

SHELL SOUTH AFRICA UPSTREAM B.V.(SHELL)

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA, WEST COAST, SOUTH AFRICA

NOTES OF MEETING HELD ON 3 OCTOBER 2013, 10h00 AT PETROLEUM AGENCY SOUTH AFRICA (PASA) OFFICES, BELLVILLE

PRESENT:	
The list of attendees is attached.	
1. NOTES AND ACTION ITEMS	ACTION
1.1 Introduction and Presentations:	
<p>1. Nigel Rossouw (NR) thanked PASA for giving Shell the opportunity to provide information regarding their proposed exploration drilling programme in the Orange Basin Deep Water Licence Area.</p> <p>2. NR then provided a brief summary of Shell's operation in the license area. He stated that Shell was now planning to undertake the drilling of two exploration wells as the next phase of their exploration programme. This would require them to undertake an amendment application in terms of the MPRDA (Section 102) and to obtain approval from DEA in terms of NEMA. Shell has appointed CCA to undertake the necessary processes to compile an EMPR amendment and a Basic Assessment.</p> <p>3. Jonathan Crowther (JC) then provided further detail regarding the two application processes that would be undertaken. In order to streamline the two processes they would be undertaken in parallel.</p> <p>The presentation is attached.</p>	
1.2 Question and answer session:	
<p>1. Phumla Ngesi (PN) asked whether Shell would undertake primary metocean data collection prior to drilling. NR responded that available metocean data is adequate for the Basic Assessment and EMPr amendment purposes and that no further primary metocean data collection is planned for the assessment purposes.</p> <p>2. Regarding the final document commenting period, PN noted that the planned process did not make provision for submitting the Final EMPr Addendum for public comment in parallel with the Final Basic Assessment Report. She suggested that Shell should consider a comment period on the Final EMPr. Further discussion took place around this point. NR responded that he would first like to consider the implications of this suggestion before providing feedback on whether Shell would provide the opportunity for comment on the Final EMPR amendment. It was agreed that Shell would provide feedback at the next TAC meeting in November.</p> <p>3. On the issue of the location of the public meetings, PN suggested that Shell should give consideration as to whether there is a need to hold public meetings in the smaller towns. There may be people who have an interest in the project who claim that the public meetings are not accessible to them and who may in the end appeal any decision. NR responded that this comment was noted and explained the rationale behind the focussed public participation process. The process has been developed to balance the opportunity for those who may be directly affected to participate while realising that having public meetings in the small coastal towns where the project will not have any impact may just create unnecessary expectations of employment</p>	Shell

<p>4. JC raised the issue of PASA's expectations with regards to Well Abandonment. PN articulated the principle that after drilling the sea bottom environment should be left in the same state as it was found. Shell would have to provide a motivation to leave a wellhead on the seafloor. NR indicated that there may be no or an insignificant impact to deep sea fisheries who do not trawl at the depths Shell would be drilling. JC mentioned that the fishing industry was expanding their trawling operations into deeper waters – this is something that would be addressed in the impact assessment. NR indicated that Shell would provide feedback on their Operational Procedure for Well Abandonment at the next TAC meeting in November.</p> <p>5. JC raised a further issue with regards to PASA's expectations regarding drill cutting. PASA indicated that they had no specific guidelines in this regard but that international norms would need to be followed with regards to the disposal and treatment of oil based muds. NR agreed that Shell would give feedback on their Operating Procedure for dealing with drill cuttings at the next TAC meeting.</p> <p>6. The issue of the extent that the existing Exploration Right covered well drilling was raised by JC. The ensuing discussion confirmed that the existing EMPr had considered drilling at a generic level. The EMPR Amendment process was required to provide a detailed description and assessment of the proposed well drilling programme.</p>	<p>Shell</p>
<p>1.3 CLOSURE</p>	
<p>The meeting closed at approximately 11h00.</p>	

Shell/Meetings/Authorities/PASA Meeting 3 Oct13 Notes – Rev 0 (7 October 2013)

ATTACHMENT A
LIST OF ATTENDEES

Name	Organisation / Farm Name
Jonathan Crowther	CCA Environmental
Gheneez Munian	Shell
David Kayster	Shell
Nigel Rossouw	Shell
Ivan Collair	Shell
Phumla Ngesi	PASA
Stet Mushwana	PASA
Dovhani Mahumele	PASA

ATTACHMENT B
PRESENTATION



PROPOSED OIL EXPLORATION IN THE ORANGE BASIN DEEP WATER LICENCE AREA

Meeting with Petroleum Agency SA PROJECT OVERVIEW 3 October 2013



AGENDA

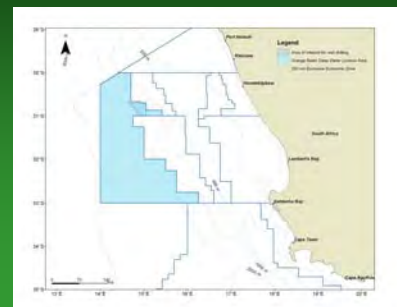
- General Project Introduction (Nigel Rossouw)
- NEMA and MPRDA processes (Jonathan Crowther)
- Public participation (Jonathan Crowther)
- Programme (Jonathan Crowther)
- Regulatory standards (Jonathan Crowther)
- Questions

GENERAL INTRODUCTION

1. Shell was granted an Exploration Right for the Orange Basin Deep Water Licence Area in February 2012.
2. A 3D seismic survey was undertaken between 28 October 2012 and 22 February 2013 in terms of Shell's approved EMPr.
3. Shell is now proposing to undertake exploration well drilling.
4. Key legislation:
 - MPRDA (No. 28 of 2002): EMPr Addendum.
 - NEMA (No. 107 of 1998): Basic Assessment.
6. Current process aims to dovetail the NEMA & MPRDA requirements.

GENERAL INTRODUCTION

Licence area and area of interest



NEMA & MPRDA PROCESS

1. Compile Application Form and submit to DEA.
2. Distribution of information:
 - Adverts/Posters
 - BID (30-day comment period).
 - Authority meetings.
 - Public information-sharing / authority meetings.
3. Compile specialist studies (including Marine Fauna, Fishing and Dispersion Modelling).
4. Compile Draft BAR and Draft EMPr Addendum
5. Release Draft BAR and Draft EMPr Addendum for 40-day comment period.

NEMA & MPRDA PROCESS

6. Public information-feedback meetings.
7. Compile Final BAR and Final EMPr Addendum.
8. Submit Final EMPr Addendum to PASA for consideration (120 days).
9. Release Final BAR for 30-day comment period.
10. Submit Final BAR to DEA for decision-making (76 days).
11. Distribute DEA decision.
13. NEMA Appeal Period:

PUBLIC PARTICIPATION PROCESS

NMA EFFECTIVE SOCIAL STRATEGISTS



PUBLIC PARTICIPATION PROCESS

IDENTIFY KEY STAKEHOLDERS AND I&APs

- Use database from EMP as starting point
- Supplement with additional I&APs from other West Coast Oil / Gas development EIA databases
- Verify and update and ensure key stakeholders are included (all relevant authorities, maritime and fishing industry, environmental organisations)
- Include organisations from Namibia

OBJECTIVES OF PPP

- Identify issues and concerns of key stakeholders and I&APs so that they can be assessed in the EIA and provide opportunity for suggestions to enhance potential benefits and prevent or mitigate impacts;
- Provide a reasonable opportunity for I&APs to comment on the application;
- Promote transparency about the proposed project and an understanding of its potential environmental impacts;
- Accountability for information used for decision-making;

ANNOUNCEMENT OF BA AND SCOPING OF ISSUES (30-day Comment Period)

ADVERTISE EIA AND AVAILABILITY OF BID

Title and Language of Advert	Area	Frequency
Sunday Times (English & Xhosa)	National	Sunday
Rapport (Afrikaans)	National	Sunday
Die Burger (Afrikaans)	Western and Northern Cape	Weekdays
Cape Times (English & Xhosa)	Western Cape	Weekdays
Onskontrei (English, Afrikaans & Xhosa)	Citrusdal to Port Nolloth	Thursday
Weslander (English, Afrikaans & Xhosa)	Saldanha / Veldrif	Thursday

ANNOUNCEMENT OF BA AND SCOPING OF ISSUES (30-day Comment Period)

MEETINGS WITH AUTHORITIES

- Meet with DEA in Pretoria and PASA and DAFF Department of Fisheries in Cape Town

BACKGROUND INFORMATION DOCUMENT

- Expanded BID in English, Afrikaans and isiXhosa
- Distribute to all I&APs on database and to libraries and municipal offices in Lamberts Bay, Kleinsee, Springbok and Port Nolloth

SITE NOTICES

- A2 sized laminated posters at libraries and municipal offices in Lamberts Bay, Kleinsee, Springbok and Port Nolloth

ANNOUNCEMENT OF BA AND SCOPING OF ISSUES (30-day Comment Period)

PUBLIC OPEN DAYS / PUBLIC MEETINGS

- Meetings only in Cape Town and Saldanha Bay
- Target directly impacted stakeholders
- Lamberts Bay, Springbok and Port Nolloth – no direct impacts and meetings will only create expectations of employment
- POD 14h00 to 18h00 followed by Public Meeting 18h00 to 20h00

MEETING WITH NORTHERN CAPE PROVINCIAL COASTAL COMMITTEE

- Chaired by Department of Tourism, Environment and Conservation – key stakeholders for Northern Cape coast

REVIEW OF DRAFT BA AND EMPr REPORTS (40-day Comment Period)

- Advertise availability of DBAR and PODs / PMs in same newspapers as announcement of EIA
- Translate executive summary to DBAR and DEMPr into Afrikaans and isiXhosa
- Written notification of all I&APs
- Posters and copies of executive summary in Lamberts Bay, Springbok and Port Nolloth
- 25 colour copies of report in Cape Town, Saldanha Bay, Lamberts Bay, Springbok and Port Nolloth
- PODs / Public Meetings only in Cape Town and Saldanha Bay

REVIEW OF FINAL BA AND EMPr REPORTS (30-day Comment Period)

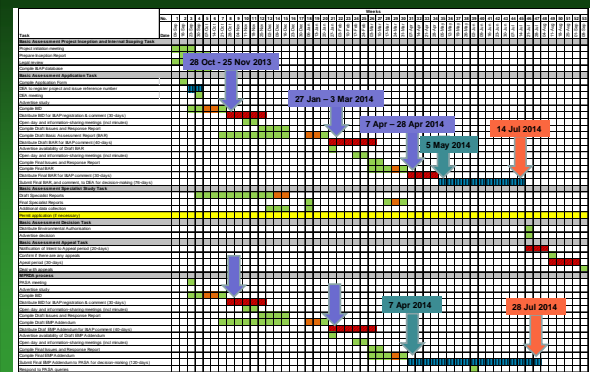
- Translate executive summary to FBAR into Afrikaans and isiXhosa
- Written notification of all I&APs
- Posters and copies of executive summary in Lamberts Bay, Springbok and Port Nolloth
- 25 colour copies of report in Cape Town, Saldanha Bay, Lamberts Bay, Springbok and Port Nolloth
- Collate any written submissions as an addendum to Final BAR

ENVIRONMENTAL AUTHORISATION

WITHIN 12 DAYS OF ISSUE OF ENVIRONMENTAL AUTHORISATION:

- Advertise EA and appeal procedure in same newspapers as announcement of EIA
- Written notification to all I&APs

PROGRAMME



REGULATORY STANDARDS

- Well abandonment – wellhead status on completion
- Drill cutting processing – expected standards

THANK YOU

QUESTIONS

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

MEETING WITH DEPARTMENT OF ENVIRONMENTAL AFFAIRS	Date: 17 October 2013
	Time: 13h00
	Venue: 4th Floor, South Tower Boardroom, Fedsure Forum Building, Pretorius Street, Pretoria

No.	Item	Action
1.	<u>OPENING AND WELCOME</u>	
1.1	Julian Drew (JD) of NMA Effective Social Strategists (NMA) welcomed everyone and thanked the Department of Environmental Affairs (DEA) for the opportunity to meet regarding on the proposed exploration drilling to be conducted by Shell in the Orange Basin Deep Water Licence Area off the West Coast of South Africa. The list of attendees is attached.	
2.	<u>PRESENTATION ON PROPOSED EXPLORATION DRILLING</u>	
2.1	<p>Peter Mijsbergh (PM) of Shell South Africa Exploration B.V. (Shell) gave a presentation on the proposed exploration drilling in the Orange Basin Deep Water Licence Area (presentation is attached). He explained that Shell had obtained an exploration right in February 2012 for the Orange Basin Deep Water Licence Area in terms of the Mineral and Petroleum Resources Development Act, 2002 (No. 28 of 2002) (MPRDA). He described the location and extent of the license area with the aid of a map. He said that as part of the process of applying for the exploration right, an Environmental Management Programme (EMPr) was compiled and approved for the undertaking of seismic surveys and exploration drilling within the licence area. He continued saying that Shell had undertaken a 3D seismic survey in an 8 000 km² portion of the licence area, which was completed on 22 February 2013.</p> <p>He said that Shell are currently analysing the seismic data and based on the analysis Shell are planning to drill an exploration well. He said that if the exploration well is successful then Shell would drill an appraisal well a year later.</p>	
3.	<u>PRESENTATION ON NEMA AND MPRDA PROCESSES</u>	
3	Jonathan Crowther (JC) of CCA Environmental (CCA) gave a presentation on the NEMA and MPRDA processes to be undertaken for the project (presentation is attached). He said that the two processes would be run in parallel. He indicated that in terms of NEMA the trigger activity in terms of the proposed drilling operation is activity 18(ii) in Listing Notice 1, which refers to the “ <i>depositing of any material of more than 5m³ into the sea</i> ” or “ <i>the removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 m³ from the sea</i> ”. Thus this is the only controlled activity and therefore a Basic Assessment is required. He noted that CCA had already submitted an application to DEA. He outlined the public participation process for the announcement of the study and the specialist studies that will be undertaken which include marine fauna, fishing and dispersion modelling covering both the drill cuttings and an oil spill event. He said that following this a draft Basic Assessment Report (BAR) and draft EMPr Addendum would be compiled and released for a 40-day public comment period. A final EMPr Addendum would then be submitted to Petroleum Agency South Africa (PASA) for consideration and they would then submit it to the Department of Mineral Resources for approval. The final BAR would be released for a 30-day comment period and then it would be submitted together with any comments to DEA for decision making. It was anticipated that the final BAR would be submitted to DEA at the beginning of May 2014. Following the release of the Environmental Authorisation the NEMA appeal process would be undertaken.	

