



Our reference: SO-ENV-1353

29 November 2024

Your Ref: EA nr EM1/1(c)/00/127

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Attention: Deputy Director: Environmental Impact Assessment

ENVIRONMENTAL AUTHORISATION EXTERNAL REPORT SUBMISSION

The Environmental Authorisation applicable for Sasol South Africa Limited, Sasolburg Operations was externally audited during October 2023. The external audit was conducted to comply to the requirement contained in Chapter 5 part 3 of the Environmental Impact Assessment Regulations.

Sub regulation 34 (6) of the regulations also requires the holder of the environmental authorisation to notify all potential and registered interested and affected parties of the submission of the report and make the report available on request to anyone and on a publicly accessible website, where available.

The external audit reports will be available on <https://www.sasol.com/esg/environmental-audit-reports>.

Sasolburg Operations appointed WSP to conduct the external audits on all Environmental Authorisations and accompanying Environmental Management Programs.

Attached, please find the compliance audit report for the Oxychlorination Decanter Technology EM1/1(c)/00/127 dated November 2023.

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The Audit report noted sufficient mitigation of environmental impacts and level of compliance to the Environmental Authorisation and Environmental Management Program (EMPr) therefore no recommendations for improvement were made.

Further, in alignment with Chapter 5 Part 4 of the regulation, regulation 36 allows amendment to the impact management action of an EMPr to be affected immediately by the holder of the environmental authorisation and reflect it in the next environmental audit report. Annexure B contains the mitigations measures identified during the environmental impact assessment, for the operational phase of the project, defining the impact management outcome and impact management actions to enable compliance to this regulation.

No impact management outcome or impact management action requires amendment for the of VCM Oxychlorination Decanter Technology.

Yours faithfully

Signed by: Johann Van Wyk
Signed at: 2024-12-02 08:09:21 +02:00
Reason: I approve

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Sasol South Africa Ltd

**THE CONSTRUCTION OR UPGRADING OF
TRANSPORTATION ROUTES AND INFRASTRUCTURE
AND MANUFACTURING, STORAGE AND HANDLING OR
PROCESSING FACILITIES OF DANGEROUS GOODS
ENVIRONMENTAL AUTHORISATION (REF. NO:
EM1/1(C)/00/127) AND ENVIRONMENTAL MANAGEMENT
PROGRAMME AUDIT**

Compliance Audit Report: November 2023





Sasol South Africa Ltd

**THE CONSTRUCTION OR UPGRADING OF
TRANSPORTATION ROUTES AND
INFRASTRUCTURE AND MANUFACTURING,
STORAGE AND HANDLING OR PROCESSING
FACILITIES OF DANGEROUS GOODS
ENVIRONMENTAL AUTHORISATION (REF.
NO: EM1/1(C)/00/127) AND ENVIRONMENTAL
MANAGEMENT PROGRAMME AUDIT**

Compliance Audit Report: November 2023

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. 41106358



Sasol South Africa Ltd

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DATE: NOVEMBER 2023



Sasol South Africa Ltd

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NO: EM1/1(C)/00/127) AND ENVIRONMENTAL
MANAGEMENT PROGRAMME AUDIT**

Compliance Audit Report: November 2023

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QUALITY CONTROL

| Issue/revision | First issue | Revision 1 | Revision 2 | Revision 3 |
|----------------|---|---------------------------------|------------|------------|
| Remarks | VCM Decanter Audit Report | VCM Decanter Audit Report Final | | |
| Date | November 2023 | January 2024 | | |
| Prepared by | Tshepho Mamashela | Tshepho Mamashela | | |
| Signature | | | | |
| Checked by | Matilda Mbazo | Matilda Mbazo | | |
| Signature | | | | |
| Authorised by | Anri Scheepers | Anri Scheepers | | |
| Signature | | | | |
| Project number | 41106358 | 41106358 | | |
| Report number | 1 | 1 | | |
| File reference | "\\corp.pbwan.net\za\Central_Data\Projects\41100xxx\41106358 - Sasol EA Audits 2023\41 PA\01-Reports\01-Draft\10.VMC Oxychlorination Decanter\41106358_Sasol Sasolburg_VCM Decanter_Audit_Final.docx" | | | |

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AUDITOR CVS

1 INTRODUCTION

1.1 TERMS OF REFERENCE

WSP Group Africa (Pty) Ltd (WSP), as an independent environmental consultant, was appointed by Sasol Chemicals, a division of Sasol South Africa Limited, to undertake an external environmental compliance audit of the commitments contained in the Environmental Authorisation (EA) (reference number EM1/1(c)/00/127) for the construction or upgrading of transportation routes and infrastructure and manufacturing, storage and handling or processing facilities of dangerous goods and the commitments for the operational phase of the project contained in the Environmental Impact Assessment (Scoping Report mitigation measures), and to compile an audit report according to the requirements of the National Environmental Management Act (No. 107 of 1998) (NEMA).

The details of the EA (initial Record of Decision (RoD)), the amendment of the EA and the EMPr audited for compliance of the construction or upgrading of transportation routes and infrastructure at the Sasol Midland Site are provided below:

- EA for the construction or upgrading of transportation routes and infrastructure and manufacturing, storage and handling or processing facilities of dangerous goods (on the Sasol Midland site) in Sasolburg (reference number: EM1/1(c)/00/127), dated 27 February 2002 and issued to Polifin -VMC, a division of Sasol Polymers by the then Department of Tourism, Environmental and Economic Affairs (now the Department of Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA));
- The amendment of the EA for the New Oxychlorine Decanter, Sasolburg (reference number: EM1/1(c)/00/127), dated 05 April 2019 and issued to Sasol Polymers by the DESTEA. The amendments include:
 - Change of the brief description of the activity;
 - Change of location;
 - Change the applicant details on the EA;
 - Owner of the EA
 - Contact details and address
 - Change of the holder of the EA.
 - Management of EA and address
- The amendment of the EA for the New Oxychlorine Decanter, Sasolburg (reference number: EM1/1(c)/00/127), dated 19 October 2021 and issued to SVP Sasolburg Operations by the DESTEA. The amendments include:
 - Change of location;
 - Removal of condition Special Condition (iii) and (v);
 - Change the applicant details on the EA;
 - Owner of the EA

- Contact details and address
- Change of the holder of the EA.
 - Management of EA and address
- Scoping Report and EIR Mitigations.

This external audit was undertaken in accordance with Regulation 34 of the Environmental Impact Assessment (EIA) Regulations, 2014 published in terms of the National Environmental Management Act 107 of 1998 (NEMA). This audit and report consider the period November 2019 to November 2023.

1.2 SASOL SASOLBURG – NEW OXYCHLORINE DECANTER OPERATION

The Oxychlorine Decanter is part of the Vinyl Chloride Monomer (VCM) Plant. Crude Ethylene Dichloride (EDC) is used for the production of VCM which is the main product of the plant. Crude EDC is depressurised to liberate dissolved carbon dioxide (CO₂) which is sent to the incinerator. The EDC is transferred to the new Chloral Removal Decanter and caustic and washing water are introduced. The caustic and washing water are introduced. The caustic reacts with the chloral by-product and assists to dissolve remaining CO₂ into the water phase. The EDC and water phases are separated in the decanter. The water phase is then stripped to remove organics and is then sent to the wastewater treatment unit for treatment and eventual re-use by other plants. The crude EDC is transferred to the existing distillation column for purification and then sent to the cracker for production of Vinyl Chloride Monomer. EDC is classified as a hazardous substance.

1.3 PROJECT TEAM

Tshepho Mamashela and Matilda Mbazo completed a site inspection of the VMC Decanter against the EA conditions (reference: EM1/1(c)/00/127) at the Sasol Midland on **24 October 2023**.

The draft external audit report was compiled in October 2023 and finalised in November 2023. This report was then submitted to the DESTEA, by Sasol, in 2024.

Quality assurance is a critically important part of WSP's consulting services which aim to ensure both delivery of high-quality work and provide legal and commercial protection to the company. Quality assurance of this audit report was undertaken by Anri Scheepers.

