

**EXTERNAL AUDIT REPORT IN FULLFILLMENT OF THE
ENVIRONMENTAL AUTHORISATION FOR THE
CARBON SEPARATION PLANT
AT
ARCELORMITTAL SOUTH AFRICA
VANDERBIJLPARK WORKS**



Report Nr: 963-ZANAMVD-2018

Audit date: 9 May 2018
Report date: 30 May 2018

General Information

Report Name:	External Audit Report for the Carbon Separation Plant
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Audit Date:	9 May 2018
Report Date:	30 May 2018
Status	Final
GDARD Ref Nr	GAUT 006/10-13/N0055

EXECUTIVE SUMMARY

Zantow Environmental Consulting Services CC was contracted by ArcelorMittal to conduct an independent Compliance Audit on its Record of Decision (RoD) for the Vanderbijlpark Works' Carbon Separation Plant (CSP).

The services required by ArcelorMittal is an independent external compliance audit on the RoD received from the Gauteng Department of Agriculture and Rural Development (GDARD) for the CSP at the Vanderbijlpark Works.

The RoD received from ArcelorMittal for auditing is referenced as follows:

- Carbon Separation Plant – GAUT 006/10-13/N0055, dated 29 August 2006 as amended in 2009, 2010, 2012 and 2013.

The methodology followed for conducting the compliance assessment audit can be described as

- Document review (RoD)
- Compilation of audit checklist/questionnaire for site visit;
- Site Visit (Conducted on the 9th May 2018); and
- Compilation of compliance audit report 30th May 2018)

During the document review and site assessment component of the audit, it was established that the ROD was initially issued to ArcelorMittal Coke and Chemicals, a subdivision of ArcelorMittal. Compliance to the ROD was therefore the responsibility of Coke and Chemicals employees as per condition 3.3.f. various conditions required the timely submission of information as a once-off condition, thus requiring no further or continues input. Should such a condition, which mostly occurred at the onset of the project, not be complied with, such a condition will remain a non-compliance as long as the RoD remains in force. Subsequent to this, the project ownership and therefore the ROD have been transferred to ArcelorMittal Vanderbijlpark Works. During the handover of the ROD information; proof of submission of the relevant documentation could not be found / produced by Coke and Chemicals. As these were conditions that required some action in the past there is no remedy available to Vanderbijlpark Works to rectify or remedy the situation. To continuously raise the matter would not be reasonable or adding value as these are historic.

In light of the above, the auditor has, in addition to indicating compliance and non-compliance, ranked the specific non-compliances in terms of the following criteria:

- Historic Issues
- Minor Issues
- Moderate Issues
- Critical Issues

The assessment was conducted in terms of condition 3.4.c of the Record of Decision (RoD) for the Carbon Separation Plant at ArcelorMittal's Vanderbijlpark Works, dated August 2006, reference GAUT 002/05-06/0510.

From Table 1, it can be concluded that ArcelorMittal's compliance with the RoD is satisfactory. Some conditions have been met fully, while other conditions have not been met, although due to circumstances and also the lack of practical and non-retrospective conditions. Where non-compliances were recorded, the auditor contextualised the non-compliance in terms of the intensity. This equates to an objective view of the

seriousness of the non-compliance and also then leads to recommendations where moderate to major non-compliances have been observed.

The recommended actions plan to improve compliance or to improve on the environmental management system includes the following;

- Pursue the development of a market or off set for the carbon rich material and commit resources to ensure a consistent delivery of the product once a market is established.
- Improve on the ambient air quality stations uptime and availability of data.
- Amend the EMP to align the monitoring, reporting and management measures to be implemented in case of abnormal conditions with AEL requirements and re-submit the EMP to GDARD.

In the event that the CSP will no longer be operated, the decommissioning thereof should be investigated and the closure should be communicated accordingly to the department.

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1. INTRODUCTION

Zantow Environmental Consulting Services CC was contracted by ArcelorMittal to conduct an independent Compliance Audit on its Record of Decision (RoD) for the Vanderbijlpark Works' Carbon Separation Plant (CSP).

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The RoD received from ArcelorMittal for auditing is referenced as follows:

- Carbon Separation Plant – GAUT 006/10-13/N0055, dated 29 August 2006 as amended in 2009, 2010, 2012 and 2013

2. BACKGROUND AND PROJECT STATUS

ArcelorMittal Vanderbijlpark Works is located at Delfos Boulevard, Vanderbijlpark, on the remaining extent of Portion 1 of the Farm Vanderbijlpark 550 IQ. The site falls within the jurisdiction of the Emfuleni Local Municipality, Gauteng Province.

In May 2006, ArcelorMittal Vanderbijlpark Works Coke and Chemicals submitted an application for authorisation to the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (GDACEL) for the construction and operation of the Carbon Separation Plant (CSP) project. The project entailed the construction, commissioning and operation of a CSP to convert dolochar waste produced by the kilns into carbon rich material. The project forms part of ArcelorMittal Vanderbijlpark Works waste reduction strategy which aims to reduce the amount of waste that required land filling.

