



Chemviron Carbon (UK) Limited
Durham Site

H1 Assessment Document

BT2831IA-2021-a

BT2831IA - Variation Application

May 2022

Facility Reference Information

Please complete the following information:

Company Name:

Location:

Permit Number:

If you have data already stored in a previous version of the H1 software you may import it by pressing the button to the right.

Import Utility

Please note that before the import can take place any data that already exists in this copy of the tool will be removed. Please also note that any 'Operating Mode' information you had entered in your Air and Water inventories will defer to the default of 100% on data import

NOTE ON MICROSOFT ACCESS SECURITY WARNING

Depending on your security settings, you may get a security notice appearing each time the import routine connects to a table in your source database. You need to click 'Open' on this message for the Import routine to be successful. There are 18 tables to connect to in total but if you place your cursor over the 'Open' button you will be able to repeatedly click your mouse to make this process execute quickly and without too much frustration. We apologise for this inconvenience but it is an aspect of Microsoft Security provisions that are beyond our control.

Describe the Objectives

Depending on the reason for the assessment you will need to complete different parts of the tool.

Select the type of assessment:

- a) to carry out an ENVIRONMENTAL ASSESSMENT of the releases resulting from the facility as a whole Do Steps 1, 2 and 3 only
- b) to conduct a costs/benefits OPTIONS APPRAISAL to determine BAT or support the case for derogation under the Industrial Emission Directive. Do Steps 1,2, 3 and 4 and continue with 5 and 6 if necessary

1.1 Briefly summarise the objectives and reason for the assessment in terms of the main environmental impacts or emissions to be controlled:

To appraise releases from site following the installation of a replacement furnace and associated exhaust gas abatement equipment.

e.g. "To appraise several candidate options for the prevention and minimisation of releases to air of NO_x and SO₂ for a new energy from waste plant, in order to select BAT"

or "To appraise the costs and benefits of applying indicative BAT to further control BOD discharged to water at an existing paper mill"

or "To assess the existing environmental impact of all emissions from all activities within an installation for the production of cement, prior to investigating further controls."

or "To assess the environmental impact of an existing discharge of treated sewage effluent on the receiving water"

Scope of Environmental Assessment

List the activities included in the assessment

Number Activity

e.g. Standalone water discharge activity, raw materials handling, pre-treatment, charging, conversion, purification, waste treatment, effluent treatment, gas cleaning.

Use the 'Add' button at the bottom left to create a new activity

1	Exhaust Gas Treatment
2	Effluent Treatment

Activities:

Add

Delete

Comments: The existing effluent plant is being relocated to facilitate the installation of a new treatment plant for exhaust gasses.

Describe the Candidate Options

Identify all reasonably applicable options of techniques

You should include:

- a brief description of individual control measures or configurations of control measures selected for each option, and the activities with which they are associated (the existing base-case may conveniently be the first option).
- justification why any techniques generally applicable to the regulated facility have not been selected for assessment. (see relevant H1 annex) (This should be based on regulated facility-specific technical, not economic reasons).
- for new projects, whether any initial environmental assessment that was done at the project evaluation stage, or any screening of technology or process routes prior to this assessment, particularly where this has a bearing on environmental performance. (see H1)

In the case of b) or c)
please enter your Comments here:

Option Number	Title	Description
e.g.		
1	Base-Case	Installation of a quench system with alkaline scrubber and thermal oxidiser.

Once a series of options have been generated for the proposed project, it is recommended that the Operator discuss these with the local Regulator to check both parties agree that the options are satisfactory. This may save the Operator from spending resources on assessment of options which are unlikely to meet the required environmental performance.

List the main activity or activities to which the release control option Number:1 (Base-Case) is/are applicable and any other activities that will be affected by the candidate control option on the main activity.

Options:

Add

Delete

Activity	Details
*	

Air Release Points

Please define your Release Points for Releases to Air

Are there any Air emissions?

Yes

Click the Add button below

Number	Description	Location or Grid Reference	Activity or Activities	Effective Height	Efflux Velocity	Total Flow
				metres	m/s	m3/hr
e.g.	A1	North stack		150	25	5,000
1	A3	North East corner	Activation Furnace	12	33	6500
2	A4	North East corner	Activation Furnace	12	30	5800
3	A0	North East corner	New Gas Treatment Plant	12	15	8588

Release Points:

Add

Delete

Copy

Comments: A0 will see the exhaust gas from furnaces 1, 2 and the new furnace (Fx) combined. Flow rate stated is an estimate and subject to final design.