The project team is summarised in **Table 1-1** and Curricula Vitae are included as **Appendix A**.

Table 1-1 - Details of the Audit Team

| Audit Team | Role | Experience |
|-------------------|---------|-----------------------------------|
| Tshepho Mamashela | Auditor | BSc Hons Environmental Management |
| | | 6 Years' Experience |

| Audit Team | Role | Experience |
|----------------|---------|--|
| | | Tshepho Mamashela is an Environmental Consultant currently working for WSP Group Africa at the Johannesburg, Waterfall office in the Environmental Planning and Advisory Department. She is an Environmental Management professional with over 5 years' experience in the private and public sector. Tshepho has experience in environmental management field with expertise in environmental impact assessment, environmental auditing, environmental management plans. She is registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA: 2019/1846) and the South African Council for Natural Scientific Professions (SACNASP: 120878). |
| Matilda Mbazo | Auditor | <p>BSc (Hons) Geography</p> <p>Matilda graduated from the University of Wits with a BSc honours in Geography in 2023 and is currently completing her Master's in Environmental Science. She has over a year's experience in environmental management and currently provides technical and strategic input on a diverse range project in environmental management and environmental compliance audits. She is a registered Candidate Environmental Assessment Practitioner (EAP) with EAPASA (2023/6394).</p> |
| Anri Scheepers | Review | <p>BA (Hons) Geography</p> <p>15 Years' Experience</p> <p>Anri graduated from the University of Johannesburg with a BA honours in Geography in 2007. Anri has been involved in numerous mining and industrial projects in South Africa, and has experience with diamond, gold, platinum, chrome, coal and manganese mining and processing operations. Anri is qualified as a Lead Auditor and has undertaken legal compliance auditing, including environmental authorisations, waste management licences, water use licences and EMPs. In addition, she has undertaken general site assessments to determine compliance against local, provincial and national environmental legislation. Anri's roles and responsibilities include the management of Environmental Authorisation and Waste Management Licence processes (Basic Assessments and Scoping and Environmental Impact Assessment Reporting), Water Use Licence Application processes and auditing. She is registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA: 2019/1528)</p> |

2 AUDIT SCOPE

WSP was appointed by Sasol to conduct the environmental compliance audit for the construction or upgrading of transportation routes and infrastructure and manufacturing, storage and handling or processing facilities of dangerous goods at the Sasol Midland site, Sasolburg. This report provides an overview of the level of compliance with the conditions contained in the EA and EMPr as indicated in **Section 1.1**. The site audit was undertaken on 24 October 2023 at the Sasol Midland Site, Sasolburg Plant.

The objective of the audit was to:

- Assess the level of compliance with the commitments of the EA for the New Oxychlorine Decanter;

- Assess the level of compliance with the commitments of the impact mitigations that was submitted as part of the Scoping Report for the licencing of the New Oxychlorine Decanter, as agreed and approved by DESTEA;
- Assess the extent to which the avoidance, management and mitigation measures provided for in the scoping report for the operation of the propylene sphere was implemented;
- Identify and assess any new impacts and risks that result from undertaking the activity;
- Critically evaluate the effectiveness of the EA;
- Identify shortcomings in the EA and scoping report mitigation; and
- Identify the need for any changes to the avoidance, management and mitigation measures provided for in the EA conditions and scoping report impact mitigation.

The EIA Regulations are considered applicable to the Oxychlorine Decanter unit operations. Regulation 34, of the EIA Regulations, provides for the auditing of an environmental authorisation, EMPr and closure plan. Furthermore, **Appendix 7** of Government Notice Regulation (GNR) 982 outlines the required audit report content. The 2014 Regulations, as amended, refer to a minimum audit frequency of five years. This audit is designed to meet the requirements of Regulation 34 of the EIA Regulations, 2014. **Table 2-1** indicates where the requirements of Section 34 and **Appendix 7** are met within this audit report.

Table 2-1 - Regulation 34 and Appendix 7 of the EIA Regulations (2014)

| Sub-Section | Requirement | Report Section Reference |
|-------------|---|---|
| 34 (2)a | The environmental audit report must be prepared by an independent person with the relevant environmental auditing expertise. | Sub-section 1.3 and CVs provided in Appendix A |
| 34(2)b | The environmental audit report must provide verifiable findings, in a structured and systematic manner, on: (i) the level of performance against and compliance of an organisation or project with the provisions of the requisite environmental authorisation or EMPr and, where applicable, the closure plan; and (ii) the ability of the measures contained in the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity; | Audit checklist tables provided in Section 4 |
| 3(a) | The environmental audit report must determine (a) the ability of the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis and to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and | Section 4 |
| 3(b) | The environmental audit report must determine the level of compliance with the provisions of environmental authorisation, EMPr and where applicable, the closure plan. | Section 4 |
| 4(a) | Where the findings of the environmental audit report indicate: | Section 4 |

| Sub-Section | Requirement | Report Section Reference |
|-------------|--|---|
| | <p>(a) insufficient mitigation of environmental impacts associated with the undertaking of the activity</p> <p>(b) insufficient levels of compliance with the environmental authorisation or EMPr</p> <p>the holder must, when submitting the environmental audit report to the competent authority submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report</p> | |
| a | <p>Details of-</p> <p>(i) the independent person who prepared the environmental audit report; and</p> <p>(ii) the expertise of independent person that compiled the environmental audit report.</p> | <p>Sub-section 1.3</p> <p>CVs provided in Appendix A</p> |
| b | A declaration that the independent auditor is independent in a form as may be specified by the competent authority. | Sub-section 9 |
| c | An indication of the scope of, and the purpose for which, the environmental audit report was prepared. | Sub-section 1.1 and Section 2 |
| d | A description of the methodology adopted in preparing the environmental audit report. | Section 3 |
| e | <p>An indication of the ability of the EMPr, and where applicable, the closure plan to-</p> <p>(i) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on-going basis;</p> <p>(ii) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and</p> <p>(iii) ensure compliance with the provisions of environmental authorisation, EMPr, and where applicable, the closure plan.</p> | Section 4 |
| f | A description of any assumptions made, and any uncertainties or gaps in knowledge. | Sub-sections 0 and 2.2 |
| g | A description of any consultation process that was undertaken during the course of carrying out the environmental audit report. | Sub-section 3.2 |
| j | A summary and copies of any comments that were received during any consultation process. | Comments received during the consultation process were included as comments in the audit checklist tables in Section 4. |
| k | Any other information requested by the competent authority. | None requested |

2.1 DISCLAIMER

This Report has been prepared by WSP on behalf and at the request of Sasol in terms of Regulation 34 of the EIA Regulations.

Unless otherwise agreed by us in writing, we do not accept responsibility or legal liability to any person other than the Client for the contents of, or any omissions from, this Report.

To prepare this Report, we have reviewed only the documents and information provided to us by the Client or any third parties directed to provide information and documents to us by the Client. We have not reviewed any other documents in relation to this Report and except where otherwise indicated in the Report.

The findings, recommendations and conclusions given in this report are based on the author's best scientific and professional knowledge, as well as available information. This report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken; WSP and its staff reserve the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research or further work in this field or pertaining to this investigation.

Although WSP exercises due care and diligence in rendering services and preparing documents, WSP accepts no liability, and Sasol, by receiving this document, indemnifies WSP and its directors, managers, agents and employees against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with the services rendered, directly or indirectly by the use of the information contained in this document.

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of this report which are supplied for the purposes of inclusion as part of other reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If this report is used as part of a main report, the report in its entirety must be included as an appendix or separate section to the main report.

2.2 ASSUMPTIONS AND LIMITATIONS

WSP noted the following assumptions and limitations during the audit:

- The information provided by Sasol is up to date and accurately represents the Sasol Sasolburg operations;
- WSP viewed as much of the operational area as possible given the timeframe and access limitations;
- Findings made within the previous audit reports are correct; and
- Site photographs were not provided in the audit report due to the onsite Sasol Sasolburg policy that disallows any photographs being taken on site. Where conditions were deemed compliant, and the evidence cited was onsite observations and verbal confirmation, these findings were observed by the Auditors.

