NOTICE OF APPLICATIONS FOR THE POSTPONEMENT OF COMPLIANCE TIMEFRAMES TO ACHIEVE THE MINIMUM EMISSION STANDARDS, AND ALTERNATIVE PLANT STANDARDS FOR CERTAIN PLANTS AT THE VANDERBIJLPARK WORKS, EMFULENI LOCAL MUNICIPALITY, GAUTENG

ArcelorMittal

BACKGROUND INFORMATION DOCUMENT

(FEBRUARY 2019)

What does this document tell you?

This document aims to provide you, as an Interested and Affected Party (I&AP), with background information regarding the applications for postponement of compliance timeframes to achieve the minimum emissions standards, as well as alternative plant standards for the Vanderbijlpark Works (AMSAVW), Emfuleni Local Municipality, Gauteng Province.

Any person, company, authority or other entities that might be directly or indirectly affected by the proposed activity can register as an I&AP. This includes, but is not limited to landowners, tenants, municipal and provincial authorities, interest groups, Non-Government Organisations (NGOs) and conservation groups.

Furthermore, the document advises how you can become involved in the project, receive information and/or raise issues, which may concern and/or be of interest to you. The sharing of information forms the basis of the Public Participation Process (PPP) and offers you the opportunity to become actively involved in the project from the outset. Public Participation plays an important role as input from I&APs ensures that all potential issues of concern are considered.

The document provides information regarding the Air Quality Impact Assessment undertaken, as well as details of the postponement application and alternative plant standard application. The document also advises you on how you can become involved in the process – by reviewing information, and making inputs thereon, including raising any possible issues. This sharing of information forms the basis of the public participation process and offers you the opportunity to become actively involved from the outset.

What does the project entail?

The project can be summarised as follows:

<table>
<tr><td>Project name</td><td colspan="3">Applications for the Postponement of Compliance Timeframes to achieve the Minimum Emissions Standard, and alternative plant standards for the Vanderbijlpark Works</td></tr>
<tr><td>Local authority</td><td colspan="3">Emfuleni Local Municipality</td></tr>
<tr><td>Competent Authority</td><td colspan="3">Sedibeng District Municipality/Emfuleni Local Municipality</td></tr>
<tr><td>Landowner(s) & Property Details</td><td colspan="3"><table>
<tr><th>Activity</th><th>Property Details</th><th>Landowner</th></tr>
<tr><td>Combustion installations</td><td>Remaining extent of Portion 1 of the Farm Vanderbijlpark 550 IQ</td><td>ArcelorMittal</td></tr>
<tr><td>Coke production</td><td>Remaining extent of Portion 1 of the Farm Vanderbijlpark 550 IQ</td><td>ArcelorMittal</td></tr>
<tr><td>Pre-Reduction and Direct Reduction</td><td>Remaining extent of Portion 1 of the Farm Vanderbijlpark 550 IQ</td><td>ArcelorMittal</td></tr>
<tr><td>Production of Acids</td><td>Remaining extent of Portion 1 of the Farm Vanderbijlpark 550 IQ</td><td>ArcelorMittal</td></tr>
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Co-ordinates	Combustion installations	26°39'27.58"S 27°48'44.22"E
	Coke production	26°39'27.58"S 27°48'44.22"E
	Pre-Reduction and Direct Reduction	26°40'5.04"S 27°48'56.84"E
	Production of Acids	26°39'42.18"S 27°49'55.86"E

Project description

In response to Section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (as amended in 2013), ArcelorMittal intends to apply for a postponement of the compliance timeframes to achieve aminimum emissions standard, as well as alternative plant standards for the Vanderbijlpark Works, Emfuleni Local Municipality, Gauteng Province.

The first aspect of the postponement application is required for the special arrangement stipulated under Sub-category 3.1: Combustion Installations, which prescribes the recovery of sulphur-containing compounds from gases to be used for combustion with a recovery efficiency of not less than 90%, measured as hydrogen sulphide. Although a project has already been initiated to, amongst others, revive sulphur recovery from the coke oven gas, the deadline of 1 April 2020 will not be achievable owing to the complexity of the intended upgrades to the gas cleaning facilities. Despite numerous attempts to sustain operations of the current sulphur recovery facilities, the long-term operation of this failing equipment was no longer feasible. Hence the decision to invest in the installation of new, state-of-the-art equipment for the cleaning and recirculation of by-product coke oven gas for utilisation as a fuel source on site.