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Go To:

Air Emissions Inventory

Release Point

1

Clear All Data



Air Emissions Inventory

Please list all Substances released to Air for each Release Point identified in the previous page.

Number	Substance	Meas'ment Method	Operating Mode (% of Year)	Data relating to Long Term effects			Data relating to Short Term effects			Annual Rate tonne/yr	ELV Conc. mg/m3
				Conc.	Release Rate	Meas'ment Basis	Conc.	Release Rate	Meas'ment Basis		
				mg/m3	g/s		mg/m3	g/s			
e.g.	sulphur dioxide	Estimated*	70% load	1510	3000	annual avg	1510	3000	hourly avg	55,000	2000
1	Particulates (PM10) (24 hr Mean)	Periodic*	90.0%	20.0	0.036111	hourly avera				1.0249	
2	Benzene	Periodic*	90.0%	16.1	0.029069	hourly avera				0.8251	
3	Hydrogen chloride	Periodic*	90.0%	1.0	0.001806	hourly avera				0.0512	
4	Carbon monoxide	Estimate	90.0%	1600.0	2.888889	hourly avera				81.9936	

Measurement method: * provide detail in comments box

Substances:

Comments:

The information is illustrative of the performance of the abatement plant without the addition of a thermal oxidiser which will impact on the significant reduction of both TOC (benzene) and carbon monoxide.



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Go To:

Air Emissions Inventory

Release Point

2

Clear All Data



Air Emissions Inventory

Please list all Substances released to Air for each Release Point identified in the previous page.

Number	Substance	Meas'ment Method	Operating Mode (% of Year)	Data relating to Long Term effects			Data relating to Short Term effects			Annual Rate tonne/yr	ELV Conc. mg/m3
				Conc.	Release Rate	Meas'ment Basis	Conc.	Release Rate	Meas'ment Basis		
				mg/m3	g/s		mg/m3	g/s			
e.g.	sulphur dioxide	Estimated*	70% load	1510	3000	annual avg	1510	3000	hourly avg	55,000	2000
1	Particulates (PM10) (24 hr Mean)	Periodic*	90.0%	20.0	0.032222	hourly averag				0.9145	
2	Benzene	Periodic*	90.0%	16.1	0.025939	hourly averag				0.7362	
3	Hydrogen chloride	Periodic*	90.0%	1.0	0.001611	hourly averag				0.0457	
4	Carbon monoxide	Estimate*	90.0%	1400.0	2.255556	hourly averag				64.0181	

Measurement method: * provide detail in comments box

Substances:

Add

Delete

Copy

Comments:

The information is illustrative of the performance of the abatement plant without the addition of a thermal oxidiser which will impact on the significant reduction of both TOC (benzene) and carbon monoxide.



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Go To:

Air Emissions Inventory

Release Point

3

Clear All Data



Air Emissions Inventory

Please list all Substances released to Air for each Release Point identified in the previous page.

Number	Substance	Meas'ment Method	Operating Mode (% of Year)	Data relating to Long Term effects			Data relating to Short Term effects			Annual Rate tonne/yr	ELV Conc. mg/m3
				Conc.	Release Rate	Meas'ment Basis	Conc.	Release Rate	Meas'ment Basis		
				mg/m3	g/s		mg/m3	g/s			
e.g.	sulphur dioxide	Estimated*	70% load	1510	3000	annual avg	1510	3000	hourly avg	55,000	2000
1	Particulates (PM10) (24 hr Mean)	Estimate	90.0%	10.0	0.023856	hourly averag				0.6771	
2	Hydrogen chloride	Estimate	90.0%	1.0	0.002386	hourly averag				0.0677	
3	Carbon monoxide	Estimate	90.0%	100.0	0.238556	hourly averag				6.7708	

Measurement method: * provide detail in comments box

Substances:

Add

Delete

Copy

Comments: The information is illustrative of the performance of the abatement plant without the addition of a thermal oxidiser which will impact on the significant reduction of both TOC (benzene) and carbon monoxide.

Energy Consumption

Please list all Energy Sources and Annual Consumption

Select energy sources by Clicking on 'Add' and using the pull-down list.

