN PETROLEUM EXPLORATION LICENCE 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA

"PEL 83" is a Joint Venture between the block partners, namely Windhoek PEL 28 B.V. (a whollyowned subsidiary of Galp Energia E&P B.V (i.e. Galp)), the National Petroleum Corporation of Namibia (NAMCOR) and Custos Investments. Galp, the operator of Petroleum Exploration Licence (PEL) 83, has been performing exploration activities in PEL 83 since 2016 and recently completed the drilling of two exploration wells and one well test in PEL 83. PEL 83 covers an area of approximately 9 954 km² and is located between 130 km and 250 km from the coastline in water depths ranging from approximately 500 m to 2 500 m.

Galp plans to continue their exploration / appraisal activities in PEL 83 and requires new environmental clearances from the Ministry of Environment, Forestry and Tourism (MEFT) for the following activities (similar to what was previously undertaken):

- 3-Dimensional (3D) towed streamers seismic surveys (i.e. changes in area / location from previously assessed / approved campaign) as well as ocean bottom node (OBN) seismic acquisition.
- Drilling campaigns (i.e. similar activities, but changes only in number of wells to be drilled, i.e. up to 10 exploration & appraisal wells).

Galp therefore gives notice in terms of the Environmental Management Act, 7 of 2007 and Regulations 19 and 21 of the Environmental Impact Assessment (EIA) Regulations (January 2012), of two separate applications that will be submitted to the MEFT (Environmental Commissioner), as follows:

- Amendment Application for the exploration/appraisal wells drilling campaign (i.e. an amendment to Windhoek PEL28 B.V.'s current Environmental Clearance Certificate (ECC)).
- New application for the seismic (i.e. 3D towed streamer and OBN) surveys and related activities.

Namisun Environmental Projects & Development (Namisun) has been appointed by Galp as the independent Environmental Assessment Practitioner to undertake the EIA process for the proposed further exploration activities.

Please find the following attached:

Background Information Document (BID).

#### Registration to receive notifications / information and opportunity to comment:

To register as an interested and / or affected party, please submit your name and contact details to Namisun by e-mail, or by contacting the undersigned.

The following (public) information-sharing meetings will be held:

• 26 April 2024 @ 10:00 at the Alte Turnhalle, Lüderitz.

• 29 April 2024 @ 9:00 at the Protea by Marriott Hotel Walvis Bay Indongo.

If you would like your comments to be addressed in the EIA report please submit them to Namisun by no later than **30 April 2024**.

Kindly share the information in this email and BID with the parties you consider relevant. Kindly also provide the names and contact details of parties you consider relevant to Namisun.

Yours sincerely,



**From:** Werner Petrick [mailto:wpetrick@namisun.com]

**Sent:** Tuesday, 25 June 2024 23:56

**Cc:** 'oudoring@gmail.com' <oudoring@gmail.com>

**Subject:** RE: EIA PROCESS FOR GALP'S FURTHER EXPLORATION ACTIVITIES IN PETROLEUM EXPLORATION LICENCE 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA - REPORT FOR REVIEW

Dear Sir / Madam

NOTICE: ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR GALP'S FURTHER EXPLORATION ACTIVITIES IN PETROLEUM EXPLORATION LICENCE 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA:

- 1. PROPOSED FURTHER 3D SEISMIC ACQUISITION AND ASSOCIATED ACTIVITIES
- 2. PROPOSED FURTHER EXPLORATION WELLS DRILLING AND ASSOCIATED ACTIVITIES

## <u>EIA SCOPING (INCLUDING IMPACT ASSESSMENT) REPORT WITH ESMPs (AND OTHER SUPPORT DOCUMENTS) AVAILABLE FOR REVIEW</u>

With reference to earlier correspondence regarding Galp's plans to continue their exploration / appraisal activities in PEL 83 and the associated EIA process, please be advised that the EIA Scoping (including Impact Assessment) Report, as well as the two Environmental and Social Management Plans (ESMPs) and other support documents are now available for review and comment.

Attached, please find the Executive Summary of the EIA Scoping (including Impact Assessment) Report. An electronic copy of the full report (including all Appendices) is available on request to Namisun.

A hard copy of the full report will also be available for review at the Walvis Bay Public Library and the Lüderitz Public Library from 1 July 2024.

Please send any comments you might have on the report to the undersigned by **17 July 2024**. Please copy Namisun's Pierre Smit (<u>oudoring@gmail.com</u>) in on any replies to this email.

Yours sincerely,



# NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

# APPLICATION FOR ENVIRONMENTAL CLEARANCE FOR FURTHER EXPLORATION ACTIVITIES IN PETROLEUM EXPLORATION LICENCE 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA

Energia E&P B.V (i.e. Galp)), the National Petroleum Corporation of Namibia (NAMCOR) and Custos Investments. Galp, the operator of Petroleum Exploration Licence (PEL) 83, has been performing exploration activities in PEL 83 since 2016 and "PEL 83" is a Joint Venture between the block partners, namely Windhoek PEL 28 B.V. (a wholly-owned subsidiary of Galp recently completed the drilling of two exploration wells and one well test in PEL 83. PEL 83 covers an area of approximately 9 954 km² and is located between 130 km and 250 km from the coastline in water depths ranging from approximately

Galp plans to continue their exploration / appraisal activities in PEL 83 and requires new environmental clearances from

Ministry of Environment, Forestry and Tourism (MEFT) for the following activities (similar to what was previously undertaken): 3-Dimensional (3D) towed streamers seismic surveys (i.e. changes in area / location from previously assessed /

Drilling campaigns (i.e. similar activities, but changes only in number of wells to be drilled. approved campaign) as well as ocean bottom node (OBN) seismic acquisition.

Galp therefore gives notice in terms of the Environmental Management Act, 7 of 2007 and Regulations 19 and 21 of the Environmental Impact Assessment (EIA) Regulations (January 2012), of two separate applications that will be submitted to

Amendment Application for the exploration/appraisal wells drilling campaign (i.e. an amendment to Windhoek PEL28 B.V.'s current Environmental Clearance Certificate (ECC)).

New application for the seismic (i.e. 3D towed streamer and OBN) surveys and related activities.

# Applicant: Windhoek PEL28 B.V.

# Nature and location of the further exploration

in PEL 83, towards the end of 2024 and quarter 1 of 2025, which Galp plans a further 3D towed streamer seismic survey campaign will be around 4000 km². Galp will also undertake an OBN seismic acquisition within the area where the 3D towed streamer seismic activities will be conducted, either during the same time or at a later stage - to be determined.

Another well drilling campaign will be undertaken. A total of 10 exploration & appraisal wells, including flow testing, are planned over a period of - 3 years.

