



Centre for Environmental Rights

Advancing Environmental Rights in South Africa

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URGENT

18 June 2018

Dear Ms Ngcaba

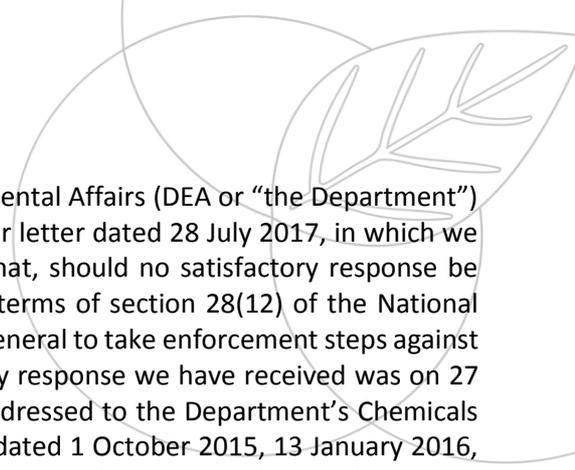
NOTICE IN TERMS OF SECTION 28(12) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998, IN RELATION TO ARCELORMITTAL SOUTH AFRICA' S OPERATIONS AT VANDERBIJLPARK

1. We act for the Vaal Environmental Justice Alliance (VEJA)¹, groundWork,² and numerous affected and concerned community members residing within the municipal area of the Sedibeng District Municipality ("the Municipality").

¹ VEJA is a democratic alliance of empowered civil society organisations in the Vaal Triangle, who have the knowledge, expertise and mandate to represent the determination of the communities in the area to control and eliminate emissions to air and water that are harmful to these communities and to the environment.

² groundWork is a non-profit environmental justice campaigning organisation working primarily in South Africa, in the areas of Climate & Energy Justice, Coal, Environmental Health, Global Green and Healthy Hospitals, and Waste.

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2. We refer to our prior correspondence with the Department of Environmental Affairs (DEA or “the Department”) in relation to ArcelorMittal South Africa (AMSA), and, in particular to our letter dated 28 July 2017, in which we asked about enforcement action taken against AMSA, and indicated that, should no satisfactory response be forthcoming by 21 August 2017, we were instructed to give notice in terms of section 28(12) of the National Environmental Management Act, 1998 (NEMA), directing the Director-General to take enforcement steps against AMSA in respect of the pollution from its operations. To date, the only response we have received was on 27 September 2017, which indicated that all correspondence should be addressed to the Department’s Chemicals and Waste Management branch. We refer also to our correspondence dated 1 October 2015, 13 January 2016, 10 June 2016, 26 September 2016, 30 September 2016, 15 May 2017, 29 September 2017, and 1 March 2018. To date, we have received no confirmation that the DEA has directed AMSA to take any of the steps set out in section 28(4) of NEMA.
 3. For the reasons set out in this letter and in our previous correspondence, it is clear that AMSA is causing, has caused, or may cause significant pollution or degradation of the environment, and that the DEA has failed to direct AMSA to take the steps contemplated in section 28(4) of NEMA.
 4. In the circumstances, we are instructed, as we hereby do, to give notice in terms of section 28(12) of NEMA, that, if we are not informed in writing within 30 days of this letter (i.e. by 18 July 2018) that AMSA has been directed to take the steps set out in section 28(4) of NEMA, we reserve our clients’ rights to apply to a competent court to compel you to take such steps.
 5. Our client has reason to believe that AMSA is in breach of the duty of care under section 28(1) of NEMA in that:
 - 5.1. AMSA, through its conduct and operations at its Vanderbijlpark Works, has caused and is causing, significant pollution and degradation of the environment;
 - 5.2. AMSA has failed to take reasonable measures to prevent the pollution and degradation from occurring, continuing or recurring; and
 - 5.3. there is no evidence that AMSA has taken adequate steps to minimise or rectify the pollution caused by it.
 6. The DEA’s 6-7 June 2016 inspection report (see paragraph 19 below) confirms that AMSA’s various operations at Vanderbijlpark are in breach of duty of care, and according to the DEA’s 2016-2017 National Environmental Compliance and Enforcement Report, these non-compliances have been reported to the Department’s Chemical and Waste branch.
 7. In terms of section 28(4) of NEMA, the Director-General may, “... *after having given adequate opportunity to affected persons to inform him or her of their relevant interests, direct any person who is causing, has caused or may cause significant pollution or degradation of the environment to –*
 - (a) cease any activity, operation or undertaking;*
 - (b) investigate, evaluate and assess the impact of specific activities and report thereon;*
 - (c) commence taking specific measures before a given date;*
 - (d) diligently continue with those measures; and*
 - (e) complete those measures before a specified reasonable date**Provided that the Director-General may, if urgent action is necessary for the protection of the environment, issue such directive, and consult and give such opportunity to inform as soon thereafter as is reasonable”.*
 8. Some of the evidence that AMSA has caused and is causing, significant pollution and degradation, and has failed to take reasonable measures to prevent the pollution and degradation from occurring, continuing or recurring, since at least 2001 to date is outlined below.

AMSA'S MASTER PLAN: IDENTIFIED ENVIRONMENTAL RISK IN 2002 AND 20 YEAR PLAN

9. We refer to the litigation in *Company Secretary of Arcelormittal South Africa and Another v Vaal Environmental Justice Alliance*³ instituted by VEJA, compelling AMSA to provide access to a copy of its Environmental Master Plan ("the Master Plan"), in accordance with Promotion of Access to Information Act, 2000 (PAIA). The Master Plan comprises a consolidation of numerous specialist tests for pollution levels and environmental impacts at AMSA's operations, and informed AMSA's 20 year environmental management strategy for alleviating pollution, and for rehabilitating its operation sites.
10. VEJA was successful both in the High Court and on appeal in the Supreme Court of Appeal (SCA), where the court ordered that AMSA must make its Master Plan records available. In the judgment,⁴ the SCA recognised, through evidence presented to it, that AMSA "is a major, if not the major, polluter in the areas in which it conducts its operations."⁵ The SCA emphasised the need for transparency in these matters, and held that "[AMSA's] industrial activities, impacting as they do on the environment, including on air quality and water resources, has [sic] an effect on persons and communities in the immediate vicinity and is ultimately of importance to the country as a whole...[and] are matters of public interest....corporations operating within our borders ... must be left in no doubt that, in relation to the environment in circumstances such as those under discussion, there is no room for secrecy and that constitutional values will be enforced".⁶
11. The Master Plan records, dated 2001-2003, were made available to VEJA in December 2014, and identified that the main causes, impacts and risks from AMSA's practices relates to the surface water, waste disposal, air quality, and residual impacts related to groundwater.⁷ As appears from what is set out below, the same underlying issues leading to pollution still persist today. An overview of AMSA's primary impacts and risks as a result of its operations, as indicated in the Master Plan, are as follows:
- 11.1. **Groundwater and surface water pollution:**
- 11.1.1. Primary (direct infiltration at source) and secondary (reticulation away from primary source with subsequent infiltration) inorganic and organic contamination were found.⁸
- 11.1.2. The contaminants were from various unlined facilities including at the: "existing slag dump, coke and stockpiles; product stockpiles; evaporation pounds; slurry ponds; maturation ponds and unlined sumps and canals....contribute to inorganic contamination of ground water."⁹ AMSA's groundwater report set out in detail how placing waste and other materials in certain unlined areas and conditions would result in contamination of the underlying groundwater system.¹⁰
- 11.1.3. Specific pollution problems mentioned include: coal tar entering the Coke Oven/Suprachem area;¹¹ coal tar pits near Dam 10;¹² frequent sulphuric acid leakages resulting in ground pollution;¹³ the highly flammable sludge (comprised of oil and tallow and heavy metals) at Central Effluent

³ *Company Secretary of Arcelormittal South Africa and Another v Vaal Environmental Justice Alliance* 2015 (1) SA 515 (SCA).

⁴ Paras 71 and 82.

⁵ Para 72.

⁶ Paras 52 & 71.

⁷ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 34

⁸ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 20

⁹ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 20; Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 58

¹⁰ Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 57

¹¹ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 20; Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 58

¹² Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 20; Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 258

¹³ Environmental Master Plan: Specialist Report – Industrial Water Document IVS/SR/03, Vol 1 of 2, pg 158

- Treatment Plant (CETP) which are directed to unlined dams, then into the discharge canal;¹⁴ and slag water and sludge discharges of 100-300m³ at Blast furnace.¹⁵
- 11.1.4. The pollution extended beyond AMSA's perimeter; in some cases 1.2km along the Leeuspruit.¹⁶ For instance, inorganic plumes extended towards La Mont Park and Louisrus South Small Holdings.¹⁷ Dense Non-Aqueous Phase Liquids (DNAPL) in the form of coal tar was also found within AMSA's perimeters, as many as 18 of 44 boreholes around the Central Residue Management Facility (CRMF) alone, and extended beyond its property.¹⁸
 - 11.1.5. Borehole water testing found that there was non-compliance in terms of inorganic contaminants, as there was elevated concentrations of Calcium (Ca), Magnesium (Mg), Sulphate (SO₄), Chloride (Cl), Sodium (Na), Fluoride (F), Iron (Fe), and Manganese (Mn).¹⁹ This was as a result of AMSA's operations at Dam 1-4 and 10, Maturation ponds, Coal Stacking area, CETP Sludge dams, Blast Furnace Sludge Dams, Coke Store Area, and Mill Scale Stock Yard.²⁰
 - 11.1.6. In terms of organic contamination, one borehole (IVB-S150) revealed significant contamination of coal tar (near Dam 10 and the Blast Furnace Sludge Dam operation), and the pollution extended some 5.56m from the borehole.²¹ Coal tar pools were observed at boreholes IVB-D54, 58, 59, 65, 67 and 150, and this pooling was found deep underground; in some cases, as far as 47m below ground.²² The shallow aquifer boreholes were examined for Volatile Organic Compounds (VOC) and Poly Aromatic Hydrocarbons (PAH), and it was found that contaminants were high near borehole IVB-D125, and moderate to high near IVB-D52-59, 67, and 150.²³
 - 11.1.7. In terms of the water discharged to the Leeuspruit and Rietspruit Canal, *"there is potential unacceptable risk to both human health and the environment"* from the Rietspruit Canal and Frikkie Meyer weir discharges.²⁴ It was found that the Rietspruit canal increases the electrical conductivity value ²⁵in the Rietspruit by 33.7% (which was expected to improve once Zero Effluent Discharge (ZED) was implemented in 2005).
 - 11.1.8. When defining the key risks, it was found that *"the degree of ground water contamination within the IVS [Iskor Vanderbijlpark Steel] perimeter poses an unacceptably high risk to both human health, if available for human consumption, and the environment."*²⁶ AMSA identified many boreholes in the surrounding areas, some of which were used for domestic and industrial consumption.

11.2. Dust fallout:

- 11.2.1. The dust near the slag and open veld areas *"is a significant source for both surface and ground water contamination.....with a narrow plume towards Leeuspruit ground water discharge Zone"*.²⁷

¹⁴ Environmental Master Plan: Specialist Report – Industrial Water Document IVS/SR/03, Vol 1 of 2, pg 90-94

¹⁵ Environmental Master Plan: Specialist Report – Industrial Water Document IVS/SR/03, Vol 1 of 2, pg 142

¹⁶ Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 319

¹⁷ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 20-21

¹⁸ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 20-22; Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 57-58

¹⁹ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 22; Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 44-48

²⁰ Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 44-48

²¹ Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 49

²² Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 50

²³ Environmental Master Plan: Specialist Report - Groundwater Series I Document IVS/SR/02, Vol 5 of 7, pg 50-51.