<p>4.</p> <p>4.1</p> <p>4.2</p> <p>4.3</p> <p>4.4</p> <p>4.5</p>	<p><u>OPEN DISCUSSION</u></p> <p>Tambudzani Mulaudzi (TM) of the Department of Environmental Affairs – Integrated Environmental Authorisations (DEA) asked which Namibian and international organisations will be contacted as part of the consultation process.</p> <p>JD said that the study was targeting the relevant key authorities such as the Ministry of Mines and Energy and the Ministry of Works, Transport and Communication which contains the Directorate of Maritime Affairs. He said the Namibian Ports Authority falls under the Directorate of Maritime Affairs and is responsible for oil spill responses so they were also included together with Namibian Search and Rescue (NAMSAR). He said that all the Namibian fishing industry representative organisations were also included on the database. He also noted that there were some international bodies to which South Africa belongs, such as the Southern African Regional Cooperation Group on Safety of Navigation and Marine Environmental Protection (SAGNEP) and the Southern Africa and Islands Hydrographic Commission (SAIHC) which cover maritime safety and the Benguela Current Commission which addresses environmental and conservation matters.</p> <p>TM asked where the public notices will be placed.</p> <p>JD responded that posters and copies of the Background Information Document (BID) would be placed at the municipal offices and libraries in Lamberts Bay, Springbok and Port Nolloth. He said there would not be any public meetings in these towns as there are no real impacts on these communities because the supply port for the project would be in either Cape Town or Saldanha and the fishing industry along the West Coast only fishes in inshore waters with the exception of the boats based in Saldanha and Cape Town.</p> <p>JD said that a meeting would, however, be held with the Northern Cape authorities along the West Coast. He said the Department of Environmental Affairs and Nature Conservation in the Northern Cape convenes a quarterly meeting of all the authorities, conservation bodies and key stakeholders along the Northern Cape coast called the Northern Cape Provincial Coastal Committee and the project team would be presenting the project to this committee at its meeting in November.</p> <p>TM asked if the study would take the implications of the National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008) into consideration.</p> <p>JC said that there would be no immediate impact on the coast as the activity will take place more than 200km from the coast. He said that this will be considered in the report.</p> <p>Danie Smit (DS) of the Department of Environmental Affairs – Integrated Environmental Authorisations (DEA) requested CCA to include a paragraph in the report covering this.</p> <p>TM asked how close the project would be to the Namibian border.</p> <p>PM said that the northern limit of the licence area is the Namibian border but the area where Shell is interested in drilling is about 60 km south of the border. He said that the reason for involving the Namibian stakeholders is that fishing boats may go into the area, either legally or illegally, and, should there be an oil spill, there is a strong northerly current which would most likely take the spill into Namibian waters.</p> <p>TM queried whether DEA or the Department of Environmental Affairs and Nature Conservation in the Northern Cape should be the competent authority in terms of the application.</p> <p>DS said that if the project straddles both the Northern Cape and Western Cape then DEA would be the competent authority but if it is only in the Northern Cape then they would be the competent authority.</p>	<p>CCA</p>



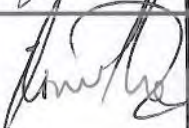

	<p>JC noted further that the area of interest for drilling is probably in the territorial waters of the Northern Cape but the supply base for the project will be in the Western Cape.</p> <p>TM said that in terms of jurisdiction it is purely an administrative matter and it is necessary to look at the location of the activity for which environmental authorisation is being applied for and not the location of the associated impacts.</p> <p>DS said that if the project takes place in an area where there are international treaties in place to which South Africa is a signatory then DEA would also be the competent authority.</p> <p>JD asked whether the International Convention for the Prevention of Pollution from Ships (MARPOL) would be such a treaty because South Africa is a signatory to MARPOL.</p> <p>DS said that MARPOL would apply because the vessels for the project would be coming from South African ports. He said that CCA must provide a motivation for why they submitted the application to DEA and it could be because of the project straddling the border of the two provinces or because of legislation such as the MARPOL convention. He said that because the project is close to Namibia and it is necessary to consult with the Namibian authorities, then it could also be considered on the basis that the project involves international relations.</p> <p>TM said that if a province does not have the experience or capacity to deal with an application then they can delegate DEA to handle it.</p> <p>4.6 TM asked how the study would address the need to consider alternatives.</p> <p>JC said that the exploration well could be moved slightly if there is a reef or some obstacle on the sea bed where they want to drill. He said there will also be alternative drilling vessels and there will be alternatives for the shore based support for the project.</p> <p>DS said that the best way to address the issue of alternatives would be to describe the process that was followed to identify the area of interest for well drilling. He said that Shell started with the whole license area and then chose an area for the seismic survey and then identified the area of interest for well drilling. He said that a description of this process would cover the issue of alternatives.</p> <p>4.7 TM said that the application was submitted by CCA on the date that the new application form was introduced by DEA. He stated that CCA should therefore re-submit the application on the new form. He noted that the registration number would still be allocated based on the submission made on the old form so the study would not be delayed. He explained that the new form has a section where the applicant can motivate for the relevant competent authority to consider the application and CCA could therefore include the information discussed above in this section.</p> <p>JC requested that in the correspondence from DEA when they issue the registration number, that DEA requests CCA to re-submit the application on the new form.</p> <p>4.8 JC said that DEA has a template for the submission of a Basic Assessment which is very restrictive in terms of the amount of information that can be provided. He asked whether CCA could submit a full report such as would be done for an Environmental Impact Assessment Report because there will be a number of detailed specialist studies and CCA would like to compile a full report to present the information properly.</p> <p>DS said this would not be a problem as long as CCA completed all the questions in the template and referred to the relevant chapter or appendices of the report where the information can be found. He said that it was important to show the links with the regulations in the report.</p> <p>4.9 TM requested that DEA also be kept updated on the MPRDA process and the interactions with PASA.</p>	<p>CCA</p> <p>CCA</p>
--	--	-------------------------------------

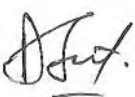
5.	<u>CLOSURE</u>	
5.1	JD thanked the DEA for their guidance and input and closed the meeting.	

ATTACHMENT A
LIST OF ATTENDEES

No.	Name	Organisation
1.	Danie Smit	Department of Environmental Affairs: Integrated Environmental Authorisations
2.	Tambudzani Mulaudzi	Department of Environmental Affairs: Integrated Environmental Authorisations
3.	Peter Mijsbergh	Shell South Africa Exploration B.V.
4.	Jonathan Crowther	CCA Environmental
5.	Julian Drew	NMA Effective Social Strategists

NMA EFFECTIVE SOCIAL STRATEGISTS (PTY) LTD				ATTENDANCE REGISTER			
Project	Shell Proposed Orange Basin Exploration Drilling			Meeting	DEA - Integrated Environmental Authorisations		
Date	Thursday 17 October 2013	Time	13h00	No.	Venue	4th Floor South Tower Boardroom, Fedsure Forum Building, Pretorius Street, Pretoria	

	Organisation	Name & Postal Address	Contact Details	Signature
1	NMA	Po Box 32097 Braamfontein 2017	Tel : 011 447 9737 Fax : 086 301 0681 Cell : 082 654 4365 E-mail : juliand@nma.org.za	
	Designation	Julian Drew		
	Project Manager			
2	Shell	10 RUA VASCA DA GAMA FORESHORE CAPE TOWN 8001	Tel : 021 408 4505 Fax : 021 419 2864 Cell : 082802 8249 E-mail : P.MISSBERGH@shell.co.za	
	Designation			
	HSE MANAGER			
3	CCA Environmental	P.O. BOX 10115, CALEDON SQUARE, 7905	Tel : 021 461-1118 Fax : 021 461-1120 Cell : 082 7771477 E-mail : jonathan@ccaenvironment.co.za	
	Designation			
	Managing Director			
4	Tambudzani Munandi		Tel : Fax : Cell : E-mail :	
	Designation			
5	Dept of Environment	TAMBUDZANI MUNANDI P/BAG x 447 Pretoria 0001	Tel : 012 3103144 Fax : 012 320 7539 Cell : 074 582 8746 E-mail : tambum@environment.gov.za	
	Designation			
	ASD : Protected Areas			

	Organisation	Name & Postal Address	Contact Details	Signature
	DEA: Sens Env.	Danië Smit.	Tel 012 310 3659	
	Designation		Fax :	
	DD		Cell 0837890379	
			E-mail dsmit@environment.gov.za.	
			Tel :	
			Fax :	
	Designation		Cell :	
			E-mail :	
			Tel :	
			Fax :	
	Designation		Cell :	
			E-mail :	
			Tel :	
			Fax :	
	Designation		Cell :	
			E-mail :	
			Tel :	
			Fax :	
	Designation		Cell :	
			E-mail :	

ATTACHMENT B
PRESENTATIONS



PROPOSED OIL EXPLORATION IN THE ORANGE BASIN DEEP WATER LICENCE AREA

Meeting with Department of Environmental Affairs

PROJECT OVERVIEW

17 October 2013



AGENDA

- General Project Introduction (Peter Mijsberg)
- NEMA and MPRDA processes (Jonathan Crowther)
- Public participation (Jonathan Crowther)
- Programme (Jonathan Crowther)
- Regulatory standards (Jonathan Crowther)
- Questions

GENERAL INTRODUCTION

1. Shell was granted an Exploration Right for the Orange Basin Deep Water Licence Area in February 2012.
2. A 3D seismic survey was undertaken between 28 October 2012 and 22 February 2013 in terms of Shell's approved EMPr.
3. Shell is now proposing to undertake exploration well drilling.
4. Key legislation:
 - MPRDA (No. 28 of 2002): EMPr Addendum.
 - NEMA (No. 107 of 1998): Basic Assessment.
6. Current process aims to dovetail the NEMA & MPRDA requirements.

GENERAL INTRODUCTION

Licence area and area of interest



NEMA & MPRDA PROCESS

1. Compile Application Form and submit to DEA.
2. Distribution of information:
 - Adverts/Posters
 - BID (30-day comment period).
 - Authority meetings.
 - Public information-sharing / authority meetings.
3. Compile specialist studies (including Marine Fauna, Fishing and Dispersion Modelling).
4. Compile Draft BAR and Draft EMPr Addendum
5. Release Draft BAR and Draft EMPr Addendum for 40-day comment period.

NEMA & MPRDA PROCESS

6. Public information-feedback meetings.
7. Compile Final BAR and Final EMPr Addendum.
8. Submit Final EMPr Addendum to PASA for consideration (120 days).
9. Release Final BAR for 30-day comment period.
10. Submit Final BAR to DEA for decision-making (76 days).
11. Distribute DEA decision.
13. NEMA Appeal Period:

PUBLIC PARTICIPATION PROCESS

NMA EFFECTIVE SOCIAL STRATEGISTS



PUBLIC PARTICIPATION PROCESS

IDENTIFY KEY STAKEHOLDERS AND I&APs

- Use database from EMP as starting point
- Supplement with additional I&APs from other West Coast Oil / Gas development EIA databases
- Verify and update and ensure key stakeholders are included (all relevant authorities, maritime and fishing industry, environmental organisations)
- Include organisations from Namibia

OBJECTIVES OF PPP

- Identify issues and concerns of key stakeholders and I&APs so that they can be assessed in the EIA and provide opportunity for suggestions to enhance potential benefits and prevent or mitigate impacts;
- Provide a reasonable opportunity for I&APs to comment on the application;
- Promote transparency about the proposed project and an understanding of its potential environmental impacts;
- Accountability for information used for decision-making;

ANNOUNCEMENT OF BA AND SCOPING OF ISSUES (30-day Comment Period)

ADVERTISE EIA AND AVAILABILITY OF BID

Title and Language of Advert	Area	Frequency
Sunday Times (English & Xhosa)	National	Sunday
Rapport (Afrikaans)	National	Sunday
Die Burger (Afrikaans)	Western and Northern Cape	Weekdays
Cape Times (English & Xhosa)	Western Cape	Weekdays
Onskontrei (English, Afrikaans & Xhosa)	Citrusdal to Port Nolloth	Thursday
Weslander (English, Afrikaans & Xhosa)	Saldanha / Veldrif	Thursday

ANNOUNCEMENT OF BA AND SCOPING OF ISSUES (30-day Comment Period)

MEETINGS WITH AUTHORITIES

- Meet with DEA in Pretoria and PASA and DAFF Department of Fisheries in Cape Town

BACKGROUND INFORMATION DOCUMENT

- Expanded BID in English, Afrikaans and isiXhosa
- Distribute to all I&APs on database and to libraries and municipal offices in Lamberts Bay, Kleinsee, Springbok and Port Nolloth

SITE NOTICES

- A2 sized laminated posters at libraries and municipal offices in Lamberts Bay, Kleinsee, Springbok and Port Nolloth

ANNOUNCEMENT OF BA AND SCOPING OF ISSUES (30-day Comment Period)

PUBLIC OPEN DAYS / PUBLIC MEETINGS

- Meetings only in Cape Town and Saldanha Bay
- Target directly impacted stakeholders
- Lamberts Bay, Springbok and Port Nolloth – no direct impacts and meetings will only create expectations of employment
- POD 14h00 to 18h00 followed by Public Meeting 18h00 to 20h00

MEETING WITH NORTHERN CAPE PROVINCIAL COASTAL COMMITTEE

- Chaired by Department of Tourism, Environment and Conservation – key stakeholders for Northern Cape coast

REVIEW OF DRAFT BA AND EMP_r REPORTS (40-day Comment Period)

- Advertise availability of DBAR and PODs / PMs in same newspapers as announcement of EIA
- Translate executive summary to DBAR and DEMPr into Afrikaans and isiXhosa
- Written notification of all I&APs
- Posters and copies of executive summary in Lamberts Bay, Springbok and Port Nolloth
- 25 colour copies of report in Cape Town, Saldanha Bay, Lamberts Bay, Springbok and Port Nolloth
- PODs / Public Meetings only in Cape Town and Saldanha Bay

REVIEW OF FINAL BA AND EMP_r REPORTS (30-day Comment Period)

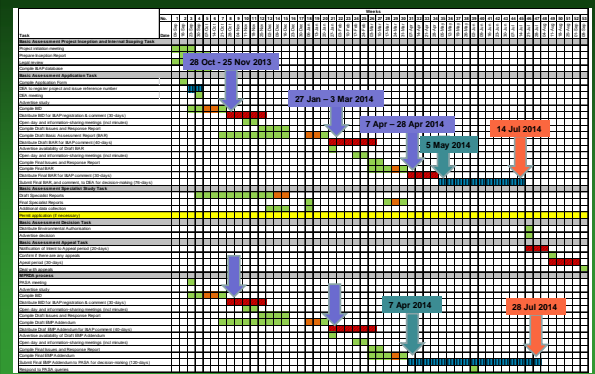
- Translate executive summary to FBAR into Afrikaans and isiXhosa
- Written notification of all I&APs
- Posters and copies of executive summary in Lamberts Bay, Springbok and Port Nolloth
- 25 colour copies of report in Cape Town, Saldanha Bay, Lamberts Bay, Springbok and Port Nolloth
- Collate any written submissions as an addendum to Final BAR

ENVIRONMENTAL AUTHORISATION

WITHIN 12 DAYS OF ISSUE OF ENVIRONMENTAL AUTHORISATION:

- Advertise EA and appeal procedure in same newspapers as announcement of EIA
- Written notification to all I&APs

PROGRAMME



THANK YOU

QUESTIONS

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

**NOTES OF DEA MEETING: APPLICABILITY OF EIA REGULATIONS AND NEMWA
HELD ON: 14 FEBRUARY 2014, 13H00
AT: DEA OFFICES, FEDSURE FORUM BUILDING (CNR PRETORIUS AND LILIAN
NGOYI STREETS), SOUTH TOWER, 4TH FLOOR BOARDROOM**