# Independent Environmental Assessment Practitioner:

Namisun Environmental Projects & Development (Namisun) has been appointed by Galp as the independent Environmental Assessment Practitioner to undertake the EIA process for the proposed further exploration activities. Contact Person: Werner Petrick Tel: +264 (0)81739 4591 E-mail: wpetrick@namisun.com.

# Registration to receive notifications / information and opportunity to comment:

To register as an interested and / or affected party, please submit your name and contact details to Namisun by e-mail, or by contacting Werner Petrick. A Background Information Document (BID) is available on request from Namisun for a review and comment period from 16 to 30 April 2024. The following (public) information-sharing meetings will be held: 26 April 2024 @ 10:00 at the Alte Turnhalle, Lüderitz and 29 April 2024 @ 9:00 at the Protea by Marriott Hotel Walvis Bay Indongo.

If you would like your comments to be addressed in the EIA report please submit them to Namisun by no later than



# VACANCIES

# Seeking applications for positions for JSAID-funded Project

seeks several positions for the USAID-funded Global Health Supply Chain (GHSC) - Procurement and Supply Management (PSM) project in Windhoek, Namibia. The project provides direct procurement and supply Chemonics International, an international development consulting firm, chain management support to the President's Emergency Plan for AIDS Relief (PEPFAR), a USG-funded global health activity. GHSC-PSM in Namibia procurement and related systems strengthening technical assistance will develop and manage a wide array of services for health commodity encompassing different elements of a comprehensive supply chain and collaboration to improve long-term availability of health commodities.

As such, GHSC-PSM is seeking candidates for the following positions:

- Procurement Administrator
  - Receptionist

Procurement Administrator: Follow this link

https://chemonicsnamibia.formstack.com/forms/job\_application\_form to complete the application process on the Recruitment Portal and upload a copy of your CV and qualifications.

Receptionist: Follow this link

https://chemonicsnamibia.formstack.com/forms/receptionist to complete the application process on the Recruitment Portal and upload a copy of your CV and qualifications. All suitably qualified Namibians are encouraged to apply. Only electronic applications submitted via the recruitment portal will be accepted. We reserve the right not to make any employment offer or appointment.

All job descriptions can be accessed by following this link: https://bit.lv/3xzZEtt





# **EXECUTIVE DIRECTOR**

NTV, an equal opportunity employer, has the following vacancy for a dynamic and energetic person with Namibian citizenship.

Responsible for overseeing the entire production of a live or recorded broadcast. Managing the financial, production and channel distribution of NTV. Responsible for decisions about the editorial content and creative style of a program, and ensuring the producer's vision is delivered.

# Key Performance Areas

- Technical and creative assistance in and out of the studio
- Oversee all projects relating to the studio and events involving studio input.
- Ensure project schedules are updated and relevant team members informed of their roles.
  - · Ensure programme deadlines are strictly adhered to.
- Calibration and quality control of videos.
- · Financial Management
- Monitor, check and correct video for marketing departments and agencies.

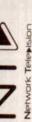
C.V's with certified copies of qualifications and relevant documentation to: Interested candidates who qualify for the above position can forward their

mal vacancies anmh.com.na. Please write ""Executive Director NTV" n

http://nmh.com.na/vacancies

Only shortlisted candidates will be contacted,

**07 MAY 2024** 13 MAY 2024 CLOSING DATE: INTERVIEWS:



Vetwork Television

# NAMISUN

# NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

# APPLICATION FOR ENVIRONMENTAL CLEARANCE FOR FURTHER EXPLORATION ACTIVITIES IN PETROLEUM **EXPLORATION LICENCE 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA**

PEL 83" is a Joint Venture between the block partners, namely Windhoek PEL 28 B.V. (a wholly-owned subsidiary of Galp Energia E&P B.V (i.e. Galp)), the National Petroleum Corporation of Namibia (NAMCOR) and Custos Investments. Galp, the operator of Petroleum Exploration Licence (PEL) 83, has been performing exploration activities in PEL 83 since 2016 and recently completed the drilling of two exploration wells and one well test in PEL 83. PEL 83 covers an area of approximately 954 km² and is located between 130 km and 250 km from the coastline in water depths ranging from approximately 500 m to 2 500 m (see Figure below). Galp plans to continue their exploration / appraisal activities in PEL 83 and requires new environmental clearances from the Ministry of Environment, Forestry and Tourism (MEFT) for the following activities (similar to what was previously undertaken):

- 3-Dimensional (3D) towed streamers seismic surveys (i.e. changes in area / location from previously assessed / approved campaign) as well as ocean bottom node (OBN) seismic acquisition.
  - Drilling campaigns (i.e. similar activities, but changes only in number of wells to be drilled).

Galp therefore gives notice in terms of the Environmental Management Act, 7 of 2007 and Regulations 19 and 21 of the Environmental Impact Assessment (EIA) Regulations (January 2012), of two separate applications that will be submitted to the MEFT (Environmental Commissioner), as follows:

- Amendment Application for the exploration/appraisal wells drilling campaign (i.e. an amendment to Windhoek PEL28 B.V.'s current Environmental Clearance Certificate (ECC)).
  - New application for the seismic (i.e. 3D towed streamer and OBN) surveys and related activities.

# Applicant: Windhoek PEL28 B.V.

# Nature and location of the further exploration

# Seismic Survey

Galp plans a further 3D towed streamer seismic survey campaign in PEL 83, towards the end of 2024 and quarter 1 of 2025, which will be around 4000 km², Galp will also undertake an OBN seismic acquisition within the area where the 3D towed streamer seismic activities will be conducted, either during the same time or at a later stage - to be determined.

Another well drilling campaign will be undertaken, i.e. up to 10 exploration & appraisal wells, including flow testing, are planned over a period of - 3 years.



# Independent Environmental Assessment Practitioner:

Namisun Environmental Projects & Development (Namisun) has been appointed by Galp as the independent Environmental Assessment Practitioner to undertake the EIA process for the proposed further exploration activities. Contact Person: Werner Petrick Tel: +264 (0)81739 4591 E-mail: wpetrick@namisun.com.

# Registration to receive notifications / information and opportunity to comment:

To register as an interested and / or affected party, please submit your name and contact details to Namisun by e-mail, or by contacting Werner Petrick. A Background Information Document (BID) is available on request from Namisun for a review and comment period from 16 to 30 April 2024. The following (public) information-sharing meetings will be held: 26 April 2024 @ 10:00 at the Alte Turnhalle, Lüderitz and 29 April 2024 @ 9:00 at the Protea by Marriott Hotel Walvis Bay Indongo. If you would like your comments to be addressed in the EIA report please submit them to Namisun by no later than 30 April 2024.