²⁴ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 24

²⁵ Electrical Conductivity of water is its ability to conduct an electric current, due to salts or other chemicals that is dissolve in it. The purer the water the lower the conductivity.

²⁶ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 23-24.

²⁷ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 22

11.3. Soil Contamination:

- 11.3.1. Soils within the CRMF are contaminated by inorganic salts which contribute to groundwater contamination,²⁸ and soil in the area near the South Eastern Slag “recorded high contamination levels of Ca, Mg and SO₄, which corresponds with the analysis of the dust fall-out within the operation”.
- 11.3.2. It was found that “approximately 50% of the surface soil samples within the works areas were impacted on by manganese (one sample by zinc) to the extent that it indicates a potential risk to the environment. Twenty nine percent of soil samples indicated potential risk to humans due to Al, Fe, Mn or Ti, groundwater being the exposure pathway.”²⁹

11.4. Air pollution:

- 11.4.1. The report revealed that hydrogen sulphide (H₂S) was released at 70m³⁰ and carbon dioxide (CO₂) is being released.³¹ The air pollution was considered to be of no risk to human health or the environment; however, the dust fallout leaches into the ground and contributes to water pollution risks.³²
 - 11.4.2. We point out that these conclusions to the effect that air pollution was insignificant were subsequently retracted in AMSA’s 2014 Environmental Summary Report³³ (which AMSA made available when it provided the Master Plan), revealing that air pollution was, at the time in fact, problematic.
12. These reports are dated 2001-2003. As a result, AMSA was aware of the significant pollution from its operations since at least that date. It was, or, at the very least, should also have been aware of the conditions that gave rise to the pollution (such as storing stockpiles and waste materials on unlined or unbunded areas) and that this should be avoided. Whilst these causes have been known since 2001, many have not been rectified, and many of the same problems still persist. We elaborate on this below.

AMSA’S NON-COMPLIANCE BETWEEN 2007-2016 ACCORDING TO THE DEA’S NATIONAL ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT REPORTS (NECERS) AND DEA’S 2016 INSPECTION

13. AMSA Vanderbijlpark’s operations have been listed in several NECERS for numerous non-compliances with various environmental laws and licence conditions.
14. The 2010-2011 NECER indicated that there was an inspection that took place at AMSA during 3-7 November 2008, and it was found that there was a lack of waste permits for the storage of sludge and no registration certificates for certain scheduled processes. There were also non-compliance with environmental authorisation conditions, unauthorised activities - with section 24G NEMA rectification applications, and environmentally-harmful practices as a result of its waste management practices, uncontrolled emissions, as well as dust emissions.³⁴
15. The same NECER indicated that a follow-up inspection took place during 23-27 August 2010, and it was found that there was: discharge of treated stormwater that did not comply with the standards in the Water Use Licence (WUL); a failure, on AMSA’s part, to appoint an appropriately-knowledgeable independent Environmental Control Officer for various technical processes for the duration of construction and commissioning; a failure to fulfil information requirements in the Environmental Management Plans submitted to the Gauteng Department of

²⁸ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 21

²⁹ Environmental Master Plan: Identification of secondary sources of pollution, environmental and human risk assessment Volume 1, Document IVS/SR/029(a), pg xiv

³⁰ Environmental Master Plan: Specialist Report – Industrial Water Document IVS/SR/03, Vol 1 of 2, pg 151

³¹ Environmental Master Plan: Specialist Report – Industrial Water Document IVS/SR/03, Vol 1 of 2, pg 158

³² Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 23

³³ AMSA Environment: Summary Report December 2014, pg2-3

³⁴ National Environmental Compliance & Enforcement Report 2010-11, pg 44-45

Agriculture and Rural Development (GDARD); a failure to submit such information timeously; and a failure to notify DEA within 24 hours of its deviation from conditions of permits.³⁵

16. The 2011-2012 NECER identified the same issues outlined in paragraphs 13-14 above, and noted that, due to DEA's "consolidation" of AMSA's Atmospheric Pollution Prevention Act, 1965 (APPA) permit (presumably meaning process of transitioning to an atmospheric emission licence (AEL) under the Air Quality Act, 2004 (AQA)), certain sections of the plant were not inspected during the follow-up inspection conducted by GDARD in August 2010, and a decision was made to delay further monitoring until after the AEL was issued; and that a criminal investigation was initiated in respect of the non-compliances and ongoing incidents at the site.³⁶
17. The 2012-2013 NECER again identified the same issues outlined in 13-15 above, and stated that a pre-compliance notice was issued to AMSA on 24 July 2012, regarding its non-compliance with AEL conditions related to the exceedances of PM (particulate matter) release limits. A final compliance notice in this regard was issued to AMSA on 26 September 2013, which included an instruction to cease operations of certain facilities and associated activities.
18. The NECERs of 2013-2014 and 2015-2016 did not indicate what happened subsequent to the compliance notice issued or the criminal investigation mentioned in the previous reports.
19. The NECER 2016/2017 report indicates that an inspection took place on 6 to 7 June 2016 and the inspection report was given to AMSA in November 2016. According to the NECER, the DEA found that AMSA was not compliant with various conditions of the Waste Management Licence (WML) and AEL, including: PM exceedances; gas analyser testing not conducted at certain plants; hydrochloric acid (HCl) monitoring not conducted; annual air quality monitoring reports not meeting the legal requirements of section 21 of AQA; dust fallout exceedances; unauthorised waste disposal; poor stormwater management; and poor management of waste disposal sites.³⁷ According to the inspection report itself, the DEA identified that there were numerous non-compliances with various environmental legislation and licence conditions resulting in: air pollution; water pollution; PM exceedances; abatement utilisation rate non-compliance; a failure to provide sampling results; AMSA's reports (including external reports) not meeting the required legal standard; a failure to mitigate dust pollution; improper handling, storage and disposal of toxic waste; poor stormwater management; and conducting activities without authorisation. According to the NECER, the action taken by DEA is that the report had been forwarded to the Chemicals and Waste Management branch for consideration.
20. During April 2018, we were advised by the DEA that a pre-compliance notice was issued to AMSA in March 2018; but that that no further details could be provided without a PAIA request, which has since been made. We also understand that there is an ongoing a criminal investigation. To date, we do not have any details of the compliance action taken – or to be taken, nor details as to whether this pertains to air, waste, water, or land contamination issues, and whether these steps are adequate to halt the pollution emanating from AMSA Vanderbijlpark operations.

