DUDFIELD CEMENT FACTORY - ALTERNATIVE FUEL RESOURCE
ADDENDUM TO THE SCOPING AND ENVIRONMENTAL IMPACT REPORTS
AfriSam (South Africa) (Pty) Ltd

Scoping and Environmental Impact Reports - Addendum
Project no: 45877
Date: September 2015

WSP | Parsons Brinckerhoff
199 Bryanston Drive
Bryanston, 2191

Tel: +27 11 361 1392
Fax: +027 11 361 1381
www.wspgroup.com
www.pbworld.com
<table>
<thead>
<tr>
<th>ISSUE/REVISION</th>
<th>FIRST ISSUE</th>
<th>REVISION 1</th>
<th>REVISION 2</th>
<th>REVISION 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarks</td>
<td>Scoping and EIR Addendum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>September 2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepared by</td>
<td>Jared O'Brien</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checked by</td>
<td>Ashlea Strong</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authorised by</td>
<td>Malcolme Logie</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project number</td>
<td>45877</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report number</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>File reference</td>
<td>W:\000 Projects\000 Environmental Services\ES - Live Projects\45877 - AfriSam AFR WML Dudfield\Reports</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS.............................................................................. V

1 INTRODUCTION...........................................................................................................1

1.1 PROJECT BACKGROUND ..........................................................................................1

1.2 TERMS OF REFERENCE .........................................................................................1

1.3 PROJECT PROPOSENT ..........................................................................................1

1.4 COMPETENT AUTHORITY .....................................................................................2

1.5 ENVIRONMENTAL ASSESSMENT PRACTITIONER .............................................2

1.6 ASSUMPTIONS AND LIMITATIONS .......................................................................3

2 LEGAL FRAMEWORK..................................................................................................5

2.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT ........................................5

2.2 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT ....................5

2.3 WASTE TYRE REGULATIONS ...............................................................................7

2.4 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT ............7

3 ENVIRONMENTAL IMPACT ASSESSMENT PROCESS AND METHODOLOGY .........................................................................................................................8

3.1 WML APPLICATION ..............................................................................................8

3.2 ENVIRONMENTAL IMPACT ASSESSMENT .......................................................8

3.3 EXEMPTION REQUEST ........................................................................................8

3.4 STAKEHOLDER ENGAGEMENT ...........................................................................10
4 PROJECT DESCRIPTION ........................................................ 11
5 NEED AND DESIRABILITY .................................................... 12
6 ALTERNATIVES ...................................................................... 13
7 BASELINE ENVIRONMENT ..................................................... 14
8 IMPACT ASSESSMENT ............................................................ 15
  8.1 CONSTRUCTION ................................................................. 15
  8.2 OPERATION .......................................................................... 15
  8.3 DECOMMISSIONING/CLOSURE .......................................... 15
  8.4 MITIGATION AND MANAGEMENT MEASURES .................. 15
9 ENVIRONMENTAL IMPACT STATEMENT ............................... 16

BIBLIOGRAPHY ......................................................................... 17
TABLES

TABLE 1-1: PROJECT PROPONENT CONTACT DETAILS ........................................... 2
TABLE 1-2: COMPETENT AUTHORITY CONTACT DETAILS................................. 2
TABLE 1-3: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER...... 3
TABLE 2-1: SUMMARY OF APPLICABLE LEGISLATION AND REQUIREMENTS IN
TERMS OF NEM:WA.............................................................................................. 6
TABLE 3-1: RELEVANT PROVISIONS FOR WHICH EXEMPTION HAS BEEN
APPLIED ............................................................................................................. 8
TABLE 3-2: DATE ON WHICH THE ADVERTS WERE PUBLISHED....................... 10
TABLE 9-1: ADDITIONAL ACTIVITIES AND MITIGATION MEASURES ............... 16

APPENDICES

APPENDIX A  FINAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT
(MARK WOOD, 2009)
APPENDIX B  AFRISAM DUDFIELD, CONSTRUCTION AND OPERATION EMP
(ALAN CLUETT CONSULTING 2013)
APPENDIX C  EXEMPTION REQUEST
APPENDIX D  STAKEHOLDER DATABASE
APPENDIX E  STAKEHOLDER NOTIFICATIONS
<table>
<thead>
<tr>
<th>Abbreviation/Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEL</td>
<td>Atmospheric Emissions Licence</td>
</tr>
<tr>
<td>AFR</td>
<td>Alternative Fuel Resource</td>
</tr>
<tr>
<td>AfriSam</td>
<td>AfriSam (South Africa) (Pty) Ltd: Dudfield Cement Factory</td>
</tr>
<tr>
<td>BA</td>
<td>Basic Assessment</td>
</tr>
<tr>
<td>BBBEE</td>
<td>Broad Based Black Economic Empowerment</td>
</tr>
<tr>
<td>DEA</td>
<td>Department Environmental Affairs</td>
</tr>
<tr>
<td>DEAT</td>
<td>Department of Environmental Affairs and Tourism</td>
</tr>
<tr>
<td>DWAF</td>
<td>Department of Water Affairs and Forestry</td>
</tr>
<tr>
<td>EAP</td>
<td>Environmental Assessment Practitioner</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
</tr>
<tr>
<td>EMPr</td>
<td>Environmental Management Programme</td>
</tr>
<tr>
<td>GNR</td>
<td>Government Notice Regulation</td>
</tr>
<tr>
<td>MEC</td>
<td>Member of the Executive Committee</td>
</tr>
<tr>
<td>NEMA</td>
<td>National Environmental Management Act (No. 107 of 1998)</td>
</tr>
<tr>
<td>NWDACE</td>
<td>North West Department of Agriculture, Conservation and Environment</td>
</tr>
<tr>
<td>POPs</td>
<td>Persistent Organic Pollutants</td>
</tr>
<tr>
<td>S&amp;EIR</td>
<td>Scoping and Environmental Impact Reporting</td>
</tr>
<tr>
<td>WML</td>
<td>Waste Management License</td>
</tr>
<tr>
<td>WSP</td>
<td>WSP Environmental (Pty) Ltd</td>
</tr>
</tbody>
</table>
INTRODUCTION

1.1 PROJECT BACKGROUND

The Department of Environmental Affairs (DEA) issued AfriSam (South Africa) (Pty) Ltd: Dudfield Cement Factory (AfriSam) with a Waste Management License (WML) (Licence number: 12/9/11/L243/7), in terms of the National Environmental Management: Waste Act (No. 59 of 2008) (NEM:WA), for temporary general and hazardous waste storage facilities. Following a review of the WML, and discussions between the DEA and AfriSam, it was determined that the WML contained various conditions which were not applicable, incorrect or required further clarification.

WSP Environmental (Pty) Ltd (WSP), on behalf of AfriSam, submitted a WML Amendment Application to the DEA. This WML Amendment Application included the listed activity for use of alternative fuels and resources (AFR), as authorised (EIA126/2006NW) by the North West Department of Agriculture, Conservation and Environment (NWDACE) on 23 August 2010. The DEA subsequently rejected the WML Amendment Application and requested that a new WML Application be submitted separately for the use of AFRs utilising the NWDACE environmental authorisation and approved reports as supporting documentation.

1.2 TERMS OF REFERENCE

A clarification meeting (between WSP, AfriSam and DEA’s Zingisa Pholo on 26 June 2014) ratified the required WML Application process proposed by the DEA, and confirmed the following:

- The WML Application submitted on 1 April 2014 must be updated to the new WML Application Form inclusive of the amendment regulations application fee requirements;
- The stakeholder database used during the AFR environmental authorisation process must be reviewed and updated if necessary;
- Any new stakeholders identified must be notified regarding AfriSam’s intentions to apply for a WML under NEM:WA for the use of AFR onsite;
- AfriSam may request exemption from certain provisions of the NEMA GNR 543 as per Regulation 50 of Chapter 6 provided notification as prescribed in Regulation 51(3) is given; and
- The Environmental Impact Assessment (EIA) Report and Environmental Management Programme (EMP) (as approved by the NWDACE) can be submitted as supporting documentation to the WML Application provided these are reviewed and updated.

