

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. N ^o :	A2-8
Source of Emission:	New Card Dryer Tower Stack
Location:	New Card Pilot Plant Building
Grid Ref. (12 digit, 6E,6N):	R 33599 51004
Vent Details	
Diameter:	0.447 m
Height above Ground(m):	19.2m (above pilot plant ground level, not above sea level)
Date of commencement:	2018

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	52,800 Nm ³ /d	Maximum/day	66,000 Nm ³ /d
Maximum rate/hour	6,600 Nm ³ /h	Min efflux velocity	9.0 m.sec ⁻¹
(ii) Other factors			
Temperature	80 °C(max)	70 °C(min)	75 °C(avg)
For Combustion Sources: Volume terms expressed as : <input type="checkbox"/> wet. <input type="checkbox"/> dry. _____ %O ₂			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ 60 _____ min/hr <u>8</u> _____ hr/day <u>192</u> (Dryer runs 4 d/week) _____ day/yr
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TABLE E.1(iv): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions

Emission point Reference Numbers	Description	Emission details ¹				Abatement system employed
		material	mg/Nm ₃₍₂₎	kg/h.	kg/year	
A3-38	CIP Dry-out vent: Following CIP the equipment is wet and needs to be dried out. The dry out process will release water evaporation through the CIP vent pipe.	Water vapour		8kg/h (Dryout will run for 30 minutes: Total 4kg/day)	768	No abatement. Emission is water vapour from drying out equipment.

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1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.

2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

TABLE E.1(v): EMISSIONS TO ATMOSPHERE – Fugitive and Potential atmospheric emissions

Emission point ref. no. (as per flow diagram)	Description	Malfunction which could cause an emission	Emission details (Potential max. emissions) ¹		
			Material	mg/Nm ³	kg/hour
A4-1	Vent panel to vent dust explosion from dryer chamber	Ignition source or fire in the chamber not detected by early warning system or extinguished by fire extinguishing system. Estimated frequency once every 25000 years.	Burnt milk powder	Approx. 1000mg/Nm ³	Approximately 10kg

¹ Estimate the potential maximum emission for each malfunction identified.

TABLE F.1(i): ABATEMENT / TREATMENT CONTROL

Emission point reference number: **A2-8**

Control ¹ parameter	Monitoring to be carried out ²	Equipment ³	Equipment back-up
Pressure difference across filter bags	Observed by operator in control room on a computer screen. Alarm if the pressure difference is above a certain limit, which indicates that the bags are blocked. If pressure difference is lower than expected this is an indication to the operator that the bags may be damaged.	Checked by the operator on the computer in the control room.	A spare set of bags will always be kept in stock. If the bags are blocked or ripped production has to stop and the bags have to be replaced.
Pressure of compressed air required to clean the bags	Observed by operator in control room on a computer screen. Alarm if the pressure of compressed air is above a certain limit, which indicates a blockage in compressed air line. If pressure is too low, this is an indication that compressed air has been lost and the bags will not be cleaned properly.	Checked by the operator on the computer in the control room.	An alarm indicates that maintenance will need to be carried out by technicians. Critical spare parts related to this will be identified and kept onsite.

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¹ List the operating parameters of the treatment / abatement system which control its function.

² List the monitoring of the control parameter to be carried out.

³ List the equipment necessary for the proper function of the abatement / treatment system.