An Environmental Impact Assessment (EIA) process was followed and the final Environmental Impact Report (EIR) with appended specialist studies and supporting documentation were submitted to the then Department of Agriculture, Conservation, Environment and Land Affairs (DACEL) for approval.

The then DACEL, now known as the Gauteng Department of Agriculture and Rural Development (GDARD), issued the RoD for the construction, commissioning and operation of the CSP to ArcelorMittal Coke and Chemicals on the 29th of August 2006. The ROD was subsequently handed over to ArcelorMittal in 2009, Vanderbijlpark Works whom will be in control of the operation of the CSP plant.

Condition 3.4 (c) of the RoD, requires that an annual Environmental Performance Audit be undertaken by an independent external auditor and the audit report submitted to the GDARD, the first report being due 12 months after commissioning. The CSP is currently not in operation as the market for the carbon rich material no longer exists. The facility is investigating the possibility of selling the dolochar waste without beneficiation as there is a potential market for this material. In the event that the CSP will no longer be required, ArcelorMittal should investigate the decommissioning or closure of the plant within the legal framework.

3. PART 1: Audit Information

3.1. Date of Audit

External Audit date:	- 9 th May 2018
Site audit	- 9 th May 2018
Final Report date	- 30 th May 2018

3.2. Audit Criteria / Scope of Work

The scope of work entailed conducting a compliance audit to verify compliance to the Record of Decision (RoD) conditions of the CSP as per condition 3.4.c. The annual environmental performance audit must be conducted by and independent, accredited auditor and be kept on record by ArcelorMittal and provided to GDARD as and when requested.

The following documents were considered against which compliance to the conditions of the ROD was audited:

- Environmental Authorisation – GAUT 006/10-13/N0055
- Amendments to the original authorisation received – 2009, 2010, 2012 and 2013
- Various database monitoring results made available / presented during the audit
- Monitoring reports / data for the period for 2014 and 2015.
- Relevant communications between ArcelorMittal, Authorities and I & APs
- Applicable South African Environmental Legislation.

During the document review and site assessment component of the audit, it was established that the ROD was initially issued to ArcelorMittal Coke and Chemicals, a subdivision of ArcelorMittal. Compliance to the ROD was therefore the responsibility of Coke and Chemicals employees as per condition 3.3.f. Various conditions required the timely submission of information as a once-off condition, thus requiring no further or continues input. Should such a condition, which mostly occurred at the onset of the project, not be complied with, such a condition will remain a non-compliance as long as the RoD remains in force. Subsequent to this, the project ownership and therefore the ROD have been transferred to ArcelorMittal Vanderbijlpark Works. During the handover of the ROD information; proof of submission of the relevant documentation could not be found / produced by Coke and Chemicals. As these were conditions that required some action in the past there is no remedy available to Vanderbijlpark Works to rectify or remedy the situation. To continuously raise the matter would not be reasonable or add value.

In light of the above, the auditor has, in addition to indicating compliance and non-compliance, ranked the specific non-compliances in terms of the following criteria:

Critical Issues

- There is a critical failure against legal requirements or management response that presents an immediate or significant risk that: Could result in prosecution and /or adverse legal finding due to failure to meet regulatory requirements;
- Could result in immediate injury or serious injury or environmental harm;
- Could result in prolonged business outage; and/or
- Could result in serious damage to the project's reputation.
- Critical issues must be addressed immediately and all activities resulting in negative critical findings must cease until such time as the issue has been rectified.

Moderate Issues

- There is a substantial failure to meet the environmental requirements for the project,
- There is a possibility of substantial environmental degradation and/or pollution and/or
- Objective evidence was observed raising doubt as to the integrity of data or records inspected.

Minor Issues

- Isolated observations demonstrating that full compliance to the environmental requirements on site have not been, or will not be, fully achieved.
- No physical environmental harm

Historic Issues

- No physical environmental harm – administrative in nature
- Historic non-compliance, out the company currently in control of compliance management
- No administrative or other remedy available to rectify the situation
- No further action required

3.3. Objectives

To carry out an independent compliance audit including:

- Inspection of operations and confirm compliance to the Authorisation
- Inspection of operations and confirm compliance to the approved amendments
- Verify the effectiveness of impact management and mitigation.
- Assess allocations of responsibilities and actions.
- Report observations for further investigation and action.
- Specifically state whether conditions are adhered to.
- Make recommendations where appropriate.
- Prepare an audit report for submission to the relevant authorities.

As part of the conditions of the RoD issued for the CSP project, annual environmental performance audits are required to be conducted by an independent, accredited auditor. The objective of these audits are to provide a status quo report on the CSP project in line with the requirements of the RoD more specifically condition 3.4 (c) which required the following reporting:

- Air Quality monitoring and reporting as required by Condition 3.2(8);
- Implementation (or non-implementation) of the recommendations as contained in the EIA and Specialist Studies;
- General state of the CSP plant;
- Occupational health and safety surveys;
- Air quality monitoring data;
- Log of Wastes;
- Environmental incident report;
- Preventative Maintenance;
- Environmental Management Plan;
- Efficiency of the air pollution abatement technology i.e. dust extraction system and electrostatic precipitator; and
- Dolochar reduction, disposal and reuse.