This report has been prepared by WSP at the request of Sasol and the Terms of Reference as detailed in **Section 1.1**.

3 AUDIT METHODOLOGY

The International Organisation of Standardisation (ISO) 14010, ISO 14011 and ISO 14012 guideline documents were utilised as a template during the compliance audit process. This methodology ensures that the compliance audit was conducted in a systematic and independent manner that was documented and objectively evaluated to determine compliance to the EA commitments.

The audit process comprised the following:

- Confirmation of the audit checklist;
- Site inspection (24 October 2023);
- Review of documentation relevant to the commitments of the EA and EMPr (e.g. records, permits, certificates, maintenance logs, monitoring results, previous audit reports, specialist reports (where available and applicable), etc.); and
- Compilation of an audit report.

3.1 AUDIT CHECKLIST

WSP compiled a checklist of the EA and EMPr commitments, which was used as an auditing compliance tool. Refer to **Table 4.1** and **Table 4-2** for the audit checklist.

3.2 SITE INSPECTION AND INTERVIEWS

An onsite inspection was conducted on **24 October 2023** where findings and observations were recorded and are summarised in **Section 4**. Key personnel interviewed during the audit included:

- Suyen Van Zyl; and
- Vuyo Mabombo.

3.3 INFORMATION CONSIDERED

Information related to the following categorises was reviewed, where required, and used to evaluate compliance:

- Notification: To install Safety Signs at Monomers Plant (Ref: 30645718) dated 29 March 2023
- Application for Amendment of an Environmental Authorisation (Ref no: E/04/02) dated 18 August 2019
- Air Emissions Licence (AEL) (reference number: FDDM-MET-2013-24-R1);
- Sasolburg and Ekandustria Operations Annual Emission Report (August 2022) to ensure compliance with the AEL conditions;
- Water Use Licence (WUL) (reference number: 14/C22K/FG/4958);
- Groundwater Quality Monitoring Report: WUL Compliance, Sasolburg Operations: February 2022 (WSP, May 2022)
- Integrated Water and Waste Management Plan (IWWMP) Rev 1 – report number: SO-env-929 (Sasolburg Operations, December 2021) that includes the:
 - Stormwater Management Plan (SWMP, 2021);
 - Rehabilitation Strategy and Implementation Plan (RSIP);

- Water Conservation and Demand Management (WC/DM);
 - Malfunctions register;
 - Water management;
 - Groundwater management;
 - Waste management;
 - Contaminated Water and Wastewater Management;
 - Effluent Management; and
 - Land management.
- Storm Water management Plan Sasolburg Operations (File no: 27/2/2C222/6/4) (Sasolburg Operations, December 2021);
 - Sasolburg and Ekandustria Operations ISO 45001:2018, ISO 9001:2015 and ISO 14001:2015 Recertification Audit Report (DQS Management Systems Solutions, November 2021);
 - Procedure for the management of waste on the Sasolburg Operations' Sites (document number: SSP-S-014) (Sasolburg Operations, January 2020)
 - The reporting, investigation and recording of environmental incidents (document number: SSP-S-013) (Sasolburg Operations, July 2019);
 - Noise survey and impact assessment for hearing conservation purposes, Sasolburg Operations Wax, Solvents and Chemicals, Cresol, S4300 (Sasol Approved Inspection Authority for Occupational Hygiene, March 2021);
 - Waste Management and Disposal Registers;
 - Environmental Standards;
 - Health and Safety Standards and Audits;
 - Other related approvals documents.

3.4 ASSESSMENT EVALUATION METHODOLOGY

The consolidated report contains all commitments, which were formulated as part of the original and amended EA and EMP. Each commitment contained in the audit checklist was assessed by reviewing site documentation, interviewing employees, and undertaking a site inspection. The application of the EMP was assessed and the level of compliance rated (compliance categories contained in **Table 3-1**). The compliance of the operations listed in **Section 1.2** was assessed.

Table 3-1 Levels of Compliance

| Compliance Level | Definition |
|--------------------|---|
| Compliant (C) | When an activity or commitment has been implemented, completed, is on-schedule or is maintained on an ongoing basis. Condition/mitigation measure/commitment has been achieved with evidence provided in the form of a document or site verification. |
| Non-compliant (NC) | When an activity or commitment has not been complied with in its entirety/certain aspects thereof have not been addressed. When a commitment has not been undertaken, not been completed according to plan, or where any unlawful actions have been identified. Non-compliant conditions are given target completion dates as follows: |

| Compliance Level | Definition |
|----------------------|--|
| | <ul style="list-style-type: none"> — Short term: 0 – 6 months. — Medium term: 6 – 12 months. — Long term: 12 - 18 months |
| Not applicable (N/A) | <p>The condition, commitment and/or mitigation measure is not applicable or is to be revised in accordance with current practice.</p> <p>A “Not Applicable” finding is also noted in event where such condition, commitment and/or mitigation measure is not yet relevant but is still relevant for future activities.</p> |

4 AUDIT FINDINGS

4.1 ENVIRONMENTAL AUTHORISATION

Table 4-1 below provides the compliance of Sasol with the conditions within the EA and amendments to the EA.

Table 4-1 - Environmental Authorisation (reference: EM1/1(c)/00/127 dated 27 February 2001) and Amendment (reference: EM1/1(c)/00/127 dated 05 April 2019 and 19 October 2023) Audit Findings

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe & Responsible Person |
|--|---|-------------------|--|--|
| EA – EM1/1(c)/00/127 (as amended) | | | | |
| Special Conditions | | | | |
| i. | Disturbances should be kept at the construction sites only. | N/A | The oxychlorine decanter is located at the existing VCM Plant in an already disturbed area. Additionally, this condition is outside the audit period and refers to a requirement prior to commencement and was therefore not audited. | None. |
| ii. | Protective measures must be strictly enforced in storing, handing, transporting, and disposing waste. This should be enforced through proper protective clothing, container and transport facilities. | C | All waste generated inclusive of general waste and sewerage sludge is disposed of on a weekly basis by a certified service provider which reports on the South African Waste Information System (SAWIS). <i>Evidence:</i> <ul style="list-style-type: none"> Waste Manifests Verbal Confirmation | None. |
| iii. | Measures in case of accidents and fires must be well stipulated to the employees. | N/A | This condition has been removed from the EA through the amendment process. | None. |

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe & Responsible Person |
|---------------------|--|-------------------|--|--|
| iv. | In case of handling toxic substances, there must be precautionary labels. | C | Toxic substance produced from the operation of the decanter is the contaminated EDC sludge. Precautionary measure taken when handling it. <i>Evidence:</i> ▪ Verbal Confirmation | None. |
| v. | Emissions must be kept at a minimal and not have effect in the atmosphere. | N/A | This condition has been removed from the EA through the amendment process. | None. |
| vi. | Construction should be strictly during normal working hours from 08h00 to 17h00 to avoid noise pollution. | N/A | Noted. This condition is outside the audit period and refers to a requirement prior to commencement and was therefore not audited. | None. |
| vii. | Construction sites must be kept clean at all times. | N/A | Noted. This condition is outside the audit period and refers to a requirement prior to commencement and was therefore not audited. | None. |
| viii. | Precautionary procedures should be strictly followed as stipulated in the report. | C | Mitigation measures stipulated in the scoping report submitted as part of the EA application are adhered to. <i>Evidence:</i> ▪ Verbal confirmation | None. |
| ix. | All waste produced during and after construction should be removed and disposed of in a proper manner, at a disposal site. | C | EDC Sludge is classified as hazardous and is contained in drums until it is removed for disposal by a certified service provider. <i>Evidence:</i> ▪ Onsite observation of disposal records ▪ Verbal confirmation | None. |
| Standard Conditions | | | | |