No.	Item	Action
1.	<u>WELCOME AND INTRODUCTIONS</u>	
1.1	Milicent Solomons (MS) welcomed everyone present and requested all to introduce themselves. Please see the list of attendees and the attendance register in Attachment A.	
2.	<u>BRIEF PROJECT DESCRIPTION</u>	
2.1	Jonathan Crowther (JC) presented an overview of the proposed project covering the location of the licence area and proposed area of interest (900 km ²), drilling programme, drilling procedure and land-based support. JC also noted that CCA had commenced with a Basic Assessment process and that there was some uncertainty with a few listed activities in Listing Notice 2. Refer to Appendix B for the presentation.	
3.	<u>INTERPRETATION / INTENTION OF EIA REGULATIONS</u>	
3.1	JC stated that CCA had commenced with a Basic Assessment process and had submitted an Application for Environmental Authorisation for the following Listed Activity: <u>Listing Notice 1 (GN No. 544): Activity 18(ii):</u> <i>“The infilling or depositing of any material of more than 5 m³ into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 m³ from: (ii) the sea; ...”.</i> 3.1.1 It was agreed that there was no need to discuss this activity because it was clearly triggered by the proposed project.	
3.2	JC highlighted the following Listed Activity as one that needed discussion because it was unclear whether the project triggered this activity: <u>Listing Notice 2 (GN No. 545): Activity 4:</u> <i>“The construction of facilities or infrastructure for the refining, extraction or processing of gas, oil or petroleum products with an installed capacity of 50 m³ or more per day, excluding facilities for the refining, extraction or processing of gas from landfill sites”.</i>	

	<p>3.2.1 Nigel Rossouw (NR) requested clarity on the definition of “construction”.</p> <p>Franz Scheepers (FS) indicated that the definition of “construction” includes the “establishment of infrastructure”. Thus the term is applicable to the proposed project (i.e. establishment/installation of wellheads and pipes / casings).</p> <p>3.2.2 NR questioned whether the term “extraction” was applicable to the first well, as it would only involve the analysis of core samples / rock cuttings and not flow testing of hydrocarbons.</p> <p>Amanda Blitz (AB) stated that although there would be no flow testing, the cores / cuttings may contain traces of oil / gas and, if so, it would fall under “extraction of oil / gas”.</p> <p>3.2.3 NR noted that the term “installed capacity” was not normally used in the oil / gas industry and questioned whether a wellhead or pipe / casing could be considered to have an “installed capacity”.</p> <p>FS’s view was that the capability or design capacity of the pipe (i.e. the volume and pressure the pipe can tolerate) is similar to “installed capacity”. He stated that if the pipe can tolerate a volume (and pressure) of 50 m³ or more per day, even if the potential flow rate is not currently known, then this activity would be triggered by the proposed project.</p> <p>3.2.4 NR questioned whether the wellhead and pipe / casing could be considered a facility.</p> <p>FS noted that the term “facility” applies to material such as a wellhead and pipe / casing. They would also be considered “infrastructure” and thus would trigger this activity.</p> <p>3.2.5 MS noted that although this activity would be triggered by the proposed project, there is the opportunity to apply to undertake a Basic Assessment process instead of a full Scoping and EIA process.</p> <p>NR stated that it is not Shell’s intention to undertake a Basic Assessment if a full Scoping and EIA process is required.</p>	
3.3	<p>JC highlighted the following Listed Activity as one that needed discussion because it was unclear whether the project triggered this activity:</p> <p><u>Listing Notice 2 (GN No. 545): Activity 14:</u></p> <p><i>“The construction of an island, anchored platform or any other permanent structure on or along the sea bed excluding construction of facilities, infrastructure or structures for aquaculture purposes”.</i></p> <p>3.3.1 Although it was acknowledged that the drilling unit would not be anchored due to the water depth in the area of interest, there was some discussion regarding the definition of “anchored platform” and applicability to a deep water semi-submersible drilling unit where thrusters are used in place of anchors.</p>	

	<p>FS indicated that the term “platform” refers to a raised level surface and should the infrastructure on the seabed (not the boat or floating infrastructure) be raised above level surface the relevant activity would be triggered.</p> <p>JC noted that the drill string does not perform an anchoring function.</p> <p>3.3.2 It was agreed that the proposed abandoning of the wellhead on the seafloor would trigger this activity (i.e. permanent structure on seafloor). Conversely, if the wellhead is removed and cut off below the seafloor, this activity would not be triggered.</p> <p>3.3.3 FS noted that leaving the wellhead on the seafloor for a period of three months or less would not constitute “permanent”. The regulation interpretation period of “six weeks or more” being considered as permanent is not correct.</p>	
<p>3.4</p>	<p>Senisha Murugan (SM) raised other possible activities which may be triggered by the proposed project.</p> <p>3.4.1 Listing Notice 1 (GN No. 544): Activity 16(iv)</p> <p><i>“Construction or earth moving activities in the sea, an estuary, or within the littoral active zone or a distance of 100 m inland of the high-water mark of the sea or an estuary, whichever is the greater, in respect of: (iv) rock revetments or stabilizing structures including stabilizing walls;...”</i></p> <p>SM stated that the pipes / castings inside the well bore could be seen as stabilising structures.</p> <p>JC stated that he thought this to be a very broad interpretation in this regard.</p> <p>3.4.2 Listing Notice 2 (GN No. 545): Activity 3</p> <p><i>“The construction of facilities or infrastructure for the storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 m³”.</i></p> <p>The DEA interpretation is that the project could entail the establishment of a facility and infrastructure for the “handling” of a dangerous good (namely oil / gas).</p> <p>JC indicated that this activity would only be applicable if the storage capacity was greater than 500 m³.</p> <p>3.4.3 Listing Notice 2 (GN No. 545): Activity 6(i) and / or (ii)</p> <p><i>“The construction of facilities or infrastructure for the bulk transportation of dangerous goods:</i></p> <p><i>i) In gas form, outside an industrial complex, using pipelines, exceeding 1 000 m in length, with a throughput capacity of more than 700 tons per day;</i></p>	

	<p>ii) <i>In liquid form, outside an industrial complex, using pipelines, exceeding 1 000 m in length, with a throughput capacity more than 50 m³ per day; ...</i>”.</p> <p>SM indicated that as the proposed pipes / casings would exceed 1 000 m and would be for the purposes of transporting oil / gas to the drilling unit, this activity could be triggered.</p> <p>3.4.4 Listing Notice 3 (GN No. 546): Activity 10</p> <p><i>“The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 m³”.</i></p> <p>It was agreed that this activity would in fact not be triggered as the proposed project does not fall within a province, but rather in the state-controlled Exclusive Economic Zone (EEZ).</p>	
3.5	MS agreed to respond within two weeks of this meeting in writing to the formal submission made by CCA on the applicability of the Listed Activities under discussion.	
4.	<u>APPLICABILITY OF NEMWA</u>	
4.1	Jeremy Blood (JB) noted that there are a number of waste management activities related to the proposed project, including (1) sewage discharge, (2) cuttings discharge, and (3) incineration. JB noted that DEA (Waste Management) and the Western Cape Government: Department of Environmental Affairs & Development Planning (DEA&DP) had previously indicated that NEMWA was not applicable to offshore activities.	
4.2	JC reiterated that past queries in this regard to officials at both DEA and DEA&DP had indicated that NEMWA is not applicable to offshore activities.	
4.3	Zingisa Phohlo (ZP) stated that she was not aware that NEMWA was not applicable to offshore activities, as Section 4 of the Act (i.e. Application of Act) does not indicate as such. ZP noted that she would need to discuss this issue further with the “policy” division.	
4.4	JC added that there are other pieces of legislation that deal with offshore waste management, e.g. NEM: Integrated Coastal Management Act and MARPOL. JC also emphasised that these waste management activities are no different to those undertaken by the numerous vessels passing through South African waters on a daily basis (including fishing boats, cargo vessels and ocean liners), none of which have to apply for a licence in terms of the Act.	
4.5	It was agreed that CCA should submit a formal written request to DEA Waste Directorate in order for them to confirm applicability of NEMWA to offshore activities.	CCA
5.	<u>CLOSURE</u>	
5.1	JC thanked the DEA for their guidance and input and closed the meeting at 14h37.	

ATTACHMENT A

LIST OF ATTENDEES AND SIGNED ATTENDANCE REGISTER

LIST OF ATTENDEES AS PER ATTENDANCE REGISTER





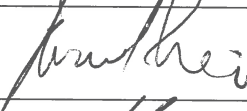






NAME	ORGANISATION / FARM NAME	ABBR.
Milicent Solomons	DEA	MS
Amanda Britz	DEA	AB
Franz Scheepers	DEA	FS
Senisha Murugan	DEA	SM
Vincent Chauke	DEA	VC
Zingisa Phohlo	DEA	ZP
Thizwikoni Ramavone	DEA	TR
Nigel Rossouw	Shell	NR
Lynne Hannay	Shell	LH
Jonathan Crowther	CCA Environmental	JC
Jeremy Blood	CCA Environmental	JB

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA, WEST COAST, SOUTH AFRICA

DEA MEETING: ATTENDANCE REGISTER

Friday, 14 February 2014; 13h00

DEA offices, Fedsure Forum Building (cnr Pretorius and Lilian Ngoyi Streets), South Tower, 4th floor boardroom,

Name	Organisation	Tel No.	E-mail	Signature
Nigel Rossouw	Shell	(021) 408 4091	nigel.rossouw@shell.com	
Lynne Hannay	Shell	083 625 2917	lynne.hannay@shell.com	
Amanda Britz	DEA	0832800730	abritz@environment.gov.za	
Franz Scheepers	DEA	012 310 3454 062 332 3367	fscheepers@environment.gov.za	
Jonathan Coetzer	CEA	082 777 1477	jcoetzer@ccaenvironment.co.za	
JEREMY BROAD	CCA	021 461 1118	jeremy@ccaenvironmental.co.za	
Thizwitori Ramakhoane	DEA	012 310 3142	tramakhoane@environment.gov.za	
Vincent Chauke	DEA	012 310 3882	vchauke@environment.gov.za	
Senisha Murugan	DEA	012 310 3286	smurugan@environment.gov.za	
Zingisa Phohlo	DEA	012 310 3382	zphohlo@environment.gov.za	
MILICENT SOMMONS	DEA	012 395 1852	MSdomons@environment.gov.za	

ATTACHMENT B

PRESENTATION



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

DEA MEETING: APPLICABILITY OF EIA REGULATIONS AND NEMWA

14 February 2014

1. AGENDA

1. Welcome and introductions
2. Brief project description
3. Interpretation / intention of EIA Regulations with specific reference to the proposed project:
 - > GN No. 544: Activity 18(ii)
 - > GN No. 545: Activity 4
 - > GN No. 545: Activity 14
4. Applicability of NEMWA to offshore activities:
 - > Sewage discharge from drilling unit
 - > Cuttings discharge from drilling unit
 - > Incineration
5. Concluding remarks / way forward

2. BRIEF PROJECT DESCRIPTION

1. Shell was granted an Exploration Right for the Orange Basin Deep Water Licence Area in Feb 2012.
2. Shell proposes to drill one or possibly two exploration wells in the northern portion of the licence area.
3. CCA has commenced with a Basic Assessment.
4. Area of interest is 900 km² located ~230 km offshore.
5. Water depth: 1 500 - 2 100 m.



Location of licence area and area of interest for exploration drilling

2. BRIEF PROJECT DESCRIPTION

5. Final well location will be based on:
 - further analysis of the 3D seismic data;
 - the geological target; and
 - seafloor obstacles.
6. Drilling unit options



Semi-submersible drilling unit



Drill ship

2. BRIEF PROJECT DESCRIPTION

7. Initial (riserless) drilling stage:
 - Pipes and surface casings are jettied or drilled and cemented into place up to a depth of ~1 000 m.
 - A water-based mud (WBM) is used to maintain well pressure, cool and lubricate the drill bit and lift rock cuttings from the hole.
 - Rock cuttings and WBM are discharged directly onto the seafloor adjacent to the wellbore.



Lowering of the drill string and bit to the seafloor

2. BRIEF PROJECT DESCRIPTION

8. Risered drilling stage:
 - A BOP and riser are run and installed on the wellhead.
 - This stage of drilling would be undertaken using a synthetic-based mud (SBM).
 - Drilling operations are the same as for the top hole, only the SBM and rock cuttings are circulated back to the drilling unit.
 - The mud is treated before being re-circulated.
 - Cuttings are treated and discharged overboard.
 - Drilling duration: three months per well.



2. BRIEF PROJECT DESCRIPTION

9. Well completion (suspension or abandonment):

- Well would be plugged and BOP would be removed;
- The wellhead would remain on the seafloor.



Drill string and wellhead guide base

10. Sea- and land-based support

- Logistics base would be located in either Cape Town or Saldanha Bay.
- Crew transfers via helicopter from the Kleinsee airport.

3. INTERPRETATION / INTENTION OF EIA REGULATIONS

1. Listing Notice 1: Activity 18(ii)

The infilling or depositing of any material of more than 5 m³ into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 m³ from: (ii) the sea; ...

Applicability to project:

- The proposed exploration drilling programme would result in more than 5 m³ of sediment being disturbed / removed. Disturbance would be from:
 - > Placement of drilling equipment on the seafloor;
 - > Removal of sediment with drill core; and
 - > Disposal of drill cuttings.

3. INTERPRETATION / INTENTION OF EIA REGULATIONS

2. Listing Notice 2: Activity 4

The construction of facilities or infrastructure for the refining, extraction or processing of gas, oil or petroleum products with an installed capacity of 50 m³ or more per day, excluding facilities for the refining, extraction or processing of gas from landfill sites.

Applicability to project:

- First well:
 - > No oil or gas would be refined, extracted or processed.
- Second well:
 - > The second well would be flow tested, which would require the flaring of hydrocarbons at the well site.

... cont. next slide

3. INTERPRETATION / INTENTION OF EIA REGULATIONS

2. Listing Notice 2: Activity 4 (cont.)

- > The well would be "constructed" for exploration, rather than for "refining", "extraction" or "processing" of oil or gas.
- > The "refining", "extraction" or "processing" of oil or gas is more readily associated with a production phase.
- > Flow-testing is not a production extraction process.
- > The well itself does not have an "installed capacity of 50 m³ or more per day".
- > Since the flow-test volume is not known, it cannot be defined in terms of an "installed capacity of 50 m³".

3. INTERPRETATION / INTENTION OF EIA REGULATIONS

3. Listing Notice 2: Activity 14

The construction of an island, anchored platform or any other permanent structure on or along the sea bed excluding construction of facilities, infrastructure or structures for aquaculture purposes.

Applicability to project:

- Drilling unit would be dynamically positioned due to water depths.
- The drilling unit would not be anchored to the seafloor.
- Wellhead would be abandoned on the seafloor.

4. APPLICABILITY OF NEMWA

General discussion:

- DEA has previously indicated to CCA that NEMWA is not applicable to offshore activities. **Confirmation required.**
- Waste management associated with offshore activities must comply with:
 - > National Environmental Management: Integrated Coastal Management Act, 2008 (No. 24 of 2008).
 - > Dumping at Sea Control Act, 1980 (No. 73 of 1980).
 - > International Convention for the Prevention of Pollution from Ships (MARPOL 73/78).

4. APPLICABILITY OF NEMWA

1. Sewage discharge:

- The volumes of sewage wastes released would be relatively small (i.e. 100 to 150 personnel).
- All sewage would be treated to the required MARPOL 73/78 standard prior to release into the marine environment - treatment would include primary settling, chlorination and dechlorination before discharge into the sea.
- Sewage discharge and treatment is similar to the numerous vessels passing through South African waters on a daily basis.

4. APPLICABILITY OF NEMWA

2. Cuttings discharge:

- During the riserless drilling stage for each well, all cuttings and WBM would be discharged directly onto the seafloor.
- During the risered drilling stage, the cuttings would be treated to reduce their oil content (< 6.9% of dry cuttings weight) prior to discharge. Drilling fluid is re-circulated.