The primary use of the Coke Oven gas is to provide additional heat input for the heating of the batteries (55%) – increasing the energy efficiency of the facility. The onsite boilers also utilize the Coke Oven Gas for the production of steam and subsequent generation of electricity. The remainder of the gas is utilised at downstream facilities, such as reheating furnaces. The excess coke oven gas, which currently cannot be utilised is flared.

Although the above-mentioned upgrades are anticipated to aid in a partial reduction of H_2S emitted from the coke battery stacks, it is not foreseen that the recovery of sulphur from the coke oven gas will yield H_2S stack emissions below the prescribed minimum emission standards. Achievement of both the current prescribed H_2S standard of 10 mg/Nm^3 for existing plants and 7 mg/Nm^3 for new plants (to be achieved by all plants by 1 April 2020) is unfeasible for Coke Batteries of the technology and age as those at AMSAVW. An alternative H_2S stack emission standard of 150 mg/Nm^3 will thus be proposed for the 5 coke batteries on site as part of an application as contemplated in S.12A of the Listed Activities and Associated Minimum Emission Standards identified in terms of Section 21 of the Air Quality Act.

The second aspect of the postponement application is required for the Direct Reduction kilns (3 in operation) to achieve the new plant emission standard for SO_2 of 500 mg/Nm^3 (Sub-category 4.12: Pre-reduction and Direct Reduction). It is not economically feasible to achieve this standard for the direct reduction kilns at Vanderbijlpark Works and SO_2 emissions from the kilns are dependent on the sulphur content in the coal which is utilised as the reducing agent in the kilns on site. For this reason, an application for an alternative emission standard of 1700 mg/Nm^3, aligned with the existing plant standard, is proposed to be submitted.

The third aspect of the postponement application is required for the Lurgi Plants (3 units) (Sub-category 7.2: Production of Acids) for the regeneration of Hydrochloric Acid at the Works.This postponement is anticipated as the planned upgrades to the scrubbing facilities at the Lurgi Plant, to reduce and sustain the HCl emissions from these stacks below the new plant standard of 30 mg/Nm^3, may not be completed or fully efficient by 1 April 2020.