#### **GALP**

#### **ENVIRONMENTAL IMPACT ASSESSMENT**

APPLICATION FOR ECCS FOR FURTHER EXPLORATION ACTIVITIES IN PEL 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA:

- 1. AMENDMENT OF THE CURRENT ECC FOR THE PROPOSED OFFSHORE EXPLORATION WELLS DRILLING
- 2. APPLICATION FOR A NEW ECC RELATED TO THE PROPOSED 3D TOWED STREAMER SEISMIC ACQUISITION, OBN SEISMIC ACQUISITION AND ASSOCIATED ACTIVITIES

#### BACKGROUND INFORMATION DOCUMENT

#### 1. INTRODUCTION

"PEL 83" is a Joint Venture between the block partners, namely Windhoek PEL 28 B.V. (a wholly-owned subsidiary of Galp Energia E&P B.V (i.e. Galp)), the National Petroleum Corporation of Namibia (NAMCOR) and Custos Investments. Galp holds an 80% controlling interest in Petroleum Exploration License (PEL) 83, while NAMCOR and Custos each hold 10%. Galp is currently the operator of PEL 83, which is located in the Orange Basin, off the coast of Namibia (see Figure 1).

PEL 83 covers an area of approximately 9 954 km² and is located between 130 km and 250 km from the coastline in water depths ranging from approximately 500 m to 2 500 m. Galp has been performing exploration activities in PEL 83 since 2016, with a 3D seismic acquired in 2019 and recently completed the drilling of two exploration wells and one well test in PEL 83.

The above-mentioned activities were undertaken on the basis of the successful completion of Environmental Impact Assessment (EIAs) processes, approved EIA reports and related Environmental Clearance Certificates (ECCs), issued by the Ministry of Environment, Forestry and Tourism (MEFT): Department of Environmental Affairs (DEA). Galp plans to continue their exploration / appraisal activities in PEL 83 and requires new environmental clearances from MEFT for the following activities (similar to what was previously undertaken):

- 3-Dimensional (3D) towed streamer seismic survey (i.e. changes in area / location from previously assessed / approved campaign see Figure 2) as well as ocean bottom node (OBN) seismic acquisition.
- Appraisal wells drilling campaign (i.e. similar activities, but changes only in number of wells to be drilled over a period of 3 years).

#### 2. ENVIRONMENTAL CLEARANCE

Windhoek PEL 28 B.V. (i.e. Galp) received an ECC on the 10<sup>th</sup> of October 2023 for their offshore exploration well drilling, including well flow testing in PEL 83, on the basis of an approved Amendment Application. The Environmental Management Plan (EMP) was updated and approved as part of this process. This ECC is valid until 7 March 2026.

Furthermore, Galp received an ECC from MEFT in November 2017 for their initial 3D towed streamer seismic survey activities in PEL 83, based on an approved EIA process and associated EIA Report and EMP. This ECC expired in November 2020.

Prior to the commencement of further activities proposed, including the amendments / additions to the previously approved activities, two separate applications will be submitted to the MEFT: DEA in terms of the Environmental Management Act, No. 7 of 2007 and associated EIA Regulations (January 2012), as follows:

- Amendment Application for the exploration & appraisal wells drilling campaign (i.e. an amendment to the current ECC).
- New application for the seismic (i.e. 3D towed streamer and OBN) surveys and related activities.

The related (parallel) EIA process will include a scoping (and updating the assessment of impacts from the original EIAs) phase and an amendment to the approved EMPs.

Namisun Environmental Projects & Development (Namisun) has been appointed by Galp as the independent Environmental Assessment Practitioner to undertake the EIA process for the proposed Project.

#### 3. PURPOSE OF THIS DOCUMENT

This document has been prepared by Namisun to inform you about:

- Description of Galp's proposed future exploration/appraisal activities in PEL 83 (Section 5).
- The EIA process (Section 6).
- Key environmental issues (i.e. aspects and potential impacts) relating to the proposed exploration activities to be re-assessed (Section 7).
- How you can register as an interested and /or affected party (I&AP) (Sections 4 and 8).

#### 4. PARTICIPATION IN THE EIA PROCESS

Public participation is an essential part of the EIA process. If you want to register as an I&AP and have input into the EIA process, please refer to the box below. All comments / questions / concerns will be recorded and addressed in the EIA process. Public meetings and key focus group meetings will be set up and further scheduled on request. See Section 6 for more information.

#### **HOW TO REGISTER AS AN I&AP**

Please register as an I&AP and submit any questions or comments through communication with Namisun.

<u>Attention</u>: Werner Petrick <u>E-mail address:</u> wpetrick@namisun.com <u>Cell number:</u> +264 (0)81 739 4591

If you would like your comments to be addressed in the EIA Report, please submit them by **30 April 2024**.

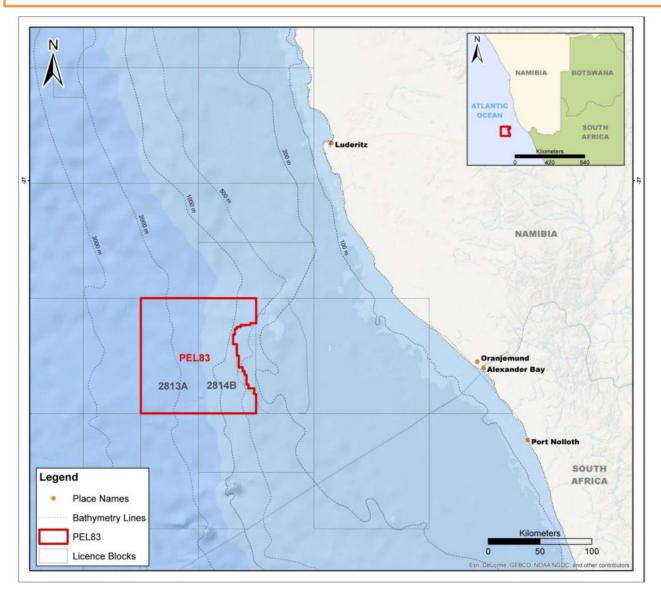


FIGURE 1: LOCATION OF PEL 83 (FIGURE FROM ORIGINAL EIA REPORT, SLR 2019)

