Facility Reference Information

Please complete the following information:

Company Name: Biffa Waste Services Limited

Location: Newhurst

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.

Step 2

Introduction to Step 2

Step 2: Emissions Inventory

The aim of this Step is to produce an inventory of sources and releases of polluting substances from each option. This is used as the basis for the subsequent evaluation of environmental impacts.

For this Step you will require information on:

- release points and sources of emissions to air, water (inc. sewer) or land

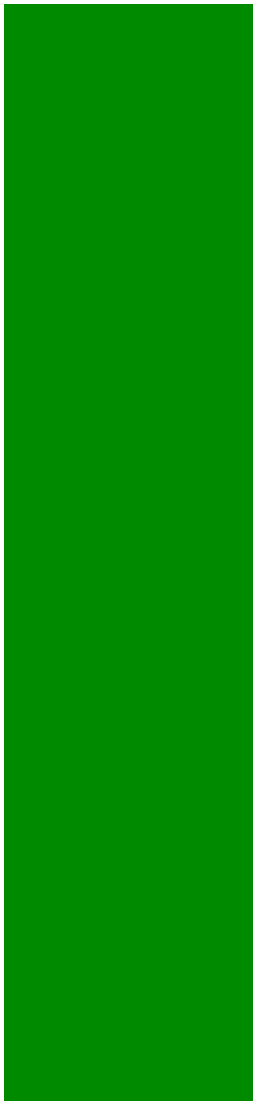
- concentration and mass rate of released substances

- frequency and duration of releases and how these relate to long term and short term effects

IMPORTANT NOTES

- you may need to consider a suitable method for assessment of groups of pollutants, such as VOCs, heavy metals, uncharacterised liquid effluents, etc (see "Grouping air emissions" in Annex F).

TO CONTINUE WITH STEP 2, PRESS "NEXT".



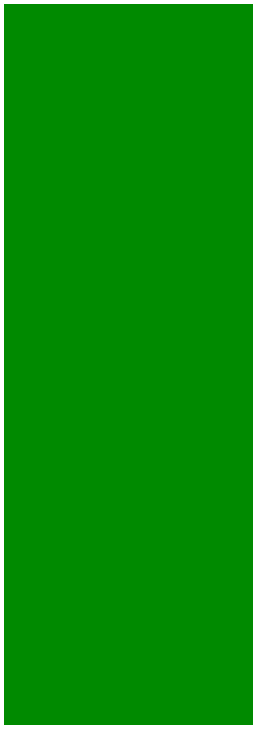
Air Release Points

Please define your Release Points for Releases to Air

Are there any Air emissions? Yes

Number	Description	Location or Grid Reference	Activity or Activities	Effective Height metres	Efflux Velocity m/s	Total Flow m3/hr
1	A1	448882.50, 317914.40		90	21.8	321480