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe & Responsible Person |
|------------------------------------|--|-------------------|---|--|
| i. | The applicant must advertise this record of decision. | N/A | Noted. This condition is outside the audit period and refers to a requirement prior to commencement and was therefore not audited. | None. |
| ii. | This record of decision does not exempt any person from the requirements of any other controlling authority or from any provision of any other law and does not purport to interfere with the rights of any person who may have an interest in the property. | C | <p>Sasol Midland site enforces other requirements from other authorities on site.</p> <p><i>Evidence:</i></p> <ul style="list-style-type: none"> Onsite observation Verbal confirmation | None. |
| Duration and date of expiry | | | | |
| | This record of decision is valid as long as the development shall have started within 1/2 year from the issue date; the activity is not, modified and/or relocated and does not pose itself as an environmental threat in which case it becomes invalid. | C | <p>The EA was granted in 2001 and the activity commenced in same year. The activity has not changed, and amendments made to the activity are read together with the EA.</p> <p><i>Evidence:</i></p> <ul style="list-style-type: none"> Verbal confirmation Amendment to the EA (05 April 2019) Amendment to the EA (19 October 2021) | None. |
| Appeal | | | | |
| | Should this record of decision be queried, an appeal under section 35(3) of the Environment Conservation Act, may be done in writing within 30 (thirty) days from the date on which this record of decision was approved and must be directed to: | N/A | Noted. This condition is outside the audit period and refers to a requirement prior to commencement and was therefore not audited. The facility was operational. | None. |



| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe & Responsible Person |
|-----|---|-------------------|----------|--|
| | The MEC: Department of Environmental Affairs and Tourism Free State Province P.O. Box 264 Bloemfontein 9300 | | | |



4.2 SCOPING REPORT MITIGATIONS

Table 4-2 below provides the compliance of Sasol with the mitigation of the Scoping Report for the construction or upgrading of transportation routes and infrastructure and manufacturing, storage and handling or processing facilities of dangerous goods at the Sasol Midland site in Sasolburg.

Table 4-2 – Scoping Report Mitigation Audit Findings

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe and Responsible Person | Measures Implemented to Address Non-Compliance | Practicality of the EMPR Commitments | Is the Non-Compliance Administrative or will it have an impact | Historical/New Non-Compliance (Administrative measures) |
|-------------|--|-------------------|---|--|--|--------------------------------------|--|---|
| Air Quality | | | | | | | | |
| | There will be a slight increase in air emissions in the form of CO ₂ and H ₂ O due to the incineration of the by-products. | C | <p>All air quality monitoring done in accordance with AEL conditions. Furthermore, additional monitoring is done on for example fugitive emissions.</p> <p>Emissions monitoring protocol is established and implemented.</p> <p><i>Evidence:</i></p> <ul style="list-style-type: none">■ Air Emissions Licence (AEL) (reference number: FDDM-MET-2013-24-R1); | None | N/A | N/A | N/A | N/A |

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe and Responsible Person | Measures Implemented to Address Non-Compliance | Practicality of the EMPR Commitments | Is the Non-Compliance Administrative or will it have an impact | Historical/New Non-Compliance (Administrative measures) |
|----------------------|--|-------------------|---|--|--|--------------------------------------|--|---|
| | | | Sasol Technology Pty Ltd: Proposed Sasol Chemical Industries (SCI) Natural Gas Project Final Scoping Report (ref no:260293/3) dated January 2001 | | | | | |
| Surface Water | | | | | | | | |
| | The liquid effluent generated is sent to the chlorine treatment plant for reuse on the Polifin site, hence no effect on surface or groundwater | C | Liquid effluent generated at the VCM Plant is re-used at other plants. <i>Evidence:</i> <ul style="list-style-type: none"> Verbal Confirmation | None. | N/A | N/A | N/A | N/A |
| Ground water | | | | | | | | |
| | The liquid effluent generated is sent to the chlorine treatment plant for reuse on the Polifin site, hence no effect on surface or groundwater | C | The area around the decanter and the VCM plant is located on concrete with functional stormwater drains that direct any storm water to plant reservoir. <i>Evidence:</i> <ul style="list-style-type: none"> Onsite observation Verbal confirmation | None. | N/A | N/A | N/A | N/A |

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe and Responsible Person | Measures Implemented to Address Non-Compliance | Practicality of the EMPR Commitments | Is the Non-Compliance Administrative or will it have an impact | Historical/New Non-Compliance (Administrative measures) |
|------------------------|--|-------------------|--|--|--|--------------------------------------|--|---|
| Solid Waste | | | | | | | | |
| | Sludge formation will be reduced by 8%. Sludge is encapsulated and sent to Enviro Serve. Thus less exposure to hazardous chemicals. | C | EDC Sludge is classified as hazardous and is contained in drums until it is removed for disposal by a certified service provider. <i>Evidence:</i> <ul style="list-style-type: none">Onsite observation of disposal recordsVerbal confirmation | None. | N/A | N/A | N/A | N/A |
| Land and soil | | | | | | | | |
| | The only disturbance of land will occur during construction phase when a structure has to be built to house the new equipment for the process. | N/A | This condition is outside the audit period and refers to a requirement during the construction phase and not the operational phase, therefore it was not audited. | None. | N/A | N/A | N/A | N/A |
| Fauna and Flora | | | | | | | | |
| | The process is to be constructed within an industrial area, thus there will be no impact on fauna and flora. | C | The oxychlorine decanter was constructed within the existing VCM plant which is an industrial area. No vegetation is impacted by the operation of the decanter. | None. | N/A | N/A. | N/A | N/A |

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe and Responsible Person | Measures Implemented to Address Non-Compliance | Practicality of the EMPR Commitments | Is the Non-Compliance Administrative or will it have an impact | Historical/New Non-Compliance (Administrative measures) |
|------------------------|--|-------------------|---|--|--|--------------------------------------|--|---|
| | | | <i>Evidence:</i> ■ Onsite observation. | | | | | |
| Socio-economic | | | | | | | | |
| | The positive impact will occur during the construction phase of the process. This phase will provide some temporary jobs for construction workers, which amounts to ± 20 to 30 construction labourers for a period of 3 months | N/A | This condition is outside the audit period and refers to a requirement during the construction phase and not the operational phase, therefore it was not audited. | None. | N/A | N/A | N/A | N/A |
| Safety and risk | | | | | | | | |
| | Safety procedures are developed to cancel or lessen the effects of such equipment malfunctions/operator error. These procedures are still to be carried out on the proposed construction and operation of this proposed process. | C | VCM Plant has HAZOP (Hazard and operability and FMEA (Failure Mode Effect Analysis) procedures, which are studies where the whole process and all the equipment involved is reviewed in detail by the engineering design and operation team, and potential failures or departures in the normal mode of operation are assessed. <i>Evidence:</i> | None. | N/A | N/A | N/A | N/A |

| Ref | Condition | Compliance Status | Findings | Recommendation, Timeframe and Responsible Person | Measures Implemented to Address Non-Compliance | Practicality of the EMPR Commitments | Is the Non-Compliance Administrative or will it have an impact | Historical/New Non-Compliance (Administrative measures) |
|-----|-----------|-------------------|---|--|--|--------------------------------------|--|---|
| | | | <ul style="list-style-type: none"> Verbal Confirmation | | | | | |

5 PROGRESS AGAINST PREVIOUS AUDIT FINDINGS

The previous compliance audit report against the consolidated EA and EMPr was compiled by the Digby Wells Environmental in November 2021. A comparison in the change of compliance rating from the 2021 and 2023 audits are provided in **Figure 5-1** and **Table 5-1** below, and provides a summary of the audit findings for the previous and current audits (2021 and 2023). The 2021 and 2023 audit identified zero non-compliant conditions.