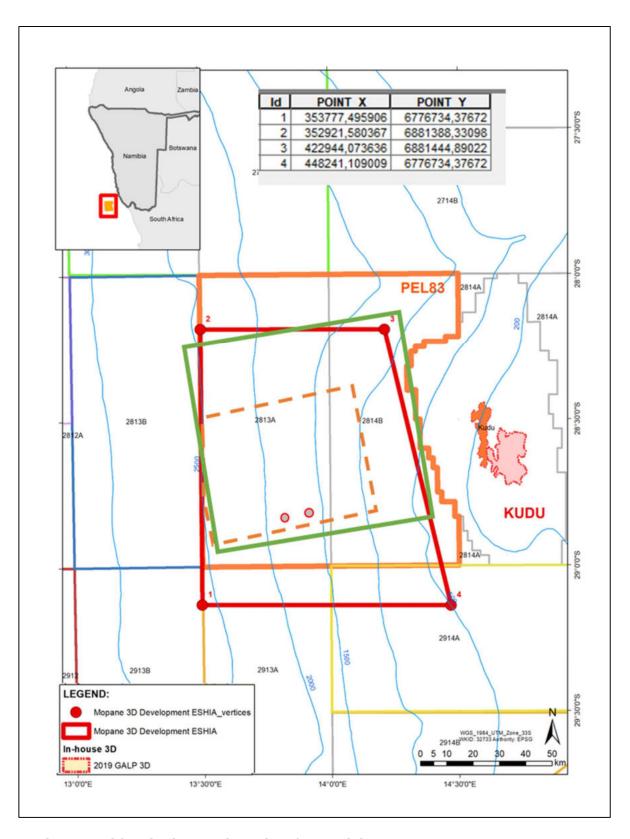


FIGURE 2: LOCATION OF EXPLORATION ACTIVITIES ON PEL 83 (RED POLYGON: PROPOSED FURTHER 3D SEISMIC STUDY AREA; GREEN POLYGON: 2017 ASSESSED AND APPROVED 3D SEISMIC STUDY AREA)

## 5. PROPOSED AMENDMENTS AND ADDITIONAL EXPLORATION ACTIVITIES

With reference to Section 1, Galp has successfully completed various exploration activities in PEL 83, including, amongst others, the following:

- A 3D-seismic survey between January and March 2019, over an area covering ~3,015 km² of the PEL 83 (see Figure 2).
- Drilling of two exploration wells (see Figure 2 for the locations).
- Flow testing (DST) on one well.

The well drilling and testing were recently conducted and the final well testing is expected to be completed in May 2024. Due to the positive results from the recent exploration activities, Galp plans to continue with further activities, as described below.

#### **5.1 3D TOWED STREAMER SEISMIC SURVEY**

Galp plans a further 3D seismic survey campaign in PEL 83. Seismic surveys are carried out during oil and gas exploration activities in order to investigate subsea geological formations.

The area to be surveyed by Galp, towards end of 2024 and first quarter 2025, will be  $\sim 4000 \text{ km}^2$  within the red polygon as shown in Figure 2. The activities will be similar in nature to that previously undertaken, as follows:

During the seismic surveys, high-level, low frequency sounds will be directed towards the seabed from near-surface sound sources (i.e. source air-gun arrays) towed by a seismic vessel. Signals reflected from geological interfaces below the seafloor will be recorded by multiple receivers towed in a multiple streamer configuration (see Figure 3). Analyses of the returned signals will allow Galp to further interpret the subsea geological formations.

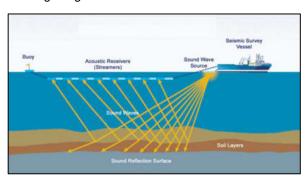


FIGURE 3: PRINCIPLES OF 3D SEISMIC SURVEYS (source: https://oceansnotoil.org/offshore-oil-and-gas-phases/)

#### 5.2 ADDITIONAL WELL DRILLING<sup>1</sup>

Subsequent, well drilling activities are being planned for PEL 83 similar to those recently undertaken by Galp. These include up to 10 exploration & appraisal wells, including flow testing, planned over a period of ~ 3 years. The location of each of these wells within PEL 83 still needs to be determined, based on, amongst others, the further 3D seismic survey results. The first well is scheduled for drilling no earlier than Q2 2025. These appraisal wells would be drilled in a location and to a depth determined by the results of the exploratory wells. The expected drilling depth will be approximately 4 to 5 km below the seafloor and is expected to take approximately 2 to 3 months per well to complete.

#### 5.2.1 Drilling unit

Galp will either use a drillship or a semi-submersible drilling vessel (rig) for drilling, depending on rig availability, design specifications, safety, and metocean conditions. The drilling unit will be held in position by dynamic positioning thrusters. A temporary 500 m operational safety zone will be imposed around the unit, while operational.

#### 5.2.2 Well drilling activities

A well will be created by drilling a hole into the seafloor with a drill bit attached to a rotating drill string, which crushes the rock into small particles, called "cuttings". After the hole is drilled, casings (sections of steel pipe), are placed in the hole and permanently cemented into place. The diameter of the well will decrease with increasing depth. Drilling is undertaken in two stages, namely the riserless and risered drilling stages (see Figure 4 and Figure 5).

#### Initial (riserless) drilling stage

An initial section of conductor pipe will be either jetted or drilled and then cemented into place. The conductor is run in the shallow unconsolidated sediment section to prevent the sides of the well from caving in. Subsequently, a wellhead is placed on top of the conductor, which is the foundation of the well. Below the conductor, a 26-inch diameter hole will be drilled to a specific depth below the seabed. A surface casing of 20-inch diameter is then placed into the hole and secured into place by pumping cement through the casing at the bottom of the hole and back up the annulus (the space between the casing and the borehole). These initial hole sections will be drilled using seawater (with viscous sweeps) and water-based mud (WBM). All cuttings and drill fluids from this initial



drilling stage will be discharged directly onto the seafloor.

#### Risered drilling stage

This stage commences with the lowering of a blow-out preventer (BOP) and installing it onto the wellhead (Figure 5 on bottom). The BOP is designed to seal the well and prevent any uncontrolled release of fluids from the well (a 'blow-out'). A marine riser is then installed between the drilling unit and the wellhead. The riser isolates the drilling fluid and cuttings from the environment, thereby creating a "closed loop system". Drilling is continued by lowering the drill string through the riser, BOP and casing and then rotating the drill string. Drilling fluid (a synthetically oil-based mud -SOBM) is continuously pumped down the inside of the hollow drill string. The fluid emerges through ports in the drill bit and then rises (carrying the rock cuttings with it) up the annular space between the sides of the hole to the drilling unit. The returned drilling fluid is treated. The cuttings are separated from the fluid, after which they are further dried until the oil content is low enough. The cuttings are then discharged overboard.

#### Well logging and testing

Once the reservoir target depth is reached the well will be logged and tested (including Vertical Seismic Profiling and flow testing for the appraisal wells).