The report will further seek to specify target dates for the implementation of the recommendations by ArcelorMittal to achieve recommendations regarding non-compliances or potential non-compliances and will specify target dates for the implementation of the recommendations by ArcelorMittal and whether previous corrective actions taken for non-compliance was adequate; and illustrate monitoring results graphically and conduct trend analysis.

3.4. Independent Assessor

The role of the Independent Environmental Assessor is to provide independent, objective and professional advice on the environmental compliance of the CSP facility, with specific reference to the respective RoD conditions. Specific duties of the auditor include the following:

- Review and assess in an independent, objective and professional manner all aspects related to the RoD conditions;
- Conduct a random site inspection if deemed necessary; and
- Provide feedback on the assessment results to ArcelorMittal.

3.5. Comments from previous audit reports

No findings on non-compliances were raised in the previous external annual report conducted by GCS Environmental consultants.

3.6. Statement of Compliance

ArcelorMittal is generally compliant to the conditions of the Environmental Authorisation GAUT 006/10-13/N0055 and associated amendments. The plant is however not in operation and a large number of conditions are therefore not applicable.

3.7. Declaration

I, **Karien Zantow**, as an independent consultant compiled this audit report and declare that it correctly reflects the findings made at the time of the audit. I further declare that I,

- Act as an independent consultant;
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act107 of 1998) and the National Environmental Management Waste Act;
- Undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Based on information provided to me by the project proponent, and in addition to information obtained during the course of this study, will present the results and conclusion within the associated document to the best of my professional judgement.



Karien Zantow
Environmental Specialist
SACNASP Reg Nr 400114/14

4. PART 2: AUDIT FINDINGS

4.1. Compliance Assessment

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
3.2.1	Authorisation is only granted for the Wining carbon separation plant with magnetic separation plant at the existing ArcelorMittal Vanderbijlpark Works direct reduction area and/or building.	As built drawings and process flow information confirms installation of the said technology. The plant is however not operational at this stage.	Compliant	
3.2.2	An updated project schedule with timeframes must be submitted to this department within 30 calendar days of the commencement of the construction facilities. The schedule must clearly indicate the different phases of construction (as applicable) and commissioning.	At the time of this requirement the previous ROD owner was responsible for compliance to this condition. Compliance could not be confirmed as the Environmental Manager at the time is no longer available.	Historic Issue	
3.2.3	The Department must be informed of the start of commissioning at least 30 (thirty) calendar days prior to the commencement thereof.	A commissioning notice was sent to the department in 2011. The plant was however not operational continuously due to the loss of the internal re-use at the EAF due to plant closure and the loss of the external market due to low market demand.	Compliant	
3.2.4	Final design plans for storm water management system must be provided to the Department 30 (thirty) calendar days prior to the commencement of construction. The above design plans must include information of specific pollution prevention measures (e.g. impermeable layers, leak detection systems etc.) and compliance with the relevant SABS standards.	At the time of this requirement the previous ROD owner was responsible for compliance to this condition. Compliance could not be confirmed as the Environmental Manager at the time is no longer available. Design plans was available for review. It is recorded that all information be resubmitted to GDARD in future when the plant will be started again.	Historic Issue	Observation

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
3.2.5	Should any effluent be generated from the CSP, it must be segregated into concentrated and dilute effluents in order to allow the Zero Effluent Discharge system to function optimally.	The plant is not operational and does not use water or generate effluent when operational	Compliant	
3.2.6	An auditable Preventative Maintenance Plan must be developed to ensure all environmentally critical equipment such as dust extraction system, electrostatic precipitator (ESP) and others are maintained as required. The management of Vanderbijlpark Steel is to commit to the budget to undertake the required preventative maintenance. A discussion on the implementation of and compliance with the maintenance plan must be included in the bi-annual reports.	An auditable Preventative Maintenance Plan is available on the facilities SAP System. The SAP system generates electronic job cards to specific employees with specific tasks to maintain the relevant equipment. Upon completion the system is then updated with the findings etc. As the plant was not operational this was not audited.	Compliant	
3.2.7	A finalised and detailed Environmental management plan (EMP) for the implementation of the project must be submitted to the Department for approval 30 (thirty) calendar days prior to the commencement of construction activities. The EMP must specifically include, inter alia, the following; <ul style="list-style-type: none"> An auditable plan for monitoring all facets of the of the CSP project implementation and operation; Air quality monitoring program based on the requirements of Condition 3.2.8 	It is recommended that the EMP be amended in light of the amended ROD conditions received in 2013 to align all monitoring requirements to the AEL in the event that the plant is to be started up again. In the event that the plant is to be decommissioned the EMP should be amended to focus on closure and decommissioning activities in more detail.	Partial Compliance	Minor
3.2.8	In order to provide empirical data which will verify the assumptions made in the air quality specialist	Note that the plant has not been operational since 2011. The monitoring data reviewed is therefore not a true	Compliant	