4. APPLICABILITY OF NEMWA

3. Incineration (treatment of general waste using any form of treatment):

- Certain non-toxic combustible wastes (e.g. galley waste) may be incinerated on the drilling unit and support / supply vessels.
- Incineration of waste is similar to the numerous vessels passing through South African waters on a daily basis.

5. CONCLUDING REMARKS / WAY FORWARD

1. EIA Regulation applicability:

Basic Assessment v Scoping & EIA?

2. NEMWA applicability:

Waste Management Licence?



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

MEETING WITH DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES

Date: 11 November 2013

Time: 10h00

Venue: DAFF offices, Cape Town

No.	Item	Action
1.	<u>INTRODUCTION AND OBJECTIVES OF THE MEETING</u>	
1.1	Nomi Muthialu (NM) of NMA Effective Social Strategists (NMA) welcomed everyone to the meeting and provided a brief background to the project (list of attendees is attached). She said that Shell South Africa Exploration B.V. (Shell) was granted an Exploration Right for the Orange Basin Deep Water Licence Area in February 2012 and subsequently undertook a seismic survey in terms of their approved Environmental Management Programme (EMPr). Based on an analysis of the seismic data, Shell proposes to drill one or possibly two exploration wells. She outlined the legislative requirements that Shell is required to comply with and said that CCA Environmental (CCA), in association with NMA, has been appointed by Shell to undertake the required environmental processes.	Note
1.2	NM explained that the objectives of the meeting were to provide an opportunity for the Department of Agriculture, Forestry and Fisheries (DAFF) to be involved in the project, provide a description of the proposed exploration drilling and Impact Assessment process, detail the legislative processes that Shell is required to comply with, ensure that all potential key environmental issues and impacts are identified, and to identify any potential environmental issues and impacts requiring further investigation. NM said that it was important to establish a point of contact at DAFF as they are a key stakeholder in the project.	Note
2.	<u>PRESENTATIONS: PROJECT OVERVIEW</u>	
2.1	Nigel Rossouw (NR) of Shell presented an overview of the project covering the location of the licence area, a geological section of the Orange Basin, the seismic surveys that have been undertaken, the well location, drilling programme and drilling procedure as well as the sea and land based support likely to be required during implementation. (Refer to Appendix B).	Note
2.2	Jeremy Blood (JB) of CCA presented an overview of the impact assessment process covering the legislative requirements, impact assessment focus areas and subsequent specialist studies that will be undertaken. He also presented an overview of the public participation process that was being followed for the basic assessment and amendment of the existing EMPr. (Refer to Appendix B).	Note
	<u>DISCUSSION</u>	
3.1	Deon Durholtz (DD) of DAFF noted that he is primarily involved in research relating to hake fisheries. His main concern was the impact the seismic surveys could have had on bottom trawl surveys undertaken annually by DAFF to determine the hake abundance estimate. These surveys take place at random assessment points and only during the day. His concern was that fish may have moved away during the seismic surveys resulting in the trawl surveys showing a lower number of hake than what is actually available. Trawl surveys usually take place around 900 m off the coast.	Note
3.2	NR asked if DAFF also keep track of hake fishing in terms of how far fishing trawlers move from the coast.	

3.2.1	DD responded that movements are tracked and that this data can be made available to Capricorn Fisheries Monitoring CC. The hake fishing industry has conformed to fishing within a very specific footprint since 2008. This sustainable way of fishing gives the industry access to European markets. The entire fishery is certified in terms of this responsible fishing stewardship programme.	Note
3.3	DD noted that pelagic fish surveys (hydro acoustics) are also done for fish such as tuna and swordfish. These surveys could also have been affected by the seismic surveys.	Note
3.4	DD wanted to know the extent of the area that would be impacted by drill cuttings deposited on the ocean floor.	
3.4.1	NR responded that the impact assessment will include the modelling of the dispersion of drill cuttings, as well as areas that could be affected by an oil spill.	
3.4.2	JB added that dispersion modelling will be done by Steven Luger of Prestedge Retief Dresner Wijnberg (Pty) Ltd (PRDW).	Note
3.5	JB asked if DAFF has recent data that can be used for the fisheries specialist study. DD replied that trawler data should be up to date and longline data less so.	Note
3.6	DD noted an area named Child's Bank estimated to be about 70km east of Shell's area of interest. It is believed that this area is a spawning node for hake but there is very little data to support that. He said that a study was done by a Norwegian research vessel for the Benguela Current Commission in this regard. He undertook to find reports that addresses this matter and which could be used by the specialist doing the fishing industry assessment. Hake spawn all year round with a peak time in summer and in late summer.	DAFF
3.7	DD confirmed that he will be the contact person at DAFF for this project.	Note
3.8	DD wondered whether there could be research opportunities on the drill rig during implementation. NR responded that Shell would be supportive of such proposals especially if a production unit is installed.	Note
3.9	DD wanted to know if the fishing industry has been invited to the public meeting to be held later that day. JB informed him that representatives of the fishing industry (including the deep sea trawling sector) had been invited to the public meeting.	Note
3.10	DD noted that drilling operations could have an impact on pelagic longline sector as these lines can be moved by currents. He indicated that the person at DAFF involved with the pelagic surveys should be informed. DD will supply contact details of the relevant persons at DAFF that need to be involved in the project. NR noted that a standard mitigation measure is to appoint an external service provider to notify the long-line vessels if they are in close proximity to drilling operations.	DAFF
3.11	DD informed the meeting of the following points as raised in an email by his colleague. He will forward the email to the project team: <ul style="list-style-type: none"> • A list of contact details of persons that are potential interested and affected parties. • The exploration well falls on the continental shelf edge region where swordfish long-line vessels operate while most of the tuna fishing operations are more in shore. • Tuna fisheries may argue that drilling operations could alter the tuna migration patterns, and; • Various other points which will be sent to the project team. 	Note
		Note
		DAFF



<u>WAY FORWARD AND CLOSURE</u>		
4.1	NM thanked DD for his input and noted that the project team is looking forward to engaging further with DAFF. She noted that they had until 2 December 2013, when the current 30-day comment period closes, to submit further comments on the project.	Note
4.2	She outlined the process to be followed going forward which is that the specialist consultants will conduct their specialist studies. She said the draft Basic Assessment Report (BAR) and draft EMPr Addendum will be prepared and made available for public scrutiny during a further 40-day comment period. A second round of information sharing meetings will take place during the 40-day comment period between February and March next year. NM then closed the meeting.	

ATTACHMENT A
LIST OF ATTENDEES

No.	Name	Organisation
1.	Claude Vanqa (CV)	Shell South Africa Exploration B.V.
2.	Deon Durholtz (DD)	Department of Agriculture, Forestry and Fisheries
3.	Jeremy Blood (JB)	CCA Environmental
4.	Nomi Muthialu (NM)	NMA Effective Social Strategists
5.	Nigel Rossouw (NR)	Shell South Africa Exploration B.V.
6.	Pieter Mocke (PM)	NMA Effective Social Strategists

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA: MEETING WITH DAFF, 11 NOVEMBER 2013

NMA Effective Social Strategists				Attendance Register			
Date	11 November 2013	Time	10h00	Venue:	DAFF Offices	Type	

No.	Individual Details	Address	Contact Details	Signature
	Name & Surname: Pieter Mookle	Physical: 8 7th Ave Parktown North	Tel : 083 257 9281	
	Company/Organisation: NMA	Postal: /	Fax :	
			Cell :	
			E-mail :	
	Name & Surname: DEON DURHOETE	Physical: FORETRUST BLDG MARTIN HAMMERSCHLAG RD.	Tel : 021 402 3179	
	Company/Organisation: DAFF	Postal: ROGGE BAT	Fax :	
			Cell : 082 873 1769	
			E-mail : DeonD@daff.gov.za	
	Name & Surname: JEREMY BLOOD	Physical: Unit 35, Roeland Sq Drury house CT.	Tel : 021 461 1118	
	Company/Organisation: CCA	Postal: PO Box 10145 Caledon Sq	Fax : 021 461 1120	
			Cell : 083 310 2037	
			E-mail : jeremy@ccaenvironmental.co.za	
	Name & Surname: Claude Vanga	Physical: 10 Rua Vasco Da Gama Street, Foreshore	Tel : 021 408 4977	
	Company/Organisation: Shell	Postal:	Fax :	
			Cell : 082 809 2883	
			E-mail : claud.vanga@shell.com	
	Name & Surname: Nigel Rossouw	Physical: 11	Tel :	
	Company/Organisation: Shell	Postal:	Fax :	
			Cell :	
			E-mail : nigel.rossouw@shell.com	

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA: MEETING WITH DAFF, 11 NOVEMBER 2013

No.	Individual Details	Address	Contact Details	Signature
	Name & Surname: Nomi Muthialu	Physical:	Tel :	
	Company/Organisation: NMA	Postal:	Fax :	
			Cell :	
			E-mail :	
	Name & Surname:	Physical:	Tel :	
			Fax :	
	Company/Organisation:	Postal:	Cell :	
			E-mail :	
	Name & Surname:	Physical:	Tel :	
			Fax :	
	Company/Organisation:	Postal:	Cell :	
			E-mail :	
	Name & Surname:	Physical:	Tel :	
			Fax :	
	Company/Organisation:	Postal:	Cell :	
			E-mail :	

ATTACHMENT B
PRESENTATIONS

Project Overview

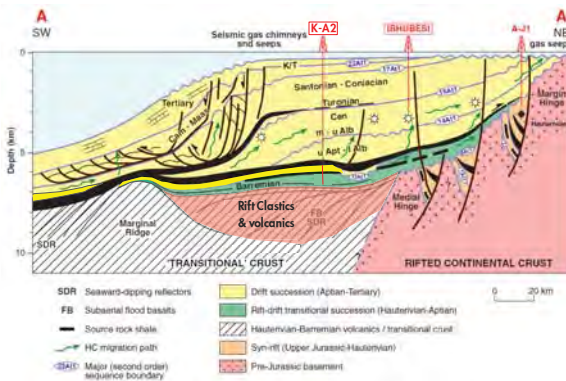
1. Licence Area
2. Orange Basin geology section
3. Seismic acquisition
4. Well location
5. Drilling programme
6. Drilling procedure
7. Sea- and land-based support

License area

1. Licence area is ~37 290 km² in extent.
2. The eastern border of the licence area is located between 150 km and 300 km off coast roughly between Saldanha Bay and Kleinsee.
3. Water depths range from 500 m to 3 500 m.

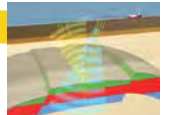


Orange Basin Geological Section



Seismic Acquisition

1. A 3D seismic survey was undertaken in an 8,000 km² portion of the licence area, which was completed in February 2013.



License area

1. Area of interest:
 - 900 km² in extent.
 - 1,500 m to 2,100 m water depth.
2. Final well location will be based on:
 - further analysis of the 3D seismic data
 - the geological target; and
 - seafloor obstacles



Drilling Programme

1. Shell is proposing to drill one or possibly two wells
2. Depending on the success of the first well, a second well may be drilled to establish the resource quantity and flow rate.
3. Drilling is expected to take place in a future summer window period, between November to April
4. Well drilling would take in the order of 3 months to complete
5. The second well would be drilled at least one year after completion of the first well
6. Drilling unit: semi-submersible drilling unit or a drill-ship



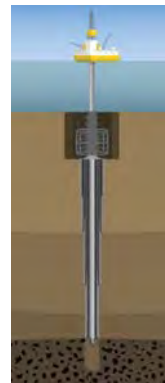
Drilling procedure

1. Initial (riserless) drilling:
 - A conductor pipe is jetted / drilled and cemented into place up to a depth of -75 m.
 - Below the conductor pipe, a top hole is drilled up to a depth of -1 000 m, and casing pipe is run and cemented into place.
 - A water-based mud (WBM) is used to maintain well pressure, cool and lubricate the drill bit and lift rock cuttings from the hole.
 - Rock cuttings and WBM are discarded on the seafloor.



Drilling procedure (cont.)

2. Next stage of drilling:
 - A BOP and riser are run and installed on the wellhead.
 - This stage of drilling would be undertaken using a synthetic-based mud (SBM).
 - Drilling operations are the same as for the top hole, only the SBM and rock cuttings are circulated back to the drilling unit. The mud is treated before being re-circulated.
 - Cuttings are treated and discharged overboard.



Sea and land-based support

1. The logistics shore base would be located in either Cape Town or Saldanha Bay.
2. Personnel would be transported to the drilling unit by helicopter from Kleinsee.



3. Fixed-wing flights would be used between Kleinsee and Cape Town





IMPACT ASSESSMENT OVERVIEW

1. Legislative requirements
2. Impact assessment process
3. Impact assessment focus area
4. Specialist studies

LEGISLATIVE REQUIREMENTS



1. Mineral and Petroleum Resources Development Act, 2002:
 - Shell has an Exploration Right and approved EMPr for seismic surveys and well drilling in the Licence Area
 - Approved EMPr needs to be amended
2. National Environmental Management Act, 1998:
 - NEMA provides for the control of certain listed activities, which are prohibited until environmental authorisation is obtained from DEA
 - The proposed drilling operation requires that a Basic Assessment be undertaken
3. Current study process aims to dovetail the NEMA & MPRDA requirements

IMPACT ASSESSMENT PROCESS

1. Application Form submit to DEA to register the project
2. First round of public consultation:
 - Identify key stakeholders and I&APs
 - Authority meetings with PASA, DEA and DAFF
 - Adverts placed in Sunday Times, Rapport, Cape Times, Die Burger, Ons Kontrei and Weslander
 - Posters placed in Saldanha, Vredenburg, Lamberts Bay, Springbok, Kleinzee and Port Nolloth
 - BID distributed for a 30-day comment period (closes 2 Dec)
 - Information-sharing meetings in Cape Town & Saldanha

IMPACT ASSESSMENT PROCESS (cont.)

3. Compile specialist studies
4. Compile Draft BAR and Draft EMPr Addendum
5. Second round of public consultation (Jan - Mar 2014):
 - Release draft reports for a 40-day comment period
 - Advertise (incl. posters) availability of draft reports and Information-feedback Meetings
 - Written notification (incl. Exec Summ) to registered I&APs
 - Information-feedback meetings in Cape Town & Saldanha



IMPACT ASSESSMENT PROCESS (cont.)

6. Compile Final BAR and Final EMPr Addendum
7. Submit Final EMPr Addendum to PASA (120 days)
8. Third round of public consultation (Apr - May 2014):
 - Release Final BAR for a 30-day comment period
 - Posters placed in Saldanha, Vredenburg, Lamberts Bay, Springbok, Kleinzee and Port Nolloth
 - Written notification (incl. Exec Summ) to registered I&APs
6. Submit Final BAR (with any comments) to DEA (76 days)
7. Distribute DEA decision and statutory appeal period

IMPACT ASSESSMENT FOCUS AREA

1. Key focus areas that will be addressed include:
 - Disposal of cuttings
 - Temporary loss of access to fishing grounds and abandonment / suspension of wellheads on the seafloor
 - Temporary interference with marine traffic
 - Potential hydrocarbon spills (i.e. small accidental spills from normal operations to large spills from unplanned failure events such as well blow-outs)

SPECIALIST STUDIES

1. Dispersion and Oil Spill Modelling 
2. Marine Fauna Assessment 
3. Fishing Industry Assessment 

**PROPOSED EXPLORATION DRILLING IN THE
ORANGE BASIN DEEP WATER LICENCE AREA
OFF THE WEST COAST OF SOUTH AFRICA**

**QUESTION AND
ANSWER SESSION**



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

MEETING WITH NAMAKWA DISTRICT MUNICIPALITY, NAMA KHOI MUNICIPALITY AND RICHTERSVELD MUNICIPALITY	Date: 27 November 2013
	Time: 12h00 (<i>Scheduled time</i>)
	Venue: Namakwa District Municipality

No.	Item	Action
1.	<u>WELCOME</u>	
1.1	Chris Fortuin (CF) of the Namakwa District Municipality (NDM) welcomed the project team and thanked them for availing themselves. The list of attendees is attached.	
1.2	Mr Fortuin was concerned that public meetings, for this and other projects, were only held in the main centres of Cape Town and/or Saldanha. He noted that with respect to this project, these issues were raised and addressed with Claude Vanqa (CV) of Shell. He asked for it to be noted that, from a socio-economic perspective, the project is located within the Namakwa District Municipality's area of jurisdiction.	
2.	<u>INTRODUCTION AND OBJECTIVES OF THE MEETING</u>	
2.1	Nomi Muthialu (NM) of NMA Effective Social Strategists (NMA) thanked CF for welcoming the project team and provided a brief background to the project. She said that Shell South Africa Exploration B.V. (Shell) was granted an Exploration Right for the Orange Basin Deep Water Licence Area in February 2012 and subsequently undertook a seismic survey in terms of their approved Environmental Management Programme (EMPr). Based on an analysis of the seismic data, Shell proposes to drill one or possibly two exploration wells. She outlined the legislative requirements that Shell is required to comply with and said that CCA Environmental (CCA), in association with NMA, has been appointed by Shell to undertake the required environmental processes.	
2.2	NM explained that the objectives of the meeting were to provide an opportunity for the municipalities to be involved in the project, provide a description of the proposed exploration drilling and Impact Assessment process, detail the legislative processes that Shell is required to comply with, ensure that all potential key environmental issues and impacts are identified, and to identify any potential environmental issues and impacts requiring further investigation.	
2.	<u>PRESENTATIONS: PROJECT OVERVIEW</u>	
2.1	Nigel Rossouw (NR) of Shell presented an overview of the project covering the location of the licence area, a geological section of the Orange Basin, the seismic surveys that have been undertaken, the well location, drilling programme and drilling procedure as well as the sea and land based support likely to be required during implementation. (Refer to Appendix B).	
2.2	Jeremy Blood (JB) of CCA presented an overview of the impact assessment process covering the legislative requirements, impact assessment focus areas and subsequent specialist studies that will be undertaken. He also presented an overview of the public participation process that was being followed for the Basic Assessment and amendment of the existing EMPr. (Refer to Appendix B).	

3.	<u>QUESTION AND ANSWER SESSION</u>	
3.1	In response to CF's concerns about why meetings were only held in Cape Town and Saldanha, NR said that the criteria Shell considered when determining the meeting venues included the location of the activities for the project and where Shell would come on shore for goods and services. He indicated that they were keen to engage with the municipality and wanted to know whether they should consult with the municipality again next year when more information would be available. He also asked what would be the most appropriate way to consult with the municipality.	
3.2	CF asked the project team how severe the storms are in the area where they are going to drill their wells and how far the oil spills would travel if there was an incident. He noted that whilst disaster management is currently housed in the NDM, if there was an incident the district would not respond but would be dependent on the Western Cape Provincial department.	
3.2.1	JB responded that the focus of the oil spill modelling study was to determine the direction the oil spill would travel and how far it would extend. He reported that the study had commenced and preliminary indications are that it is unlikely that a spill would reach the Northern Cape coast because the current is mainly in a north-westerly direction. He said any oil spill would most likely head off-shore towards Namibian waters. He said that Shell needs to prepare an oil spill contingency plan which would incorporate specific details based on the modelling as well as information on the responsible authorities that would need to be notified in the case of such an event.	
3.2.2	NR responded that in terms of sea conditions, the storms off the west coast can be quite severe. He reported that Shell experienced heavy swells and strong winds which resulted in some down-time when they undertook the seismic survey. He added that the sea conditions will determine what type of drilling unit would be used as a drill ship is quite sensitive to currents and swells which could result in more downtime, whereas a drill rig is more stable and can operate under more severe conditions. He confirmed that Shell does have a generic Oil Spill Contingency Plan. He said once the specialist studies are completed, Shell will tailor the plan specifically to this project and link it to the South African and local oil spill contingency plans. He noted that Shell will involve the relevant disaster management authorities and take them through the plan so that they understand how Shell would respond which would ensure a more coordinated response. He confirmed that international oil companies have invested in a capping system which is one of the lessons to come from the Gulf of Mexico disaster. To put that disaster in context, he said an event of that magnitude occurred only once in the last twenty years even though thousands of wells were drilled in the Gulf of Mexico. He reported that there is a South African team (<i>Oil Spill Response Limited</i>) based in Saldanha who are trained in oil spill response and in mobilising the capping equipment. He said the blow-out preventer and all the safety equipment on the drilling unit could contain blow outs and it was highly unlikely that this specialised equipment would be needed. He said that on the positive side, there is an in-country response team with the necessary experience and equipment should there be an incident that cannot be contained. He indicated that there are only four capping stacks of this type available globally and one is in South Africa.	Shell
3.2.3	JB reported that the Gulf of Mexico disaster continued for 87 days whereas it is anticipated that through the use of this equipment, even in the worst-case scenario, the spill would not continue for longer than 20 days.	
3.3	CF reported on the intention to proclaim a Marine Protected Area (MPA) which would include the areas of Thombo and Ibhuesi. He noted that it would not include Shell's area of interest.	
3.3.1	NR responded that he was aware of the process conducted by the South African National Biodiversity Institute to map these MPAs.	

3.3.2	JB asked how far the MPA goes out to sea as the initial intention was to go as far as Child's Bank.	
3.3.3	CF responded that the extent of the MPA has not yet been determined. He noted that the project is being driven by the Department of Environmental Affairs.	
3.3.4	NR responded that the area around Child's Bank was identified for protection. He added that there are also areas closer inshore that have been identified.	
3.3.5	Eddie Julius (EJ) of NDM reported that there are some diamond mines in the area and discussions were still underway with the Department of Mineral Resources to deal with the matter.	
3.3.6	JB said that the MPA referred to occurs a lot closer to shore than the area of interest for this project.	NMA / CCA
3.4	EJ raised a concern regarding the impact that this project could have on the marine and fishing industry, especially as they currently want to revive the local fishing industry. He said that he was looking forward to receiving the specialist assessments	
3.4.1	NR responded that with regards to the fishing industry Shell is aware of where the inshore and deep water commercial companies fish and what type of fishing is undertaken. He noted that Shell does have access to maps and data in this regard and the information is currently being updated with data from the Department of Agriculture, Forestry and Fisheries. He said all fishing companies and vessels keep the department informed on where they fish and their types of catch. He said that there would, however, be no overlap between Shell's activities and those of the local fishing industry because Shell's area of interest is far offshore (about 250 km from the coast). He confirmed that this is something that Shell is aware of and Shell will be extremely vigilant as an oil spill could potentially affect the fishing resource.	Shell
3.5	EJ said that in terms of the Integrated Coastal Management Act the oil spill contingency plan must be submitted to the relevant stakeholders. He went on to identify the Namakwa District Municipality, the Nama Khoi Municipality (if Kleinsee is to be used as a base) and the Department of Health (the department is to take transfer of the hospital and will need to provide doctors) as key stakeholders that would need to be involved.	Shell
3.5.1	NR responded that when they return to the municipalities in the new year, as part of the next round of consultation, they will present Shell's generic Oil Spill Contingency Plan. At a later date, once the Orange Basin Oil Spill Contingency Plan is developed, the municipalities will also be consulted on this. He said that at this stage Shell has not yet made a decision on when to drill. He noted that they will have to wait until the end of next year for the necessary authorisations and approval from government. He said Shell will proceed to secure a drilling unit once they get permission to drill and know what type of drilling unit they will use. He said the drilling units are long lead-in items requiring between 18 months to 2 years lead time as there are a lot of drilling activities occurring all over the world. He stated that the drilling is therefore likely to take place a couple of years down the line.	
3.6	NR asked if there were any disaster management officials at the district who interact with the province.	
3.6.1	Jannie Loubser (JL) of NDM responded that disaster management is located in the district and there are designated officials dealing with disaster management. He noted, however, that the district does not have expertise in oil spill containment.	NDM
3.6.2	NR said that if there was a disaster which resulted in oil reaching the coast then those designated officials would need to form part of a committee to manage the disaster. He asked for the details of those officials.	

3.7	Russell Hartley (RH) of Nama Khoi Municipality (NKM) said that the NDM, together with its three municipalities, lies within the area of interest for the project but no mention was made of the project during their recent IDP process. He raised a concern about how the province would respond to the proposed project if it was not identified in their IDPs.	
3.7.1	NR pointed to the area of interest on a map, indicating that it lay within the continental shelf, 250km offshore, in South Africa's Exclusive Economic Zone. NR wanted clarity on RH's statement that the area of interest for the project is within the municipalities' borders and asked if the municipal borders go beyond the coastline.	Note
3.7.2	RH responded that Port Nolloth, Kleinsee and Hondeklipbaai fall within the area of interest. He explained that Hondeklipbaai falls within the Kamiesberg Municipality which falls within the district's boundaries.	
3.8	RH asked what type of application had been made with the Department of Mineral Resources, i.e. a prospecting or mining licence?	
3.8.1	NR said Shell's area of interest lies within South African waters and the competent authority for activities that fall within the exclusive economic zone is National Government. He said the application for permission and authorisation is with the Department of Mineral Resources and the Department of Environmental Affairs.	
3.9	RH said that, apart from the district, it was crucial for all three municipalities to be involved in the oil spill contingency plan as they also carry out disaster management locally. He said that the local municipality has a disaster management plan and would need to adapt this to Shell's oil spill contingency plan so that they are involved in any interventions to minimise impacts on their coastal towns. RH noted that in terms of SPLUMA (Spatial Planning Land Use Management Act) it is essential that the municipalities are consulted and that the project is included in the province's development plan.	Note
3.9.1	RH went on to say that they are aware of people fishing within the area. He said the crayfish season opened about a month ago and there is a crayfish nursery in Kleinsee. He was concerned that people are going to ask questions about the project.	Shell
3.9.2	NR responded that Shell was of the view that the project could be implemented without impacting on any of the other activities mentioned. He said that Shell would plan for any possible disasters or operational incidents and would have to engage with the municipalities for that reason. He said the findings of the oil spill modelling study will be made available to the public and shared with the municipalities. In addition, he said there are a whole range of other activities that Shell would need to inform the municipalities about which is why the project team are here today. NR said that he shared their concerns about the rock lobster and fishing activities closer inshore as Shell did not want to impact on their livelihoods and operations.	
3.9.3	JB noted that Shell currently holds an exploration right for seismic surveys and well drilling and the existing EMPr for this just needs to be updated. He said that at this point the project is in an exploratory stage and not the production phase. He said the well drilling operation is expected to take three months for the first well and a further three months for the possible second well, with a year's break in between. The potential impact on fishing activities is being assessed and, given the distance off shore, it is very unlikely that any of the coastal resources such as rock lobster and coastal pelagic fish will be affected. With regards to the activities further offshore, he said the pelagic longline vessels operate mainly out of Cape Town and Saldanha and the demersal trawl fishes to a water depth of about 1000m. He said the area of interest is located at a water depth of 1500m so again, it is highly unlikely that the demersal trawl sector would be affected. He said it should also be noted that drilling would occur in a fixed location unlike the seismic survey where the boat was required to move around. He said the fisheries assessment will need to take these factors into consideration.	Note

3.9.4	In response to a question from NM, RH confirmed that he is satisfied with the answers provided.	
3.10	NR noted that the municipality had raised a concern about meetings not being held in any of the coastal towns and asked for feedback on what further engagement should occur in the area. He said that they wanted to avoid creating undue expectations, especially around employment. He made the point that the venture is speculative at this stage and the situation will only change if it goes into production. He said the project is of a short duration and Shell will go into the area, mobilise, drill and exit within a few months. There will not be any activities in any of the coastal towns except Kleinsee where a helicopter and crew will be stationed and every second or third day there will be aeroplanes flying in and out to do crew changes.	
3.10.1	CF said that he respected this view but that in 2003 he had attended a session arranged by PetroSA (sic) around Ibhubesi. He said they were not in production then but they made people aware of what they intended to do. CF said that he understands that Shell cannot commit itself to offering any opportunities at this point but sharing information and making people aware of what can happen in the future is very important. He said that the Northern Cape, and in particular NDM, are not geared to respond to the needs of the oil industry. For him, the Information Sharing Meetings in Cape Town and Saldanha, together with what Sunbird is proposing, is indicative that the industry is focussing only on the Western Cape. He agreed that both Cape Town and Saldanha are better positioned right now to respond to the needs of the sector in terms of support services and supplies. However, the province and district want to develop their area so that they are positioned for the future but they need to be well informed in order to do this. He said that if Shell required skilled people from the area in 10 years' time they would not be able to assist. He said that by not having prior knowledge of this they would not have the time to prepare their people or be ready to provide logistics and infrastructure support. Referring to RH's comment about long-term planning, he said that if the project is not in their IDP then they cannot plan properly. He noted that today's session is important and that this is the level at which they needed to engage.	Shell
3.10.2	NR indicated that he cannot speak on behalf of the operator at Ibhubesi but he wanted it noted that the reason the operator had held meetings in coastal towns was because of its requirement for on-shore support infrastructure. Linked to this was its need for local people, goods and services to service that operation. He offered to provide the municipality with an indication of the range of goods, services and logistics support that Shell would require if they are successful in this venture and it goes into production. NR asked if CF was recommending that for this study, Shell should only interact with the municipalities and not hold public meetings in the coastal towns.	Shell
3.10.3	CF said that council still needs to be informed. He said that, unfortunately, none of the council members are represented here today and they are the spokespersons for those communities. He noted that from an administrative point of view it is critical that they know what Shell's long-term plan is so that they can position the province and district and prepare their communities. He said they are aware of the speculative nature of the venture and will not compromise Shell by holding them to this should they not be successful.	Note
3.10.4	NR agreed to engage further with the municipalities on a periodic basis. He agreed to consult outside of the regulated time periods and inform them of their long-term plans and decisions.	
3.10.5	JB made mention of the various opportunities available for the public to be involved in the project. He said that communities in the coastal towns could still provide input into the project even if public meetings were not held in their towns. In addition, the officials being consulted here today could also assist in disseminating information. JB indicated that NMA would ensure that the relevant councillors from these areas are included on the project database so that they receive written notifications on the project and are able to disseminate this information to the community.	