#### Decommissioning and demobilization of the well

Once drilling and logging have been completed, the well will be plugged, tested for integrity and abandoned or some equipment will be installed in the well (lower completion) that will allow at a later stage to be a well producer also called as a "keeper". Abandonment will involve the insertion of cement plugs across any reservoir sections. The wellhead, with a height of approximately 4 m, will remain on the seafloor with an abandonment cup.

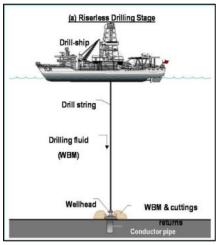


FIGURE 4: RISERLESS DRILLING

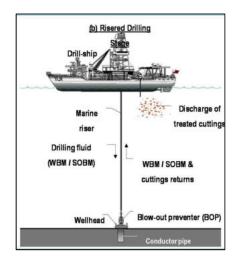


FIGURE 5: RISERED DRILLING

#### 5.3 OBN SEISMIC ACQUISITION

Galp will undertake an OBN seismic acquisition within the area where the 3D towed streamer seismic activities will be conducted, either during the same time or at a later stage - to be determined.

An OBN seismic acquisition is very similar to a 3D towed streamer seismic acquisition regarding the source wavefields created by the air-gun arrays. The most relevant difference is the receiver's component, which is placed on the seafloor for a specific period.

OBN is a multi-component seismometer (3 geophones positioned orthogonally to each other and a hydrophone) placed on the seafloor which could independently collect and record seismic signals. It can record P-waves and mode-converted shear waves (S-waves) by the geophones on the seabed.

Seismic data is stored in the OBN until it's recovered to the nodes vessel, where data is downloaded.

At an OBN acquisition, the nodes are handled by a nodes vessel or remotely operated vehicle (ROV) node handling vessel (see Figure 6).

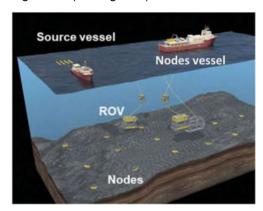


FIGURE 6: GENERIC DIAGRAM OF A OBN ACQUISITION



#### 5.4 SHORE BASE AND SUPPLY VESSELS

The onshore logistics base will be located in the Port of Walvis Bay with some emergency support from Lüderitz.

The shore base will be used for the storage of materials and equipment (including casing, drilling fluid, cement, chemicals, diesel and water) that will be transported by sea to / from the seismic survey and drilling units, where relevant. The shore base will also be used for offices (with communications and emergency procedures / facilities), waste management services, bunkering vessels, and stevedoring / customs clearance services.

The seismic survey vessel and drilling units will be supported / serviced by at least 3 support vessels, which will facilitate equipment and material transfer between the drilling unit and the shore base. The supply vessels will call into port regularly during the seismic survey and drilling campaigns.

A supply vessel will always be on standby near the drilling unit to provide support for firefighting, oil containment / recovery, rescue in the unlikely event of an emergency and supply any additional equipment that may be required.

#### 6. EIA PROCESS

The main objectives of the EIA process are to:

- Provide information on the further exploration / appraisal activities proposed by Galp.
- Identify / update, in consultation with I&APs, the potential negative and positive environmental aspects.
- Assess (i.e. 're-assess') the potential impacts resulting from the proposed activities, taking updated baseline environmental information as well as proposed changes to the activities into consideration. The original (previously approved) EIAs for these (similar) activities will however be considered and the relevant study findings used in the updated assessments.
- Report on measures required to avoid impacts or mitigate such impacts to acceptable levels by updating the approved EMPs.
- Further develop specific environmental monitoring requirements.

The likely steps and timeframes of the EIA process are provided in Table 1.

#### Table 1: EIA Process

#### STEPS IN THE EIA PROCESS

#### PHASE I: Project initiation & Internal Screening (March - April 2024)

- EIA project initiation.
- Identify / update environmental issues.
- · Identify key stakeholders.

### PHASE II – Combined Scoping & Assessment Phase and updated EMPs (April – July 2024)

- Notify the Ministry of Mines and Energy (MME) and MEFT through the submission of the two applications for ECCs and online (MEFT) registration.
- Notify other relevant regulatory authorities and I&APs of the proposed / further exploration activities (via newspaper advertisements, the BID, emails, site notices, etc.).
- Conduct public meetings and key stakeholder focus group meetings.
- Carry out specialist investigations (marine biologist and fisheries specialist) and review / update the original environmental baseline information.
- Assess (re-assess) the potential impacts of the proposed activities and compile an EIA Report and updated EMPs – taking the key study findings from the original EIAs into consideration.
- Distribute the EIA reports for review and comment by regulatory authorities and registered I&APs.
- Consider comments received and compile the final reports (including an Issues and Response Report).
- Submit the final reports to MME and MEFT for their review and decision-making.

A consolidated (draft) EIA Scoping (including Impact Assessment) Report (including two Amended EMPs one for the seismic survey activities and one for the well drilling activities) will be made available for a public review and comment period. Registered I&APs will be notified via e-mail of the review period and the availability of the drafted documents.

The final EIA report, along with all IA&P comments, will be submitted to the MME and MEFT (Environmental Commissioner) for review and a final decision.



### 7. KEY ISSUES RELATED TO THE FURTHER EXPLORATION ACTIVITIES

Various specialist studies and associated specialist reports (compiled by 'environmental experts / specialists') formed part of the initial EIAs. These studies (i.e. oil spill modeling and noise assessments, amongst others) will be referred to in the current EIA.

A marine ecologist and fisheries specialist have been appointed to assess / re-assess potential impacts resulting to further exploration activities (see section 5).

#### 7.1 POTENTIAL IMPACTS RELATING TO SEISMIC SURVEY ACTIVITIES

#### 7.1.1 Marine Ecology

 The potential impact on marine mammals (physiological injury and behavioural avoidance) as a result of seismic noise.

#### 7.2.2 Fishing

 The potential impact on the fishing industry (vessel interaction, disruption to fishing operations and reduced catch) due to the presence of the survey vessel with limited maneuverability and with its associated safety zone, potential fish avoidance of the survey area and changes in feeding behaviour.

### 7.2 POTENTIAL IMPACTS RELATING TO WELL DRILLING ACTIVITIES

#### 7.2.1 Marine Ecology

- Normal discharges to sea, including sewage, galley waste, and deck and machinery space drainage.
- Disturbance of marine fauna due to noise and lighting.
- Sediment disturbance due to drilling activities and placement of infrastructure on the seafloor.
- Smothering of relatively immobile or sedentary benthic species and biochemical effects due to the discharge of cuttings, drilling fluid and cement.
- Increased biodiversity and biomass on wellhead due to the increased amount of hard substrate available for colonisation by benthic organisms.
- Introduction of alien invasive marine species through vessels transfer and ballast water discharge.
- · Accidental release of oil.