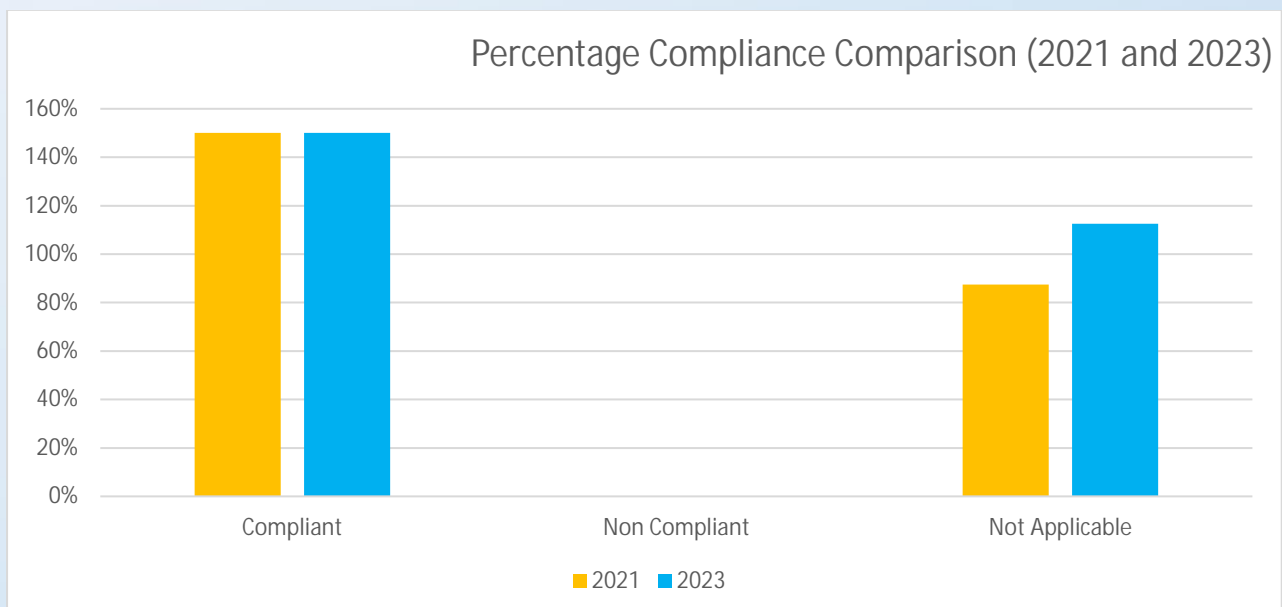


Figure 5-1 – Percentage comparison of compliance levels from 2021 to 2023

Table 5-1 – Progress against previous findings

| Ref | Commitment | 2021 Status | 2021 Finding | 2023 Status | 2023 Finding |
|------------------------------------|---|-------------|---|-------------|--|
| EA Conditions | | | | | |
| 1. Specific Conditions | | | | | |
| iii. | Measures in case of accidents and fires must be well stipulated to the employees. | C | There are fire extinguishers placed in various areas around the plant as well as fire tanks. Fire safety measures are stipulated into employees by means of induction training, specific fire safety training, visual aids placed around site and regular emergency drills. | N/A | This condition has been removed from the EA through the amendment process. |
| v. | Emissions must be kept at a minimal and not have effect in the atmosphere. | C | <p>The Oxychlorination Decanter as a unit does not have emissions. Emissions from the process are handled by the VCM incinerator.</p> <p>The incinerator is licensed under the AEL issued to Sasol Midlands (Ref. No. FDDM-MET-2013-24-R1). An Annual Emissions Report is compiled to fulfil the requirements of the AEL and indicates that the incinerator operated within the AEL limits for all emissions stipulated in the AEL, i.e., Hydrogen Fluoride (HF), Hydrogen Chloride (HCl), Nitrogen Oxides (NOx), Sulfur Dioxide (SO₂), Total Organic Carbon (TOC), Carbon Monoxide (CO) and dust.</p> | N/A | This condition has been removed from the EA through the amendment process |
| Duration and date of expiry | | | | | |
| | This record of decision is valid as long as the development shall have started within 1/2 year from the issue date; the activity is not, modified and/or relocated and does not pose itself as an | - | This condition was not audited in 2021. | C | The EA was granted in 2001 and the activity commenced in same year. The activity has not changed, and amendments |

| Ref | Commitment | 2021 Status | 2021 Finding | 2023 Status | 2023 Finding |
|------------------------|--|-------------|--|-------------|---|
| | environmental threat in which case it becomes invalid. | | | | made to the activity are read together with the EA. <i>Evidence:</i> <ul style="list-style-type: none">Verbal CommunicationAmendment to the EA (05 April 2019)Amendment to the EA (19 October 2021) |
| Appeal | | | | | |
| | Should this record of decision be queried, an appeal under section 35(3) of the Environment Conservation Act, may be done in writing within 30 (thirty) days from the date on which this record of decision was approved and must be directed to: The MEC: Department of Environmental Affairs and Tourism Free State Province P.O. Box 264 Bloemfontein 9300 | - | This condition was not audited in 2021. | N/A | Noted. This condition is outside the audit period and refers to a requirement prior to commencement and was therefore not audited. The facility was operational. |
| EMPr Conditions | | | | | |
| Safety and risk | | | | | |
| | Safety procedures are developed to cancel or lessen the effects of such equipment malfunctions/operator error. These procedures are still to be carried out on the proposed construction and operation of this proposed process. | N/A | This condition pertains to the pre-construction phase and therefore not applicable to the operational phase. | C | VCM Plant has HAZOP (Hazard and operability and FMEA (Failure Mode Effect Analysis) procedures, which are studies where the whole process and all the equipment involved is reviewed in detail by the engineering design and operation team, and potential failures or departures in the normal mode of operation are assessed. <i>Evidence:</i> |



| Ref | Commitment | 2021 Status | 2021 Finding | 2023 Status | 2023 Finding |
|-----|------------|-------------|--------------|-------------|-----------------------|
| | | | | | ▪ Verbal confirmation |

6 SUMMARY OF THE AUDIT FINDINGS

6.1 SASOL SASOLBURG OXYCHLORINATION DECANter EA COMPLIANCE

The audit findings have been summarised into the following categories: compliance, non-compliance and not applicable. The overall audit findings concerning compliance to the EA conditions are listed in **Table 6.1** below.

Table 6-1 - Summary of EA Compliance Audit Findings

| Section of the EA | No. Commitments | C | NC | N/A |
|--|-----------------|-----|----|-----|
| Special conditions | 9 | 4 | 0 | 5 |
| Standard conditions | 2 | 1 | 0 | 1 |
| Duration and date of expiry | 1 | 1 | 0 | 0 |
| Appeal | 1 | | 0 | 1 |
| Total | 13 | | 0 | 10 |
| Total Percentage | | 46% | 0% | 54% |
| Percentage Compliance with Applicable Conditions | 100% | | | |

Figure 6-1 illustrates the number/count contribution of the findings of the EA conditions per section while **Figure 6-2** presents the total proportion of compliance for the EA.

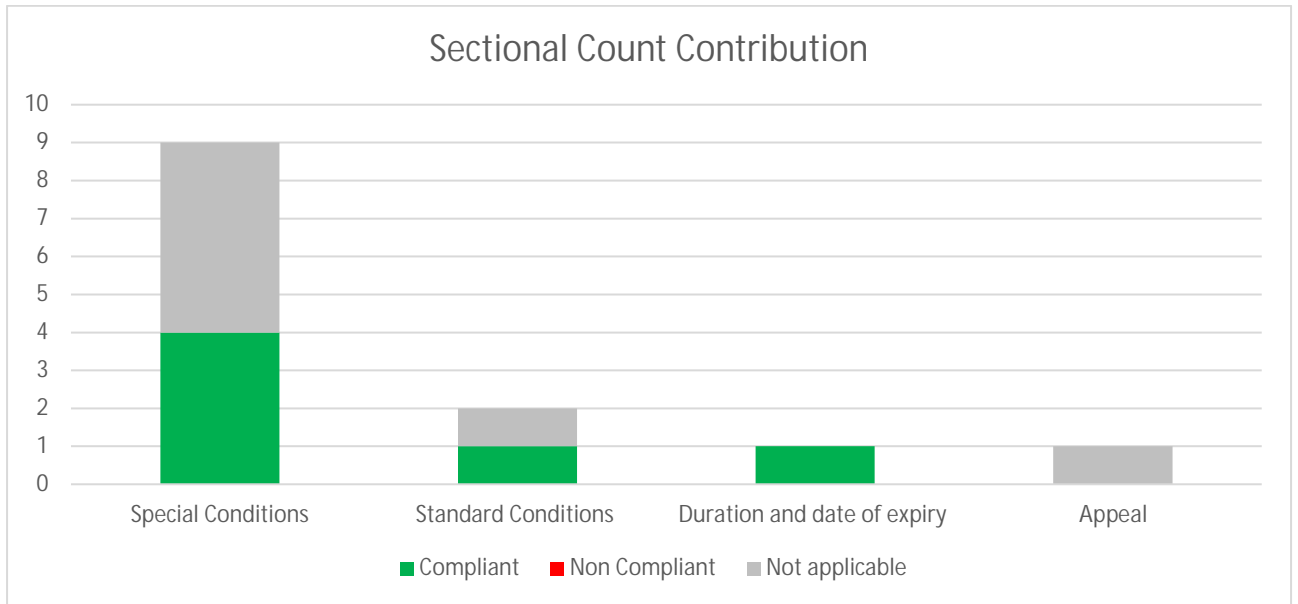


Figure 6-1 - Number/Count contribution of findings made to the EA conditions per section