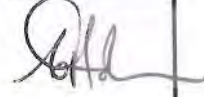
3.10.6	NM responded that the municipal managers of these municipalities are on the project database and have been receiving information on the project. She asked if the suggestion was for all the councillors within the three municipalities to be included on the database.	NMA
3.10.7	Dalene Farmer (DF) of Richtersveld Municipality responded that it was important for the councillors to be informed so that they are able to respond if questioned by the community.	
3.10.8	NM asked what is the best way of consulting the councillors as she was not certain that including them on the database would be the best approach.	
3.10.9	CF responded that the best option would be for information to be sent to the Municipal Managers and disseminated from there. CV agreed with that approach.	NMA
3.10.10	JB asked if the councillors in the Kleinzee area should be included given that there would be an on-shore helicopter base there.	Shell
3.10.11	NM asked RH if, apart from himself, communication should also be channelled to the ward councillor in Kleinzee.	
3.10.12	RH indicated that he is comfortable with communication being channelled through the municipal manager. He said that the councillor should not be included at this stage as there are likely to be changes next year.	Shell
3.10.13	CF noted that there was a need for intensive engagement in the long-term once a decision has been taken to go into production.	Note
3.10.14	NR asked how often they should meet with the municipality, i.e. every six months, once a year.	
3.10.15	CF responded that every six months will suffice given that CV is often in the area.	
3.11	JL asked Shell to take note that the Department of Economic Affairs has applied for funding for a Regional Coastal Spatial Development Framework in terms of the Act. This will cover the entire Northern Cape coastal area and include the three municipalities and is likely to happen sometime next year.	NMA
3.11.1	NR asked if there will be public participation for that project.	
3.11.2	JL confirmed that it will include a public participation process. CV indicated that he generally gets invited to participate in these processes.	
3.12	RH asked for access to the electronic presentation and NM indicated that she will make these available following today's meeting.	
4.	<u>WAY FORWARD AND CLOSURE</u>	
4.1	NM thanked all for attending. She noted that the municipalities had until 2 December 2013, when the current 30-day comment period closes, to submit further comments on the project. She referred to the comments sheet included with the Background Information Document (BID) distributed at the meeting and invited participants to complete these and hand them in after the meeting or to send them through to NMA.	
4.2	She outlined the process to be followed going forward which is that the specialist consultants will conduct their specialist studies. She said the draft Basic Assessment Report (BAR) and draft EMPr Addendum will be prepared and made available for public scrutiny during a further 40-day comment period. A second round of information sharing meetings will take place during the 40-day comment period between February and March next year. She thanked participants for their constructive input and said she was pleased that agreement had been reached on an engagement strategy going forward. NM then closed the meeting.	

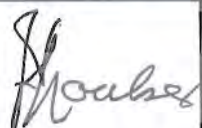



ATTACHMENT A
LIST OF ATTENDEES

No.	Name	Organisation
1.	Chris Fortuin (CF)	Namakwa District Municipality
2.	Claude Vanqa (CV)	Shell South Africa Exploration B.V.
3.	Dalene Farmer (DF)	Richtersveld Municipality
4.	Eddie Julius (EJ)	Namakwa District Municipality
5.	Gerda Bezuidenhoudt (GB)	Namakwa District Municipality
6.	Jannie Loubser (JL)	Namakwa District Municipality
7.	Jeremy Blood (JB)	CCA Environmental
8.	Nomi Muthialu (NM)	NMA Effective Social Strategists
9.	Nigel Rossouw (NR)	Shell South Africa Exploration B.V.
10.	Russel Hartley (RH)	Nama Khoi Municipality
11.	Wessel Weels (WW)	Nama Khoi Municipality

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

NMA Effective Social Strategists				Attendance Register			
Date	27 November 2013	Time	12h00	Venue:	Springbok	Type	Meeting With Namakwa District Municipality And Nama Khoi Municipality

No.	Individual Details	Address	Contact Details	Signature
	Name & Surname: EDDIE JULIUS	Physical: VAN RIEBEECKSTR SPRINGBOK 8240	Tel : 0277128000 Fax : 0866026100 Cell : 0767318731 E-mail : e.julius4@gmail.com	
	Company/Organisation: SEPT. ECON. DEV.	Postal: P. O. Box 532 SPRINGBOK		
	Name & Surname: WESSEL WEEKS	Physical: Namagya Street 17 Springbok, 8240	Tel : 02771 88100 Fax : 0861587861 Cell : 072 825 9271 E-mail : wessel.weeds@namakhoi.gov.za	
	Company/Organisation: Nama Khoi	Postal: P. O. Box 17 Springbok		
	Name & Surname: KUSSEL HARTLEY	Physical: Namagya Street Springbok 8240	Tel : 02771 88162 Fax : 027-71 21635 Cell : 082 802 7671 E-mail : kussel.hartley@namakhoi.gov.za	
	Company/Organisation: Namakhoi	Postal: P.O. Box 17 Springbok		
	Name & Surname: Gerda Bezuidenhout	Physical: Van Riebeeckstr Street, Springbok, 8240	Tel : 027712 80001 Fax : 027712 8040 Cell : 071870 2932 E-mail : g.bezuidh@namakhoi.gov.za	
	Company/Organisation: Namakwa DM	Postal: P.O. Box 61 Springbok, 8240		
	Name & Surname: CHRIS FORTMANN	Physical:	Tel : 027 712 8000 Fax : 027 712 8040 Cell : 082 901 8539 chrsf@namakwa-dm.gov.za	
	Company/Organisation: NAMAKWA DISTRICT MUN	Postal:		

No.	Individual Details	Address	Contact Details	Signature
	Name & Surname: JANNIE LOUBSER	Physical: VAN RIEBEECKSTR SPRINGBOK	Tel : 027-7128000 Fax : 027-7128040 Cell : 0832523136	
	Company/Organisation: NAMAKWA DIST. MUN	Postal: P/B K 20 SPRINGBOK	E-mail : janniel@namakwa-dm.gov.za	
	Name & Surname: DALENE FARMER	Physical: MAIN ROAD PORT NOLLOTH	Tel : 027-8511112 Fax : 0278511101 Cell : 0828877669	
	Company/Organisation:	Postal: 8280	E-mail : dalene@richtersveld	
	Name & Surname: Claude Varga	Physical: 10 RUA VASCO DA GAMA FORESHORE, CAPE TOWN	Tel : 021-4084977 Fax : Cell : 082 809 2883	
	Company/Organisation: Shell SA	Postal:	E-mail : claud.varga@shell.com	
	Name & Surname: Jeremy Bood	Physical: Unit 35, 30 Duly Lane, Cape Town	Tel : 021-4611118 Fax : 021 4461120 Cell : 083 3102077	
	Company/Organisation: CCA	Postal: "	E-mail : jeremy@ccavermental.co.za	
	Name & Surname: N. Muthialu	Physical:	Tel : Fax : Cell : E-mail :	
	Company/Organisation: NM	Postal:		
	Name & Surname: Nigel Rossouw	Physical:	Tel : Fax : Cell : E-mail :	
	Company/Organisation: Shell	Postal:		

ATTACHMENT B
PRESENTATIONS



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

Information-Sharing Meetings
Springbok and Kamieskroon
27 and 28 November 2013



AGENDA

1. Introduction and Objectives of the Meeting (NMA)
2. Presentations
 - Project Overview (Shell)
 - Impact Assessment Overview (CCA)
3. Question and Answer Session (All)
4. Way Forward and Closure (NMA)

GENERAL INTRODUCTION


1. Shell was granted an Exploration Right for the Orange Basin Deep Water Licence Area in February 2012
2. Shell undertook a seismic survey in terms of their approved EMPr
3. Based on analysis of the seismic data, Shell proposes to drill one or possibly two exploration wells
4. Shell is required to comply with the requirements of:
 - MPRDA (No. 28 of 2002): EMPr Addendum
 - NEMA (No. 107 of 1998): Basic Assessment
5. CCA, in association with NMA, has been appointed by Shell to undertake the required environmental processes

OBJECTIVES OF MEETING

1. Inform I&APs about the legislative processes that Shell is required to comply with
2. Provide a description of the proposed exploration drilling and the Impact Assessment process
3. Provide I&APs with reasonable opportunity to be involved in the study
4. Ensure that all potential key environmental issues and impacts are identified
5. Identify any potential environmental issues and impacts requiring further investigation

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

27 November 2013



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

Information-sharing Meetings

DEFINITIONS AND CAUTIONARY NOTE

Reserves: One use of the term "reserves" in this presentation means SEC proved oil and gas reserves. Reserves: One use of the term "reserves" in this presentation includes quantities of oil and gas not yet classified as SEC proved oil and gas reserves. Reserves are consistent with the Society of Petroleum Engineers (SPE) and SEC definitions. Oil/gas: One use of the term "oil/gas" in this presentation includes SEC proved oil and gas reserves including storage resulting from acquisition, divestments and year-over-year pricing impact.

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are referred to as "subsidiaries". "Shell group" and "Royal Dutch Shell" are sometimes used for convenience when reference is made to Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words "we", "us" and "our" are also used to refer to subsidiaries in general or to those who work for them. These expressions are also used where it would be understood by the particular company or companies, "subsidiaries", "Shell subsidiaries" and "Shell companies" as used in this presentation refer to companies in which Royal Dutch Shell plc either directly or indirectly has control. Companies over which Shell has joint control are generally referred to as "joint ventures" and companies over which Shell has significant influence but which cannot be joint control are referred to as "associates". In this presentation, joint ventures and associates may also be referred to as "jointly owned companies". The term "Shell interest" is used for convenience to indicate the direct and/or indirect (for example, through our 50% shareholding in Woodside Petroleum L1) ownership interest held by Shell in a venture, partnership or company, other vehicles of all third party terms.

This presentation contains forward-looking statements concerning the financial condition, results of operations and business of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future operations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those reported or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential expansion of Royal Dutch Shell in various oils and minerals exploring, management's expectations, risks, returns, forecasts, projections and assumptions. These forward-looking statements are identified by their use of words and phrases such as "anticipate", "believe", "could", "estimate", "expect", "plan", "intend", "may", "might", "possibly", "project", "seek", "submit", "will", "would" and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause them to differ materially from those reported in the forward-looking statements included in this presentation, including (without limitation): (1) price fluctuations in crude oil and natural gas; (2) changes in demand for Shell's products; (3) currency fluctuations; (4) drilling and production costs; (5) reserves estimates; (6) loss of market share and industry competition; (7) environmental and physical risks; (8) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (9) the risk of doing business in developing countries and countries subject to international sanctions; (10) legislative, fiscal and regulatory developments including regulatory measures affecting climate change; (11) currency and financial market conditions in various countries and regions; (12) physical risks, including the risks of preparation and implementation of the terms of contracts with governmental entities, delays or abandonment in the approval of permits and delays in the commencement for shared costs and (13) changes in trading conditions. All forward-looking statements contained in this presentation are expressly qualified by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Royal Dutch Shell's 2012 Full Year Report (available at www.shell.com/investor-relations) and more on page 3. These risk factors also represent specific forward-looking statements contained in this presentation and should be considered by the reader. Each forward-looking statement speaks only as of the date of this presentation. 11 November 2013. Neither Royal Dutch Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other developments. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this presentation.

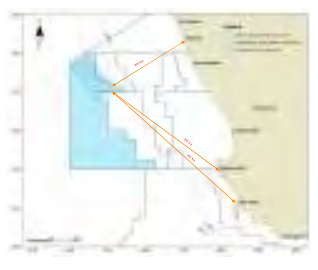
We may have been active in other areas, such as minerals, in this presentation. The United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC, U.S. investors are urged to consult closely the Disclosure in our Form 20-F, File No. 333975, available on the SEC website www.sec.gov. You can also obtain these forms from the SEC by calling 1-800-SEC-3608.

Project Overview

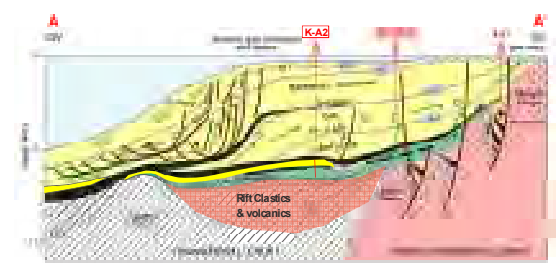
- Licence Area
- Orange Basin geology section
- Seismic acquisition
- Well location
- Drilling programme
- Drilling procedure
- Sea- and land-based support

License area

- Licence area is ~37 290 km² in extent.
- The eastern border of the licence area is located between 150 km and 300 km off coast roughly between Saldanha Bay and Kleinsee.
- Water depths range from 500 m to 3 500 m.




Orange Basin Geological Section



BCA	Basement (granite/gneiss)	CC	Crustal accretion (light grey)
AB	Triassic-Jurassic basaltic	CC	Crustal accretion (dark grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)
BC	Triassic-Jurassic sandstone	CC	Crustal accretion (light grey)

Seismic Acquisition

- A 3D seismic survey was undertaken in an 8 000 km² portion of the licence area, which was completed in February 2013.




PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

27 November 2013


License area

- Area of interest:
 - 900 km² in extent.
 - 1,500 m to 2,100 m water depth.
- Final well location will be based on:
 - further analysis of the 3D seismic data
 - the geological target; and
 - seafloor obstacles




Drilling Programme

- Shell is proposing to drill one or possibly two wells
- Depending on the success of the first well, a second well may be drilled to establish the resource quantity and flow rate.
- Drilling is expected to take place in a future summer window period, between November to April
- Well drilling would take in the order of 3 months to complete
- The second well would be drilled at least one year after completion of the first well
- Drilling unit: semi-submersible drilling unit or a drill-ship




Drilling procedure

- Initial (riserless) drilling:
 - A conductor pipe is jettied / drilled and cemented into place up to a depth of ~75 m.
 - Below the conductor pipe, a top hole is drilled up to a depth of ~1 000 m, and casing pipe is run and cemented into place.
 - A water-based mud (WBM) is used to maintain well pressure, cool and lubricate the drill bit and lift rock cuttings from the hole.
 - Rock cuttings and WBM are discarded on the seafloor.





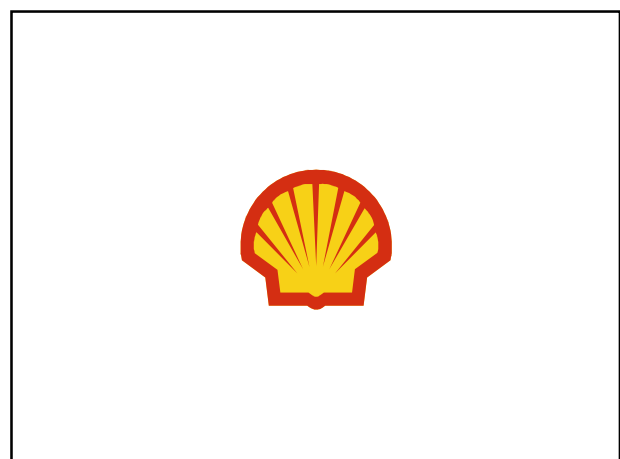
Drilling procedure (cont.)

- Next stage of drilling:
 - A BOP and riser are run and installed on the wellhead.
 - This stage of drilling would be undertaken using a synthetic-based mud (SBM).
 - Drilling operations are the same as for the top hole, only the SBM and rock cuttings are circulated back to the drilling unit. The mud is treated before being re-circulated.
 - Cuttings are treated and discharged overboard.



Sea and land-based support

- The logistics shore base would be located in either Cape Town or Saldanha Bay.
- Personnel would be transported to the drilling unit by helicopter from Kleinsee.
- Fixed-wing aircraft would be used for transport between Cape Town and Kleinsee.