Number	Energy Sources		Delivered MWh/yr	Conversion Factor	Primary MWh/yr	CO2 Factor	CO2 tonne/yr
e.g.	<input type="text" value="natural gas"/>		<input type="text" value="70,000"/>	<input type="text"/>		<input type="text"/>	
1	Natural Gas <input type="button" value="v"/>	direct emissions	4000	1.00	0	0.19	0
2	Electricity from public supply <input type="button" value="v"/>	indirect emissions	6000	2.40	0	0.17	0

Energy Sources:

Add

Delete

Copy

Comments:

MWh values provided are estimated based on projected usage, subject to final design

Raw Materials

Please list all Raw Materials Consumed:

Number	Material	Annual Consumption	Units
e.g.		50,000	
1	Non-potable Water		tonnes/year
2	Potable water	82500	tonnes/year

Raw Materials:

Add

Delete

Copy

Comments:

Estimated at 250 cubic meters per day and 330 days operational per year.

Waste Inventory

Please list all Waste Streams emitted:

Are there any Waste emissions? Click the Add button below

Number	Waste Stream	Mass tonne/yr	Category of Waste	Disposal/Recovery Option
e.g.	ETP sludge		non-hazardous	
1	General waste	65	other non-hazardous	Landfill (D5)
2	Spent impregnation solutions	140	hazardous	Chemical recovery (R2 to R9)
3	Effluent plant sludge	200	other non-hazardous	Chemical recovery (R2 to R9)
4	Spent carbon	350	other non-hazardous	Composting (R3)
5	Dry mixed recycling	40	other non-hazardous	Other Recycling (R3:R4:R5:R11 and F)

Waste Streams:

Add

Delete

Copy

Comments: Estimates only - subject to final design

Performance Indicators

Enter consumption data to determine your performance indicators

Which of the following parameters do you use for calculating your performance:

Please describe and justify your choice:

Activated Carbon Cloth (ACC) is the main output from the process

Basic Consumption Data:

Specific Consumption per m2 of ACC:

	Name	Annual Quantity	Units
Amount of Product:	<input type="text" value="ACC"/>	<input type="text" value="660,000"/>	<input type="text" value="m2"/>
Main Raw Material:	<input type="text" value="Rayon"/>	<input type="text" value="1,100,000.00"/>	<input type="text" value="m2"/>
Potable Water:		<input type="text" value="82,500.00"/>	<input type="text" value="m3"/>
Non Potable Water:		<input type="text" value="0.00"/>	<input type="text" value="m3"/>
Energy:		<input type="text" value="10,000.00"/>	<input type="text" value="MWh"/>
Waste: Inert:		<input type="text"/>	<input type="text" value="tonne"/>
Hazardous:		<input type="text" value="100.00"/>	<input type="text" value="tonne"/>
Stable Non-reactive Hazardous:		<input type="text"/>	<input type="text" value="tonne"/>
Biodegradable Non-hazardous:		<input type="text"/>	<input type="text" value="tonne"/>
Other Non-hazardous:		<input type="text" value="655.00"/>	<input type="text" value="tonne"/>

Production Efficiency:	<input type="text" value="0.60"/>	<input type="text" value="m2/m2"/>
Potable Water:	<input type="text" value="0.13"/>	<input type="text" value="m3"/>
Non Potable Water:	<input type="text" value="0.00"/>	<input type="text" value="m3"/>
Energy:	<input type="text" value="0.02"/>	<input type="text" value="MWh"/>
Waste: Inert:	<input type="text"/>	<input type="text" value="tonne"/>
Hazardous:	<input type="text" value="0.00"/>	<input type="text" value="tonne"/>
Stable Non-reactive Hazardous:	<input type="text"/>	<input type="text" value="tonne"/>
Biodegradable Non-hazardous:	<input type="text"/>	<input type="text" value="tonne"/>
Other Non-hazardous:	<input type="text" value="0.00"/>	<input type="text" value="tonne"/>

Identify Relevant Impacts

Identify any environmental impacts that are not relevant to this assessment by deselecting from the list below:

Releases in
Part 2?