1.3 PROJECT PROPONENT

The project proponent is AfriSam South Africa (Pty) Ltd: Dudfield Cement Factory. Table 1-1 provides the proponent’s relevant contact details.
### Table 1-1: Project Proponent Contact Details

<table>
<thead>
<tr>
<th>Contact Details:</th>
<th>AfriSam (South Africa) (Pty) Ltd: Dudfield Cement Factory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Company:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Contact Person:</strong></td>
<td>Derick Dreyer (General Manager)</td>
</tr>
<tr>
<td><strong>Postal Address:</strong></td>
<td>PO Box 600, Lichtenburg, 2740</td>
</tr>
<tr>
<td><strong>Physical Address:</strong></td>
<td>Farm Dudfield 57IP, Lichtenburg, 2740</td>
</tr>
<tr>
<td><strong>Telephone:</strong></td>
<td>018 633 6000</td>
</tr>
<tr>
<td><strong>E-mail:</strong></td>
<td><a href="mailto:derick.dreyer@za.afrisam.com">derick.dreyer@za.afrisam.com</a></td>
</tr>
</tbody>
</table>

### 1.4 COMPETENT AUTHORITY

The competent authority for this application is the Department of Environmental Affairs. The contact details for the relevant authority are provided in Table 1-2.

### Table 1-2: Competent Authority Contact Details

<table>
<thead>
<tr>
<th>Contact Details:</th>
<th>Malepo Phoshoko</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact Person:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Postal Address:</strong></td>
<td>Cnr Soutpansberg and Steve Biko Road, Erf 1563 Arcadia Ext 6, Arcadia, Pretoria, 0001</td>
</tr>
<tr>
<td><strong>Telephone:</strong></td>
<td>012 399 9779</td>
</tr>
<tr>
<td><strong>E-mail:</strong></td>
<td><a href="mailto:MsPhoshoko@environment.gov.za">MsPhoshoko@environment.gov.za</a></td>
</tr>
</tbody>
</table>

### 1.5 ENVIRONMENTAL ASSESSMENT PRACTITIONER

WSP was appointed by AfriSam to fulfill the role of the independent environmental assessment practitioner (EAP) to facilitate the environmental authorisation process associated with the WML application. Table 1-3 details the relevant contact details of the EAP.

WSP Global Inc. and Parsons Brinckerhoff have combined and are now one of the world's leading engineering professional services consulting firms. We bring together our 32,000 staff, based in more than 500 offices, across 39 countries to provide engineering and multidisciplinary services in a vast array of industry sectors, with a focus on technical excellence and client service.

In Africa, WSP, Environment & Energy, is a leading environmental consultancy with a broad range of expertise and over 20 years’ experience in the regional market. As part of a global business, we provide the marketplace with a dynamic blend of local knowledge and global expertise. While we form part of WSP Global Inc, we are also committed to transformation in our operational region, with 26% Broad Based Black Economic Empowerment (BBBEE) ownership and having achieved Level 3 BBBEE certification in South Africa.
We offer independent, insightful and professional advice to our clients to achieve a balance between environmental protection, social desirability and economic development.

At WSP Environment & Energy, we have a reputation for delivery and excellence and provide a diverse range of integrated and innovative solutions to both public and private sector clients across the industrial, mining, infrastructure and financial sectors.

Table 1-3: Details of the Environmental Assessment Practitioner

<table>
<thead>
<tr>
<th>Contact Details:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Company</strong></td>
<td>WSP Environmental (Pty) Ltd</td>
</tr>
<tr>
<td><strong>Company Registration:</strong></td>
<td>1995 / 08790 / 07</td>
</tr>
<tr>
<td><strong>Contact Person:</strong></td>
<td>Malcomme Logie</td>
</tr>
<tr>
<td><strong>Postal Address:</strong></td>
<td>P O Box 98867, Sloane Park, 2152</td>
</tr>
<tr>
<td><strong>Telephone:</strong></td>
<td>011 300 6085</td>
</tr>
<tr>
<td><strong>Fax:</strong></td>
<td>011 361 1381</td>
</tr>
<tr>
<td><strong>E-mail:</strong></td>
<td><a href="mailto:Malcolm.Logie@wspgroup.co.za">Malcolm.Logie@wspgroup.co.za</a></td>
</tr>
</tbody>
</table>

1.6 **ASSUMPTIONS AND LIMITATIONS**

The following assumptions and limitations can be associated with this report:

⇒ The amendment of the December 2009 EIA Report, EMPr and associated stakeholder engagement relating to the introduction of new AFRs is not part of this scope of work. The December 2009 EIA Report and EMPr are included in Appendix A and Appendix B respectively.

⇒ The EIA undertaken by Mark Wood in December 2009 included the following conclusions:

- The EIA confirmed that AfriSam's proposal to utilize kilns 2 and 3 at Dudfield for the co-processing of selected general and hazardous wastes will not result in any negative impacts that cannot be reduced to insignificant levels by means of careful management and monitoring.

