



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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

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|--|---|
| APPLICANT | Silicon Smelters (Pty) Ltd – eMalahleni Smelter (Rand Carbide) |
| WASTE STREAM OR PORTION OF A WASTE STREAM TO BE EXCLUDED FROM THE DEFINITION OF WASTE | Waste remaining after reprocessing (WML 12/9/11/L912) of historic waste slag dump to allow for dump closure (WML 12/9/11/L1331/6) and beneficial use. Classification: Type 4 for water soluble concentrations and Type 3 for total concentrations (Cu, Mn, Pb) |
| BENEFICIAL USE/S | Material (\pm 1million tons) will be sold to the building industry for: <ul style="list-style-type: none"> • Concrete aggregates • Brick making • Building aggregates • Filling material • Road construction Location: Building / construction sites in the region. Purpose: Address need in building / construction industry. |
| WASTE GENERATING FACILITY OR FACILITIES | Historically: Silicon Smelters (Pty) Ltd – eMalahleni Smelter (Rand Carbide) Currently: Reprocessing (screening) plant |
| PHYSICAL ADDRESS OF FACILITY OR FACILITIES | Portion 101 of the farm Joubertsrust 310JS, Voortrekker (Middelburg) Road, eMalahleni |
| GPS CO-ORDINATES OF WASTE GENERATING FACILITY OR FACILITIES | 25° 51' 47.25" South 29° 13' 46.51" East |
| CONTACT PERSON | |
| NAME | Ms Kerry Beamish |
| ADDRESS | P.O. Box 214, eMalahleni (Witbank) |
| | 1035 |

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| EMAIL ADDRESS | Kerry.beamish@ferroglobe.com | |
| TELEPHONE | 082 894 5856 | |
| * DETAILED DESCRIPTION OF WASTE GENERATING PROCESS | Reprocessing of historic waste dump. Sorting and screening process. Refer to WML 12/9/11/L912/6 and attached process flow diagram. | |
| PRODUCTION PROCESS FLOW CHART ATTACHED | YES X | NO |
| WASTE CLASSIFICATION | HAZARDOUS Type 3 | GENERAL |
| IF WASTE IS HAZARDOUS LIST THE HAZARDS OF THE WASTE | Total Pb, Mn and Cu concentrations exceed soil and Type 4 limits. Refer to waste classification. | |
| *A process flow chart must be attached to the process description | | |

RISK ASSESSEMENT WITHOUT MITIGATION

| Activity | Risk Description | Environmental Receptors | Assessment of Risk | | | | | Significance |
|--|---|----------------------------------|--------------------------------------|-------------|-----------|----------|-------|--------------|
| | | | Impact | Probability | Magnitude | Duration | Scale | |
| Removal of material from site: Requirement for material in the building industry | Material available on Rand Carbide site from the legal (WML 12/9/11/L91/6) reprocessing of a historic slag dump. Sufficient quantities available. | Building industry | Positive | 4 | 6 | 3 | 3 | 48 |
| Movement of machinery / equipment and loading of material | Dust | Workers Surrounding residents | Health: Ingestion / Inhalation | 4 | 4 | 3 | 2 | 36 |
| | Safety | Workers | Injury | 3 | 4 | 3 | 1 | 24 |

| Use: Building industry | Contamination of runoff and / or groundwater through the leaching of contaminants | Surface – and ground water | Water contamination | 1 | 2 | 5 | 2 | 9 |
|---------------------------|---|----------------------------|---------------------|---|---|---|---|----|
| Need | Building industry | | Positive | 5 | 8 | 5 | 2 | 75 |

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 to 10 years) |
| 6 - Moderate | 3 - Medium-term (12 months to 5 years) |
| 4 - Low | 2 - Short-term (0 to 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 - Improbable |
| 0 - None | 0 - None |

Magnitude

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 impact to occur. The potential impact could be most likely to occur, unlikely, etc.

Assessment of Significance of impact

Significance rating of the potential impacts illustrates the importance of the impact itself. The size of 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 impact, the following method was used:

Significance Points (SP) = (Magnitude + Duration + Scale) x Probability

The values of SP are then ranged as follows:

| Rating | | Description |
|------------|---|--|
| SP >60 | Indicates high environmental significance | An impact which could influence the decision about whether or not to proceed with the activities regardless of any possible mitigation. |
| SP 30 – 60 | Indicates moderate environmental 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 | Indicates low environmental 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 positive consequences/effects |

I, **Kerry Beamish**, hereby declare that I have read the completed the 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).

Applicant (Full names) **Kerry Beamish**

Designation **Environmental Manager**

Signature  _____

Date **2020-02-17**

Place **eMalahleni**

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|------------------|------------|--|----------------------------------|
| Date Received | | | |
| Decision Taken | Authorised | | Not Authorised (provide reasons) |
| Reference Number | | | |