IMPACT ASSESSMENT OVERVIEW

1. Legislative requirements
2. Impact assessment process
3. Impact assessment focus area
4. Specialist studies

LEGISLATIVE REQUIREMENTS



1. Mineral and Petroleum Resources Development Act, 2002:
 - Shell has an Exploration Right and approved EMPr for seismic surveys and well drilling in the Licence Area
 - Approved EMPr needs to be amended
2. National Environmental Management Act, 1998:
 - NEMA provides for the control of certain listed activities, which are prohibited until environmental authorisation is obtained from DEA
 - The proposed drilling operation requires that a Basic Assessment be undertaken
3. Current study process aims to dovetail the NEMA & MPRDA requirements

IMPACT ASSESSMENT PROCESS

1. Application Form submit to DEA to register the project
2. First round of public consultation:
 - Identify key stakeholders and I&APs
 - Authority meetings with PASA, DEA and DAFF
 - Adverts placed in Sunday Times, Rapport, Cape Times, Die Burger, Ons Kontrei and Weslander
 - Posters placed in Saldanha, Vredenburg, Lamberts Bay, Springbok, Kleinzee and Port Nolloth
 - BID distributed for a 30-day comment period (closes 2 Dec)
 - Meetings in Cape Town, Saldanha, Springbok & Kamieskroon

IMPACT ASSESSMENT PROCESS (cont.)

3. Compile specialist studies
4. Compile Draft BAR and Draft EMPr Addendum
5. Second round of public consultation (Jan - Mar 2014):
 - Release draft reports for a 40-day comment period
 - Advertise (incl. posters) availability of draft reports and Information-feedback Meetings
 - Written notification (incl. Exec Summ) to registered I&APs
 - Information-feedback meetings in Cape Town & Saldanha



IMPACT ASSESSMENT PROCESS (cont.)

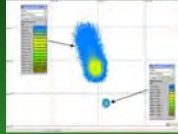
6. Compile Final BAR and Final EMPr Addendum
7. Submit Final EMPr Addendum to PASA (120 days)
8. Third round of public consultation (Apr - May 2014):
 - Release Final BAR for a 30-day comment period
 - Posters placed in Saldanha, Vredenburg, Lamberts Bay, Springbok, Kleinzee and Port Nolloth
 - Written notification (incl. Exec Summ) to registered I&APs
6. Submit Final BAR (with any comments) to DEA (76 days)
7. Distribute DEA decision and statutory appeal period

IMPACT ASSESSMENT FOCUS AREA

1. Key focus areas that will be addressed include:
 - Disposal of cuttings
 - Temporary loss of access to fishing grounds and abandonment / suspension of wellheads on the seafloor
 - Temporary interference with marine traffic
 - Potential hydrocarbon spills (i.e. small accidental spills from normal operations to large spills from unplanned failure events such as well blow-outs)

SPECIALIST STUDIES

1. Dispersion and Oil Spill Modelling



2. Marine Fauna Assessment



3. Fishing Industry Assessment



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

PRESENTATION TO THE NORTHERN CAPE PROVINCIAL COASTAL COMMITTEE	Date: 28 November 2013
	Time: 11h00
	Venue: SANParks Biodiversity Services Projects Offices, Kamieskroon

No.	Item	Action
1.	<u>WELCOME</u>	
1.1	Mr van Heerden (DvH), Head of Department of Environment and Nature Conservation (DENC) and chairperson of the Northern Cape Provincial Coastal Committee (NCPCC), welcomed the project team and invited them to present on the proposed Exploration Drilling in the Orange Basin Deep Water Licence Area. The list of attendees is attached.	
2.	<u>INTRODUCTION AND OBJECTIVES OF THE MEETING</u>	
2.1	Nomi Muthialu (NM) of NMA Effective Social Strategists (NMA) thanked Mr van Heerden and members of the NCPCC for providing the team with an opportunity to present on the project. She went on to provide a brief background to the project. She said that Shell South Africa Exploration B.V. (Shell) was granted an Exploration Right for the Orange Basin Deep Water Licence Area in February 2012 and subsequently undertook a seismic survey in terms of their approved Environmental Management Programme (EMPr). Based on an analysis of the seismic data, Shell proposes to drill one or possibly two exploration wells. She outlined the legislative requirements that Shell is required to comply with and said that CCA Environmental (CCA), in association with NMA, has been appointed by Shell to undertake the required environmental processes.	
2.2	NM explained that the objectives of the meeting were to provide an opportunity for the NCPCC to be involved in the project, provide a description of the proposed exploration drilling and impact assessment process, detail the legislative processes that Shell is required to comply with, ensure that all potential key environmental issues and impacts are identified, and to identify any potential environmental issues and impacts requiring further investigation.	
2.	<u>PRESENTATIONS: PROJECT OVERVIEW</u>	
2.1	Nigel Rossouw (NR) of Shell presented an overview of the project covering the location of the licence area, a geological section of the Orange Basin, the seismic surveys that have been undertaken, the well location, drilling programme and drilling procedure as well as the sea and land based support likely to be required during implementation. (Refer to Appendix B).	
2.2	Jeremy Blood (JB) of CCA presented an overview of the impact assessment process covering the legislative requirements, impact assessment focus areas and subsequent specialist studies that will be undertaken. He also presented an overview of the public participation process that was being followed for the basic assessment and amendment of the existing EMPr. (Refer to Appendix B).	

3.	<u>QUESTION AND ANSWER SESSION</u>	
3.1	Abe Koopman (AK) of SANBI asked if the team had considered the Integrated Coastal Management Act and if it was applicable to this project.	CCA
3.2	AK then noted that the newspapers targeted for the project, such as Ons Kontrei and Weslander, were not distributed in the coastal towns. He urged the project team to make use of the local newspapers including <i>Die Plattelander</i> and <i>Die Namakwalander</i> which had a wide readership in the local Northern Cape areas.	NMA
3.3	Mervyn Carstens (MC) of Alexkor referred to the deep water licence area where Shell proposes to drill its exploratory well and asked if there would be an overlap with any existing mining rights.	
3.3.1	JB responded that this is something that the project team will be looking at but noted that Shell's licence area was further off-shore than the area where Alexkor holds rights.	CCA
3.4	John Peter (JP) of the Department of Environmental Affairs (DEA): Oceans and Coasts asked if the team had taken into account the Protected Areas Act in terms of safety requirements. He noted that with regards to the Integrated Coastal Management Act a permit would be required and asked the team to give consideration to Sections 70 and 71 of the Act.	CCA CCA
3.4.1	JP went on to ask whether the environmental authorisation would be required in terms of the MPRDA or NEMA.	
3.4.2	JB responded that he had covered the key legislative requirements in his presentation but that there were other approvals that may be needed and the Integrated Coastal Management Act was one of the Acts that needed to be considered. He said the application requires approval in terms of NEMA as it triggers an activity that requires a Basic Assessment. In addition, Shell currently holds rights and an approved EMPr in terms of the MPRDA. He said the Petroleum Agency South Africa (PASA) had requested that the existing EMPr be updated to be made more specific to the area of interest.	
3.5	Bronwen Cornelissen (BC) of DENC asked what benefits the project would have for the Northern Cape. He noted that the oil would most likely be transported to the Western Cape, either Cape Town or Saldanha Bay, and that the crew would be flown in from Cape Town to Kleinzee.	
3.5.1	NR responded that as the project would be in an exploratory stage for a period of nine years, the opportunity for the procurement of goods and services was very limited. The drilling itself will occur over an extremely short duration of three months. He said an international company would provide the drilling unit and international crews would be used. He said the vessel would be quite self-contained and would carry most of its own equipment and plant. In addition, he said Saldanha Bay and Cape Town are best placed to provide core facilities such as lay-down areas for pipes.	
3.5.2	JB added that in terms of direct impacts on the Northern Cape, Shell would have an onshore base in Kleinzee where they would have crew transfers during the three month operation so there would be certain services such as security, catering and cleaning that may be needed.	
3.6	In referring to the presentation where it was stated that Shell would drill one or possibly two wells, Wilna Opper (WO) of DENC said that if the first well was not viable then it would need to be covered and she asked how this would be done. She also asked about the difference between the proposed extraction process and fracking.	
3.6.1	NR responded that during the drilling process a capping device would be used. He said that a blow-out preventer, which controls the pressure in the well and equalises the	

	pressure in the well bore, is placed on the well. He said that irrespective of whether Shell finds oil or not, the well has to be capped and the capping device on the well bore would be left in place. He said that in some instances the capping device is taken away, the well is cut to about 12 metres below the surface and a capping device is placed over that and cemented into place.	
3.6.2	JB noted that the capping would conform to international standards. He said that about 300 wells have been drilled off the Southern African coast and have been capped and these wells would follow a similar procedure.	
3.6.3	NR added that there is a difference between conventional drilling and unconventional drilling. He said that for this project Shell will make use of conventional drilling as it is anticipated that there will be a reservoir of trapped hydrocarbons and it is usually quite easy to drill for oil and gas in these circumstances. He said that with fracking, which is an unconventional drilling process, the gas and oil are trapped in rock formations with a low permeability such as shale and conventional drilling cannot yield extracts and it is therefore necessary to break open the rock through fracking so that the gas can flow.	
3.7	WO asked what guarantee is there that the marine life would return to the area once the drilling operations have taken place.	
3.7.1	JB responded that specialists have been appointed to look at the impact of the drill cuttings. He said that around the well bore the drill cuttings would be a lot thicker and as dispersion occurs the cuttings layer gets thinner. He said the specialists would look at how fast the benthic environment recovers. He was of the opinion that it would take between 2 and 5 years around the well bore for the benthic environment to return to its original state but this will be confirmed in the specialist studies.	CCA
3.8	Adriaan le Roux (AR) of DENC said that in terms of the Integrated Coastal Management Act, the release of emissions (Dumping at sea/Discharge permit) will trigger Activity 5 and a full Environmental Impact Assessment is therefore required.	
3.8.1	JB asked for clarification as to whether AR was referring to NEMA and AR confirmed that this was the case.	
3.8.2	AR said that if one needs a licence in terms of any national or provincial legislation that governs the release of emissions or pollution, a full Environmental Impact Assessment is required. Therefore if a licence is required in terms of the Integrated Coastal Management Act then a full Environmental Impact Assessment would need to be undertaken.	CCA
3.8.3	JB responded that his understanding is that a licence is not required in terms of the Integrated Coastal Management Act. JB undertook to clarify the licence requirements.	
3.8.4	NR responded that, in this regard, very specific volumes and capacities trigger listed activities.	
3.8.5	AR reiterated that if they require a permit then it will trigger a full EIA.	
3.9	JP made reference to the nine year exploration period and asked if Shell had an estimate of the volume of seabed that would be extracted over this time.	
3.9.1	JB responded that in the order of 500 m ³ of cuttings will be discharged. He said the specialists will be using this quantum to do their modelling and to assess the impacts on the benthic environment.	CCA
3.9.2	JP said that he was of the opinion that the project will trigger a full EIA. He urged the project team to consult with the Department of Environmental Affairs: Oceans and Coasts and said that the department needs to be intensely involved in the impact assessment. He noted that the Integrated Coastal Management Amendment Bill covers the Exclusive	

<p>3.10</p> <p>3.10.1</p> <p>3.10.2</p> <p>3.10.3</p> <p>3.11</p>	<p>Economic Zone and therefore includes all the natural resources up to and including the point of extraction.</p> <p>Next, JP asked if all the vessels being used will be South African vessels.</p> <p>NR responded that the oil spill response vessels would be South African but not the drilling vessel.</p> <p>JP responded that the requirements for a permit would therefore apply and vessels coming from outside of South Africa would have to comply.</p> <p>JB undertook to investigate this further. He noted that the project team had met with the Department of Environmental Affairs at the start of the project to provide information on the project and their plan of study. He said that the department had accepted their application form for a Basic Assessment process.</p> <p>DvH thanked the project team for the presentations and summarised the main points as follows: i) The Northern Cape would like more consultation to occur in terms of using local newspapers; ii) Representatives of the Northern Cape Province and the DEA present here today think that this project might trigger a full EIA; and iii) The Northern Cape does not want its resources exploited without benefits for the local people and the area.</p>	<p>CCA</p> <p>Note</p>
<p>4.</p> <p>4.1</p> <p>4.2</p>	<p><u>WAY FORWARD AND CLOSURE</u></p> <p>NM thanked Mr van Heerden and the committee members for hosting the project team. She noted that members had until 2 December 2013, when the current 30-day comment period closes, to submit further comments on the project. She referred to the comments sheet included with the Background Information Document (BID) distributed at the meeting and invited participants to complete these and send them through to NMA.</p> <p>She outlined the process to be followed going forward which is that the specialist consultants will conduct their specialist studies. She said the draft Basic Assessment Report (BAR) and draft EMPr Addendum will be prepared and made available for public scrutiny during a further 40-day comment period. A second round of information sharing meetings will take place during the 40-day comment period between February and March next year. The project team would try to coordinate a further presentation to this committee during that period. She thanked participants for their constructive input.</p>	

ATTACHMENT A
LIST OF ATTENDEES

No.	Name		Organisation
1.	Leilani Swartbooi	(LS)	Alexkor Richtersveld Mining Company Joint Venture
2.	Mervyn Carstens	(MC)	Alexkor Richtersveld Mining Company Joint Venture
3.	Jeremy Blood	(JB)	CCA Environmental
4.	Anton Meyer	(AM)	De Beers Consolidated Mines
5.	Edward Julius	(EJ)	Department of Finance, Economic Development & Tourism
6.	Denver van Heerden	(DvH)	Department of Environment and Nature Conservation
7.	Ralph van der Poll	(RvdP)	Department of Environment and Nature Conservation
8.	Morne Farmer	(MF)	Department of Environment and Nature Conservation
9.	Adriaan le Roux	(AR)	Department of Environment and Nature Conservation
10.	Errol Swartbooi	(ES)	Department of Environment and Nature Conservation*
11.	Adeleen Cloete	(AC)	Department of Environment and Nature Conservation
12.	Enrico Oosthuysen	(EO)	Department of Environment and Nature Conservation
13.	Klaas van Zyl	(KvZ)	Department of Environment and Nature Conservation
14.	Bronwen Cornelissen	(BC)	Department of Environment and Nature Conservation
15.	Beanca Botes	(BB)	Department of Environment and Nature Conservation
16.	Wilna Oppel	(WO)	Department of Environment and Nature Conservation
17.	Valda Cloete	(VC)	Department of Environmental Affairs
18.	John Peter	(JP)	Department of Environmental Affairs: Oceans & Coasts
19.	Elsabe Stewens	(ESt)	Kamiesberg Municipality
20.	Augustine Brown	(AB)	Namakwa District Municipality
21.	Chris Fortuin	(CF)	Namakwa District Municipality
22.	Nomi Muthialu	(NM)	NMA Effective Social Strategists
23.	Justin Coraizin	(JC)	SAMSA
24.	Abe Koopman	(AK)	SANBI
25.	Bernard van Lente	(BvL)	SANParks - Namaqua National Park
26.	Nigel Rossouw	(NR)	Shell South Africa Exploration B.V.
27.	Claude Vanqa	(CVa)	Shell South Africa Exploration B.V.
28.	Petrus van der Linde	(PvdL)	Tech AF
29.	Abegail Makgato	(AMa)	Trans Hex Operations

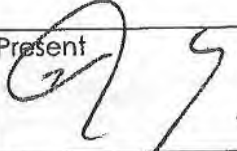
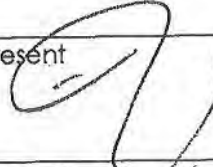