#### 7.2.2 Fishing

- Disruption to fishing operations and loss of access to fishing grounds due to the 500 m safety exclusion area around the drilling unit.
- Fish avoidance of immediate area and changes in feeding behaviour due to drilling noise.
- Disruption of fishing activities due to abandonment of wellhead on the seafloor.
- · Accidental release of oil.

#### 7.2.3 Socio-Economic

 Interference with shipping routes as a result of the 500 m safety exclusion area around the drilling unit.

### 7.3 POSITIVE SOCIO-ECONOMIC ISSUES - RELEVANT TO ALL ACTIVES

- Employment and business opportunities.
- · Generation of direct revenues.

#### **8. INVITATION TO REGISTER AND COMMENT**

If you would like to register as an I&AP to the proposed project and EIA applications process, or if you have any questions / comments, please contact Namisun.

For comments to be included in the EIA Amendment Report they must reach Namisun by no later than **30 April 2024.** 

#### 8.1 PUBLIC MEETINGS

The following (public) information-sharing meetings will be held:

Date	Time	Venue	
26 April 2024	10:00 am	Alte Turnhalle, Lüderitz	
29 April 2024	9:00 am	Protea by Marriott Hotel Walvis Bay Indongo	





# EIA FOR FURTHER EXPLORATION ACTIVITIES IN PEL 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA:

- 1. AMENDMENT OF THE CURRENT ECC: OFFSHORE EXPLORATION WELLS DRILLING
- 2. APPLICATION FOR A NEW ECC:3D TOWED STREAMER SEISMIC ACQUISITION, OBN SEISMIC ACQUISITION AND ASSOCIATED ACTIVITIES

Information Sharing Meeting

April 2024



# Agenda

- Introduction
  - ➤ Meeting Procedure
  - > General introduction
  - > Objectives of the meeting
- Description of the exploration activities:
  - > Approved activities
  - > Proposed further activities
- EIA process
- Key environmental issues to be (re)assessed
- Question and answer session
- Way forward and closure



# Objectives of the meeting

- Provide a description of Galp's proposed further exploration activities in PEL83.
- Provide a description of the EIA process.
- Provide IAPs with initial opportunity to be involved in the EIA.
- Identify further potential environmental issues and impacts.
- Describe the way forward, highlighting further opportunities to be involved in the EIA process.



# **Meeting Procedures**

- Opportunity to ask questions / give comments.
- Minutes are being taken.
- Please sign the Attendance Register.



## **General Introduction**

- "PEL83" is a Joint Venture between the following block partners holding Petroleum Exploration Licence (PEL) 83:
  - ➤ Windhoek PEL28 B.V. (80%) (wholly-owned subsidiary of **Galp** Energia E&P B.V)
  - ➤ National Petroleum Corporation of Namibia (NAMCOR) (10%)
  - ➤ Custos (10%)
- Galp is the operator of PEL 83.
- Galp is proposing further exploration activities in PEL 83.

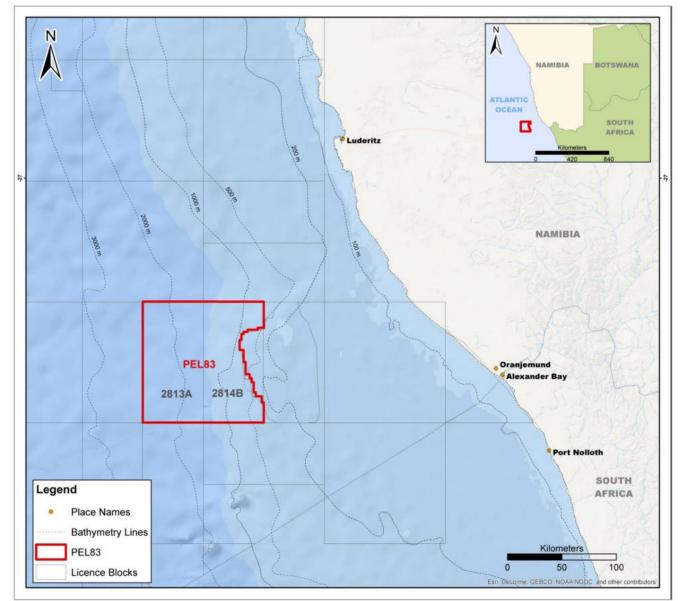


## **General Introduction**

- PEL 83:
  - ➤ Located in the Orange Basin off the coast of Namibia
  - Covers an area of approximately 9 954 km<sup>2</sup>
  - > Located between 130 km and 250 km from the coastline
  - ➤ In water depths ranging from approximately 500 m to 2 500 m



## **General Introduction**





# History of approvals and activities

Exploration activities approved (MEFT) and undertaken by Galp:

2017

✓ ECC received for initial 3D towed streamer seismic survey activities in November 2017 (expired in November 2020).

2019

✓ Completed the above seismic survey in 2019.

2020

✓ Applied for an ECC for exploration well drilling and associated activities.

2023

- ✓ ECC issued for well drilling.
- ✓ Renewed ECC received in March 2023.
- ✓ New ECC received in October 2023 on the basis of an approved Amendment Application (including well flow testing).

2024

✓ Drilling of two exploration wells from November 2023 to March2024 and one well flow test in April 2024.

# History of approvals and activities







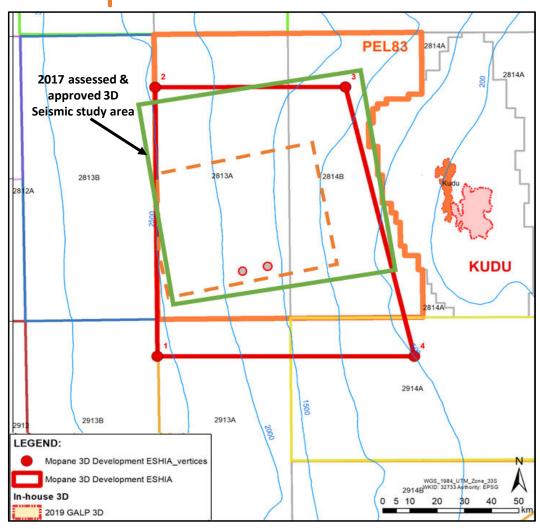


**NAMISUN** 

- Due to the positive results from the recent exploration activities,
   Galp plans to continue with further activities:
  - ➤ 3D towed streamer seismic survey (i.e. changes in area / location from previously assessed / approved campaign) as well as ocean bottom node (OBN) seismic acquisition.
  - Appraisal wells drilling campaign (i.e. similar activities, but changes only in number of wells to be drilled over a period of 3 years).