Comments

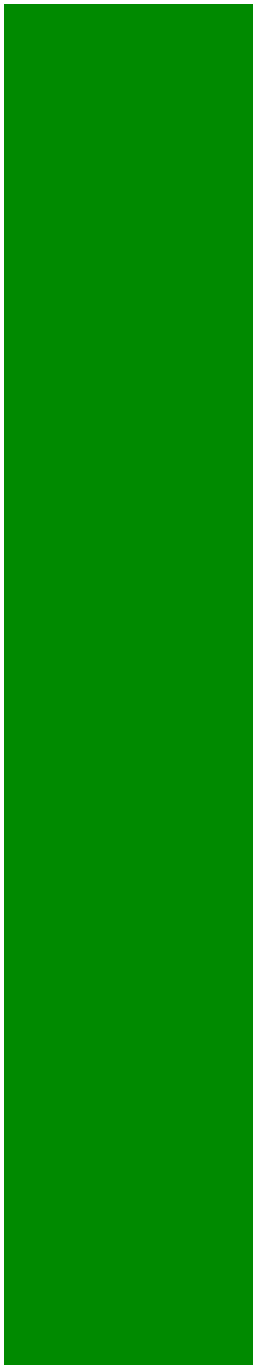


Air Emissions Inventory Base Option

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	Data relating to Long Term effects			Data relating to Short Term effect			Annual Rate	ELV Conc.
				Conc. mg/m3	Release Rate g/s	Meas'ment Basis	Conc. mg/m3	Release Rate g/s	Meas'ment Basis	tonne/yr	mg/m3
1	Ammonia (ecological receptor)	Estimated*	100.0%	10.0	0.893000	Manufacturer Guidance	6.0	0.535800		28.1616	
2	Ammonia (human health receptor)	Estimated*	100.0%	10.0	0.893000	Manufacturer Guidance	6.0	0.535800	Manufacturer Guidance	28.1616	180.00
3	Carbon monoxide	Continuous	100.0%	50.0	4.465000	WID Daily Average	50.0	4.465000	WID Daily Average	140.8082	50.00
4	Particulates (PM2.5)	Continuous	100.0%	10.0	0.893000	WID Daily Average	10.0	0.893000	WID Daily Average	28.1616	10.00
5	Nitrogen Dioxide	Continuous	100.0%	200.0	#######	WID Daily Average	200.0	#######	WID Daily Average	563.2330	200.00
6	Sulphur Dioxide (Ecological - Sensitive Lichens)	Continuous	100.0%	50.0	4.465000	WID Daily Average	50.0	4.465000	WID Daily Average	140.8082	50.00
7	Sulphur Dioxide (15 Min Mean)	Continuous	100.0%	50.0	4.465000	WID Daily Average	50.0	4.465000	15 Min Mean	140.8082	266.00
8	Sulphur Dioxide (1 Hour Mean)	Continuous	100.0%	50.0	4.465000	WID Daily Average	50.0	4.465000	1 Hr Mean	140.8082	350.00
9	Sulphur Dioxide (24 Hour Mean)	Continuous	100.0%	50.0	4.465000	WID Daily Average	50.0	4.465000	24 Hr Mean	140.8082	125.00
10	Hydrogen chloride	Continuous	100.0%	10.0	0.893000	WID Daily Average	10.0	0.893000	WID Daily Average	28.1616	10.00
11	Hydrogen fluoride (as F) (Monthly Mean)	Periodic*	100.0%	1.0	0.089300	Monthly Average	1.0	0.089300	WID Daily Average	2.8162	1.00
12	Mercury and compounds, except mercury alkyls, (as	Periodic*	100.0%	0.1	0.004465	WID Spot Measurement	0.1	0.008930	WID Spot Measurement	0.1408	0.05
13	Cadmium and its compounds (as Cd)	Periodic*	100.0%	0.1	0.004465	WID Spot Measurement	0.1	0.008930	WID Spot Measurement	0.1408	0.05
14	Antimony and compounds (as Sb) except antimony tri	Periodic*	100.0%	0.0	0.000125	WID Spot Measurement	0.0	0.000125	WID Spot Measurement	0.0039	0.00
15	Chromium (VI) compounds (as Cr)	Periodic*	100.0%	0.0	0.000003	WID Spot	0.0	0.000003	WID Spot	0.0001	0.00