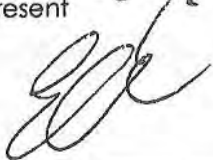


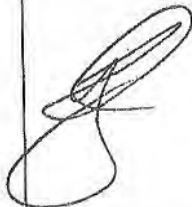



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
MEC DENC Mr. P. Mabilo		-	-	Present	Apology
HoD DENC Mr. D. van Heerden	bvotes@ncpg.gov.za	-	-	Present	Apology
PCC Chairperson Mr. A. Mabunda DENC	Chief Director: Biodiversity Management Services AMabunda@ncpg.gov.za	Present	Present	Absent with apology	Apology
PCC Members					
1. DENC Member Ms. Wilna Opper	Deputy Director: Coastal Management T: 027 718 8800 F: 027 718 8814 C: 082 440 3209 E: woppel.dtec@gmail.com	Present	Present	Present	Apology
2. DENC Member Mr. Julius Mutyorauta	Director: Environment T: 053 807 7430 F: 053 831 3530 E: jmutyorauta@half.ncape.gov.za	Absent	Absent	Absent	—
3. DENC Member Mr. Obopeng Gaoraelye	Deputy Director-Compliance and Enforcement T: 053 807 7430/027 718 8800	Absent	Absent	Mr. A. le Roux and Mr. E. Swartbooi attended the meeting	Swartbooi



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
	F: 053 831 3530 ogaoraelwe@ncpg.gov.za				
4. DENC Member Mr. Klaas Van Zyl	Manager: ORM T: 027 718 8800 F: 027 718 8814 E: kvanzyl1@vodamail.co.za	Present 	Absent with apology	Present 	
5. DENC Member Mr. Enrico Oosthuysen	Conservation Planner T: 027 718 8800 F: 027 718 8814 E: enricoosthuysen@isa.co.za enricoosthuysen@gmail.com	Present 	Present 	Present 	
6. DEA: Oceans & Coasts Member Mr. John Peter Alternate Mr. S. Dzulisa	Integrated Coastal Management T: 021 819 2496 F: 021 402 3009 E: jpeter@environment.gov.za sdlulisa@environment.gov.za	Present 	Present 	Absent with apology	




NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
7. CSA Member Mr. Ronald Newman	T: 027 718 1565 E: rnewman@conservation.org	Present	Absent	Present	<i>Apology.</i>
8. De Beers Consolidated Mines Member Mr. Anton Meyer	T: 027 807 2934 E: anton.meyer@debeersgroup.com	Present	Present	Present	<i>Anton</i>
9. Department of Agriculture, Land Reform and Rural Development Member Mr. Ernst Meissenheimer	T: 027 712 1315 C: 082 560 9050 E: meissenheimer.ernst@gmail.com	Absent	Absent	Absent	<i>Absent.</i>



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
10. Department of Corporate Governance, Human Settlement & Traditional Affairs Member: Mr. Schaik Grobbelaar Alternate Mrs. Carrie van Zyl Corporate Governance, Human Settlement & Traditional Affairs	Town Planner T: 053 807 2836 F: 086 513 7177 E: sgrobbelaar@ncpg.gov.za T: 053 807 2837 E: cvanzyl@ncpg.gov.za	Present	Present	Absent with apology	Apology
11. Department of Economic Development, Environment and Tourism Member Mr. Edward Julius Alternate Mr. Vincent Cupido Department of Economic Development, Environment and Tourism	DD: Economic Affairs T: 027 712 8000, 076 731 8731 F: 086 602 6100 E: ejulius4@gmail.com DD: Tourism Awareness T: 079 514 3810 E: vincent.dtec@gmail.com	Absent-Apology	Present ✓	Absent with apology	 —



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
12. Department of Mineral Resources Member Mr. Vincent Mula	T:027 712 8164 C:076 1744 239 E: vincent.mula@dmr.gov.za	Present	Present	Present	<i>apology.</i>
13. Department of Water Affairs Member Mr. Samuel Dodgen	T:053 836 7605 C:072 358 1293 dodgens@dwa.gov.za	Absent-Apology	Present	Absent with apology	<i>Absent.</i>
14. Kamiesberg Municipality Member Mr. Elsabe Steenkamp Alternate Mr. Isak Jenner Kamiesberg Municipality	T:027 672 1130 E: sarahc@kamiesberg.co.za T: 027 652 8000 F: 0276528001 C: 083 626 7995 E: sakkiej@kamiesberg.co.za	Present	Absent	Mr. John Ellis attended the meeting	<i>[Signature]</i>



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
15. Namakwa District Municipality Member Ms. Madeleine Brandt Alternate Mr. Christiaan Fortuin Namakwa District Municipality	Municipal Manager T:027 712 8000 E: mbrandt@namakwadm.gov.za LED Manager C:082 901 8539 E: christ@namakwa-dm.gov.za	Absent-Apology	Present Absent	Present Absent	Absent. [Signature]
16. Namaqualand Small Miners Association Member Ms. Esther Engelbrecht	C:072 611 3775 E: esthere@hotmail.co.za	Absent	Absent	Absent	Absent.
17. SANBI Member Ms. Shabida Davids	T: 021 799 8864 C: 079 175 8363 F: 086 588 9603 E: S.Davids@sanbi.org.za	Present	Absent with apology	Absent with apology	Absent Apology





NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
18. Richtersveld Municipality Member Mr. Leon Ambrosini Alternate Mr. Abraham De Wet Richtersveld Municipality	Councillor T: 027 851 1111/2 C: 072 584 7219 E: sureta@richtersveld.gov.za T: 027 851 1111/2 E: Abraham@richtersveld.gov.za	Absent-Apology Mrs. G. Beukes attended the meeting on behalf of the Municipality.	Absent	Present	<i>Absent</i>
19. SAPS Port Nolloth Member Lt Col J. Brooks	Cluster Commander T: 027 851 1026 C: 082 495 5246 E: portnolloth.cluster.man@saps.org.za	Absent-Apology	Absent-Apology	Absent with apology	<i>Absent</i>
20. SAMSA Member Mr. Justin Coraizin	T: 027 851 7695 C: 082 386 2141 E: jcoraizin@samsa.org.za	Absent-Apology	Present	Present	



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
<p>21. SANBI Member Mr. Abe Koopman</p> <p>Alternate Mr. Lubabalo Ntsholo SANBI</p> <p>Alternate Ms. Prideel Majiedt</p>	<p>Namaqualand SKEP Coordinator C:076 089 9457 E:A.Koopman@sanbi.org.za</p> <p>SKEP Program E:L.Ntsholo@sanbi.org.za</p> <p>SKEP Program E:p.majiedt@sanbi.org.za</p> <p>Marine Program</p>	Present	Present	Present	
<p>22. SANParks-Namaqua National Park Member Mr. Bernard Van Lente</p> <p>Alternate Mr. Nicholas de Goede</p>	<p>Park Manager T: 027 672 1948 F: 027 672 1015 E:bernardvl@sanparks.org</p> <p>Park Manager E:nick.degoede@sanparks.org</p>	Absent-Apology	Present	Present	



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
23. Nama-Khoi Municipality Member Mr. Joshua Losper Alternate Mr. Willem Goedeman Nama-Khoi Municipality	T:027 718 8123 E: joshua.losper@namakhoi.gov.za C:076 897 1699 E: willem.goedeman@namakhoi.gov.za	Present	Absent	Absent	Absent with apology
24. Alexkor Richtersveld Mining Company-Joint Venture Member Ms. Leilani Swartboo	T:027 831 8399 E: leilanis@alexkor.co.za	Absent Recently appointed	Present	Present	
25. Trans Hex Operations (pty) LTD. Member Mr. Pierre Kotze Alternate Abegail Makgato	Operations Manager: Marine T: 027 217 1561 C: 082 451 2673 E: pierrek@transhex.co.za T:021 937 2028 abegailm@ranshex.co.za	Absent-Apology	Present Absent Present	Present Absent Present	Absent Makgato



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
26. Richtersveld CPA Member Mr. Edwin Farmer	<u>edwincfarmer@gmail.com</u> 076 630 4060	Present	Absent	Absent	<i>Absent</i>
Other Attendees					
DENC Mr. Bronwen Cornelissen	Environmental Officer: Coastal Management T: 027 718 8800 F: 027 718 8814 C: 082 440 3209 <u>Bronwen.dtec@gmail.com</u>	Present	Present	Present	<i>Present</i> 
DENC Ms. Adeleen Cloete	Environmental Officer: Coastal Management T: 027 718 8800 F: 027 718 8814 C: 082 440 3209 <u>adeleenmarine@live.co.za</u>	Present	Absent	Present	



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
ALEXKOR BMC JV MERVYN CARMEAN	CEO JOINT VENTURE T: 021 8318100 E: mrcarme@alexkor.co.za				
RALPH VAN DER POLL DENC	PARTNERSHIPS T. 027-7188800 E: ralphvanderpoll@gmail.com				
ERROL SWARTBOOY	EMI/EO 027-718 8800 errol.denc@gmail.com				
Adriaan Le Roux	EMI 027 718 8500 adriaanleroux@gmail.com				
VALDA CLOETE DEA	LOCAL GOV. SUPPORT 027 7182957 0837522631 veloete@environment.gov.za				



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
Morne Farmer DENC	027 718 8800, EO				
Petrus van der Lande tech AF	061 4585229 petrus@techaf.com				
A Brown	NAMAKWA DIST MDM IM COASTAL PROTECTS				
Branco Boles DENC	HOD's office 053- 8077306 / 082 3316039.				



NC PCC Meeting

Name & Organization	Designation & Contact Details	Date & Signature 21 February 2013	Date & Signature 30 May 2013	Date & Signature 29 August 2013	Date & Signature 28 November 2013
Claude Vanga Shell SA					PRESENT
Nigel Rossouw SHELL SA					PRESENT
JEREMY BLOOD CCA					PRESENT
Nomi Mutualu NMA					PRESENT

ATTACHMENT B
PRESENTATIONS



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

Information-Sharing Meetings
Springbok and Kamieskroon
27 and 28 November 2013



AGENDA

1. Introduction and Objectives of the Meeting (NMA)
2. Presentations
 - Project Overview (Shell)
 - Impact Assessment Overview (CCA)
3. Question and Answer Session (All)
4. Way Forward and Closure (NMA)

GENERAL INTRODUCTION

1. Shell was granted an Exploration Right for the Orange Basin Deep Water Licence Area in February 2012
2. Shell undertook a seismic survey in terms of their approved EMPr
3. Based on analysis of the seismic data, Shell proposes to drill one or possibly two exploration wells
4. Shell is required to comply with the requirements of:
 - MPRDA (No. 28 of 2002): EMPr Addendum
 - NEMA (No. 107 of 1998): Basic Assessment
5. CCA, in association with NMA, has been appointed by Shell to undertake the required environmental processes

OBJECTIVES OF MEETING

1. Inform I&APs about the legislative processes that Shell is required to comply with
2. Provide a description of the proposed exploration drilling and the Impact Assessment process
3. Provide I&APs with reasonable opportunity to be involved in the study
4. Ensure that all potential key environmental issues and impacts are identified
5. Identify any potential environmental issues and impacts requiring further investigation

License area

1. Area of interest:
 - 900 km² in extent.
 - 1,500 m to 2,100 m water depth.
2. Final well location will be based on:
 - further analysis of the 3D seismic data
 - the geological target; and
 - seafloor obstacles



Drilling Programme

1. Shell is proposing to drill one or possibly two wells
2. Depending on the success of the first well, a second well may be drilled to establish the resource quantity and flow rate.
3. Drilling is expected to take place in a future summer window period, between November to April
4. Well drilling would take in the order of 3 months to complete
5. The second well would be drilled at least one year after completion of the first well
6. Drilling unit: semi-submersible drilling unit or a drill-ship



Drilling procedure

1. Initial (riserless) drilling:
 - A conductor pipe is jetted / drilled and cemented into place up to a depth of ~75 m.
 - Below the conductor pipe, a top hole is drilled up to a depth of ~1 000 m, and casing pipe is run and cemented into place.
 - A water-based mud (WBM) is used to maintain well pressure, cool and lubricate the drill bit and lift rock cuttings from the hole.
 - Rock cuttings and WBM are discarded on the seafloor.



Drilling procedure (cont.)

2. Next stage of drilling:
 - A BOP and riser are run and installed on the wellhead.
 - This stage of drilling would be undertaken using a synthetic-based mud (SBM).
 - Drilling operations are the same as for the top hole, only the SBM and rock cuttings are circulated back to the drilling unit. The mud is treated before being re-circulated.
 - Cuttings are treated and discharged overboard.

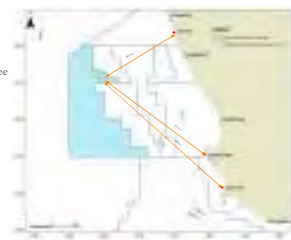


Sea and land-based support

1. The logistics shore base would be located in either Cape Town or Saldanha Bay.
2. Personnel would be transported to the drilling unit by helicopter from Kleinsee.



between Kleinsee





IMPACT ASSESSMENT OVERVIEW

1. Legislative requirements
2. Impact assessment process
3. Impact assessment focus area
4. Specialist studies

LEGISLATIVE REQUIREMENTS



1. Mineral and Petroleum Resources Development Act, 2002:
 - Shell has an Exploration Right and approved EMPr for seismic surveys and well drilling in the Licence Area
 - Approved EMPr needs to be amended
2. National Environmental Management Act, 1998:
 - NEMA provides for the control of certain listed activities, which are prohibited until environmental authorisation is obtained from DEA
 - The proposed drilling operation requires that a Basic Assessment be undertaken
3. Current study process aims to dovetail the NEMA & MPRDA requirements

IMPACT ASSESSMENT PROCESS

1. Application Form submit to DEA to register the project
2. First round of public consultation:
 - Identify key stakeholders and I&APs
 - Authority meetings with PASA, DEA and DAFF
 - Adverts placed in Sunday Times, Rapport, Cape Times, Die Burger, Ons Kontrei and Weslander
 - Posters placed in Saldanha, Vredenburg, Lamberts Bay, Springbok, Kleinzee and Port Nolloth
 - BID distributed for a 30-day comment period (closes 2 Dec)
 - Meetings in Cape Town, Saldanha, Springbok & Kamieskroon

IMPACT ASSESSMENT PROCESS (cont.)

3. Compile specialist studies
4. Compile Draft BAR and Draft EMPr Addendum
5. Second round of public consultation (Jan - Mar 2014):
 - Release draft reports for a 40-day comment period
 - Advertise (incl. posters) availability of draft reports and Information-feedback Meetings
 - Written notification (incl. Exec Summ) to registered I&APs
 - Information-feedback meetings in Cape Town & Saldanha



IMPACT ASSESSMENT PROCESS (cont.)

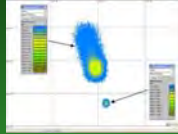
6. Compile Final BAR and Final EMPr Addendum
7. Submit Final EMPr Addendum to PASA (120 days)
8. Third round of public consultation (Apr - May 2014):
 - Release Final BAR for a 30-day comment period
 - Posters placed in Saldanha, Vredenburg, Lamberts Bay, Springbok, Kleinzee and Port Nolloth
 - Written notification (incl. Exec Summ) to registered I&APs
6. Submit Final BAR (with any comments) to DEA (76 days)
7. Distribute DEA decision and statutory appeal period

IMPACT ASSESSMENT FOCUS AREA

1. Key focus areas that will be addressed include:
 - Disposal of cuttings
 - Temporary loss of access to fishing grounds and abandonment / suspension of wellheads on the seafloor
 - Temporary interference with marine traffic
 - Potential hydrocarbon spills (i.e. small accidental spills from normal operations to large spills from unplanned failure events such as well blow-outs)

SPECIALIST STUDIES

1. Dispersion and Oil Spill Modelling



2. Marine Fauna Assessment



3. Fishing Industry Assessment



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