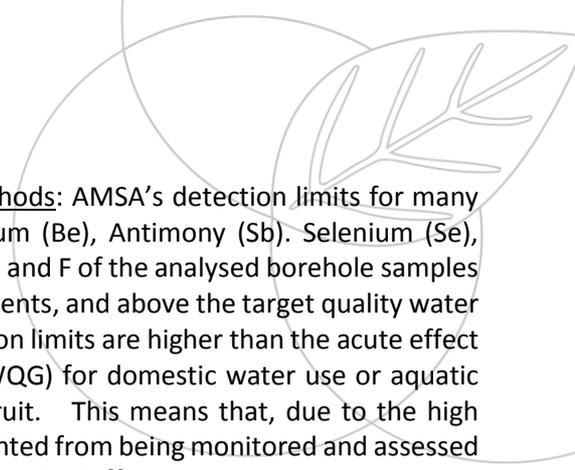
AMSA'S OPERATIONAL CONCERNS 2014-2017

21. Upon request, AMSA in 2016 and 2017 provided CER with the raw data on the borehole water sample testing conducted during 2014 – 2017, as well as various external audit reports. A copy of the data provided is attached.
22. Expert Jane Reddick has examined the borehole data of 2014-2015 and the first half of 2016, together with AMSA's Master Plan, AMSA's various external audit reports, and DEA's inspection report of 2016, and has found the following:

³⁵ National Environmental Compliance & Enforcement Report 2010-11, pg 44-45

³⁶ National Environmental Compliance & Enforcement Report 2011-12, page 42

³⁷ National Environmental Compliance & Enforcement Report 2016-2017, page 53

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- 22.1. unacceptable detection limits and AMSA's water monitoring methods: AMSA's detection limits for many toxic constituents (such as Aluminium (Al), Arsenic (As), Beryllium (Be), Antimony (Sb), Selenium (Se), Cadmium (Cd), Mercury (Hg), Lead (Pb), Copper (Cu), Zinc (Zn), Mn and F of the analysed borehole samples were set too high to detect the presence of some of these constituents, and above the target quality water range (TWQR) for chronic effect values. In many cases, the detection limits are higher than the acute effect value risk limits for South African Water Quality Guidelines (SAWQG) for domestic water use or aquatic ecosystem, or resource quality objectives (RQOs) for the Rietspruit. This means that, due to the high detection limits, many toxic constituents outlined above are prevented from being monitored and assessed for compliance in accordance with current legislation and water standards;³⁸
- 22.2. AMSA's operation causing pollution outside its perimeters: activities within the AMSA site have in the past impacted, and continue to impact on the water quality surrounding its area of operation, posing unacceptable risk to human health and/or risk to the environment. Some of the identified impacts are in the Western Boundary, North East Boundary, and Louisrus South area, as well as other areas. The available data indicate that, during 2014-2015, there were a number of boreholes outside AMSA's perimeters that were in non-compliance with human health and aesthetic risk limits;³⁹
- 22.3. various non-compliant water quality constituents: there were elevated or unacceptable levels of Electrical Conductivity (EC) (which indicates the water sample's ability to conduct electricity as a result of the presence of dissolved ions), Cl⁻, SO₄, Mn, Fe, F, Calcium (Ca), Ammonia (NH₃), and Naphthalene (C₁₀H₈) detected at several boreholes, and that groundwater poses a risk to human health;⁴⁰
- 22.4. insufficient borehole monitoring data inside and outside AMSA's operations: there are insufficient borehole data available to accurately delineate the impact zones, particularly in the areas beyond western and eastern perimeters. For instance, no borehole data were available opposite Leeuspruit, which was identified as an area of impact in the Master Plan. Further, AMSA is only required to monitor 116 boreholes, most of which are located within the site perimeter, and of the 116, a significant number (only 61 had proper co-ordinates and monitoring samples) are not being monitored due to damage, theft and inaccessibility issues;⁴¹
- 22.5. AMSA's unauthorised operation practices causing risk to groundwater contamination: AMSA's various practices are in non-compliance with environmental legislation and licence conditions, and pose an increased risk to groundwater contamination. Some of these practices include: disposal of wet sludge in the dry metallurgical disposal site (thus increasing the leachability and stress on the liner system designed for dry waste only); unauthorised usage/disposal of blast furnace slag (a hazardous waste material) being disposed of in General Waste Disposal Site; inadequate stormwater and leachate management system; and storage of waste in unlined or unbunded areas;⁴²
- 22.6. AMSA non-implementation of remediation measures: there were various preventative and remediation measures identified in the AMSA's Master Plan to prevent and minimise groundwater contamination, such as proper lining, bunding, storage and disposal of stockpiles, hazardous wastes and by-products (i.e blast furnace slag, mill scale, candy sludge, etc), as well as putting proper leachate and stormwater management systems in place. However, according to DEA's inspection which took place in 2016, the preventative and remediation measures identified above still have not yet been implemented; alternatively, are inadequate;⁴³

³⁸ Reddick, J (2017) An assessment of the Impact of Arcelormittal Vanderbijlpark Works on Groundwater Quality, pg 3-5, 26. 30.