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
	report, the following air quality management, monitoring and reporting regime must be implemented and reported on in the bi-annual environmental performance audits as applicable;	representation of the CSP emissions performance as the plant was not operational.		
3.2.8.1	The stack monitoring must be conducted continuously and the report made available on request	Stack monitoring is undertaken accordingly	Compliant	
3.2.8.2	The monitoring results for the above must be graphically presented and included in the annual audit report. Emissions must be presented at the following reference conditions: 11%O ₂ , 279 Kelvin, 101.3KPa (as amended 2012)	The data is recorded in line with this requirement.	Compliant	
3.2.8.3	The stack must be so designed that if the monitoring results in the first year indicate that there is a need for further or improved mitigation then additional technology can be easily installed in the stack.	The existing data indicates that there is no further need to install additional abatement measures. During the limited time periods when the CSP was operational the existing system could function effectively and still remain in compliance with the emissions license limit.	Compliant	
3.2.8.4	A long term Air quality Management Plan and Audit Plan must be compiled for the ArcelorMittal Vanderbijlpark Works CSP and Magnetic Separation Plant based on the outcome of the above monitoring results. These plans must consider international standards and best practise.	The current conclusions drawn from the emissions results are that the CSP would not require additional abatement technology to be installed to achieve national and internal standards. An overall air quality management plan is in place for the plant in the form of an Emission Reduction Strategy.	Compliant	
3.2.8.5	Considering that ArcelorMittal Vanderbijlpark Works intends increasing its production capacity	The current emission standards achieved at the stack complies with "existing plant standards" as well as "new	Compliant	

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
	and is located in a hotspot area, it is therefore essential that ArcelorMittal Vanderbijlpark Works considers lowering its emissions more than the applicable standards require. The emission reduction strategies must be developed to make provision for the new local and applicable international standards.	<p>plant standards” in terms of the new national emission limits. These limits are in line with best practices and international standards.</p> <p>The CSP (or Old PSP ESP) contributes less than 1 % of the total dust emissions load from the ArcelorMittal Vanderbijlpark Works. From a cost: benefit approach it is not advisable to spend additional resources on such a small source in future. Focus and resources should be towards the larger sources.</p>		
3.2.9	Detailed and up to date records must be kept of all incidents and complaints pertaining to the CSP project, how these were managed, and the prevention of the recurrence thereof. These records must be made available to the Department within 14 (fourteen) days upon written request by the Department.	Detailed records are kept of all environmental incidents reported at the DR plant - None was reported for the CSP specifically as the plant was not operational	Compliant	
3.2.10	This Department and the Department of Water Affairs must be informed of any major environmental and pollution incidents relating to the CSP project within 24 hours of such incidents occurring.	None was reported	Compliant	
3.2.11	ArcelorMittal Vanderbijlpark Works must consider using flared waste gases from the Coke Ovens and other sources within the boundary as a fuel for auxiliary equipment.	The use of Coke Oven Gas or Blast Furnace gas as fuel for auxiliary equipment was said to be technically unfeasible. Waste gasses are used to generate steam and electricity and are already used as an energy source throughout the works.	Compliant	
3.2.12	ArcelorMittal Vanderbijlpark Works must investigate the potential of using the existing	An investigation was done on the recyclability of recovering the material from the disposal site. The material is mixed	Compliant	

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
	dumped or stored dolochar as input material into the CSP. This must be reported in the quarterly progress reports.	and therefore not reclaimable for use as input material. Dolochar cannot be stored separately as this would create a dust nuisance.		
3.2.13	The operation of the CSP and Magnetic Separation Plant as a whole must comply with the Occupational Health and Safety Act (No 85 of 1993) and sound occupational hygiene procedures implemented and improved upon. Engineering control measures must be considered as first choice for mitigation.	Health and Safety procedures are in place and part of the management system. ISO 18001 certification was maintained in 2017. An in depth audit into the Health and Safety Act is beyond the scope and mandate of the environmental auditor.	Compliant	
3.2.14	The CSP must be integrated into the CSP ISO System.	Evidence of the CSP in the ISO 14001 system has been confirmed. The plant makes part of the impact and aspect register of the existing system.	Compliant	
3.2.15	The recommendations contained in the Specialist studies submitted in support of the application for authorisation of the CSP project are regarded as an extension of the conditions of this authorisation. Implementation or compliance with these recommendations must be discussed as part of the quarterly progress reports and bi-annual performance audits thereafter.			
	<ul style="list-style-type: none"> Verify the emission rate used in the air quality modelling at 50mg/Nm³ 	The plant has not been operational since 2011 when commissioning occurred due to a lack of a market demand. At short periods when the plant was operational the stack emissions still complied with the emission limit of 50 mg/Nm ³ .	Compliant	