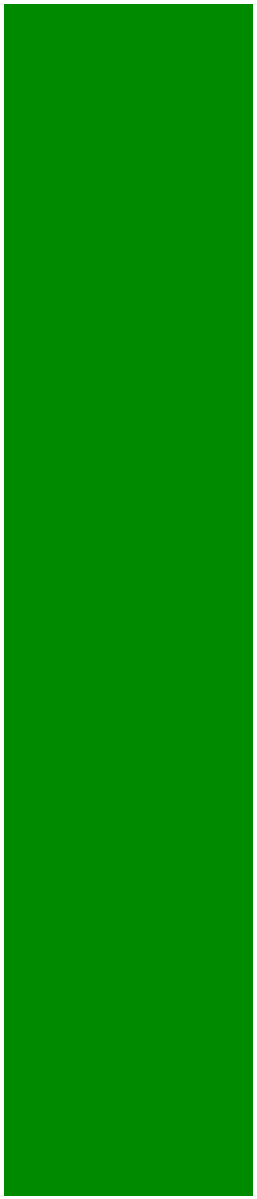


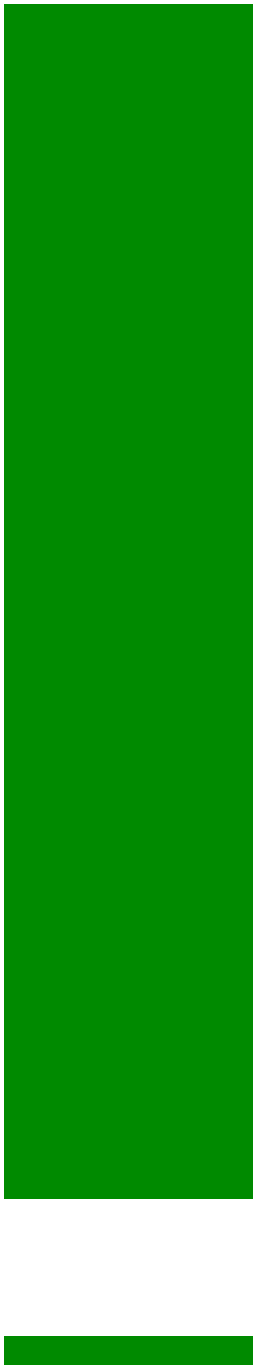
						Measurement			Measurement		
16	Chromium, chromium (II) compounds and chromium (III) compounds as Cr	Periodic*	100.0%	0.0	0.000750	WID Spot Measurement	0.0	0.000750	WID Spot Measurement	0.0237	0.01
17	Lead	Periodic*	100.0%	0.0	0.000973	WID Spot Measurement	0.0	0.000973	WID Spot Measurement	0.0307	0.00
18	Manganese and compounds (as Mn)	Periodic*	100.0%	0.0	0.001500	WID Spot Measurement	0.0	0.001500	WID Spot Measurement	0.0473	0.00
19	Nickel (total Ni compounds in the PM10 fraction)	Periodic*	100.0%	0.0	0.001340	WID Spot Measurement	0.0	0.001340	WID Spot Measurement	0.0422	0.00
20	Vanadium	Periodic*	100.0%	0.0	0.000036	WID Spot Measurement	0.0	0.000036	WID Spot Measurement	0.0011	0.01
21	Benzene	Continuous	100.0%	10.0	0.893000	WID Daily Average	10.0	0.893000	WID Daily Average	28.1616	0.01
22	Particulates (PM10) (Annual Mean)	Continuous	100.0%	10.0	0.893000	WID Daily Average	10.0	0.893000	24 hr Mean	28.1616	10.00
23	Arsenic and compounds (as As)	Periodic*	100.0%	0.0	0.000089	WID Spot Measurement	0.0	0.000089	WID Spot Measurement	0.0028	0.50

Measurement method: * provide detail in comments box

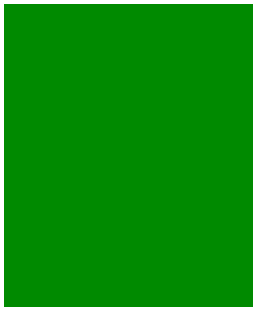
Comments:

Notes:
1) Concentrations referenced to temperature 273 K, pressure 101.3 kPa, 11% oxygen, dry gas.
2) The emission limit value refers to the total concentration of dioxins and furans calculated using the concept of toxic equivalence (TEQ). The following contaminants (detailed in the notes below) have been modelled are presented in Air Quality Assessment AERA - SLR Ref: 413.0034.00562/AERA for proposed measurement methods.
4) Benzene modelled as worst case scenario for Total Organic Carbon (TOC).
5) Cadmium (EAL 0.005) has been modelled as the worst case representative of WID Group 1 metals, comprising cadmium and thallium.
6) Arsenic (EAL 0.02) has been modelled as worst case represenative of WID Group 3 metals, comprising antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium.