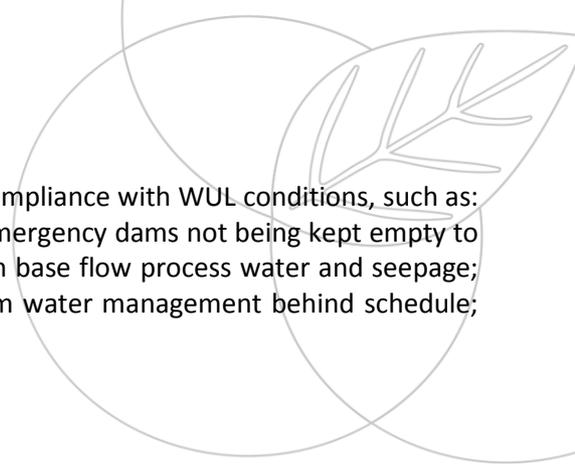
³⁹ Reddick, J (2017) An assessment of the Impact of Arcelormittal Vanderbijlpark Works on Groundwater Quality, pg5, 25-26

⁴⁰ Reddick, J (2017) An assessment of the Impact of Arcelormittal Vanderbijlpark Works on Groundwater Quality, pg5, 25-26.

⁴¹ Reddick, J (2017) An assessment of the Impact of Arcelormittal Vanderbijlpark Works on Groundwater Quality, pg5, 27-30.

⁴² Reddick, J (2017) An assessment of the Impact of Arcelormittal Vanderbijlpark Works on Groundwater Quality, pg27-28.

⁴³ Reddick, J (2017) An assessment of the Impact of Arcelormittal Vanderbijlpark Works on Groundwater Quality, pg27-28.



22.7. non-compliance with WUL conditions: there were various non-compliance with WUL conditions, such as: discharge of effluent - despite claims of being a ZED operation; emergency dams not being kept empty to deal with upset conditions; stormwater drains contaminated with base flow process water and seepage; discharge storm water not compliant with discharge limits; storm water management behind schedule; and the WUL review being overdue since 2014.

23. A copy of Reddick's report is available on request.

24. 2016 - 2017 borehole results were also analysed by an expert Mark Chernaik and his findings are as follows:

24.1. AMSA's detection limits for toxic constituents are still too high: AMSA continues to use methods with high (insensitive) detection limits, that means it is impossible to determine whether toxic constituents are present at harmful levels. For example, results for cadmium are reported as <0.01 mg/L (equivalent to 10 µg/L), whereas the health-based limit for cadmium in drinking water - per South African National Standard (SANS) 241:2015 - is 0.003 mg/L (equivalent to 3 µg/L); results for arsenic are frequently reported as <0.12 mg/L (equivalent to 120 µg/L), whereas the health-based limit for cadmium in drinking water per South African National Standard (SANS) 241:2015 is 0.010 mg/L (equivalent to 10 µg/L); and

24.2. the levels of EC, Cl⁻, SO₄, Mn, F, Ca, NH₃ at various boreholes frequently exceed SANS: 241: 2015.

CONTAMINATED LAND

25. In addition to the above, there are ongoing concerns related to land contamination. AMSA notified DEA on 20 March 2015 of the possible land contamination at its Vanderbijlpark operation. On 14 April 2015, DEA instructed AMSA to investigate the area, and provide DEA with a site assessment report, to confirm whether or not there is land contamination. Despite numerous undertakings by AMSA over the years that the land contamination site assessment report would be finalised, it was only made available on 21 November 2017, more than two-and-a-half years later.

26. The report appears to have certain serious deficiencies, such as: the exclusion of certain portions of land from the assessment; the omission of health and environmental impacts; the limitation of the number of boreholes from the assessment; the exclusions of the most recent borehole sampling results; and the inclusion of incorrect soil sampling standards, among others. Notwithstanding these deficiencies, however, the report found that there was accumulation of DNAPL of 3.02m thick at one borehole, and that light non-aqueous phase liquid (LNAPL) concentrations are increasing, and plume migration is taking place off-site. The DNAPL and LNAPL contamination and plume migration was also reported to be a problem and experienced more than 15 years ago, as outlined in paragraph 11.1 above.

27. As appears from our letter dated 1 March 2018, a copy of which is attached, we are currently seeking that the DEA intervene and direct AMSA to take immediate measures for remediation, whilst simultaneously directing AMSA to remedy the deficiencies in the report. Despite numerous follow-ups, and more than 6 months having passed since the report was made available; to date, we have not heard from DEA in this regard.

EXTERNAL AUDIT REPORTS

28. In addition to concerns related to water outlined above, AMSA's most recent 2017 and 2018 external audit reports reveal that there are still various non-compliances with various environmental legislation and licences. For instance, whilst AMSA's WUL (issued in 2009) is valid for 20 years, it must be reviewed every 5 years. It has not been revised since 2014, despite there being new drinking water standards - SANS241:2015 - applicable since 2015. The AEL lapsed on 31 March 2017, and there was non-compliance with the abatement equipment downtime rate for most of 2016-2017; as well as a failure to provide sampling results for two its Oxygen Steel Making Operations and Foundries (SO₂ & NO_x); Galvanizing and Pickle Lines (PM); as well as its coke and chemical

operation (total VOCs). In addition, abatement equipment for the Tar Plant has not been completed, and no monitoring is taking place; there is non-compliance in respect of emission standards for the Sinter Main Stack (PM) and Coke ovens (H₂S); the Coke Oven Clean Gas and Water (COCGW) project is not properly in place; and flaring of sulphur-rich gas is taking place, amongst other non-compliances.

29. As can be seen from the preceding paragraphs, AMSA's non-compliances are historical and on-going. Many of the same causes which gave rise to air, water, and ground pollution which were identified in AMSA's 2003 Master Plan (such as improper handling of waste and stockpiles, storage of hazardous material in unlined or unbunded areas, mitigation measures delayed or not being implemented) persist today.