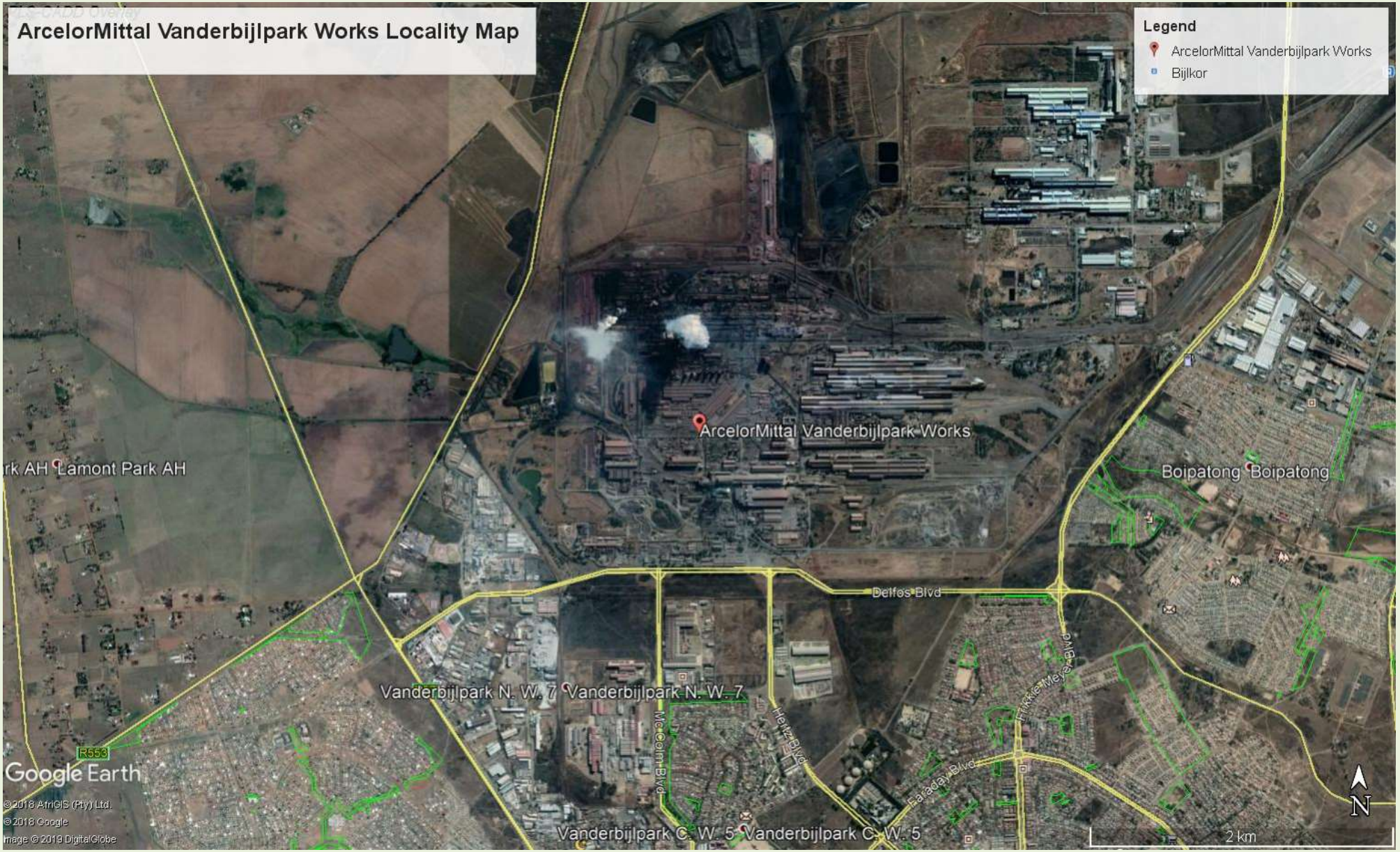


Figure 1: Locality map

What are the potential environmental impacts associated with the proposed applications?

A number of potential air quality impacts associated with the project have been identified. As part of the study, these potential impacts will be assessed through the following specialist input:

Specialist Study	Organisation
Air Quality Impact Assessment	EBS Advisory (Pty) Ltd

The objective of the Air Quality Impact Study is to assess the environmental impact associated with the operation of plant, by:

- Describing the relevant baseline environmental conditions relating to air quality in the areas of investigation, including an assessment of current performance;
- Describing the anticipated negative and positive environmental impacts on air quality during operation, with the use of existing plant standards, new plant standards, and proposed alternative standards;
- Describe the future performance based on current emissions with achievement of the new plant standards for the coke batteries and direct reduction kilns;
- Describing how the negative environmental impacts as described under bullet two and three above will be managed and how the positive impacts will be maximised; and
- Setting out the environmental management criteria pertaining to air quality that will be used during the life cycle of the project.

Why are air quality studies needed?

Prior to the implementation of compliance timeframes to achieve Existing Plant emission standards in 2015, AMSAVW was still optimistic that operational challenges experienced with the coke oven gas cleaning facilities, which includes the Elemental Sulphur Plant, could be resolved. Had the issues been resolved, the anticipated H_2S stack emission reduction was hopeful of being achieved with resultant H_2S stack emissions below the required specification of 10 mg/Nm^3. Consequently, a postponement application to achieve this particular standard was never envisaged and therefore never submitted prior to the coming into effect of the existing plant emission standards. Upon further investigation, it was revealed that the H_2S content in the coke oven gas, which is used as a fuel source in the combustion chambers of the Batteries, has no significant bearing on the H_2S results obtained from stack emission monitoring, as the majority of H_2S in the fuel gas is converted to SO_2 in the combustion process.

In the operation of a conventional horizontal coke oven battery, it is customary to burn gaseous fuel in one heating flue of a pair of flues during the on-cycle, and to direct the hot gases of combustion of such gaseous fuel into the other flue during the off-cycle. Periodically, the burning of fuel in the on-flues ceases and these flues become the off-flues, while the original off-flues become on-flues, as gaseous fuel is burned in them. This process is commonly known as a “reversing cycle” and is practised to attain uniform heating in the battery. During the reversing cycles of the battery, in which the gas flow is alternated, there may be short periods in which the gaseous fuel is not fully combusted, possibly yielding a portion of the H_2S which is evident in the stack emissions. For this reason, achievement of both the current prescribed H_2S standard of 10 mg/Nm^3 for existing plants and 7 mg/Nm^3 for new plants (to be achieved by all plants by 1 April 2020) is unfeasible for Coke Batteries of the technology and age as those at AMSAVW. An alternative H_2S stack emission standard of 150 mg/Nm^3 is thus proposed.

Despite the Elementary Sulphur Plant not being operational, a significant sulphur emission reduction has still been achieved at the Works. Over the past 13 years, there has been a 26.7% reduction in total SO_2 emissions from the Works with 2005 as baseline. Although problems have been experienced with operation of the Plant, AMSAVW remains within compliance to SO_2 standards prescribed in the AEL for sources which utilise coke oven gas as a fuel for combustion processes.

The aforementioned reduction needs to be quantified, whilst taking into account the proposed alternative emission standards described above. The portential impacts on receptors also need to be assessed in light of the envisaged postponements. Consequently, an air quality assessment has been initiated to gain a better understanding of the cumulative impacts.

Notice is hereby given in terms of section 46 of the National Environmental Management: Air Quality Act (Act 39 of 2004)(as amended in 2013), in response to Section 21 of the National Environmental Management: Air Quality Act (NEM:AQA)() that ArcelorMittal intends to apply for alternative emission standards and a postponement of compliance

timeframes to achieve the minimum emissions standards for particular plants at the Vanderbilpark Works, Emfuleni Local Municipality, Gauteng Province.

The applicant, ArcelorMittal has undertaken an Air Quality Impact Asssessment in order to submit the applications as contemplated in the NEM:AQA (as amended) to the Competent Authority, the Department of Environmental Affairs.

The following activities are of relevance:

Category of listed activity	Sub-category of the listed activity	Description of the listed activity	Application
Category 3: Carbonization and Coal Gasification	Sub-category 3.1	Combustion installations	Postponement Application w.r.t. the special arrangement of sulphur recovery
Category 3: Carbonization and Coal Gasification	Sub-category 3.2	Coke production	S. 12A Application (Alternative H_2S Standard of 150 mg/Nm^3)
Category 4: Metallurgical Industry	Sub-category 4.12	Pre-Reduction and Direct Reduction	Combined Postponement Application and S.12A Application (Alternative SO_2 Standard of 1700 mg/Nm^3 – Existing Plant Standard)
Category 7: Inorganic Chemicals Industry	Sub-category 7.2	Production of Acids	Postponement Application

ArcelorMittal has appointed Royal HaskoningDHV (RHDHV) to provide independent Environmental Assessment Practitioner (EAP) services for the proposed application. EBS Advisory (Pty) Ltd is assisting with the required Air Quality Impact Study

