



**forestry, fisheries
& the environment**

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

**RISK ASSESSMENT IN TERMS OF REGULATION 8 OF THE WASTE
EXCLUSION REGULATIONS**

	(For official use only)
File Reference Number:	12/9/11
NEAS Reference Number:	
Date Received:	

Risk Assessment for an application for exclusion of waste stream or portion of waste stream in terms of the National Environmental Management: Waste Act, 2008(Act No.59 of 2008), as amended.

Kindly note that:

1. This form is current as of 01 April 2021. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
2. The information must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.
3. Incomplete forms (including information as required in the application form may be returned to the applicant for revision and the inclusion of additional information.
4. Unless protected by law, all information filled in on this application will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this application on request, during any stage of the application process.

BACKGROUND INFORMATION	
APPLICANT	SA Steel Mills (Pty) Ltd
CONTACT PERSON	
NAME	Ms Fatima Rawjee
ADDRESS	Old Kookfontein Farm, Main Kookfontein Road, Meyerton
E-MAIL ADDRESS	fatima@sasteelmill.co.za
TELEPHONE	016 362 6045
CELL PHONE	072 667 8508

WASTE GENERATING FACILITY OR FACILITIES							
PHYSICAL ADDRESS OF FACILITY OR FACILITIES	Old Kookfontein Farm, Main Kookfontein Road, Meyerton						
GPS CO-ORDINATES AT CORNERS OF WASTE GENERATING FACILITY OR FACILITIES	LATITUDE			LONGITUDE			
	1	26°	34'	15.38"	27°	59'	16.92"
	2	26°	33'	52.01"	27°	59'	36.00"
	3	26°	34'	03.52"	27°	59'	49.65"
	4	26°	34'	15.23"	27°	59'	54.56"
	5	26°	34'	23.20"	27°	59'	53.10"
	6	26°	34'	23.15"	27°	59'	47.45"
	7	26°	34'	18.31"	27°	59'	36.39"
	8	26°	34'	19.72"	27°	59'	26.68"
	9	26°	34'	18.10"	27°	59'	20.93"
WASTE STREAM OR PORTION OF A WASTE STREAM TO BE EXCLUDED FROM THE DEFINITION OF WASTE	Slag, which is a by-product generated from the secondary steel making processes at the steel plant.						
BENEFICIAL USE/S	Slag: Iron will be recovered from the slag and reused in the steel-making process. The remaining waste from the slag will be used in aggregate for road building.						

WASTE GENERATING PROCESS	
DETAILED DESCRIPTION OF WASTE GENERATING PROCESS ¹	Steel scrap is delivered to site by road transport. After weighing at the weigh bridge the steel scrap is segregated, prepared, classified and accordingly stocked in the scrap storage area. Prepared steel scrap is bought to the melting shop and fed into the furnace/s from an overhead crane. The scrap steel is melted in the furnaces. Slag (impurities from the steel) forms on top of the molten steel in the furnaces. This is poured off the molten steel. The molten steel is tapped out of the furnace to a ladle refining furnace where it undergoes refining. After attaining the final chemical composition and appropriate temperature of the molten steel, the ladle is taken to the Continuous Casting Machine (CCM) for billet casting. In continuous casting, the molten metal is cast into a water-cooled die, which is open at the bottom. The die gives the desired form to the product. Through

¹ A process flow chart must be attached with this form for the process description

intensive cooling, the outside of the metal product solidifies, while it is slowly pulled out of the mould. Through continuous pouring and extraction, the product gets longer. After horizontal straightening, a mechanical shear cuts the billet into the desired length. From here the billets are either fed hot into the mills for further processing or the steel billets are stacked on a cooling bed. Hereafter the billets are temporarily stored on site before dispatch by road transport or by later use in the mills where they are re-heated for rolling in the re-heating furnaces.

At the steel rolling mills, the steel billets undergo a three-phase hot rolling process to form "standard" steel products. Billets are fed into the mills and pass-through rollers which rolls the billets a little thinner each time until they start to form the desired shape. At the finishing section the end products are passed onto a colling bed and then through a straightener, cut to length using cold shearing machines, Randoms are selected and set aside and first grade products are packaged and stacked for dispatch via road transport vehicles.

Air emissions from the furnaces are managed by a pollution control system whereby the fumes are extracted and cleaned prior to being released. The impurities that are removed from the emissions, in the form of zinc dust, are collected in bags.

Mill scale is the surface of the billets (and to a lesser degree the long products) that flakes off during the cooling (and shaping and rolling) process/es.

Refractory bricks are used to line the furnaces. These break from the intensive heat and need to be replaced.

Oil is burned to power the reheating furnaces at the mill. The used oil will be re-refined/ processed for re-use.

Refer to **Annexure 2** for the Process Flow Diagram.