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
	<ul style="list-style-type: none"> It is recommended that the Sinter Plant emissions be abated. 	A bag house at a cost of R 260 million was installed and commissioned at Vanderbijlpark Works which reduced the emissions significantly.	Compliant	
	<ul style="list-style-type: none"> Continue with continuous ambient air quality monitoring to verify ambient concentration of PM10 to verify predicted concentrations 	Four Ambient air quality stations are operational at Vanderbijlpark Works	Compliant	
	<ul style="list-style-type: none"> Establish a continuous ambient air quality monitoring station to measure PM 2.5 concentrations. 	A PM2.5 monitor has been installed at 1 of the locations mentioned above.	Compliant	
	<ul style="list-style-type: none"> Maximise local procurement and employment through ensuring that local contractors are supported in being made aware of contract opportunities that may become available, should the proposed Carbon Separation Plant be implemented. 	Mintek was the supplier of the equipment and technology	Compliant	
	<ul style="list-style-type: none"> Where competence, cost and ability to maintain schedule are comparable between different competing contractors/service providers, preference should be given to locally based contractors/service providers 	Mintek was the supplier of the equipment and technology	Compliant	
	<ul style="list-style-type: none"> It is recommended that the Mittal Steel Vanderbijlpark Occupational Health and Safety team be drawn closer into the project team during refinements of the design and construction of the proposed 	At the time this condition was applicable the ROD was under the ownership of Coke and Chemicals. No record of meetings or discussions was available. From project documentation it could however be seen that the supplier of the equipment and design considered health and safety	Historic Issue	

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
	plant to ensure further evaluation and refinement in regard to plant lay-out and planned engineering control measures.	matters.		
	<ul style="list-style-type: none"> Include the proposed Carbon Separation Plant in the existing Mittal Steel Vanderbijlpark Works Hygiene surveillance programme, as well as the annual internal and third party audit programme (Administrative controls). 	The entire DR plant is part of the occupational health survey schedule	Compliant	
	<ul style="list-style-type: none"> Baseline monitoring must be conducted within the first 12 months of operation to determine, in particular, worker exposure to dust, noise, and vibration. This baseline should be compared with applicable occupational health exposure levels. 	Occupational health surveys have been completed in 2017	Compliant	
	<ul style="list-style-type: none"> Ensure that the existing emergency response plan is revised to include and be implemented at the proposed Carbon Separation Plant. 	The overall works emergency plans are reviewed by a panel of experts on a regular basis. The plans addressed in the overall Emergency Response Plan are based on risk. The CSP is not addressed specifically in the overall works plan as the risk of a total catastrophe is insignificant.	Compliant	
	<ul style="list-style-type: none"> Ensure implementation of planned control measures in Table 8 and compliance with requirements of the OHS Act. 	<ul style="list-style-type: none"> Automate the plant where possible – <i>Compliant</i> Works procedures implemented – <i>Compliant</i> Locate in the existing building structure – <i>Complaint</i> Install a dust extraction system – <i>Complaint</i> Restrict access to site to less than 48 minutes in an 8 hour shift – <i>not required currently as the plant is off line</i> Issue personnel with PPE – <i>Compliant</i> Use water to suppress dust for the carbon rich material 	Compliant	

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
		<p>– <i>Complaint</i></p> <ul style="list-style-type: none"> ○ Engineering controls to be implemented to reduce vibration stress – <i>Complaint</i> 		
	<ul style="list-style-type: none"> • Provide on-going feedback to registered I&AP's on progress, as well as environmental and social performance of the proposed project, as well as other environmental impact studies and implementation of projects. A six-monthly or annual feedback letter may be considered for this purpose. 	<p>Communication exists to registered IAPs on the project specifically. ArcelorMittal issues a general environmental management newsletter on an annual basis as well as publish a sustainability report which addressed waste related matters.</p>	Compliant	
3.2.16	<p>All potential emergencies that can be expected from the CSP must be addressed in line with the existing Direct Reduction Plant and ArcelorMittal Vanderbijlpark Works emergency response procedures.</p>	<p>Emergency procedures exists</p> <p>A hazop study was completed to identify all potential risks</p>	Compliant	
3.2.17	<p>The Department of Water Affairs and Forestry and any other Government Department requirements and or conditions pertinent to the proposed project must be complied with.</p>	<p>None was set</p>	Compliant	
3.2.18	<p>An independent Environmental Control Officer (ECO) with an understanding of the carbon separation process must be appointed for the duration of the construction and commissioning, to monitor and report on compliance with the conditions of this authorisation.</p>	<p>An appointment letter was presented as evidence. Ilze Broekman was appointed as ECO</p>	Compliant	
3.3	General Conditions			

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
3.3.a	Any changes to, or deviations from the project description set out in this letter must be approved in writing by the Department before such changes or deviations may be effected.	No deviations were made	N/A	
3.3.b	This Department may review the conditions in this letter from time to time and may, in notice in writing to the applicant, amend, add or remove a condition.	Noted	N/A	
3.3.c	The applicant must notify the Department at least 10 (ten) days prior to the change of ownership, project developer, or the alienation of any similar rights for the activity described in this letter. The applicant must furnish a copy of this document to the new owner, developer or person to whom the rights accrue the conditions contained herein are binding on them.	The department was notified of the change of ownership in 2009.	Compliant	
3.3.d	Where any of the applicants contact details change, including the name of the responsible person, the physical or postal address and or telephone details the applicant must notify the Department as soon as the new details become known to the applicant.	Name change amendment was submitted in 2009 and again in October 2012.	Compliant	
3.3.e	Authorisation for the activity is granted in terms of the Environmental Conservation Act 1989, (Act 73 of 1989) only and does not exempt the holder from compliance to other relevant legislation.	Noted	N/A	

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
3.3.f	The applicant shall be responsible for ensuring compliance with the conditions contained in this letter by any person acting on his behalf including but not limited to an agent, servant, or employee or any person rendering a service to the applicant in respect of the activity, including but not limited to contractors and consultants.	Noted	N/A	
3.3.g	Department officials shall be given access to the facility referred to in 1 above for the purpose of assessing and or monitoring compliance with conditions contained in this letter at all reasonable times.	Noted		
3.3.h	The applicant must notify the department within 24 hours if any condition of this authorisation cannot or is not adhered to. The notification must be supplemented with reasons for non-compliance.	No non-compliance noted in the audit period	Compliant	
3.4	Reporting Requirements			
3.4.a	The following Occupational Hygiene surveys and assessments must be done in line with the Occupational Health and Safety Act, 1993 (Act no 85 of 1993). The subsequent report must be submitted to the department on request. (as amended in 2010)	Monitoring was conducted in 2017.	Compliant	
3.4.b	Deleted in the amendment dated 06-03-2013			

Condition Nr	Condition as in ROD	Observation / Comments	Compliance status	Intensity of non-compliance
3.4.c	<p>An annual Environmental Performance Audit conducted by an independent accredited auditor must be submitted to the Department for review, first audit being due 12 (twelve) months after commissioning of the CSP project and every 12 months thereafter.</p> <p>As per letter from GDARD 10-07-2012 the audit reports must be kept on file and made available on request</p>	<p>Refer to paragraph 4.3 of this report for detailed discussion on the specific requirements of this condition.</p> <p>Previous external reports were available for review.</p>	Compliant	
3.5	Duration of authorisation			
	<p>If the activity authorised by this letter does not commence within 1 year from the date of signature of this letter, the authorisation will lapse and the applicant will need to reapply for authorisation in terms of the above legislation or any amendments thereto.</p>	<p>The activity commenced within the required timeframe</p>	Compliant	
5	Appeals			
	<p>The applicant is required to inform all registered interested and affected parties of the decision contained in this Record of Decision as well as the process for appeals described above within seven 7 days of date of signature .</p>	<p>No records of the initial communication to the IAPS are available as explained above.</p>	Historic Issue	
	Various Amendments			
	<p>Notification to the IAP's re the amendments granted</p>	<p>Proof of communication to IAPs on all the amendments is available</p>	Compliant	

4.2. SPECIFIC INFORMATION ASSESSMENT

In terms of condition 3.4.c certain items needs to be specifically addressed in the Audit report. These are as follows;

4.1.1. Air Quality Monitoring and Reporting as Required by Condition 3.2(8)

It should be stated that the CSP was not operational for the audit period in 2017 and 2018 and there is no short-term plan to recommissioning the plant. Initial planning was that the carbon rich material would be re-used in the Electric Arc Furnaces (EAF) on site as well as sold to a brick maker. Unfortunately due to economic and environmental pressures, ArcelorMittal has decided to shut down the EAF's operated on site. The offset of the material is therefore no longer available. The prospective customers to procure and re-use the carbon rich material is also no longer available and alternative customers are being investigated. The demand for the product is therefore not enough to justify the operation of the plant continuously.

Due to the inactive state of the CSP very limited air quality monitoring data is available to review and analyse. It is therefore not completely accurate to report on the efficiency of the air pollution abatement technology such as the dust extraction system and electrostatic precipitators.

It must be noted that the CSP, the old product separation plant (PSP) and the third product separation strand deducting system at Kilns 5 & 6 makes use of the same stack in a closed system, which means that the CSP does not have its own unique stack. Emissions measurements at the stack are therefore a combination of emissions from the CSP, the PSP and the third product separation strand deducting system at Kilns 5 & 6. Due to the fact that the CSP was never fully operational, the air quality data available for the mentioned stack does not include emission from the CSP on a continuous basis. On the intermittent occasions when the CSP was operational the emissions from the stack did not increase significantly indicating that the extraction system may be sufficient to accommodate the CSP.

Condition 3.2.8.1 of the RoD as amended requires that continuous stack monitoring be conducted as per the AEL requirements. It has been confirmed that continuous stack monitoring are taking place.