- The proposed activity is fully in line with South Africa's recently published National Policy on Thermal Treatment of General and Hazardous Waste (DEAT, 2009).

- It is not anticipated that the activity will divert wastes from more appropriate, higher level uses in terms of the Department of Water Affairs and Forestry (DWAF) waste hierarchy. The Life Cycle Assessment conducted for the EIA, and the Department of Environmental Affairs and Tourism (DEAT) Thermal Policy, confirm that co-processing of selected general and hazardous waste in cement kilns is consistent with the principles of the waste management hierarchy, providing valuable means of recovery of energy while reducing the need to dispose of waste to landfill.

- The proposal to widen the scope of the Dudfield project to include generic waste streams, particularly in respect of hydrocarbons and raw materials, is reasonable and will provide AfriSam with the flexibility to compete in the marketplace without being at a competitive disadvantage in relation to other companies bidding for the same resource. By means of
appropriate planning, operating and monitoring procedures, all negative impacts of the broader group of waste streams can be reduced to low levels of significance.

- The Dudfield-specific requirements specified in the EIA to manage impacts include limitations on the metal content of the AFR feed, a requirement for a DRE test to establish the capability of the kilns to destroy general organic waste compounds (and not only persistent organic pollutants (POPs), as specified by the SA Thermal Policy), limitations on the burning of wastes containing dioxin precursors, limitations on the permissible emission concentrations of mercury over and above those determined by the SA Thermal Policy, and a monitoring programme to verify the absence of long term community health impacts due to heavy metals.

- Prior to the implementation of the project, a detailed EMPR must be prepared, which complies fully with each of the requirements set out in the South African Thermal Policy for such a plan, as well as the additional requirements set out in the EIA that are specific to the Dudfield.

- AfriSam will need to comply with the requirements of other legislation, including the requirement to obtain permits for the project in terms of the National Environmental Management: Waste Act of 2008.
2 LEGAL FRAMEWORK

2.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT

In terms of Section 24(2) of the National Environmental Management Act (No. 107 of 1998) (NEMA) the Minister of the Department Environmental Affairs (DEA) may identify activities which may not commence without prior authorisation from the Minister or Member of the Executive Committee (MEC) and may also identify geographical areas in which specified activities may not commence without prior authorisation from the Minister or MEC. The Minister of the DEA thus published listed activities in Government Notice Regulation (GNR) 544 (Listing Notice 1), 545 (Listing Notice 2) and 546 (Listing Notice 3) (18 June 2010 as amended 2013) that may not commence prior to authorisation from the Minister or MEC. The regulations outlining the procedures required for authorisation are published in GNR 583 (EIA Regulations) (18 June 2010 as amended 2013), namely:

→ GNR 544 identifies activities that require a Basic Assessment (BA) process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity;
→ GNR 545 identifies activities that require a Scoping and Environmental Impact Reporting (S&EIR) process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity; and
→ GNR 546 identifies activities within specific geographical areas that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity.

WSP reviewed the NEMA EIA listed activities (GNR 544, 545 and 546) and identified no potential activities that may be relevant to the proposed AfriSam Dudfield Cement Factory project.

It should be noted that the applications relevant to this project were done in terms of the EIA regulations of 18 June 2010. However, these regulations were replaced by GNR 982, 983, 984 and 985 which were promulgated on 8 December 2014.

2.2 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT

Section 20 of the NEM:WA states that no person may commence, undertake or conduct a waste management activity except in accordance with a WML. A list of waste management activities that require a WML was published in GNR 921 (29 November 2013). GNR 921 states that a person who wishes to commence with a waste management activity must undertake the required BA or S&EIR process in accordance with NEMA EIA Regulations GNR 543 or conduct such activities in accordance with relevant / applicable National Norms and Standards. GNR 921 provides for:

→ Category A identifies activities that require a BA process to be undertaken in terms of the NEMA EIA Regulations, prior to commencement of that activity;
→ Category B identifies activities that require an S&EIR process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity; and
→ Category C identifies activities that require adherence to the relevant National Norms and Standards as published.