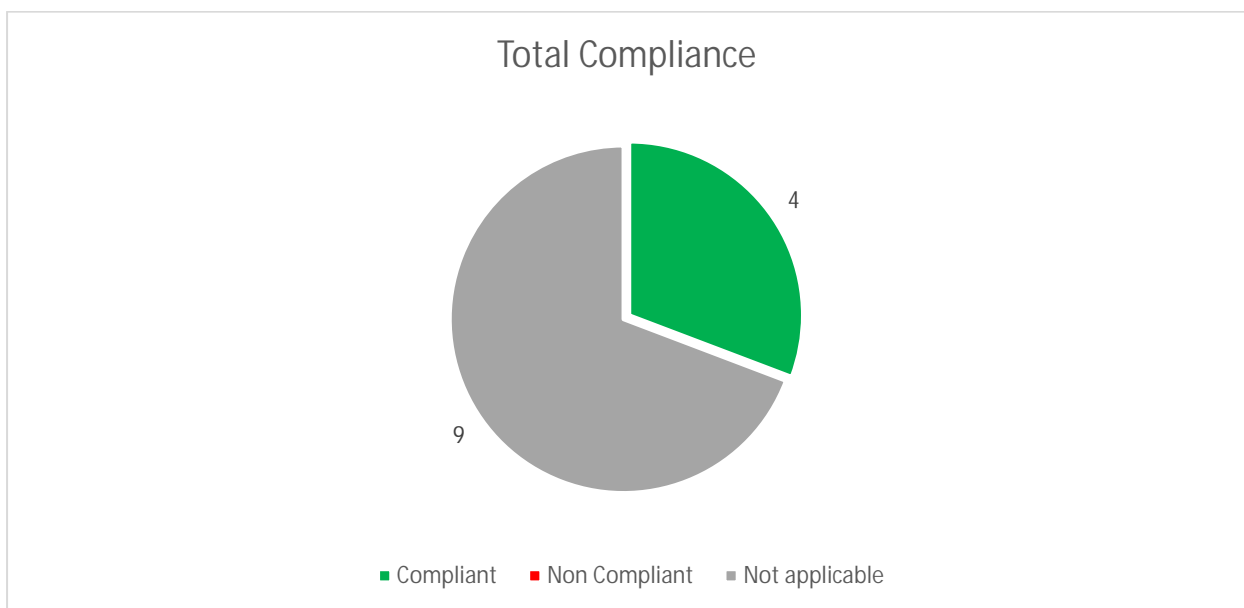


Figure 6-2 - Overall count findings on compliance to the EA commitments

6.2 SASOL SASOLBURG OXYCHLORINATION DECANter SCOPING REPORT MITIGATION COMPLIANCE

The audit findings have been summarised into the following categories: compliance, non-compliance and not applicable. The overall audit findings concerning compliance to the EMP conditions are listed in **Table 6-2** below.

Table 6-2 - Summary of Scoping Report Mitigation Compliance Audit Findings

| Scoping and EIR Mitigations | No. Commitments | C | NC | N/A |
|--|-----------------|-----|----|-----|
| Air quality | 1 | 1 | 0 | 0 |
| Surface Water | 1 | 1 | 0 | 0 |
| Groundwater | 1 | 1 | 0 | 0 |
| Solid waste | 1 | 1 | 0 | 0 |
| Land and soil | 1 | 0 | 0 | 1 |
| Flora and Fauna | 1 | 1 | 0 | 0 |
| Socio-economic | 1 | 0 | 0 | 1 |
| Safety and risk | 1 | 1 | 0 | 0 |
| Total | 8 | 6 | 0 | 2 |
| Total Percentage | | 75% | 0% | 25% |
| Percentage Compliance with Applicable Conditions | 100% | | | |

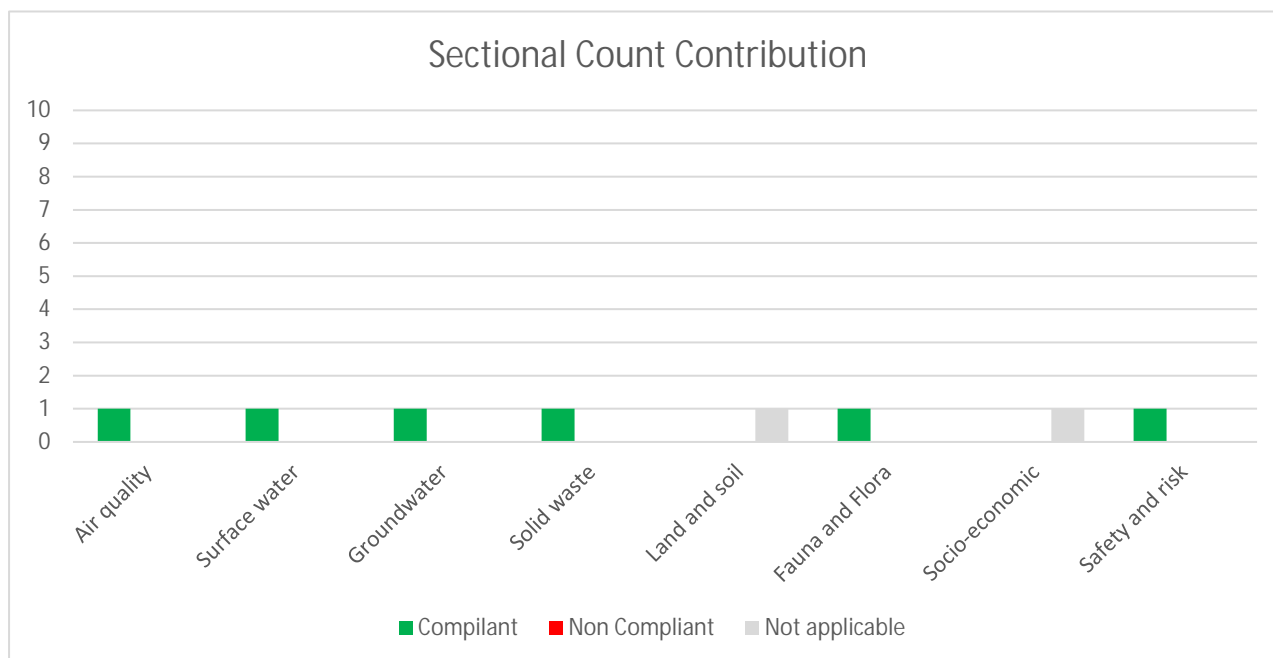


Figure 6-3 - Number/Count contribution of findings made to the Scoping and EIR Mitigations Commitments per Section