Odour Inventory Base Option



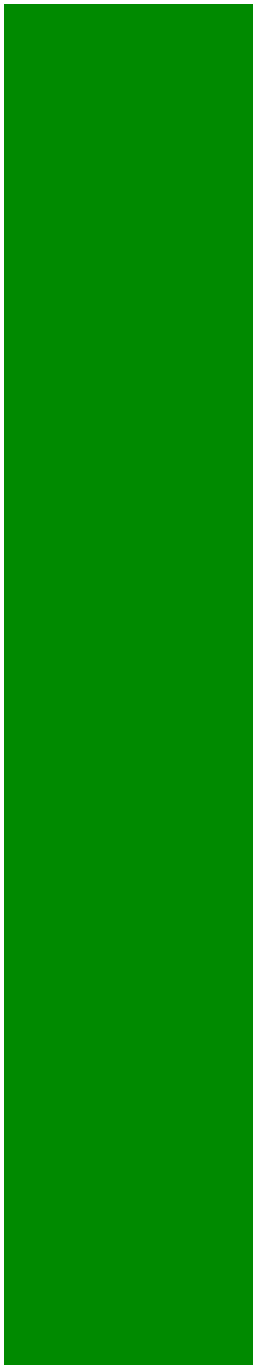
Air Impact Screening Base Option

Air Impact Screening

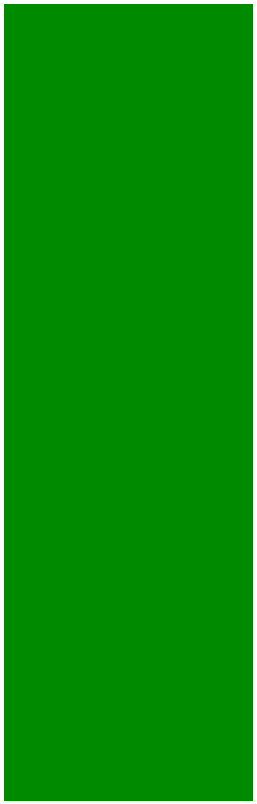
Screen out Insignificant Emissions to Air

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	Short Term EAL	Long Term			Short Term		
				PC	% PC of EAL	> 1% of EAL?	PC	% PC of EAL	> 10% of EAL?
		µg/m3	µg/m3	µg/m3	%		µg/m3	%	
1	Ammonia (ecological receptor)	3.00	-	0.0201	0.667	**No**	5.93	-	
2	Ammonia (human health receptor)	180	2,500	0.0301	0.0167	**No**	3.00	0.121	**No**
3	Carbon monoxide	-	10,000	0.685	-		4.00	0.0401	**No**
4	Particulates (PM2.5)	25.0	-	0.0301	0.121	**No**	0.1001	-	
5	Nitrogen Dioxide	40.0	200	0.401	1.000	**No**	7.00	3.51	**No**
6	Sulphur Dioxide (Ecological - Sensitive Lichens)	10.00	-	0.685	6.85	**Yes**	49.5	-	
7	Sulphur Dioxide (15 Min Mean)	-	266	0.1001	-		13.0	4.89	**No**
8	Sulphur Dioxide (1 Hour Mean)	-	350	0.685	-		3.00	0.858	**No**
9	Sulphur Dioxide (24 Hour Mean)	-	125	0.685	-		1.000	0.801	**No**
10	Hydrogen chloride	-	750	0.137	-		3.00	0.401	**No**
11	Hydrogen fluoride (as F) (Monthly Mean)	16.0	160	0.01001	0.0626	**No**	0.301	0.188	**No**
12	Mercury and compounds, except mercury alkyls, (as	0.251	7.51	0.00010000	0.0401	**No**	0.0201	0.267	**No**
13	Cadmium and its compounds (as Cd)	0.00500	-	0.00010000	2.00	**Yes**	0.0989	-	
14	Antimony and compounds (as Sb) except antimony tri	5.00	150	0.00010000	0.00201	**No**	0.00201	0.00134	**No**
15	Chromium (VI) compounds (as Cr)	0.000201	-	0.00000070	0.351	**No**	0.00003459	-	
16	Chromium,	5.00	150	0.000301	0.00601	**No**	0.0301	0.0201	**No**



	chromium (II) compounds and chromium (III) compounds as Cr								
17	Lead	0.501	-	0.00010000	0.0201	**No**	0.0108	-	
18	Manganese and compounds (as Mn)	0.151	1,500	0.000201	0.134	**No**	0.0201	0.00134	**No**
19	Nickel (total Ni compounds in the PM10 fraction)	0.0201	-	0.000601	3.00	**Yes**	0.0149	-	
20	Vanadium	5.00	1.000	0.00002000	0.000401	**No**	0.000396	0.0396	**No**
21	Benzene	5.00	-	0.0301	0.601	**No**	9.89	-	
22	Particulates (PM10) (Annual Mean)	40.0	-	0.0301	0.0751	**No**	0.1001	-	
23	Arsenic and compounds (as As)	0.00301	-	0.00010000	3.34	**Yes**	0.000989	-	

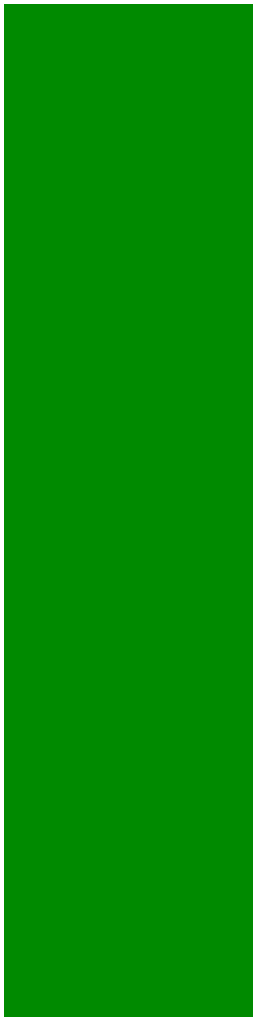


Air Impact Modelling

Identify need for Detailed Modelling of Emissions to Air

This page displays the Process Contributions in relation to the backgound 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.

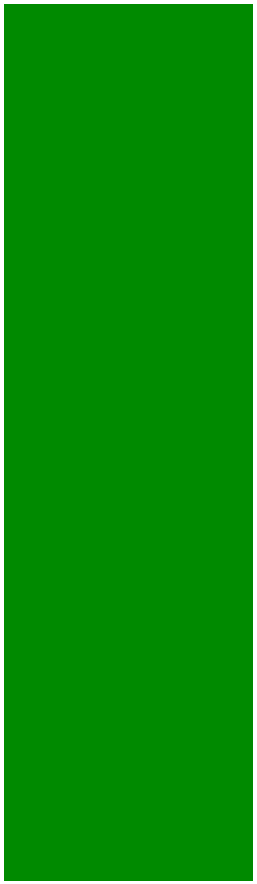
			Long Term				Short Term	
Number	Substance	Air Bkgrnd Conc. µg/m3	PC µg/m3	% PC of headroom (EAL -	PEC mg/m3	% PEC of EAL %	PC µg/m3	% PC of headroom (EAL - Bkgrnd)
6	Sulphur Dioxide (Ecological - Sensitive Lichens)	2.5	0.685	9.13	3.19	31.9	49.5	-
13	Cadmium and its compounds (as Cd)	0.00009	0.00010000	2.04	0.000191	3.80	0.0989	-
19	Nickel (total Ni compounds in the PM10 fraction)	0.00063	0.000601	3.10	0.00124	6.15	0.0149	-
23	Arsenic and compounds (as As)	0.00054	0.00010000	4.07	0.000641	21.4	0.000989	-



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 quidelines in H1 Annex F	Detail modelling is required to gain a better understanding of actual ground level concentrations of invidiaul contaminants. Detailed air dispersion modelling has been undertaken - SLR Reference 416.0034.00562/AERA.
Describe source of background information:	DEFRA Background Maps for the grid square detailed in AERA document - SLR Reference 416.0034.00562/AERA.
Document Reference of detailed modelling work:	SLR Reference 416.0034.00562/AERA.

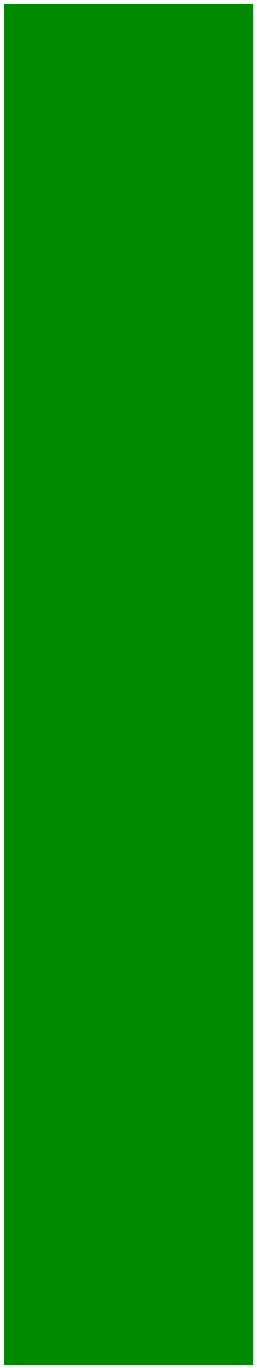


Deposition to Land from Air Base Option

Deposition to Land from Air

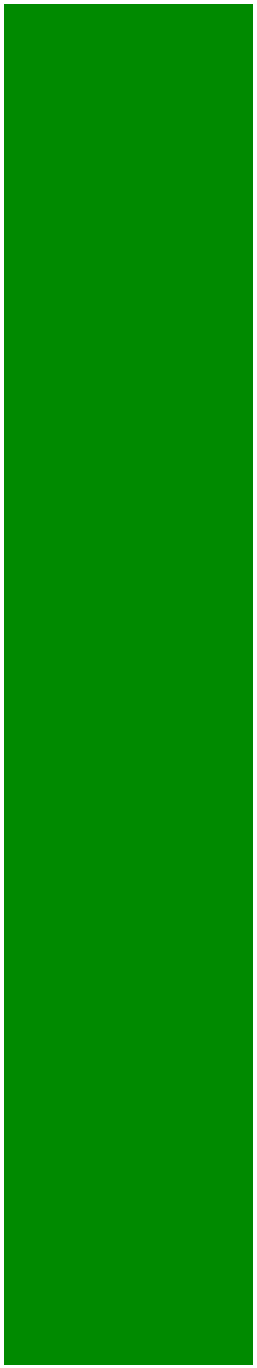
With reference to H1 Guidance, describe assessment of deposition below:

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	Ammonia (ecological receptor)	0.667	Yes	
2	Ammonia (human health receptor)	0.0167	Yes	
3	Carbon monoxide	-	Yes	
4	Particulates (PM2.5)	0.121	Yes	
5	Nitrogen Dioxide	1.000	No	Detailed dispersion modelling has been undertaken - SLR Reference 413.00034.000562/AERA. It considers the impact of deposition to land of all above contaminants
6	Sulphur Dioxide (Ecological - Sensitive Lichens)	6.85	No	Detailed dispersion modelling has been undertaken - SLR Reference 413.00034.000562/AERA. It considers the impact of deposition to land of all above contaminants
7	Sulphur Dioxide (15 Min Mean)	-	Yes	
8	Sulphur Dioxide (1 Hour Mean)	-	Yes	



Deposition to Land from Air Base Option

9	Sulphur Dioxide (24 Hour Mean)	-	Yes	
10	Hydrogen chloride	-	Yes	
11	Hydrogen fluoride (as F) (Monthly Mean)	0.0626	Yes	
12	Mercury and compounds, except mercury alkyls, (as	0.0401	Yes	
13	Cadmium and its compounds (as Cd)	2.00	No	Detailed dispersion modelling has been undertaken - SLR Reference 413.00034.000562/AERA and Human Health Risk Assessment Report. It considers the impact of deposition to land of all above contaminants
14	Antimony and compounds (as Sb) except antimony tri	0.00201	Yes	
15	Chromium (VI) compounds (as Cr)	0.351	Yes	
16	Chromium, chromium (II) compounds and chromium (III) compounds as Cr	0.00601	Yes	
17	Lead	0.0201	Yes	
18	Manganese and compounds (as Mn)	0.134	Yes	

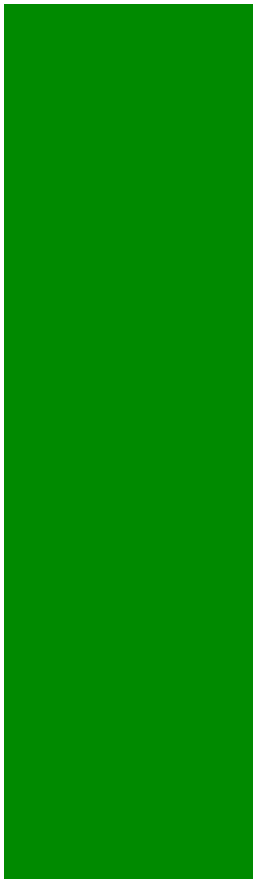


Deposition to Land from Air Base Option

19	Nickel (total Ni compounds in the PM10 fraction)	3.00	Yes	
20	Vanadium	0.000401	Yes	
21	Benzene	0.601	Yes	
22	Particulates (PM10) (Annual Mean)	0.0751	Yes	
23	Arsenic and compounds (as As)	3.34	No	Detailed dispersion modelling has been undertaken - SLR Reference 413.00034.000562/AERA and Human Health Risk Assessment Report.. It considers the impact of deposition to land of all above contaminants

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

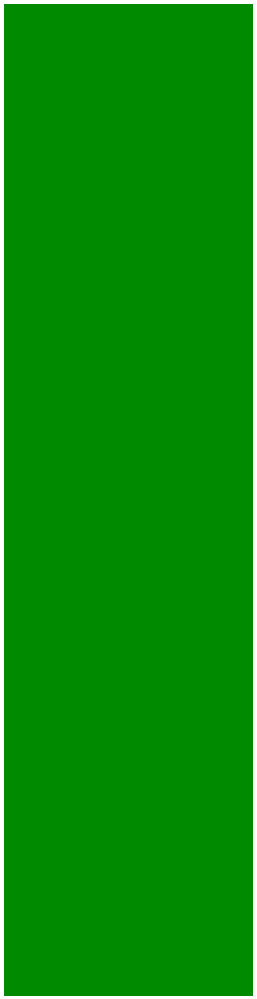
Detailed dispersion modelling has been undertaken - SLR Reference 413.00034.000562/AERA and Human Health Risk Assessment Report.. It considers the impact of deposition to land of all above contaminants



Photochemical Ozone Creation Impacts

Number	Substance	Annual Rate tonne/yr	POCP Value per tonne	POCP
3	Carbon monoxide	140.81	2.7	380.18
5	Nitrogen Dioxide	563.23	2.8	1,577.05
6	Sulphur Dioxide (Ecological - Sensitive Lichens)	140.81	4.8	675.88
7	Sulphur Dioxide (15 Min Mean)	140.81	4.8	675.88
8	Sulphur Dioxide (1 Hour Mean)	140.81	4.8	675.88
9	Sulphur Dioxide (24 Hour Mean)	140.81	4.8	675.88
21	Benzene	28.16	21.8	613.92
			Total:	5,274.68

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

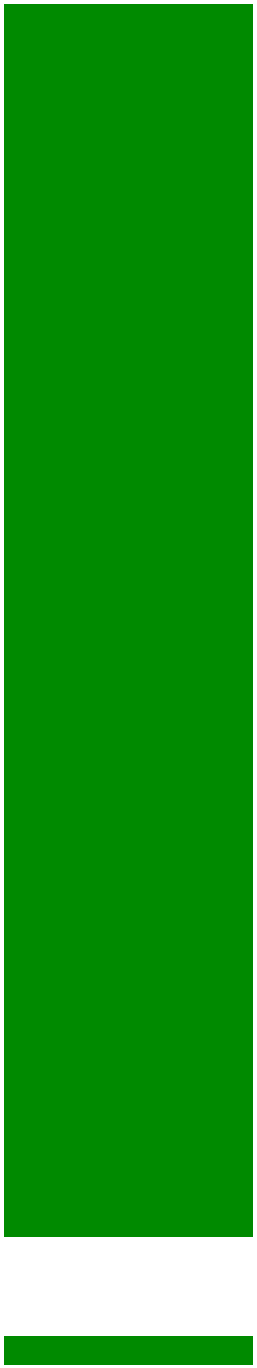
You now need to use this information to confirm whether the emissions are acceptable, i.e. that they do not cause significant pollution to occur, by responding below:

Do any of the emissions exceed any of the folllowing

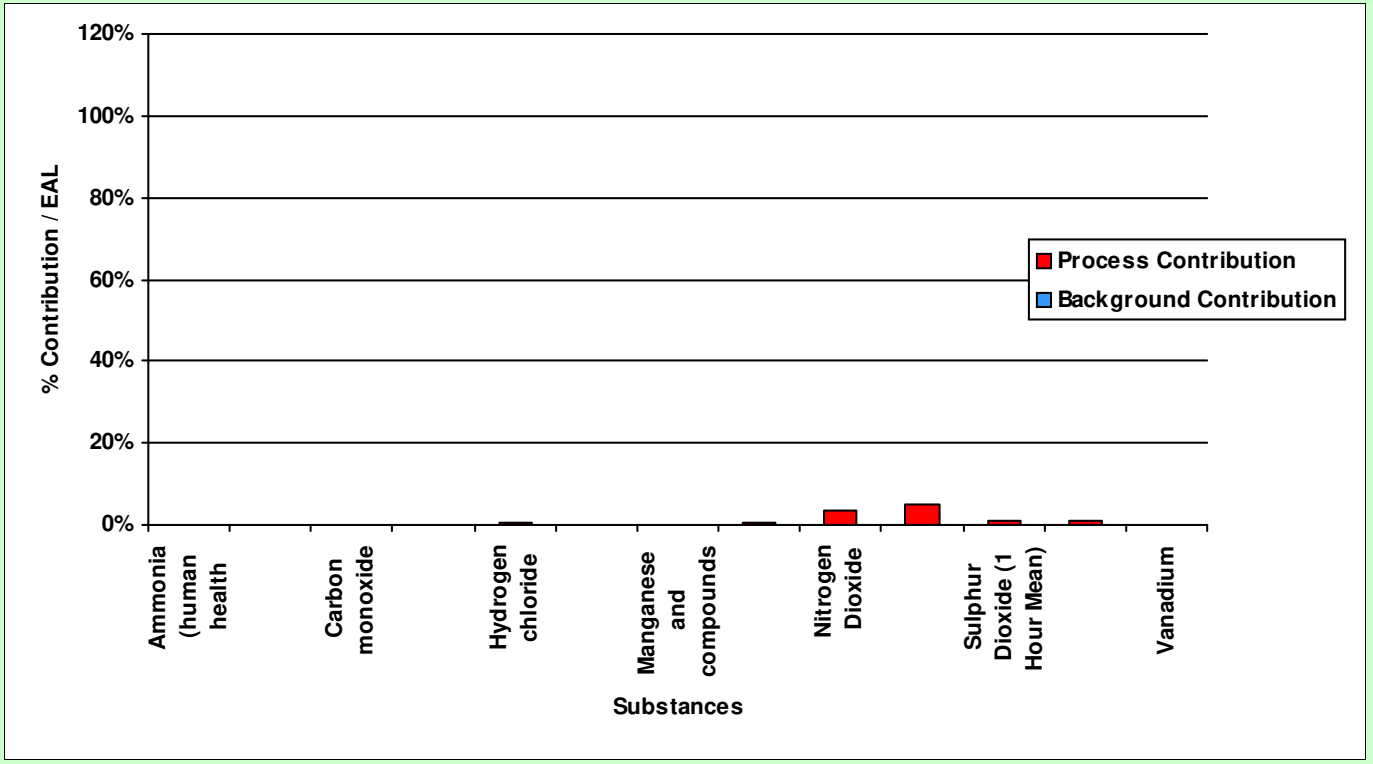
Statutory Emission limit values:	No	If yes, identify the substances concerned and improvements that are needed to at least meet the statutory requirement
Environmental Quality Standards (air and water):	No	If yes, identify the substances concerned, the contribution from the activities and investigate 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:	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.

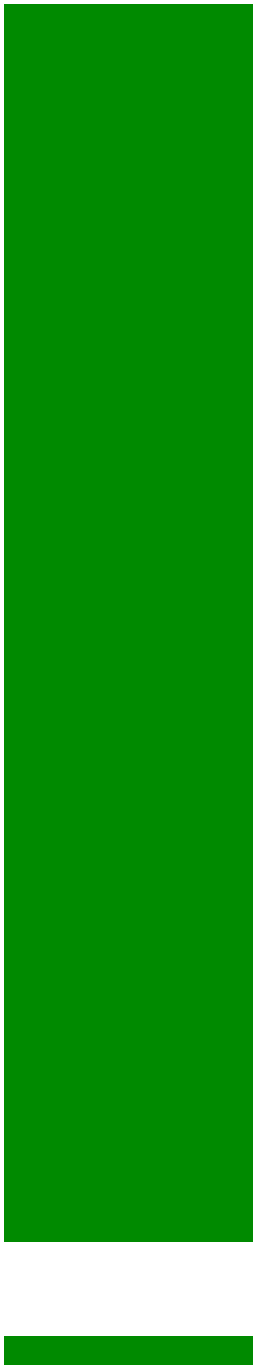
Use the box below to provide further information on any of the above to which you have responded 'Yes':

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 Short Term Effects - Comparison by Substance





Air Long Term Effects - Comparison by Substance