Following review of the listed activities contained in GNR 921, WSP ascertained that the proposed AfriSam Dudfield Cement Factory project will include Category A and B waste management activities and will therefore require a WML. Where applicable, the National Norms and Standards will be adhered to by AfriSam including but not limited to:
GNR 635 - National Norms and Standards for the Assessment of Waste for Landfill Disposal;
GNR 636 - National Norms and Standards for the Disposal of Waste to Landfill;
GNR 926 - National Norms and Standards for the Storage of Waste;
GNR 331 - National Norms and Standards for the Remediation of Contaminated Land and Soil Quality; and

Table 2-1: Summary of Applicable Legislation and Requirements in terms of NEM:WA

<table>
<thead>
<tr>
<th>Number and date of the relevant notice</th>
<th>Activity No</th>
<th>Description</th>
<th>Process indicated by regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities Applicable to Reuse, Recycling and Recovery</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEMWA: GNR.921 of 2013</td>
<td>Category A, Activity 2</td>
<td><strong>Activity Description:</strong> The sorting, shredding, grinding, crushing, screening or bailing of general waste at a facility that has an operational area in excess of 1000m². <strong>Project Applicability:</strong> Waste used as fuels may be shredded (prior to burning in the kiln).</td>
<td>Basic Assessment</td>
</tr>
<tr>
<td>NEMWA: GNR.921 of 2013</td>
<td>Category B, Activity 3</td>
<td><strong>Activity Description:</strong> The recovery of waste including the refining, utilisation, or co-processing of the waste at a facility that processes in excess of 100 tons of general waste per day or in excess of 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises. <strong>Project Applicability:</strong> AfriSam will be using wastes as an alternative fuel in the kilns.</td>
<td>Scoping and EIA</td>
</tr>
<tr>
<td><strong>Activities Applicable to the Construction, Expansion or Decommissioning of Facilities and Associated Structures and Infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEMWA: GNR.921 of 2009</td>
<td>Category A, Activity 12</td>
<td><strong>Activity Description:</strong> The construction of a facility for a waste management activity listed in Category A of this Schedule (not in isolation to associated waste management activity). <strong>Project Applicability:</strong> AfriSam will be undertaking construction of waste management facilities for the proposed AFR activities.</td>
<td>Basic Assessment</td>
</tr>
<tr>
<td>NEMWA: GNR.921 of 2009</td>
<td>Category B, Activity 10</td>
<td><strong>Activity Description:</strong> The construction of a facility for a waste management activity listed in Category B of this Schedule (not in isolation to associated waste management activity). <strong>Project Applicability:</strong> AfriSam will be undertaking construction of waste management facilities for the proposed AFR activities.</td>
<td>Scoping and EIA</td>
</tr>
</tbody>
</table>
2.3 WASTE TYRE REGULATIONS

The Waste Tyre Regulations of 2009 which were promulgated (GG No. 31901 vol. 524) on 13 February 2009 came into effect on 30 June 2009. The purpose of the legislation is to regulate the management of waste tyres by providing for the regulatory mechanisms. The regulations will apply uniformly in all provinces in South Africa. The regulations will affect waste tyre producers, waste tyre dealers, waste tyre stockpile owners, landfill site owners and tyre recyclers.

Section 4 of the regulations requires that no person may:

→ Manage waste tyres in a manner which does not comply with the regulations,
→ Recycle, recover or dispose of a waste tyre, at any facility or on any site, unless the recycling, recovery or disposal of that waste tyre is authorised by law,
→ Recover or dispose of a waste tyre in a manner that is likely to cause pollution of the environment or harm to human health and well-being, or
→ Dispose of waste tyres at a disposal facility two years from the date of commencement of the regulations unless such a waste tyre has been cut into quarters and no quartered waste tyres may be disposed five years from the date of promulgation of these regulations unless such waste tyres have been shredded, excluding in both instances bicycle tyres and tyres with an outside diameter above 1400mm and tyres used as engineering material.

Tyre producers and waste tyre stockpile owners must register with the Minister of Water and Environmental Affairs within 30 days of the date of commencement of the regulations and tyre dealers commencing after the regulations must register with the Minister at least 30 days prior to commencing the business.

In addition a waste tyre stockpile owner must submit a waste tyre abatement plan within 120 days of the effective date of these regulations and may not add to the stockpile after this time. The contents of a waste tyre stockpile abatement plan must include amongst others: an estimation of the number of waste tyres stored within the stockpile facility; current fire prevention measures in place; proposal and timeframe for eliminating the stockpile.

Afrisam submitted their waste tyre abatement plan to the relevant authorities on during August 2014.