- 3D Towed Streamer Seismic survey:
  - Area to be surveyed towards the end of 2024 and Q1 2025
  - > Area will be ~ 4 000 km<sup>2</sup>
  - The activities will be similar in nature to that previously undertaken



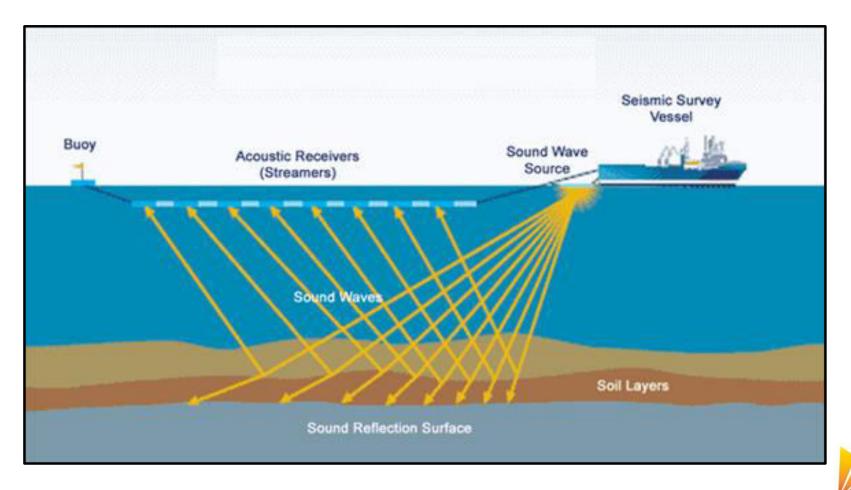


### • 3D Towed Streamer Seismic survey:

- ➤ High-level, low frequency sounds directed towards the seabed from near-surface sound sources (i.e. source air-gun arrays) towed by a seismic vessel.
- ➤ Signals reflected from geological interfaces below the seafloor.
- ➤ Recorded by multiple receivers towed in a multiple streamer configuration.
- Analyses of the returned signals will allow Galp to further interpret the subsea geological formations.



• 3D Towed Streamer Seismic survey:

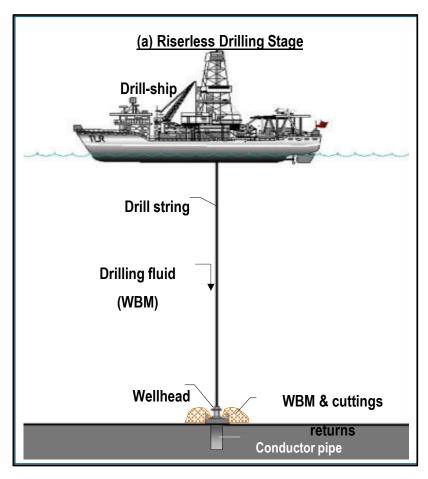


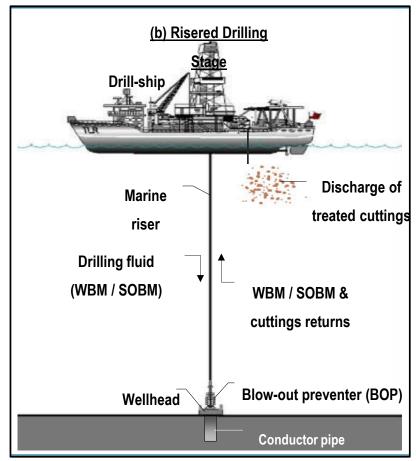
### Additional well Drilling:

- After the 3D Towed Streamer Seismic survey further well drilling activities are planned.
- > Up to 10 exploration & appraisal wells, including flow testing
- ➤ Over a period of ~ 3 years.
- The first well scheduled for no earlier than Q2 2025.
- > 2 to 3 months per well.



## Additional well Drilling:



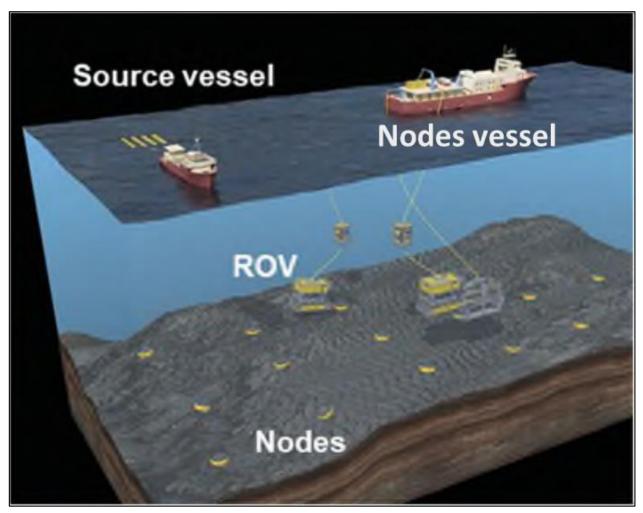


### OBN Seismic acquisition:

- ➤ Very similar to a 3D towed streamer seismic regarding the source wavefields created by the air-gun arrays.
- ➤ Most relevant difference is the receiver's component, which is placed on the seafloor for a specific period.
- Nodes (receivers) are handled by a nodes vessel or ROV node handling vessel.
- ➤ No long streamers will be towed by the seismic vessels meaning much less shared area or impact from other activities.



• OBN Seismic acquisition:





## Shore base and supply vessels:

- The onshore logistics base located in the Port of Walvis Bay:
  - ✓ Storage of materials and equipment (including casing, drilling fluid, cement, chemicals, diesel and water).
  - ✓ Offices (with communications and emergency procedures / facilities), waste management services, bunkering vessels, and stevedoring / customs clearance services.
- ➤ Emergency support from Lüderitz.



## **EIA Process**

- Two applications will be submitted to the MEFT: DEA in terms of the Environmental Management Act, No. 7 of 2007 and associated EIA Regulations (January 2012):
  - Amendment Application for the exploration & appraisal wells drilling campaign (i.e. an amendment to the current ECC).
  - ➤ New application for the seismic (i.e. 3D towed streamer and OBN) surveys and related activities.



## **EIA Process**

- Update baseline information
- (Re)assess potential environmental and social impacts, considering:
  - ➤ Updated information from MFMR.
  - >Available monitoring information.
  - > Proposed ongoing activities.
  - ➤ Marine ecologist and fisheries specialist appointed to assess potential impacts.
  - ➤ Various specialist studies and associated specialist reports (from initial EIAs) will also be referred to in the current EIA.