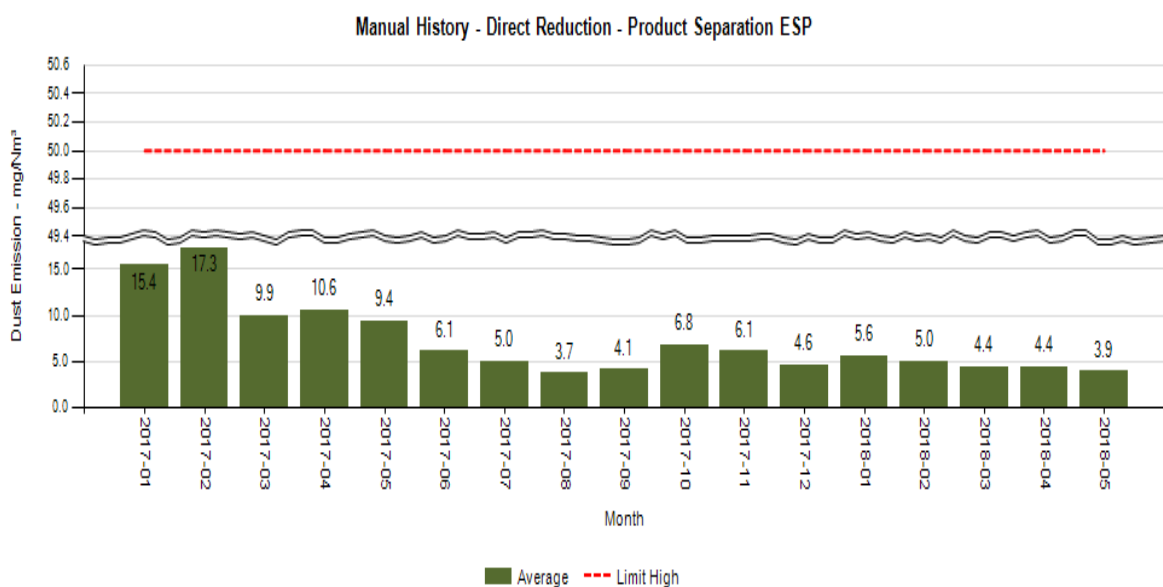


Figure 1 Dust emissions results

4.1.2.Spikes in Air Quality Monitoring Data

The plant was not operational during the audit period. The available monitoring data is representative of the other plants extracting to the PSP abatement equipment. No spikes were observed in the monitoring data which indicates that the abatement equipment is operating effectively. In the event that the production is started again at the CSP the performance of the abatement equipment indicates that it will have capacity to handle the load from the CSP.

4.1.3.Efficiency of the air Pollution Abatement Technology

During 2017 and 2018 the CSP was not operational. As explained above, the Electrostatic Precipitator emissions results obtained from that period were well within the limit of 50 mg/Nm³ thus concluding that the effectiveness of the abatement technology is satisfactorily in the event that the CSP will start up again.

4.1.4.Implementation of the Recommendations of Specialist Studies

The recommendations made in the air quality assessment are all complied with. Ambient monitoring of PM₁₀ and PM_{2.5} is being conducted by ArcelorMittal and reported to the local municipality as required.

The auditor was advised that it is not anticipated that new staff will be appointed to operate the CSP but that current staff will be trained and capacitated to manage and operate the plant. The facility has strict procurement policies and a range of criteria has been utilised to assess and choose contractors for the project.

4.1.5.General State of the CSP Plant

The plant was not operational at the time of the audit and has not been in operation for the entire 12 months.

4.1.6.Occupational Health and Safety Surveys

The condition related to the occupational health and safety surveys has been amended in order to align the requirements with the Occupational Health and Safety Act. Nerhsco is the independent appointed occupational health specialist conducting health surveys on site. The plant was however not in operation and no survey could be conducted in the area.

The facility is ISO 18001 certified and retained certification in 2017 after external verification. In depth assessment of the occupational health and safety survey results falls out of the scope of the audit as well as the jurisdiction of the environmental management authorities. It is therefore reasonable assumed that the Occupational Health and Safety issues receives the required attention and is in a process of constant improvement.

4.1.7.Log of Wastes

The CSP has not been operated during this audit period. The Dolochar waste was however attempted to be recycled as a whole without being beneficiated. Some material was sold to a recycling facility as a trial as is.