The regulations stipulate that all waste tyre storage sites in excess of 500m² are required to obtain a waste management license in terms of the NEM:WA.

2.4 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT

The National Environmental Management: Air Quality Act (No. 39 of 2004) (NEM:AQA) requires the Minister of the DEA to publish a list of activities which results in atmospheric emissions which may have a detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage. Section 22 of NEM:AQA requires that an Atmospheric Emissions Licence (AEL) be obtained for such listed activities.

In terms of GNR 893 (22 November 2013), category 5.5, Cement Production (using alternative fuels and raw materials) is the relevant listed activity.
3 ENVIRONMENTAL IMPACT ASSESSMENT PROCESS AND METHODOLOGY

3.1 WML APPLICATION

The new format WML application was required and included proof of payment for the application fee as paid by AfriSam (R10,000.00 for a Scoping and EIA). The WML was submitted to the DEA in August 2014 and WSP received the acknowledgment of receipt on 12 September 2014.

3.2 ENVIRONMENTAL IMPACT ASSESSMENT

In 2009 AfriSam commissioned Mark Wood Consultants to conduct an Environmental Impact Assessment for the project. The assessment considered the impacts associated with the use of AFR in Dudfield Kilns 2 & 3 as well as the projected cumulative impacts that would be associated with the, as yet unconstructed, Dudfield Kiln 4. The Final Environmental Impact Report (EIR) was issued in December 2009. This EIA Report is included in Appendix A.

3.3 EXEMPTION REQUEST

Following the WML application in August 2014, the DEA noted that AfriSam may request exemption from certain provisions of GNR 543 as per Regulation 50 of Chapter 6. An application for exemption was compiled and submitted to the DEA for consideration (Appendix C). The provisions and motivations included in the exemption request are outlined in Table 3-1.

Table 3-1: Relevant Provisions for which Exemption has been applied

<table>
<thead>
<tr>
<th>GNR 543 Regulation</th>
<th>Exemption Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 6, Regulation 54(a): Requiring the placement of site notices</td>
<td>In accordance with DEA’s request, an advertisement notifying the public of 1) AfriSam’s intent to apply for exemption from provisions of GNR 543 and 2) AfriSam’s intent to apply for a NEM:WA WML for the use of AFR, has been placed in two local newspapers.</td>
</tr>
<tr>
<td></td>
<td>During the Scoping Phase of the approved S&amp;EIR Process, one of the key objectives of the stakeholder engagement process was to invite stakeholders to register and participate throughout the S&amp;EIR Process. Comments received were used to define the scope, specialist studies and EIA Phase. The stakeholder database comprised of approximately 342 individuals and organisations within and beyond the boundaries of the project providing evidence of a comprehensive process;</td>
</tr>
<tr>
<td></td>
<td>In accordance with the DEA’s request AfriSam’s Environmental Department reviewed the existing stakeholder database and confirmed that no new stakeholders (with regard to Afrisam’s Dudfield operations) have been identified since the original 2009 S&amp;EIA process;</td>
</tr>
<tr>
<td></td>
<td>The original S&amp;EIR Process approved by the NWDACE included a comprehensive stakeholder engagement process comprising:</td>
</tr>
<tr>
<td></td>
<td>- Invitation to register as a stakeholder (November 2006) via telephone, distribution of background information documents, development of a website and letters;</td>
</tr>
<tr>
<td></td>
<td>- Advertisements were published in the Sunday Times (3 December 2006), Mafikeng Mail (29 November 2006) and Die Noordwester (1 December 2006);</td>
</tr>
<tr>
<td></td>
<td>- Internal notification to AfriSam employees;</td>
</tr>
</tbody>
</table>
- Various focus group meetings with stakeholders was completed during the month of January 2007;
- Compilation and distribution of a comments and response report as part of the Draft Scoping Report public review process;
- Public meetings (two) were held in April 2007;

→ During the EIA Phase, the key objectives were to verify issues raised by stakeholders during scoping phase and to provide feedback to registered stakeholders thereon. These objectives were met by providing sufficient information to stakeholders. The EIA phase stakeholder engagement process comprised:
  - Notification of the EIA phase commencement and public review of EIA report in October 2009 via email, telephone and letter distribution;
  - Open day and focus group meetings were held over the November 2009 period.