Justification for omission

Yes	<input checked="" type="checkbox"/> Air	
Yes	<input checked="" type="checkbox"/> Deposition from Air to Land	
No	<input checked="" type="checkbox"/> Water	
Yes	<input checked="" type="checkbox"/> Waste	
Yes	<input checked="" type="checkbox"/> Visual	
Yes	<input type="checkbox"/> Ozone Creation	No evidence to suggest that ozone is directly created.
Yes	<input checked="" type="checkbox"/> Global Warming	

If you have deselected an environmental impact as not relevant to this assessment, no further assessment of this impact will be carried out and associated assessment pages will be hidden

Local Environmental Quality

Describe the Quality of the Environment:

Provide a brief description of the main local factors that may influence the importance of the impact of emissions in the surrounding environment

Air Quality

Are there any Environmental Quality Standards relating to substances released from the activities, which may be at risk due to additional contribution from the activity? (Environmental Quality Standards for air and water are described in EPR Technical Guidance Notes)

No

Are there any Local Air Quality Management Plans applicable to releases from the activity?

The site is not located within an Air Quality Management Area and it is considered there is no risk from the planned activities (<https://uk-air.defra.gov.uk/aqma>)

Water Quality & Resources

Are there any Environmental Quality Standards relating to substances released from the activities, which may be at risk due to additional contribution from the activity?

No

Are proposals to abstract water satisfactory in order to obtain an abstraction licence?

Not applicable

Is the activity located in a groundwater vulnerable zone (for activities with direct releases to land only)?

No

Proximity to Sensitive Receptors

Is public annoyance likely to be an issue for noise, odour or plume visibility?

The facility is located in an industrial estate and surrounded by manufacturing facilities. The nearest sensitive receptor are considered houses located approximately 530 meters from the site at Redburn Row. The site has been located at this facility since 1993 and no complaints

Are there any wildlife habitats, eg Special Areas of Conservation, or Special Protection Areas, likely to be affected by releases from the activity? (Description of requirements of Habitats Directive is provided in EPR Technical Guidance Notes)

The original permit application made an assessment of habitats in the surrounding area. No new designations and have been made since the permit submission and so impact is considered.

Air Impacts

Calculate Process Contributions of Emissions to Air

This table estimates the Process Contribution (PC), calculated as the maximum ground level concentration for each emission listed in the inventory, according to the release point parameters input earlier. If you have more accurate data obtained through dispersion modelling, this may be entered as indicated and will be used instead of the estimated PC.

Number	Substance	Long Term			Short Term		
		EAL µg/m ³	PC µg/m ³	* Modelled PC µg/m ³	EAL µg/m ³	PC µg/m ³	* Modelled PC µg/m ³
1	Particulates (PM10) (24 hr Mean)		2.21		50	45.8	
2	Benzene	5	1.32		195	27.3	
3	Hydrogen chloride		0.139		750	2.88	
4	Carbon monoxide		128		10000	2,671	

Note that the Process Contribution shown for each substance is the sum of the individual process contributions of each point from which the substance is emitted. Process Contributions obtained from modelling data should incorporate all relevant release points and flow conditions.

* State the location of any detailed air dispersion modelling and also the main assumptions: Comments:

No modelling has been performed

Air Impact Screening Stage One

Screen out Insignificant Emissions to Air

This page displays the Process Contribution as a proportion of the EAL or EQS. Emissions with PCs that are less than the criteria indicated may be screened from further assessment as they are likely to have an insignificant impact.

Number	Substance	Long Term EAL µg/m3	Short Term EAL µg/m3	Long Term			Short Term		
				PC µg/m3	% PC of EAL %	> 1% of EAL?	PC µg/m3	% PC of EAL %	> 10% of EAL?
1	Particulates (PM10)	-	50.0	2.21	-		45.8	91.5	Yes
2	Benzene	5.00	195	1.32	26.3	Yes	27.3	14.0	Yes
3	Hydrogen chloride	-	750	0.139	-		2.88	0.384	No
4	Carbon monoxide	-	10,000	128	-		2,671	26.8	Yes

Air Impact Modelling Stage Two Screening

Identify need for Detailed Modelling of Emissions to Air

This page displays the Process Contributions in relation to the background pollutant levels and the EAL or EQS. You should use this information to decide whether to conduct detailed modelling. Note that releases that are insignificant are not shown as they are screened from further assessment. Also complete this page if you have already done detailed modelling.

Number	Substance	Air Bkgnd Conc. µg/m ³	Long Term				Short Term			
			PC µg/m ³	% PC of headroom (EAL - Bkgnd)	PEC mg/m ³	% PEC of EAL %	% PEC of EAL >=70?	PC µg/m ³	% PC of headroom (EAL - Bkgnd)	% PC of headroom >=20?
		e.g. 12								
1	Particulates (PM10) (24 hr Mean)	11.28	2.21	-	0	-	No	45.8	167	Yes
2	Benzene	0.18	1.32	27.3	1.50	29.9	No	27.3	14.0	No
4	Carbon monoxide	220	128	-	0	-	No	2,671	28.0	Yes

Air Impact Modelling Assessment

See guidelines in H1 Annex F section entitled "Decide if you need detailed air modelling."