AMSA'S FAILURE TO TAKE REASONABLE MEASURES TO PREVENT THE POLLUTION AND DEGREDDATION FROM OCCURRING, CONTINUING OR RECURRING

30. In AMSA's Master Plan 2001-2003, there were over 20 projects identified to minimise these risks to environment and health, and these were ordered by urgency, and costs and timeframes were provided. The most immediate and necessary projects were indicated as: the construction of the Main Treatment Plant to start immediately in 2003, to be completed in 2005 at a cost of R150 million; the COCGW project to begin in 2003 to be completed in 2004 - with a cost of R189.2 million; the Sinter Clean Gas Unit Pilot plant also to begin in 2003, to end in 2004 - at a cost of R15 million; and the full-scale Sinter Plant, which was to begin in 2005, to be completed in 2007 - at a cost of R 152 million.⁴⁴

31. Despite these projects being defined as urgent, and although these projects were "committed" to in 2002 according to the Master Plan, the construction did not begin until much later, thereby increasing the timeframes and costs; and, of greater concern, having the effect that the pollution continued unabated in the meantime. For instance, despite the commencement and completion dates as per its commitments outlined above, the COGWC project only commenced in 2007, and was apparently completed in 2010, and the Sinter Clean Gas Unit was only completed in 2012.⁴⁵

32. With reference to the COCWC project, the Claus reactor to remove the sulphur became operational for a few months in 2010, shut down at the end of 2010, and has not operated to this day. The COCWC project required immediate attention - according to the 2003 Master Plan. However, more than 7 years have passed since "completion" in 2010, and more than 14 years since AMSA has committed to the project, and the project is yet to be recommissioned. Instead, it appears that, for some years now, the recommissioning has been shelved on the basis of availability and allocation of funds.⁴⁶ In the interim, flaring of H₂S gas has continued unabated, and for the period of January to July 2017, H₂S emission standards have been exceeded 6 out of the 7 months, and exceedances are sometimes more than 5 times the allowed limit.⁴⁷ Moreover, the flaring of sulphur-rich gas has been identified as a recurring problem in AMSA's external audit reports of 2015, 2016, 2017, and 2018 and in each report, it states that AMSA is in the process of sourcing advice for possible solutions.

33. AMSA's 2014 Environmental Summary Report details remediation efforts conducted by AMSA to remediate pollution within the Works perimeter, but fails to provide any evidence of the remediation of the contamination outside the plant. It also does not outline how it considers any remediation measure to have been successful.

34. As identified by the NECERS, the 2016 inspection report, and external audit reports, air, water, and ground pollution persist to this day, and the causes which result in such pollution are still identified today. Furthermore, there have been insufficient mitigation measures and/or undue delays in such measures taken by AMSA.

⁴⁴ Environmental Master Plan: Summary Report Series I Document IVS/MP/001, pg 30, 36

⁴⁵ AMSA Environment: Summary Report December 2014, pg6-7, 10-11, 17-19.

⁴⁶ AMSA External Audit Report: COCGW Project, 29 September 2017, pg 6,10, 32.

⁴⁷ AMSA External Audit Report: COCGW Project, 29 September 2017, pg 32

35. AMSA's non-compliance with various environmental legislation and licence conditions, as well as land contamination issues, were relayed to various departments within DEA, as set out below.

NOTIFICATION TO VARIOUS ENVIRONMENTAL DEPARTMENTS AND EXHAUSTION OF REMEDIES

36. The correspondence referred to is voluminous. Kindly let us know whether you require copies of any of these letters.
37. With regard to the land contamination issues, the need for a land contamination site assessment report by AMSA, and the request for the site assessment report to be finalised was conveyed to:
- 37.1. Deputy Director General, Chemicals and Waste Department of DEA, as well as to the Director and Deputy Director of Land Remediation: initial correspondence was sent on 1 October 2015, requesting a deadline by which AMSA would submit its contaminated site assessment report, followed by correspondence on 3 November 2015 and 13 January 2016. This was followed by correspondence in respect of interpretation of the Waste Act, 2008, on 10 June 2016. Further correspondence dated 26 September 2016 was sent on 29 September 2016. The 26 September 2016 letter requested confirmation of the deadline within which AMSA was to submit its land contamination site assessment report, and outlined the concern that more than 1 year and 5 months had passed since AMSA was required to conduct and submit its site assessment. This, despite AMSA communicating that they anticipated the assessment to be completed by May 2016. Details were also requested as to whether DEA had been monitoring and following up with AMSA on the site assessment progress, and when DEA anticipated receiving the report. On 15 May 2017, further correspondence was addressed, again expressing concern that the contaminated land assessment report had not yet been received, despite AMSA's further undertaking to submit the report by April 2016; and despite Dr Tshitangoni, the DEA's Director of Land Remediation, stating on 26 and 27 September 2016, that they are following up on the report with AMSA. It was requested that DEA intervene to ensure AMSA's site assessment was completed and to advise us of the action being taken by no later than 5 June 2017.
- 37.2. DEA, Compliance and Enforcement: the letter dated 28 July 2017, referred to previous correspondence dated 30 September 2016 and 15 May 2017, requested details regarding the action DEA had taken to obtain AMSA's site assessment report, and to revert by 21 August 2017. Follow up correspondences were sent on 15 and 21 August 2017.
- 37.3. To date, despite numerous correspondence to both the DEA's Compliance and Enforcement and Chemicals and Waste branches, no response has been received as to what action it has taken – or will take - against AMSA to obtain the land contamination site assessment report. As set out above, this report was eventually made available to us on 21 November 2017. As set out in paragraph 27 above, on 1 March 2018, we requested DEA's intervention regarding the contamination site assessment report and the pollution identified therein; however, to date, we have not yet received a response.
38. In respect of water pollution, issues, the following correspondence was addressed to the Department of Water and Sanitation (DWS):
- 38.1. several concerns related to section 19(1) of the National Water Act, 1998 and section 28 of NEMA, which emanated from AMSA's 2003 Master Plan, were identified, and sent to the Director General and Minister of the DWS on 20 June 2015. After several follow-up letters, on 2 October 2015, the DWS stated that various rehabilitation and mitigation measures had been implemented - such as an upgrade to institute a ZED system from 2004-2005 - and that it was playing its required regulatory role.
- 38.2. On 15 December 2017, correspondence was sent to DWS stating that, despite DWS's regulatory role and AMSA's remediation efforts, AMSA's most recent external audit reports, DEA's 2016 inspection report,

AMSA's water monitoring data, and the land contamination site assessment report, all indicate that AMSA's facility is having a negative impact on the water. As such, it was requested that DWS urgently intervene and review AMSA's WUL and take measures to prevent pollution emanating from AMSA's premises.

38.3. After several follow ups, on 5 April 2018, the Acting Director-General responded in a letter dated 29 March 2018, stating that, whilst she shares our concerns, "*considerable progress has been made since 2004 to address these issues.*" She furthermore was of the view that "groundwater remediation is a long-term project" and therefore "*remedial action can take several years to manifest progress... and all known active groundwater contamination sources from the site have been eliminated since the inception of the remedial actions and trends are appearing regarding an improvement in groundwater quality.*" In terms of remediation, the remediation plan contemplated by the contaminated land assessment report (which is apparently being compiled by AMSA's independent consultant) will dictate contaminated and groundwater initiatives going forward. Further, DWS is of the view that despite AMSA struggling to maintain ZED for many years, and being having made aware of the land contamination site assessment report indicating DNAPL plume in the groundwater, the WUL need not be reviewed.

38.4. The DWS's hands-off approach is extremely concerning, and seem to directly contradict AMSA's own external audit reports. AMSA's land contamination site assessment suggests that, whilst the source of the pollution – apparently Dam 10 – was "*successfully remediated and... the source of contamination has been removed*",⁴⁸ "*relics from...Dam 10 source area are still present*".⁴⁹ Contrary to DWS's assertion that the source of the pollution has been eliminated, it appears that despite the rehabilitation measures taken almost 7 years ago in respect of Dam 10,⁵⁰ the pollution still remains. Measures previously taken therefore appear to have been inadequate and further measures may be required. Furthermore, contrary to DWS's assertions, the recommendation arising out of the **2014 and 2017 External Audit Report is that AMSA should urgently follow up with DWS regarding the WUL review**, which was due to take place during 2014, **and that public participation should be integral to the review process**. Further, that AMSA should urgently develop a Process Water Management Strategy (PWMS) with quantifiable objectives and timeframes and to agree with the DWS on effluent discharge management until the PWMS is developed. Lastly, a Storm Water Management Plan (SWMP) should be reviewed and new target dates set for the implementation.⁵¹ It should be borne in mind that subsequent to the issuance of the WUL, SANS drinking water standards have been updated, and this should also be taken into account. DWS therefore simply cannot ignore these recommendations.

39. In respect of various non-compliances and compliance measures identified in NECER, the 2016 DEA inspection report, and AMSA's external audit reports, numerous correspondence was directed to the following departments:

39.1. Gauteng Department of Agriculture and Rural Development (GDARD): initial correspondence was to GDARD on 26 June 2015. On 3 July 2015, GDARD responded, stating that the only notices issued were on 24 July 2014 and 26 September 2012, and that measures taken in terms of the AEL should be directed to Sedibeng Municipality. Further correspondence outlining the suspected environmental non-compliance identified in AMSA's various external audit reports between 2014-2016 was sent to GDARD, Sedibeng, the Air Quality Officer, and the DEA's Environmental Compliance and Enforcement branch on 30 September 2016. The identified instances of non-compliance included: fugitive emissions, non-operation of COCGW project, abatement utilisation rate non-compliance, and non-compliance with the AEL. The letter requested details of enforcement action taken against AMSA by no later than 14 October 2016. On 17 October 2016, GDARD advised that a joint inspection with DEA had taken place in July 2016, and that DEA would be responsible for any enforcement action. On 20 October 2016, the DEA advised that a PAIA

⁴⁸ GCS 10 November 2017 Vanderbijlpark Works Contaminated Land Assessment, page 65.

⁴⁹ GCS 10 November 2017 Vanderbijlpark Works Contaminated Land Assessment, pages vii & 70.

⁵⁰ Zantow 27 January 2017 External Audit Report in Fulfilment of Water Use Licence, page 21.

⁵¹ Zantow, 17 July 2014, External Audit Report in Fulfilment of the Water Use Licence for AMSA, Executive Summary.

- request was required to obtain the 2016 inspection report – which was duly done. On 4 December 2017, GDARD requested that all non-compliance concerns be directed to DEA.
- 39.2. Sedibeng Municipality: in accordance with GDARD's response outlined in paragraph 39.1 above, further correspondence was sent to Sedibeng Municipality on 3 July 2015. In correspondence dated 9 September 2015, the Sedibeng Municipality stated that AMSA had been issued with a compliance notice on 26 September 2012 by GDARD for non-compliances related to AEL conditions, which was objected to by AMSA. Following the review of information provided by AMSA, it was held that AMSA was in compliance with the compliance notice, and indicated that the facility is under constant monitoring. Follow-up correspondence was sent to Sedibeng on 30 September 2016, advising that, despite the declaration of Vaal Triangle Airshed Priority Area over 10 years ago, air quality had not improved in the area. It also attached a letter addressed to GDARD and Sedibeng on 30 September 2016, outlining AMSA's non-compliance with various environmental legislation and licence conditions, despite assurances by Sedibeng Municipality on 7 July 2016 that AMSA was in compliance. In this letter, it was requested that details be provided as to progress that was being made and actions to be taken to address air quality management within Sedibeng's municipal area. This was followed up in a letter on 14 December 2016, and on 9 March 2017, Sedibeng stated that it does not have the required Air Quality Officer and the capacity to enforce the AQA, and that DEA and GDARD assist with the inspection, compliance, and enforcement matters. Once a new Air Quality Officer was appointed, on 24 August 2017, correspondence was dispatched to Sedibeng, addressing AMSA's non-compliance with various environmental legislation and AEL conditions as outlined in the 2016 inspection report, as well as in AMSA's various external audit report of 2014-2017. On 23 November 2017, Sedibeng Municipality advised that they were in the process of addressing the serious environmental concerns that were raised by CER, and that the matter of AMSA not being fit to hold a licence has been referred to DEA for consideration, as Sedibeng was of the view that DEA is the competent authority to consider this issue.
- 39.3. DEA – Compliance and Enforcement: on 28 July 2017, correspondence was directed to the Compliance and Enforcement branch of DEA, attaching previous correspondence directed to it on 30 September 2016 and 17 May 2017. The correspondence outlined AMSA's numerous non-compliances identified by DEA in its 2016 inspection report, as well as in AMSA's external audit report of 2014-2017. It requested the DEA to provide information as to any enforcement action taken or that would be taken in relation to the non-compliances identified in the 2016 inspection report, as well as action taken or to be taken to obtain AMSA's land contamination site assessment report; failing which, a section 28(12) NEMA notice would be issued. Follow-up correspondence was sent on 15 and 21 August 2017, and on 11 and 19 September 2017. On 27 September 2017, the Compliance and Enforcement branch advised that all matters should be addressed to the Chemicals and Waste branch. On 29 September 2017, further correspondence was sent to the DEA Compliance and Enforcement branch, advising that, since AMSA's numerous violations pertain to a variety of environmental issues including air, water, and ground pollution (and not just waste) the matter should be dealt with by the Compliance and Enforcement branch. The correspondence also indicated that numerous letters had previously been addressed to the Chemicals and Waste Management branch (as outlined in paragraph 37.1), and that, to date, we had not received a substantive reply. After the land contamination site assessment had been received in November 2017, further correspondence was addressed to the Chemicals and Waste branch, requesting closer scrutiny of the report due to suspected deficiencies, and at the same time, it was requested that the department take immediate steps to address the contamination. Despite numerous follow-up correspondence, no substantive reply has been received.
- 39.4. In summary, it appears that: the DWS considers that adequate remediation and mitigation measures are being taken by AMSA, and no review of the WUL is necessary, despite significant pollution in the groundwater system being evident as far back as 2003 and still persisting to date. This is also despite the risks which result in groundwater contamination (such as improper handling or disposal of stormwater, hazardous waste and stockpile) having been identified as far back as 2003 and still persisting, according to external audit reports and DEA's 2016 inspection report. Furthermore, Sedibeng considers DEA and

GDARD to be responsible for compliance and enforcement, and GDARD considers DEA to be responsible. In addition, the DEA Compliance and Enforcement branch has now apparently handed over the matter to the Chemicals and Waste branch, which has not responded to any queries in the past.

CONCLUSION

40. Despite various measures supposedly taken by AMSA since 2001, it appears that AMSA's operations continue to have negative impacts on the air, soil and water. AMSA's most recent land contamination site assessment indicate that DNAPL of 3m thick exists in one borehole, and the dissolved phase of this is spreading offsite.
41. Whilst evidence of contamination and pollution is evident from AMSA's various external audit reports, and non-compliance with various environmental legislation is evident from DEA's own 2016 inspection report, to the best of our knowledge, it appears that adequate steps have not been taken by DEA to bring AMSA to compliance. Further, it appears that no effective preventative and remediation measures have been taken by AMSA.
42. We submit that the negative environmental impacts listed above constitute significant pollution and degradation of the environment. By failing to comply with various environmental legislation and permit conditions, and by continuing activities which pollute the air, soil, and water, without the necessary mitigation measures (which have been delayed on numerous occasions, with some never coming to fruition), AMSA is not complying with its legislative duty of care.
43. In the circumstances, it is clear that AMSA is causing, has caused, or may cause significant pollution or degradation of the environment, and that the DEA has failed to direct AMSA to take the steps contemplated in section 28(4) of NEMA. As a result, our clients have no option but to give notice in terms of section 28(12) of NEMA, which they hereby do.
44. In the circumstances, our clients call upon the Director-General and give notice in terms of section 28(12) to direct AMSA to:
 - 44.1. cease its activities and operations which pollute the air, water, and soil;
 - 44.2. evaluate past remediation measures and whether pollution has been eliminated through any measures taken; and if unsuccessful, require additional and/or new remediation measures within specific timeframes;
 - 44.3. commence with specific measures (such as AMSA's committed mitigation measures; including the long-outstanding COCWG project, recommissioning of the Claus reactor, and the tar abatement equipment) within a specified and reasonable timeframe; alternatively to shut down its operations if it cannot meet the committed timeframes;
 - 44.4. implement remediation measures (in addition to any monitoring which may be required) with specific milestones and deadlines which are enforceable at intervals;
 - 44.5. diligently continue with any measures specified; and
 - 44.6. complete measures before a specified reasonable date.
45. Should you fail to direct AMSA to take the steps set out in section 28(4) of NEMA, and provide notification to us of such directive within 30 days of date hereof – i.e. by 18 July 2018 - our clients' instructions are to consider an application to a competent court to compel you to do so. We trust that this will not be necessary.
46. Our clients' rights are reserved in full.

Yours sincerely

CENTRE FOR ENVIRONMENTAL RIGHTS



per:

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