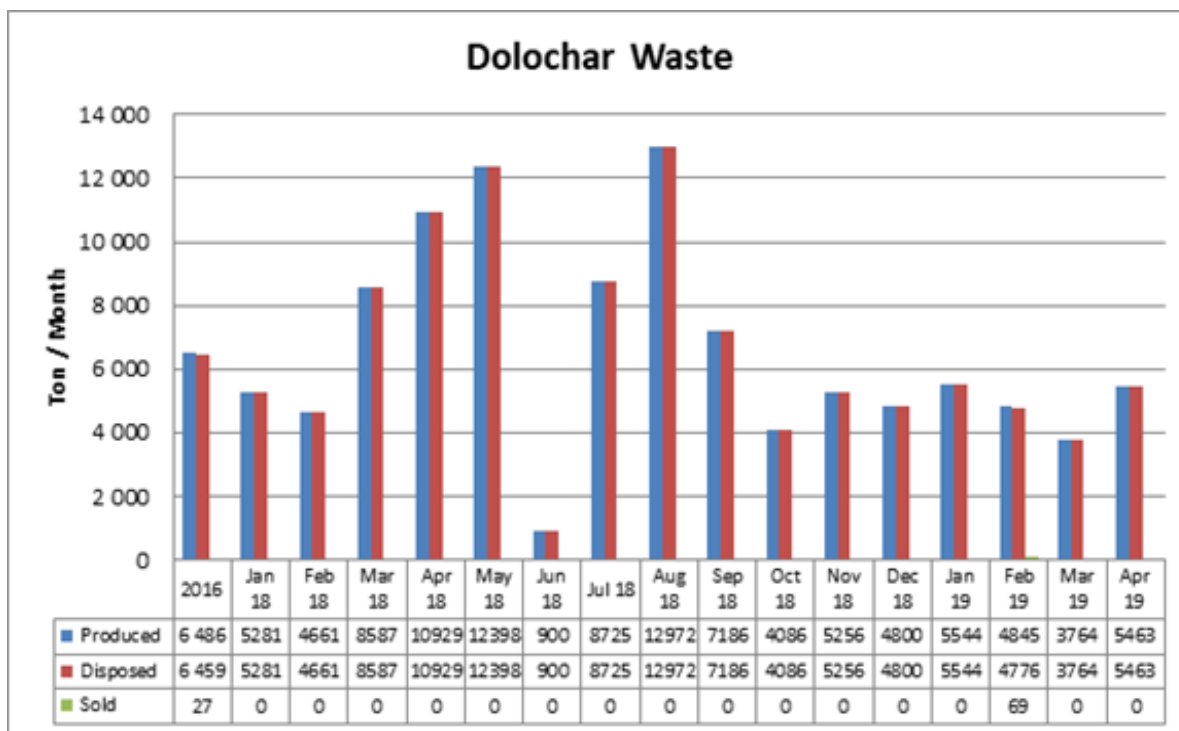


Figure 2 Waste log

4.1.8. Dolochar Reduction, Disposal and Reuse

ArcelorMittal indicated that there is currently no short term market available for the material.

It is recommended that the development of the market for Carbon rich product or Dolochar be pursued more vigorously. The dolochar material disposed on the internal waste disposal site is a fine material that has the potential to cause significant amounts of fugitive dust emissions. The dolochar waste constitutes 7% of the total amount of waste disposed on the internal waste site. The infrastructure has already been procured and installed and should be utilised. Management should commit to developing markets and ensuring plant availability and resources in order to delivery consistently once a market has been established.

4.1.9. Environmental Incident Report

No incidents were logged for the CSP plant specifically as the plant is not currently in production. Incident logs are available electronically for the DR plant as a whole.

4.1.10. Preventative Maintenance

A preventative maintenance plan is in place on the ArcelorMittal SAP system. The SAP Plant Maintenance comprises of the following activities such as inspection, to measures and establishes the actual condition of a technical system, preventive maintenance to measures and maintains the ideal condition of a technical system, repair to measures and restores the ideal condition of a technical system and other measures that need to be taken using the maintenance organization.

The system creates work orders or “job cards” to facilitate the routine maintenance, repairs, preventive maintenance, and projects. Through integration with other modules the data is always kept current and

processes that are necessary for Plant Maintenance are automatically triggered in other areas (for example, a purchase requisition for non-stock material in the Materials Management/Purchasing area).

This was not audited as the plant is not operational.

4.1.11. Compliance to the ROD conditions and the EMP

Refer to Table 1.

4.1.12. Environmental Management Plan

The EMP has been assessed and reviewed during the audit. The EMP was amended in line with the requirements of the Atmospheric emissions license in terms of the management of upset and abnormal conditions. No proof was given of resubmission of the EMP to the Department.

The plant is not operational at this stage and it is not expected to be re-commissioned in the near future. The facility has a potential market for the complete stream and the CSP might not be started up.

4.1.13. Details of any Discharges

None, as the plant is not operational.

4.1.14. Job Creation Due to the Project

No additional jobs were created for the operation of the plant to date. It is also not expected to in future create additional jobs. The operations responsibility will be incorporated into the existing resources available to the DR plant.

5. CONCLUSION AND RECOMMENDATIONS

Condition 3.4 (c) of the RoD, requires that an annual Environmental Performance Audit be undertaken by an independent external auditor and the audit report submitted to the GDARD, the first report being due twelve months after commissioning.

From Table 1, it can be concluded that ArcelorMittal's compliance with the RoD is satisfactorily. Some conditions have been met fully, while other conditions have not been met, although due to circumstances and also the lack of practical and non-retrospective conditions. Where non-compliances were recorded, the non-compliance was contextualised in terms of the intensity. This equates to an objective view of the seriousness of the non-compliance and also then leads to recommendations where moderate to major non-compliances have been observed.

It is recommended that the uptime or availability of monitoring data for the ambient air quality stations monitoring PM10 and PM2.5 be improved. The EMP must also be updated to align monitoring requirements and resubmitted to GDARD in future before the plant it operated again.

It is further recommended that resources should be directed towards finding and developing a sustainable market for the carbon rich product to be produced from the dolochar waste. The investment in the CSP was substantial and the project objectives are in line with the national waste hierarchy. The project has the potential to reduce the amount of waste disposed on the internal waste site with 7%.

---End---