## **EIA Process**

#### Mar- Apr '24

- Screening & initiation

#### Apr '24

- Registration period, advertise, distribute BID, etc. receive initial comments.
- IAP meetings.

#### May - Jun '24

- Specialist studies
- EIA Scoping (including Impact Assessment) Report
- -Amended ESMPs

Jun - Jul '24

IAPS review of reports

Jul '24

Finalise reports with IAP comments & submit to MME & MEFT

Authority review and decision-making



### Potential Impacts Relating to seismic survey activities

- ➤ Marine Ecology
  - ✓ Potential impact on marine mammals (physiological injury and behavioural avoidance) as a result of seismic noise.
- > Fishing
  - ✓ Potential impact on the fishing industry (vessel interaction, disruption to fishing operations and reduced catch) due to the presence of the survey vessel with limited maneuverability and with its associated safety zone, potential fish avoidance of the survey area and changes in feeding behaviour.



#### Potential impacts relating to well drilling activities

- Marine Ecology
  - ✓ Discharges to sea (sewage, galley waste, deck & machinery space drainage.
  - ✓ Disturbance of marine fauna due to noise and lighting.
  - ✓ Sediment disturbance due to drilling activities & placement of infrastructure on the seafloor.
  - ✓ Smothering of relatively immobile or sedentary benthic species and biochemical effects due to the discharge of cuttings, drilling fluid and cement.

#### Potential impacts relating to well drilling activities

- ➤ Marine Ecology
  - ✓ Increased biodiversity and biomass on wellhead due to the increased amount of hard substrate available for colonisation by benthic organisms.
  - ✓ Introduction of alien invasive marine species through vessels transfer and ballast water discharge.
  - ✓ Accidental release of oil.



### Potential impacts relating to well drilling activities

- **>** Fishing
  - ✓ Disruption to fishing operations and loss of access to fishing grounds due to the 500 m safety exclusion area around the drilling unit.
  - ✓ Fish avoidance of immediate area and changes in feeding behaviour due to drilling noise.
  - ✓ Disruption of fishing activities due to abandonment of wellhead on the seafloor.
  - ✓ Accidental release of oil.



- Potential impacts relating to well drilling activities
  - > Socio-Economic
    - ✓ Interference with shipping routes as a result of the 500 m safety exclusion area around the drilling unit.



- Positive Socio-Economic Issues relevant to all activities
  - ✓ Employment and business opportunities.
  - ✓ Generation of direct revenues.



# Way Forward

- Comments received to date and during this meeting will be included in the Draft EIA report and Amended ESMPs.
- Draft Report will be distributed for comment: Towards June 2024.

**Attention: Werner Petrick** 

E-mail address: wpetrick@namisun.com

Cell number: +264 (0)81 739 4591







#### NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

# APPLICATION FOR ENVIRONMENTAL CLEARANCE FOR FURTHER EXPLORATION ACTIVITIES IN PETROLEUM EXPLORATION LICENCE 83 (ORANGE BASIN), OFF THE COAST OF NAMIBIA

"PEL 83" is a Joint Venture between the block partners, namely Windhoek PEL 28 B.V. (a wholly-owned subsidiary of Galp Energia E&P B.V (i.e. Galp)), the National Petroleum Corporation of Namibia (NAMCOR) and Custos Investments. Galp, the operator of Petroleum Exploration Licence (PEL) 83, has been performing exploration activities in PEL 83 since 2016 and recently completed the drilling of two exploration wells and one well test in PEL 83. PEL 83 covers an area of approximately 9 954 km² and is located between 130 km and 250 km from the coastline in water depths ranging from approximately 500 m to 2 500 m (see Figure below).

Galp plans to continue their exploration / appraisal activities in PEL 83 and requires new environmental clearances from Ministry of Environment, Forestry and Tourism (MEFT) for the following activities (similar to what was previously undertaken):

- 3-Dimensional (3D) towed streamers seismic surveys (i.e. changes in area / location from previously assessed / approved campaign) as well as ocean bottom node (OBN) seismic acquisition.
- Drilling campaigns (i.e. similar activities, but changes only in number of wells to be drilled.

Galp therefore gives notice in terms of the Environmental Management Act, 7 of 2007 and Regulations 19 and 21 of the Environmental Impact Assessment (EIA) Regulations (January 2012), of two separate applications that will be submitted to the MEFT (Environmental Commissioner), as follows:

- Amendment Application for the exploration/appraisal wells drilling campaign (i.e. an amendment to Windhoek PEL28 B.V.'s current Environmental Clearance Certificate (ECC)).
- New application for the seismic (i.e. 3D towed streamer and OBN) surveys and related activities).

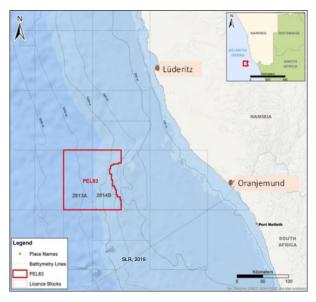
Applicant: Windhoek PEL28 B.V.

#### **Nature and location of the further exploration:** Seismic Survey

Galp plans a further 3D towed streamer seismic survey campaign in PEL 83, towards the end of 2024 and quarter 1 of 2025, which will be around 4000 km². Galp will also undertake an OBN seismic acquisition within the area where the 3D towed streamer seismic activities will be conducted, either during the same time or at a later stage - to be determined.

#### Well drilling

Another well drilling campaign will be undertaken. A total of 10 exploration & appraisal wells, including flow testing, are planned over a period of  $\sim 3$  years.



#### Independent Environmental Assessment Practitioner:

Namisun Environmental Projects & Development (Namisun) has been appointed by Galp as the independent Environmental Assessment Practitioner to undertake the EIA process for the proposed further exploration activities.

\*Contact Person: Werner Petrick Tel: +264 (0)81 739 4591 \*E-mail: wpetrick@namisun.com.

#### Registration to receive notifications / information and opportunity to comment:

To register as an interested and / or affected party, please submit your name and contact details to Namisun by e-mail, or by contacting Werner Petrick. A Background Information Document (BID) is available on request from Namisun for a review and comment period untill **30 April 2024**. The following (public) information-sharing meetings will be held: 26 April 2024 @ 10:00 at the Alte Turnhalle, Lüderitz and 29 April 2024 @ 9:00 at the Protea by Marriott Hotel Walvis Bay Indongo.

If you would like your comments to be addressed in the EIA report please submit them to Namisun by no later than 30 April 2024.