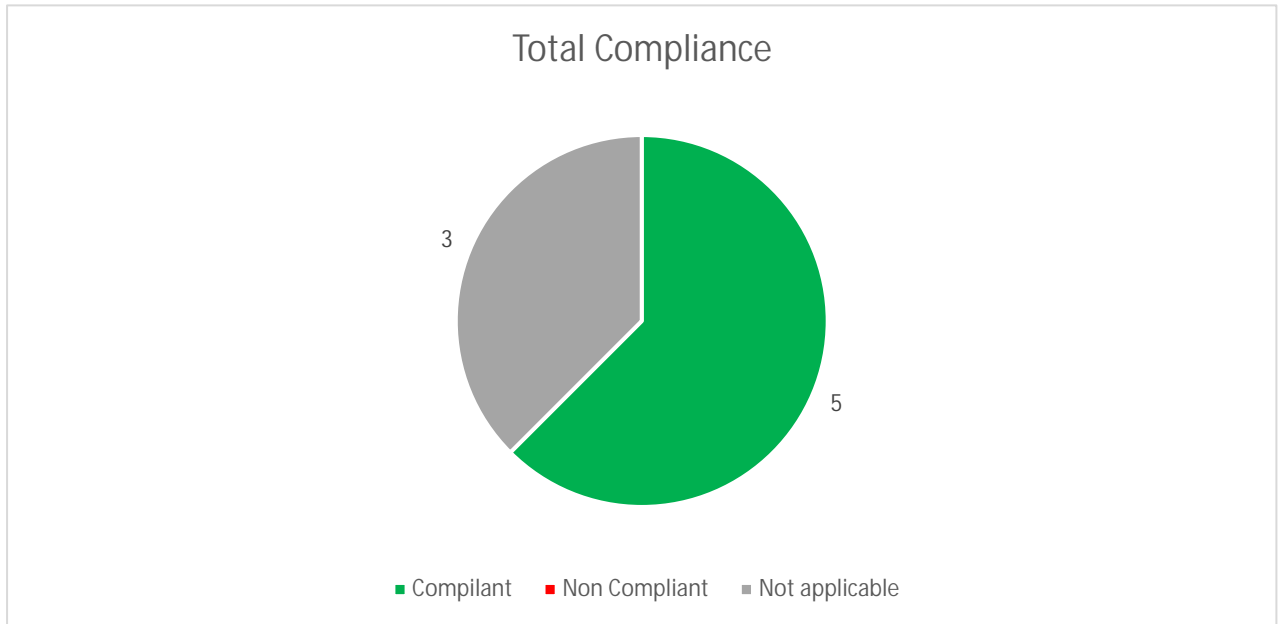


Figure 6-4 - Overall count findings on compliance to the Scoping Report Mitigation Commitments

7 RECOMMENDATIONS

Zero non-compliances of the EA conditions and Scoping and EIR mitigations was noted during the audit. Sasol is commended for achieving 100% compliance for the EA and Scoping Report audit and is urged to continue to implement the environmental mitigation measures within the EA and Scoping report. In addition, Sasol should continue to implement their EMS for their onsite operations and to identify new environmental risks due to changes in operations, and address these when identified on site.

Sasol is advised to continue with their comprehensive EMS and strategy for detecting environmental risks and resolving incidents and non-compliances identified on site, and to utilize the audit report as an indicator of all areas that need attention.

8 CONCLUSION

Regulation 34 and Appendix 7 of the EIA Regulations 2014 (as amended) requires an assessment of the adequacy and effectiveness of the EA as part of the audit scope, as follows:

- Assess the level of compliance with the conditions of the EA.

The EA compliance audit has identified that the EA commitments remain applicable, and the EA is considered effective. As such, WSP does not recommend any amendment of the EA as it is sufficient in managing environmental impacts.

WSP do acknowledge that Sasol has systems in place which are considered to be more robust for monitoring compliance and implementing changes than through the EA audit; this includes the annual audit of each business unit to meeting the ISO 14001 standards. New impacts and risks are continually identified and assessed by Sasol's Environmental Department, which assesses environmental risks and drives improvement implementation. This Department facilitates Environmental Risk Assessments per business unit to ensure that gaps are addressed through implementation of mitigation measures via an Integrated Management System.

In conclusion, WSP recommends that Sasol continues to operate each business unit under an Environmental Management System and meet the licence compliance conditions (EA, EMP, WUL, AEL, etc). This is effective for mitigation against any gaps in the Scoping report and to regularly identify new environmental impacts and risks that should be addressed on site.



9 DECLARATIONS

INDEPENDENT AUDITOR DECLARATION

Appendix 7 of GNR 982 refers to the need for the independent auditor to declare his/her independence of the holder of the EA.

NAME OF INDEPENDENT AUDITOR: _____Tshepho Mamashela_____

UNDERTAKING

I, ___Tshepho Mamashela_____, the undersigned and duly authorized thereto, by WSP, have studied Sasol VCM Decanter Facility and compared the operations to the approved EMPr and compiled this report to the best of my knowledge. This section should be read with **Section 2**.

Signed at _____Midrand_____ on this the _____19 January_____2024

SIGNATURE OF INDEPENDENT AUDITOR

SIGNED IN LINE WITH THE REQUIREMENTS OF NEMA, GNR 982, APPENDIX 7, AS PUBLISHED UNDER THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NO. 107 OF 1998), AS AMENDED.

Appendix A

AUDITOR CVS





Tshepho Mamashela

Earth & Environment - Environmental Consultant

CAREER SUMMARY

Tshepho Mamashela is an Environmental Consultant currently working for WSP Group Africa at the Johannesburg, Waterfall office in the Environmental Planning and Advisory Department. She is an Environmental Management professional with over 5 years' experience in the private and public sector. Tshepho has experience in environmental management field with expertise in environmental impact assessment, environmental auditing, environmental management plans.



<1 years with WSP

6 years of experience

Area of expertise

Environmental Management
Environmental Impact Assessment
Compliance Auditing

Language

English

EDUCATION

| | |
|---|------|
| Bachelor of Science (Honours), Environmental Management, University of South Africa | 2019 |
| Bachelor of Science, Geography, University of Pretoria | 2017 |

ADDITIONAL TRAINING

| | |
|----------------------|------|
| Esri ArcGIS Basic | 2019 |
| Esri ArcGIS Standard | 2019 |

PROFESSIONAL MEMBERSHIPS

| | |
|---|------|
| EAPASA – Environmental Assessment Practitioner Association of South Africa- Registration No. 2019/18 | 2019 |
| | 2022 |
| SACNASP – South African Council for Natural Scientific Professional - Certified Natural Scientist – Registration No. 120878 | 2021 |

PROFESSIONAL HISTORY

| | |
|--|----------------|
| WSP Group Africa (Pty) Ltd | 2023 - present |
| Mills and Otten | 2023 – 2023 |
| Environmental Consultant International | 2021 -2022 |
| Esri South Africa | 2019 -2020 |
| Limpopo Department of Economic Development Environment and Tourism | 2018 -2019 |



Tshepho Mamashela

Earth & Environment - Environmental Consultant

Mabyoko Environmental Projects

2017 -2018

PROFESSIONAL EXPERIENCE

Environmental Impact Assessment Process

McCormick Property Development, Development of a New Shopping Centre, Motor City, Private Hospital and Housing in Dan Limpopo Province, South Africa

2023

EAP

Compile the Scoping Report and the Environmental Impact Report.

Cubisol Investments, Replacement of an existing sewer pipeline BA Gauteng Province, South Africa

2023

EAP

Compile the BA report and conduct public participation.

L Gromer, Expansion of egg processing facility, North West, South Africa

2023

EAP

Compile the BA.

Engen Petroleum, Upgrade and Expansion of the Engen Impala Filling Station, Limpopo, South Africa

2023

EAP

Compile the BA report, application forms and conduct public participation.

African Realty Trust, Construction of six in-stream storage dams at Letaba Estate, Limpopo, South Africa

2022

EAP

Assisted with compiling scoping report, application and related public participation documents.

Garonga Safari Camp, S24G Application for Garonga Safari Camp, Limpopo, South Africa

2021/2022

EAP

Assisted with compiling scoping report, application and related public participation documents.

McCormick Property Developers, Development of shopping centre and filling station at Madombizha, Limpopo Province, South Africa

2018/2019

Case officer

Review the BA for decision making process.

KHPJ Property Developers, Mixed-use development at Tiyani-B, Limpopo Province, South Africa

2018

Case Officer

Review the Scoping Report and Environmental Impact Report for decision making process.