Describe here the justification for whether detailed modelling is, or is not required for any of the releases. Refer to the guidelines in H1 Annex F

Detailed modelling at this stage is considered to unnecessary as the emissions and background concentrations contribute less than 70% of the standard for each parameter.

Describe source of background information:

The background information was established from the data available at <https://uk-air.defra.gov.uk/data/gis-mapping/>

Document Reference of detailed modelling work:

--

Deposition to Land from Air

With reference to H1 Guidance, describe assessment of deposition below:

Number	Substance	% PC of EAL %	Decision whether to screen as insignificant	
			Insignificant?	Reason (See section "Deposition of air emissions onto land/Screen out insignificant emissions" of Annex F in H1).
1	Particulates (PM10) (24 hr Mean)	-	No	No close local sensitive receptors.
2	Benzene	26.3	Yes	
3	Hydrogen chloride	-	Yes	
4	Carbon monoxide	-	Yes	

For those emissions not screened as insignificant, describe the location of any further assessment here:



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Go To:

Visual Impacts

Release Point

1

Clear All Data



Visual Impacts

Assess the visual impacts of plumes generated from the release points

Can ANY of the Options generate a visible plume?

Yes

Answer the questions below for each Release Point & Option

Can any of the release points generate a Visible Plume?:

Yes

For what % of daylight hours per year does the Plume extend beyond the facility boundary?:

5%-25%

Refer to the guidance in Annex A and set the Significance to 'Insignificant' or 'Low':

Insignificant

Provide any supporting evidence below



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Go To:

Visual Impacts

Release Point

2

Clear All Data



Visual Impacts

Assess the visual impacts of plumes generated from the release points

Can ANY of the Options generate a visible plume?

Yes

Answer the questions below for each Release Point & Option

Can any of the release points generate a Visible Plume?:

Yes

For what % of daylight hours per year does the Plume extend beyond the facility boundary?:

5%-25%

Refer to the guidance in Annex A and set the Significance to 'Insignificant' or 'Low':

Insignificant

Provide any supporting evidence below



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Go To:

Visual Impacts

Release Point

3

Clear All Data



Visual Impacts

Assess the visual impacts of plumes generated from the release points

Can ANY of the Options generate a visible plume?

Yes

Answer the questions below for each Release Point & Option

Can any of the release points generate a Visible Plume?:

Yes

For what % of daylight hours per year does the Plume extend beyond the facility boundary?:

<5%

Refer to the guidance in Annex A and set the Significance to 'Insignificant' or 'Low':

Insignificant

Provide any supporting evidence below

Global Warming Potential Impacts

Substance	Source	Annual Rate MWh/yr	GWP Value per tonne	Annual GWP
CO2 Energy: direct	direct emissions	4,000.00	1.00	760.00
CO2 Energy: indirect	indirect emissions	6,000.00	1.00	2,390.40

Total: 3,150.40

Comments:

Waste Impact Score Calculation

Number	Waste Stream	Mass	Final treatment or disposal method	(Score)	Waste Type	(Score)	Impact Score
e.g.	ETP sludge	1300	non-inert landfill		non-hazardous		
5	Dry mixed recycling	40	Other Recycling (R3:R4:R5:R11 and R12)	3	other non-hazardous	2	240
3	Effluent plant sludge	200	Chemical recovery (R2 to R9)	4	other non-hazardous	2	1600
1	General waste	65	Landfill (D5)	30	other non-hazardous	2	3900
4	Spent carbon	350	Composting (R3)	2	other non-hazardous	2	1400
2	Spent impregnation solutions	140	Chemical recovery (R2 to R9)	4	hazardous	10	5600

Comments:

Summary of Environmental Assessment

You have now completed all of the steps in this software for the environmental assessment. This will provide you with:

- an inventory of all emissions sources and substances emitted from your activities
- an information trail of how the impacts of these emissions have been assessed
- a summary of the impacts

You now need to use this information to confirm whether the emissions are acceptable, i.e. that they do not cause significant pollution to occur, by responding below:

Do any of the emissions exceed any of the following:

- | | | |
|--|-------------------------------------|---|
| Statutory Emission limit values: | <input type="button" value="No"/> ▾ | If yes, identify the substances concerned and improvements that are needed to at least meet the statutory requirement |
| Environmental Quality Standards (air and water): | <input type="button" value="No"/> ▾ | If yes, identify the substances concerned, the contribution from the activities and investigate whether further detailed fate and effect modelling and/or pollution controls are needed. Ensure that the relevant EQS reference conditions are applied. |
| Environmental Assessment Levels: | <input type="button" value="No"/> ▾ | If yes, identify the substances concerned, the contribution from the activities and investigate whether further detailed fate and effect modelling and/or pollution controls are needed. |

Use the box below to provide further information on any of the above to which you have responded 'Yes':

Finally, print all of the information and submit with your application. Remember to include any supplementary information and reports that you have had made reference to during the assessment procedure.

Air Summary Tables

(Substances screened as insignificant are not shown)

Option 1 - Base-Case

Release Points

Number	Description	Location	Effective Height	Efflux Velocity	Total Flow
			metres	m/s	m3/hr
1	A3	North East corner	12	33	6500
2	A4	North East corner	12	30	5800
3	A0	North East corner	12	15	8588

Long Term Impact

Substance Assessed	Background Contribution	EAL	PC	PEC	% PC of EAL	% PEC of EAL	EQ
	µg/l	µg/m3	µg/m3	µg/m3			
Benzene	0.18	5	1.31294	1.49	26.26	29.86	0.26
Carbon monoxide	220		128.48144	0.00			
Hydrogen chloride			0.13849	0.00			
Particulates (PM10) (24 hr Mean)	11.28		2.20036	0.00			
Total:							0.26

Short Term Impact

Substance Assessed	Background Contribution	EAL	PC	PEC	% PC of EAL	% PEC of EAL	EQ
	µg/l	µg/m3	µg/m3	µg/m3			
Benzene	0.36	195	27.29514	27.66	14.00	14.18	0.14
Carbon monoxide	440	10000	#####	3,111.04	26.71	31.11	0.27
Hydrogen chloride		750	2.87906	0.00	0.38	0.00	0.00
Particulates (PM10) (24 hr Mean)	22.56	50	45.74413	68.30	91.49	136.61	0.91
Total:							1.33

Option Summary

Long Term Option Summary

Substance Assessed	Option	% PC of EAL	% PEC of EAL	EQ
Benzene	1	26.26	29.86	0.26

Global Warming Potential Summary Tables

(Substances screened as insignificant are not shown)

Option	Substance	GWP
Option 1 - Base-Case	C02 Energy: direct	760
	C02 Energy: indirect	2390.4

Visual Impact Summary Tables

Option	Overall impact score	Risk Level
Option 1 - Base-Case	6	Insignificant

Waste Stream Summary Tables

Option	Impact Score	Normalised Impact
Option 1 - Base-Case	12740	1

<u>Number</u>	<u>Waste Stream:</u>	<u>Quantity:</u>	<u>Method</u>	<u>Score:</u>	<u>Waste Category:</u>	<u>Score:</u>	<u>Impact Score:</u>
1	General waste	65	Landfill (D5)	30	other non-hazardous	2	3900
2	Spent impregnation s	140	Chemical recovery (R2 to R9)	4	hazardous	10	5600
3	E ffluent plant sludge	200	Chemical recovery (R2 to R9)	4	other non-hazardous	2	1600
4	Spent carbon	350	Composting (R3)	2	other non-hazardous	2	1400
5	Dry mixed recycling	40	Other Recycling (R3:R4:R5:R11)	3	other non-hazardous	2	240

Conclusions

Particulates:

Although planned production output is to increase with the installation of new production equipment, the implementation of a new improved gas scrubbing technology within the project is expected to allow a decrease in overall particulate emissions released to atmosphere, well within the current limit of 20 mg/m³.

Hydrogen Chloride:

A new caustic scrubbing system on combined gasses from Fx, F1 and F2 through planned emission point A0 is expected to allow a reduction in HCl emissions to atmosphere.

Nitrous Oxides:

No limit is set of nitrous oxides for any of the permitted release points.

VOC's:

Historically the permitted limit for VOC emissions has been 2kg/hr - VOC emission estimates from the new proposed emissions point continue to allow conformance well within this limit.