→ Appeal Process and additional adverts and continued consultation with the DEA and NWDACE. An appeal was lodged by Groundworks with regard to the Environmental Authorisation which was granted on 23 August 2010. Based upon consideration of the MEC of North West Department of Economic Development, Environment and Tourism the appeal was dismissed on 28 September 2012.

→ Furthermore, AfriSam is the landowner and owns majority of the properties immediately adjacent to the proposed AFR operation. This in conjunction with the aforementioned stakeholder engagement process further support this exemption and reaffirms that notification of land owners, occupiers, surrounding land owners occupiers, or organs of state is not necessary.

→ Based on the above, AfriSam has demonstrated that comprehensive stakeholder engagement was completed and further confirmed that no new stakeholders were identified, and therefore there is no need to erect additional site notices as part of the stakeholder notification process. AfriSam will however distribute the documents for a period of 14 days for public review.

**Chapter 6, Regulation 56: Requiring public review of the Draft Scoping, EIA and EMP Reports**

→ In accordance with DEA’s request, WSP have reviewed both the EIA Report and EMP to ensure that referenced legislation, impacts and management measures are applicable and/or up to date in terms of current legislation and site operations.

→ Following from the above, WSP has developed this Addendum Report to the Scoping Report, EIA Report and EMP. This Addendum highlights the sections that underwent review and notes the amendments effected therein. It is important to note that although WSP reviewed the EIA Report and EMP, the impacts and management measures were not amended; because AfriSam will not amend/alter the originally proposed AFR types and volumes, or proposed co-processing techniques, previously stipulated within the original EIA Report and EMP.

→ The EIA Report and EMP are to be submitted as supporting documentation to the WML Application for DEA’s consideration (Appendix A and Appendix B respectively).

→ Based on the above and the meetings held with the DEA it is deemed necessary to complete a public review of these reports. A shortened period of 14 days will be sufficient.
3.4 STAKEHOLDER ENGAGEMENT

STAKEHOLDER DATABASE

The stakeholder database from the previous AFR environmental authorisation process was reviewed and updated accordingly. This database includes the details of all stakeholders who have requested to be notified of the progress of the S&EIR process. A copy of the stakeholder database is included in Appendix D.

NEWSPAPER ADVERTISEMENTS

The NEMA EIA Regulations (GNR 543) require that the proposed AfriSam Dudfield Cement Factory project is advertised in a local newspaper to notify the public about the project and invite stakeholders to register. WSP published two advertisements (in English) in a local and regional newspaper as detailed in Table 3-2. Copies of the advertisements as published in the said newspapers are contained in Appendix E.

Table 3-2: Date on which the Adverts were published

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>Publication Date</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Mafikeng Mail</td>
<td>30 October 2014</td>
<td>English</td>
</tr>
<tr>
<td>The Noordweester</td>
<td>31 October 2014</td>
<td>English</td>
</tr>
</tbody>
</table>
PROJECT DESCRIPTION

AfriSam propose to convert Kilns 2 and 3 at its Dudfield cement plant near Lichtenburg, North West Province, to co-process Alternative Fuels and Raw Materials. In simple terms, this means that AfriSam proposes to burn selected waste material of sufficient calorific value in the kilns to replace a proportion of the coal that is presently used to generate heat.

The Dudfield plant is located within the Ditsobotla Local Municipality, which falls within the Central District Municipality.

For a detailed project description, refer to final EIA (Mark Wood, 2009, Section 2) and the WML 2009 (Section 4 and 5).
NEED AND DESIRABILITY

Refer to Final EIA (Mark Wood, 2009) for more information in this regard.

“The AfriSam South Africa proposal to co-process AFR in Kilns 2 and 3 at Dudfield stems from its shareholder’s (Holcim) international involvement in this field for over two decades. At present, AfriSam uses AFR in kilns across the world. The average energy needed to produce 1 tonne of cement clinker in a pre-heater kiln ranges between 3 300 to 4 500 GJ. This would typically be generated by burning 130 tonnes of coal in the kiln per 1 000 tonnes of clinker. Dudfield consumes up to 275 000 tons of coal per annum at current production rates.

By substituting a proportion of the coal with waste of suitable calorific values and chemistry, the total use of coal and the cost of energy, per tonne of cement, can be reduced. Since the energy costs of cement production represent approximately 20% of the total cost, it may be seen that the use of AFR is an opportunity for the cement industry to contain operating costs. AFR wastes that are burned in kilns internationally include plastics, paper, waste tyres, waste oils, biomass waste, sewage sludge, waste textiles, residues from car dismantling operations, and various hazardous industrial wastes.