PRODUCTION PROCESS FLOW CHART ATTACHED	YES	NO
WASTE CLASSIFICATION	HAZARDOUS	GENERAL
IF HAZARDOUS LIST THE HAZARDS OF THE WASTE	Not Applicable	

RISK ASSESSMENT WITHOUT MITIGATION

Activity	Risk Description	Environmental Receptors	Assessment of Risk					Significance
			Impact	Probability	Magnitude	Duration	Scale	
Steel making processes including, but not limited to: <ul style="list-style-type: none"> • Steel scrap delivery and sorting • Melting of the steel scrap in the furnaces • Casting of the steel billets • Reheating the billets (when needed) • Rolling the billets to form end products • Sorting and dispatching the end products. 	The processes and associated activities (vehicle movement) are noisy and could impact on the surrounding properties.	Surrounding community sense of place	Negative	2	2	5	2	18 Low
	The processes involve many health risks and hazards to the workers and employees at the plant.	Human health and safety	Negative	4	6	5	1	48 Moderate
Storage of steel scrap.	The improper storage of steel scrap could result in stormwater pollution and subsequently pollution of natural water resources or municipal systems as well as soil pollution.	Soil Surface water quality Ground water quality	Negative	3	4	3	2	27 Low
Storage of waste/ by-products	The improper storage of waste/ by-products generated from the processes could result	Soil Surface water quality Ground water quality	Negative	4	6	3	2	44 Moderate

	in the pollution of natural resources including soil, surface water and ground water.							
Disposal or removal of waste/ by-products from the site	The improper disposal or removal of waste/ by-products generated from the processes could result in the pollution of natural resources including soil, surface water and ground water.	Soil Surface water quality Ground water quality	Negative	4	6	4	2	48 Moderate
Use of groundwater for the processes in the plant	The depletion of natural resources through the unauthorized use of groundwater.	Groundwater quantity	Negative	2	8	4	3	30 Moderate
	The risk of sinkhole formation.	Geology Human health and safety	Negative	3	10	5	2	51 Moderate
Storage and handling of fuel and hazardous substances	Improper management relating to the use of hazardous substances could result in pollution.	Soil Surface water quality Ground water quality	Negative	4	6	4	2	48 Moderate
	Risk of fires or other emergency situations associated with the possible improper storage and handling of fuel and other hazardous substances.	Human health and safety Surrounding community health and safety	Negative	3	8	5	2	45 Moderate
Effluent discharge	Improper management or discharge of effluent (which does not meet DWS and municipal	Soil Surface water quality Ground water quality	Negative	4	6	4	3	52 Moderate

	standards) could contaminate soil and water resources.							
Waste management and storage	Improper waste management and housekeeping could have a negative impact on the aesthetics of the area and could be an eye-sore to the surrounding community.	Surrounding community sense of place	Negative	2	4	5	2	22 Low
Air emissions from the various furnaces and coal gasifier	Air emissions from the various processes and activities on the site could negatively impact the surrounding community as well as the health of workers at the plant.	Air quality Human health Surrounding community sense of place	Negative	4	6	4	3	52 Moderate

The following factors and criteria must be used to assess the impacts of the activities:

CRITERIA	
Magnitude (Severity)	Duration
10 – Very high	5 – Permanent (longer than 10 years)
8 – High	4 – Long term (5 – 10 years)
6 – Moderate	3 – Medium term (12 months to 5 years)
4 - Low	2 – Short term (< 12 months)
2 - Minor	1 – Immediate
Scale	Probability (Likelihood)
5 – International	5 – Definite
4 – National	4 – Highly probable
3 – Regional	3 – Medium probability
2 – Local	2 – Low probability
1 – Site only	1 – Improbably
0 – None	0 - None

Magnitude

Measures the size of the impact

Duration

Duration refers to the lifetime of the impact i.e., how long it will last

Scale

The scale refers to the extent of the impact

Probability

The probability refers to the chance of the impact to occur. The potential impact could be most likely to occur, unlikely, etc.

Assessment of Significance of Impact

Significance rating of the potential impact illustrates the importance of the impact itself. The size of the area affected by pollution may be extremely high, but the significance of this effect is dependent on the concentration or level of pollution in that area. In order to determine the significance of an impact, the following method should be used:

Significance (S) = (Magnitude + Duration + Scale) x Probability

The values of S must then be categorised as follows:

RATING		DESCRIPTION
SP > 60	High significance	An impact which could influence the decision about whether or to proceed with the activities regardless of any possible mitigation
SP 30 - 60	Moderate significance	An impact or benefit which is sufficiently important to require management, and which could have an influence on the decision unless it is mitigated
SP < 30	Low significance	Impacts with little real effect and which will not have an influence on or require modification of the activities
+	Positive impact	An impact that is likely to result in a positive consequence/effect

I, FATIMA RAWJEE (the Applicant) hereby declare that I have read the completed Risk Assessment form and hereby confirm that the information is, to the best of my knowledge, true and correct

Furthermore, I declare that I am fully aware of my responsibilities in terms of the Waste Exclusion Regulations, and that failure to comply with these Regulations may constitute an offence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).



Signature of the applicant²/ Signature on behalf of the applicant:

SA STEEL MILLS (PTY) LTD

Name of Applicant:

SENIOR MANAGER; CORPORATE MANAGEMENT SERVICES

Designation

31/05/2021

Date:

² If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority.