



**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) |
|------------------------|-------------------------|
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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 | Mondi South Africa (Pty) Ltd – Richards Bay mill |
| CONTACT PERSON | Candice Webb |
| NAME | Candice Webb |
| ADDRESS | 7 Western Arterial, Lot 6724, Alton, Richards Bay 3900 |
| E-MAIL ADDRESS | Candice.Webb@mondigroup.com |
| TELEPHONE | 035 902 2031 |
| CELL PHONE | 082 405 1688 |

| WASTE GENERATING FACILITY OR FACILITIES | | | | | | |
|---|---|-----|----------|-----------|-----|-----------|
| PHYSICAL ADDRESS OF FACILITY OR FACILITIES | — Mondi Forestry Operations – Zululand Business Unit — Mondi Richards Bay Mill | | | | | |
| GPS CO-ORDINATES AT CORNERS OF WASTE GENERATING FACILITY OR FACILITIES | LATITUDE | | | LONGITUDE | | |
| | 28° | 45' | 29.31" S | 32° | 0' | 10.93" E |
| | 28° | 46' | 11.78" S | 31° | 59' | 55.52" E |
| | 28° | 45' | 49.93" S | 31° | 59' | 16.65" E |
| | 28° | 45' | 17.36" S | 31° | 59' | 36.004" E |
| WASTE STREAM OR PORTION OF A WASTE STREAM TO BE EXCLUDED FROM THE DEFINITION OF WASTE | Biomass (Harvested Wood by-products + Effluent Fibre) | | | | | |
| BENEFICIAL USE/S | Biofuel for Fluidised Bed Boiler | | | | | |

| WASTE GENERATING PROCESS | |
|---|--|
| DETAILED DESCRIPTION OF WASTE GENERATING PROCESS ¹ | <p>1) HARVESTED WOOD PRODUCTS TO POWER PLANT During the harvesting process of timber plantations, bark, treetops, branches, and leaves are stripped from the timber logs by mechanical harvesters and left in the plantations. The bark, treetops, branches, and leaves will be recovered from the plantations as biomass and transported to Mondi Richards Bay Mill for use as fuel.</p> <p>2) EFFLUENT FIBRE Effluent Fibre is waste fibre which finds its way into the mill drains and into the Mondi Effluent Treatment Plant, either by design; a typical mill will reject approximately 0.5% of the fibre it produces, as this contains what is known as shives, knots, or as a result of overflows of fibre chest caused either</p> |

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

| | | |
|---|--|----------------|
| | <p>by power failures or process upsets.</p> <p>At the Effluent Treatment Plant, the effluent from the mill flows into two primary clarifiers. The function of the clarifiers is to recover any solid waste fibre from the mill effluent. The fibre is settled in the clarifiers and removed via a screw press and stockpiled on a designated concrete slab. The fibre is then removed for disposal at a registered landfill or recycling by registered composters.</p> | |
| PRODUCTION PROCESS FLOW CHART ATTACHED | YES | NO |
| WASTE CLASSIFICATION | HAZARDOUS | GENERAL |
| IF HAZARDOUS LIST THE HAZARDS OF THE WASTE | | |

RISK ASSESSMENT WITHOUT MITIGATION

| Activity | Risk Description | Affected Pathways | Environmental Receptors | Impact | Assessment of impact criteria | | | | |
|---------------------------------|--|---|---|--|-------------------------------|-----------|----------|-------|---------------------|
| | | | | | Probability | Magnitude | Duration | Scale | Significance Rating |
| 1. Biomass Handling and Storage | Air pollution: Potential windblown dust and odours emanating from the stockpile operations | Ambient Air Quality, Inhalation of Dust/Particulates and Odours | Workers, Local Community | Negative: Air Quality Impacts and Health hazards associated with odours and dust inhalation | 3 | 8 | 3 | 2 | 39 |
| 2. Biomass Handling and Storage | Fire hazards: Potential spontaneous combustion of biomass stockpile | Emissions into ambient air, Fire Risk | Workers, Local Community | Negative: Safety and Health hazards associated with fire and air pollution | 3 | 8 | 3 | 2 | 39 |
| 3. Biomass Handling and Storage | Water Pollution: Contamination due release and spills into waterways | Food Chain, Pollutants released into surface water and percolation into groundwater | Aquatic Ecosystem, Local water users | Negative: Ecological, Social and Health impacts linked to water pollution | 3 | 4 | 3 | 2 | 27 |
| 4. Biomass Handling and Storage | Soil Pollution: Contamination due release and spills onto grounds and/or land | Pollutants released onto grounds and/or land | Vegetation, Wildlife, Ecosystem and Local water users | Negative: Ecological and Social impacts linked to soil pollution and changes in soil chemistry | 3 | 4 | 3 | 2 | 27 |

| Activity | Risk Description | Affected Pathways | Environmental Receptors | Impact | Assessment of impact criteria | | | | |
|--|---|---|---|--|-------------------------------|-----------|----------|-------|---------------------|
| | | | | | Probability | Magnitude | Duration | Scale | Significance Rating |
| 5. Biomass Transportation and Distribution | Mandatory Legal Compliance Requirement: Legitimacy of Waste Management and/or Waste Manifest System | Legal compliance requirement, waste distribution for specific use | Ecology, Local Community, Waste Generator and Waste users | Legal non-compliance: Lack of system to demonstrate waste is managed in an environmentally-friendly manner | 3 | 8 | 3 | 4 | 45 |
| 6. Biomass Transportation and Distribution | Soil Pollution: Contamination due release and spills onto grounds and/or land | Pollutants released onto grounds and/or land | Vegetation, Wildlife, Ecosystem and Local water users | Negative: Ecological and Social impacts linked to soil pollution and changes in soil chemistry | 2 | 4 | 3 | 2 | 18 |
| 7. Biomass Transportation and Distribution | Water Pollution: Contamination due release and spills into waterways | Food Chain, Pollutants released into surface water and percolation into groundwater | Aquatic Ecosystem, Local water users | Negative: Ecological, Social and Health impacts linked to water pollution | 2 | 4 | 3 | 2 | 18 |
| 8. Biomass Transportation and Distribution | Air Pollution: Windblown dust during biomass transportation | Ambient Air Quality, Inhalation of Dust /Particulates | Local community | Negative: Air quality impacts and Health problems resulting from dust/particulates inhalation | 2 | 8 | 3 | 2 | 26 |

| Activity | Risk Description | Affected Pathways | Environmental Receptors | Impact | Assessment of impact criteria | | | | |
|---|--|---|---|--|-------------------------------|-----------|----------|-------|---------------------|
| | | | | | Probability | Magnitude | Duration | Scale | Significance Rating |
| 9. The use of Biomass as Biofuel in Power Plants | Air Quality impacts: Indoor and outdoor air pollution from biomass combustion | Ambient air quality, Inhalation of polluted air | Worker, Local community, Local ambient air | Negative: Health Hazards Respiratory concerns associated with Particulates and NOx inhalation | 4 | 8 | 3 | 2 | 52 |
| 10. The use of Biomass as Biofuel in Power Plants | Sustainability and Energy self-sufficiently: Security supply of biomass as a renewable source of energy. | Biomass sources, Waste Management | Ecology, Industrial facilities | Positive Environmental Benefits: Biomass produced from industrial waste and forestry by-products provides reliable and consistent source of energy. | + | + | + | + | + |
| 11. The use of Biomass as Biofuel in Power Plants | Ecological impacts resulting from burning biomass as an alternative destination for discarded biomass materials, rather than being sent to landfills | Waste Management, Waste Disposal Costs | Ecology, Soil/Land, Industry and Landfill Sites | Positive Environmental and Economic Benefits: Biomass energy use reduces the amount of waste to landfill and reduces the cost of landfill disposal and amount of land required for landfill | + | + | + | + | + |

| Activity | Risk Description | Affected Pathways | Environmental Receptors | Impact | Assessment of impact criteria | | | | |
|---|--|--|-------------------------|--|-------------------------------|-----------|----------|-------|---------------------|
| | | | | | Probability | Magnitude | Duration | Scale | Significance Rating |
| 12. The use of Biomass as Biofuel in Power Plants | Ecological Atmospheric Impacts: Greenhouse Gases (GHG) emissions from production and use of biomass compared to fossil fuels | Energy Production, Atmospheric Emissions | Ecology, Atmosphere | Positive Environmental Benefits: Biomass energy is an eco-friendly alternative to fossil fuels and helps reduce GHG emissions | + | + | + | + | + |
| 13. The use of Biomass as Biofuel in Power Plants | Social impacts: The effect of biomass power production on social prosperities | Social prosperities | Local community | Positive: Social benefits Generation of employment and economic development | + | + | + | + | + |

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, Candice Webb (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:

Candice Webb
Name of Applicant:

Head of Environment
Designation

03/01/2023
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.