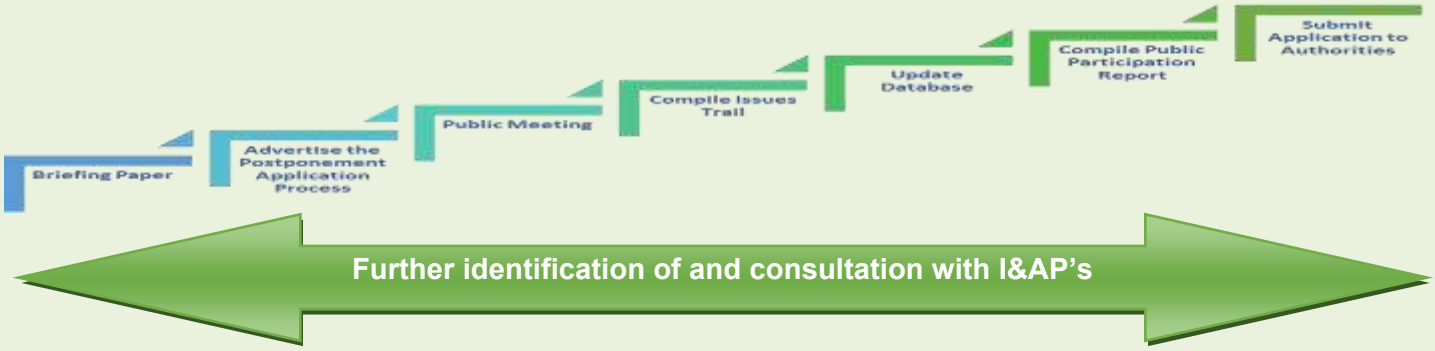
Public Participation Process

ArcelorMittal has appointed RHDHV to undertake a Public Participation Process (PPP) for the above-mentioned application. According to Section (2)(4)(f) and (o) of the National Environmental Management Act (Act 107 of 1998, “NEMA”)(as amended):

- the participation of all Interested and Affected Parties (I&APs) in environmental governance must be promoted and people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation
- the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people’s common heritage.

In order to give effect to the above sections, it is essential to ensure that there is adequate and appropriate opportunity for public participation in decisions that may effect the environment. Section 24(1A)(c) of the NEMA allows for this participation by requiring that the person conducting PP comply with any regulated procedure related to public consultation and information gathering through the PPP. In this regard, RHDHV took into account the PPP guideline (as revised) as contemplated in Section 24J of the NEMA to ensure for a comprehensive and inclusive PPP for the above application.

As part of the project, all I&APs need to be actively involved through a public participation process (PPP). It is important that relevant I&APs are identified and involved in the PPP from the outset of the project. To ensure effective public participation, the following steps are proposed:



How can you get involved?

If you consider yourself an I&AP for this proposed project, we urge you to become involved:

- By responding (by phone, fax or e-mail) to our invitation for your involvement in the process;
- By completing the attached comment form and mailing or faxing it to Seshni Govender at Royal HaskoningDHV;
- In writing, contacting the Environmental Consultant if you have a query, comment or require further project information; and
- By reviewing and commenting on the Air Quality Impact Assessment within the allowed 30-day review period.

Your input into this process forms a key part of the postponement application and we would like to hear from you to obtain your views on the proposed project.

By completing and submitting the accompanying response form, you automatically register yourself as an I&AP for this project, and ensure that your comments, concerns and/or queries raised regarding the project will be noted.

Comments and queries on the project can be directed to:

Seshni Govender	PO Box 867, Gallo Manor, 2191	
	Tel	087 352 1592
	Fax	011 798 6005
	Email	seshni.govender@rhdhv.com

Royal HaskoningDHV
Enhancing Society Together

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ArcelorMittal

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(FEBRUARY 2019)

YOUR COMMENTS AND QUERIES ARE WELCOME

Please **complete** this Comment Form **in full before** and return to:

Seshni Govender	PO Box 867, Gallo Manor, 2191	
	Tel	087 352 1592
	Fax	011 798 6005
	Email	seshni.govender@rhdhv.com

Royal HaskoningDHV
Enhancing Society Together

Title (Prof/Mr/Mrs)		**First name**	
Surname			
Capacity (e.g. Secretary / Director)			
Organisation			
Postal address		**Postal code**	
Tel No. ( )		**Cell No.**	
Fax No. ( )		**Email address**	

What comments / concerns would you like to raise regarding this proposed project? (Please use additional pages, if required)

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PLEASE REGISTER THE FOLLOWING PERSON(S) ON THE PROJECT DATABASE:

Title (Prof/Mr/Mrs)		**First name**	
Surname			
Capacity (e.g. Secretary / Director)			
Organisation			
Postal address		**Postal code**	
Tel No. ( )		**Cell No.**	
Fax No. ( )		**Email address**	

Signature	

IF YOU PREFER NOT TO RECEIVE ANY FURTHER INFORMATION REGARDING THIS PROPOSED PROJECT, AND, WOULD PREFER TO BE REMOVED FROM THE PROJECT DATABASE, PLEASE TICK THE BOX BELOW AND RETURN THE FORM TO THE PUBLIC PARTICIPATION CONSULTANTS (CONTACT DETAILS AS PROVIDED ABOVE).

Yes, remove my name