Facility Reference Information

Please complete the following information:

Company Name:	Pure World Energy Limited
Location:	Shepton Mallet, Somerset, BA4 5PD
Permit Number:	N/A

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 assess the environmental impact of the projected emissions from the MCP proposed at the Charlton Road facility.

Scope of Environmental Assessment

List the activities included in the assessment

Number	Activity

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

1	Operation of MCP to support food production

Comments

Describe the Candidate Options

Identify all reasonably applicable options of techniques

You should include:

a) a brief description of individual control measures or configurations of control measures seleted for each option, and the activities with which they are associated (the existing base-case may conveniently be the first option).

b) 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).

c) 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
1	Base-Case	Natural gas and electrical management systems control MCP inputs.

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 options are applicable and any other activities that will be affected by the candidate control option on the main activity:

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	C800 gas turbine	Multiflue stack	Exhaust gas	18.5	13.4	24228
2	C65 gas turbine	Multiflue stack	Exhaust gas	18.5	14	2484
3	NG fired steam boiler	Multiflue stack	Low NOx NG burner	18.5	11.8	5328

Comments

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 effects			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	Carbon monoxide	Estimated*	100.0%	52.7	0.354732	Annual avg	50.0	0.336500	hourly avg	11.1868	
2	Nitrogen Dioxide	Estimated*	100.0%	15.8	0.106092	Annual avg	18.0	0.121140	hourly avg	3.3457	
3	Volatile Organic Substances (VOCs)	Estimated*	100.0%	3.7	0.024867	Annual avg	5.0	0.033650	hourly avg	0.7842	

Measurement method: * provide detail in comments box

Comments: Emissions for Microturbine Models in mg/m3 at 15% O2.

Burner and boiler manufacturer state Nox emissions will be <100 mg/Nm3 at 3 % O2

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 effects			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	Carbon monoxide	Estimated*	100.0%	1.8	0.001223	Annual avg	50.0	0.034500	Hourly avg	0.0386	
2	Nitrogen Dioxide	Estimated*	100.0%	5.4	0.003739	Annual avg	19.0	0.013110	hourly avg	0.1179	
3	Volatile Organic Substances (VOCs)	Estimated*	100.0%	0.2	0.000170	Annual avg	5.0	0.003450	hourly avg	0.0054	

Measurement method: * provide detail in comments box

Comments: Emissions for Microturbine Models in mg/m3 at 15% O2.

Burner and boiler manufacturer state Nox emissions will be <100 mg/Nm3 at 3 % O2

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 effects			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	Nitrogen Dioxide	Estimated*	80.0%	100.0	0.148000	Annual avg	50.0	0.074000	Hourly avg	3.7339	

Measurement method: * provide detail in comments box

Comments: Emissions for Microturbine Models in mg/m3 at 15% O2.

Burner and boiler manufacturer state Nox emissions will be <100 mg/Nm3 at 3 % O2

Receiving Water Body(s)

Please define the Final Discharge Locations for Releases to Water

Are there any discharges to surface waters? No

Use the 'Add' button below to list all final discharge points.
For discharges to sewer, this should be the point where the sewage works discharges to a surface water

N.B. For Riverine discharges (River, Upper Estuary) you only need enter the River description and flow once. Further details of individual releases can be entered on the next page. For discharges to TRaC waters, seperate Discharge Locations must be added for each release point that has a different mixing zone

Number	Description	Final Discharge Category	Freshwater Q95 flow rate
1		R	River Flow (m3/s): 0

Raw Materials

Please list all Raw Materials Consumed:

Number	Material	Annual Consumption	Units
1	Non-potable Water		tonnes/year
2	Potable water		tonnes/year

Comments

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	☑	Air	
Yes	☐	Deposition from Air to Land	No deposition from air to land
No	☐	Water	
No	☐	Waste	Not relevant
Yes	☐	Visual	Not Relevant
Yes	☐	Ozone Creation	Not relevant
Yes	☐	Global Warming	Not Relevant

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

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)	UK AQS apply
Are there any Local Air Quality Management Plans applicable to releases from the activity?	None

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?	N/a
Are proposals to abstract water satisfactory in order to obtain an abstraction licence?	N/a
Is the activity located in a groundwater vulnerable zone (for activities with direct releases to land only)?	N/a

Proximity to Sensitive Receptors

Is public annoyance likely to be an issue for noise, odour or plume visibility ?	No
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)	Hobbs Quarry (SSSI) & Viaduct Quarry (SSSI) both < 2km from site No SPAs, SACs or RAMSARs within 2 km

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.

		Long Term			Short Term		
Number	Substance	EAL µg/m3	PC µg/m3	* Modelled PC µg/m3	EAL µg/m3	PC µg/m3	Modelled PC µg/m3
1	Carbon monoxide		3.11		10000	83.0	
2	Nitrogen Dioxide	40	1.99		200	46.7	

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

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.

				Long Term			Short Term		
Number	Substance	Long Term EAL	Short Term EAL	PC	% PC of EAL	> 1% of EAL?	PC	% PC of EAL	> 10% of EAL?
		µg/m3	µg/m3	µg/m3	%		µg/m3	%	
1	Carbon monoxide	-	10,000	3.11	-		83.0	0.831	**No**
2	Nitrogen Dioxide	40.0	200	1.99	4.97	**Yes**	46.7	23.4	**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 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 %	% PEC of EAL >=70?	PC µg/m3	% PC of headroom (EAL - Bkgrnd)	% PC of headroom >=20?
2	Nitrogen Dioxide	10	1.99	6.63	12.0	30.0	**No**	46.7	25.9	**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 quidelines in H1 Annex F	LT PEC <70% of EAL
Describe source of background information:	UK DEFRA Interactive Mapping - NO2 10ug/m3
Document Reference of detailed modelling work:	