Thulamela Local Municipality, Demarcation of 500 sites at Maphefeni, Limpopo Province, South Africa
Year from/to

2018

Review the Scoping Report and Environmental Impact Report for decision making process.



Tshepho Mamashela

Earth & Environment - Environmental Consultant

L. P Mogobobye Hydraulics, Filling station at Sifikile Village, Bojanala, North West Province, South Africa
2017/2018
EAP

Assisted in compiling the BA and supporting documentation including application forms and public participation material.

Compliance Auditing

Total Energies, Filling Moutse Mall Filling Station, Limpopo Province, South Africa
2023

Environmental Control Officer

Provided Environmental Control Officer (ECO) services by conducting monthly EMPr and EA audit for the construction of the filling station.

Sasol, Sasol Ammonia Storage Facility Upgrade, Free State Province, South Africa
2023

Environmental Control Officer

Provided Environmental Control Officer (ECO) services by conducting monthly EMPr and EA audit for the construction of the ammonia storage facility.

Cubusol Investment, Soshanguve Mall Upgrade, Gauteng Province, South Africa
2023

Environmental Control Officer

Provided Environmental Control Officer (ECO) services by conducting monthly EMPr and EA audit for the construction of the mall.

Alley Road, Residential Construction at Meyerton, Gauteng Province, South Africa
2023

Environmental Control Officer

Provided Environmental Control Officer (ECO) services by conducting monthly EMPr and EA audit for the construction of the residential complex.

Lynx Construction Group, Thatchfield Mall Construction, Gauteng, South Africa
2023

Environmental Control Officer

Provided Environmental Control Officer (ECO) services by conducting monthly EMPr and EA audit for the construction of the mall.

Emfuleni Estate Homeowners Association, Annual Water Use License Compliance, Free State Province, South Africa
2023

Environmental Control Officer

Provided Environmental Control Officer (ECO) services by conducting annual WUL audit.

Engen Petroleum, Annual Compliance Audit for Gauteng Site, Gauteng Province, South Africa
2023

Environmental Control Officer

Provided Environmental Control Officer (ECO) services by conducting monthly EMPr and EA audit for the operation of the filling stations. The following filling station were audited:

- Engen Hazeldene Convenience
- Engen Vega Service Station
- Engen Silver Lakes Convenience



Tshepho Mamashela

Earth & Environment - Environmental Consultant

- Engen R511 Tanganani
- Engen Wierda Park Motors
- Engen Lombardy Convenience Centre
- Engen Country View Service



Matilda Mbazo

Earth and Environment, Environmental Planning & Advisory, Intern

CAREER SUMMARY

Matilda Mbazo graduated from Monash South Africa with a BSc in Social Sciences (cum laude) in 2021 and completed her BSc Hons in Geography at University of Witwatersrand in 2022. Matilda is currently pursuing her MSc in Environmental Sciences at University of Witwatersrand. Matilda is an Intern in the Environmental Planning and Advisory Division of WSP Group Africa based in the Waterfall office. Matilda has less than a year experience in the environmental field and currently provides technical and strategic input on a diverse range project in the environmental management field, including environmental audits.



1 < years with WSP

Language

Afrikaans, English, Tswana, Ndebele, and Zulu

EDUCATION

| | |
|--|---------|
| Monash South Africa – Bachelor's degree in Social Sciences | 3 years |
| University of Witwatersrand - Bachelor of Science Honours (Geography) | 1 year |
| University of Witwatersrand – Master of Science (Environmental Sciences) | current |

PROFESSIONAL HISTORY

| | |
|------------------------------------|-------------|
| WSP - Graduate Consultant | current |
| WSP - Intern | 2023 |
| WSP - Vacation Student | 2021 - 2022 |
| IIE MSA - Administration Assistant | 2020 - 2021 |
| Cotton On Group - Sales Associate | 2020 - 2021 |

PROFESSIONAL EXPERIENCE

FFS Chloorkop Fired Heater

July 2022 to June 2023

ECO: EA and EMPR Compliance Audit

Environmental Auditor : EA and EMPr Annual Compliance Audit

Sasol South Africa Limited, Sasol Sasolburg EA Audits, South Africa

October 2022 to October 2023

Environmental Auditor



At the Sasol One Complex in Sasolburg, nine unit operations were subject to an external compliance audit against their EA and EMPr criteria.

South 32: Wessels and Mamatwan Mine, EA and EMPr Audits

November 2023

Environmental Auditor : EA and EMPr Compliance Audit

Dissertations and Research Projects

Department of Geography, Archaeology and Environmental Studies, University of Witwatersrand, Master of Science Dissertation.

2023-2024

To quantify the interactive effects of extreme drought, fire frequency, and mega-herbivory on tree density in a Marula-Knobthorn savanna using Geographic Information Systems and Remote Sensing.

Department of Geography, Archaeology and Environmental Studies, University of Witwatersrand, Bachelor of Science (Geography), Research Project

2022

Assessment of flood impact at the Hennops river, streaming from Tembisa to Centurion, using Remote Sensing and Geographic Information System.



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Magwa Crescent West, Waterfall City
Midrand, 1685
South Africa

wsp.com

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**Updated Environmental Management
Program for Oxychlorination decanter
technology project**

EMPr for Environmental Authorisation reference number EM1/1c/00/127

November 2021



Environmental Management Plan

Oxychlorination decanter technology project

1. INTRODUCTION

Sasol Operation, Midland Operations is an industrial area situated in a south eastly direction from Sasol Operations Sasol One site. The New Oxychlorination Decanter Technology project was implemented at the VCM plant at Midlands Operation in xxxx.

2. SITE DESCRIPTION

Is situated at the VCM plant at Midlands. This is a conventional chemical site, flat conveyed and equipped with a closed sewer system.

3. PROJECT DESCRIPTION

The crude Ethylene Dichloride (EDC) is depressurized to liberate dissolved carbon Dioxide (CO_2) which is sent to the incinerator.

The EDC is transferred to the new Chloral Removal Decanter where Caustic and washing water is then introduced into the process. The caustic reacts with the chloral by-product and assists to dissolve remaining CO_2 into the water phase. The EDC and water phases are separated in the decanter.

The water phase is then stripped to remove organics and is then sent to the wastewater treatment unit for treatment and eventual re-use by the other plants. The crude EDC is transferred to the existing Distillation Column for purification and then sent to the cracker for production of Vinyl chloride monomer (VCM).

4. Impact management outcomes and actions

Guidelines as per Appendix 4 of the regulations
Appendix 4 guidelines

Impact management outcomes. – impacts and risks that need to be avoided managed and mitigated

Impact management actions – identifying the way the impact management objectives and outcomes will be achieved

| Impact management outcomes | Impact management actions |
|--|---|
| 1. Air There will be a slight increase in air emissions in the form of CO ₂ and H ₂ O due to the incineration of the by-products. This increase is well within the permit requirements of the incinerator. | Emission rate of Incinerator monitored and reported as per AEL. |
| 2. SURFACE WATER No extra water required and no liquid effluents. Quench water used is from recycled water from within the plant. | The liquid effluent generated is sent to the chlorine plant for reuse on the MIDLAND site, (as brine make-up on the Midland site) - Hence no effect on surface water or groundwater |
| 3. Ground water No effluent that can seep into the ground | The liquid effluent generated is sent to the chlorine plant for reuse on the MIDLAND site, (as brine make-up on the Midland site) - Hence no effect on surface water or groundwater |
| 4. SOLID WASTES Sludge is responsibly managed through a waste management contractor | The sludge is responsibly managed by a licenced waste management service provider. |
| 5. Land and soil Impact on land and soil only occur during the construction of a structure to house the new equipment for the process | No impact management action after construction |
| 6. Fauna and Flora There is no effect on this aspect of the environment, as the Oxychlorination decanter will form part of the VCM plant established within an industrial area. | No further management action required |
| 7. Socio - economic Temporary construction jobs available. | No impact management action after construction |

CONCLUSIONS

The operation of the New Oxychlorination Decanter Technology project at VCM plant at Midland Operations has no significant negative impacts on aspects of the environment.