Similarly, the wastes AfriSam South Africa proposes to use in Kilns 2 and 3 include scrap tyres, spent refractories from the non-ferrous metal refining industry, “filter cake” from hydrocarbon sludge processing in the petrochemical industry, grease-contaminated textiles and blended wastes from the Roodepoort Blending Platform. The 14-month construction period for the conversion of the kilns will afford approximately 170 direct and indirect job opportunities. The operation phase is expected to create an additional eight direct job opportunities for local community members, while the increase operational expenses through the indirect and induced effects will stimulate the creation of 84 job opportunities throughout the region and outside its border.”
ALTERNATIVES

Two project alternatives were assessed in relation to this project, namely:

- Alternative 1 - The proposed conversion of Kilns 2 and 3 for the co-processing of alternative fuels; and
- Alternative 2 - The continued exclusive use of coal as fuel for Kilns 2 and 3.

Section 4 of the Final EIA (Mark Wood, 2009) provides a detailed description of these project alternatives.
BASELINE ENVIRONMENT

The baseline environment is unchanged from what was reported in the Final EIA (Mark Wood EIA, 2009). Refer to Section 3 of the Final EIA (Mark Wood EIA, 2009) for a detailed description of the baseline environment.
8

IMPACT ASSESSMENT

8.1 CONSTRUCTION

Section 7 and 10 of the Proposed Alternative Fuels and Raw Materials Project EIA (refer to Mark Wood EIA, 2009), outlines potential impacts and proposed mitigation measures during the construction phase.

8.2 OPERATION

Section 8 and 10 of the Proposed Alternative Fuels and Raw Materials Project EIA (Mark Wood EIA, 2009), outlines potential impacts and proposed mitigation measures during the operation phase.

8.3 DECOMMISSIONING/CLOSURE

There is no foreseeable closure of the Dudfield Plant as the life of the operation will extend for at least another 100 years. For some conceptual closure measures, refer to Table 8.2.4 in the AfriSam Dudfield, Construction and Operation EMP (Alan Cluett Consulting 2013).

8.4 MITIGATION AND MANAGEMENT MEASURES

Section 7 (specifically Table 7.1) of the Proposed Alternative Fuels and Raw Materials Project EIA (refer to Mark Wood EIA, 2009), as well as the AfriSam Dudfield, Construction and Operation EMP (Alan Cluett Consulting 2013) outlines potential impacts and proposed mitigation measures.
ENVIRONMENTAL IMPACT STATEMENT

It is anticipated that the following additional activities will be associated with the proposed project:

- Waste storage and handling for the temporary storage of waste destined for disposal at the local municipal landfill, or for re-use / recovery by means of co-processing in the kiln or for recycling;
- Waste re-use / recovery by means of co-processing in the kiln; and
- Provision of temporary storage facilities for the waste streams.

However, these additional activities should not result in any changes to the impacts already identified during the EIA undertaken in 2009 (refer to Mark Wood EIA, 2009).

Table 9-1 summarises the additional activities resulting from the alternative fuels project, and indicates the proposed mitigation measures.

**Table 9-1: Additional Activities and Mitigation Measures**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Mitigation Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste storage and handling for the temporary storage of waste destined for disposal at the local municipal landfill, or for re-use / recovery by means of co-processing in the kiln or for recycling.</td>
<td>➔ Comply with the Waste Norms and Standards for handling, storage and disposal of waste in a responsible manner.</td>
</tr>
<tr>
<td>Waste re-use / recovery by means of co-processing in the kiln.</td>
<td>➔ Comply with the Waste License Application commitments.</td>
</tr>
<tr>
<td>Provision of temporary storage facilities for the waste streams.</td>
<td>➔ Comply with the Operational EMP (2013).</td>
</tr>
<tr>
<td></td>
<td>➔ Comply with the original commitments as laid out in the EIA (Mark Wood, 2009).</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY


- AfriSam Dudfield, Construction and Operation EMP (Alan Cluett Consulting 2013).

Appendix B

AFRISAM DUDFIELD, CONSTRUCTION AND OPERATION EMP
(ALAN CLUETT CONSULTING 2013)
Appendix D

STAKEHOLDER DATABASE
Appendix E

STAKEHOLDER NOTIFICATIONS