Annual permit report

Installation	Bryn Pica
Permit reference	XP3436SY
Reporting period	Jan - Dec 2014
Permit Operator	Novera Energy

Author: Kate Phillips

Date: 23-Jan-15

Authorised to sign as representative of the Operator

Bryn Pica **XP3436SY**

Fugitive Emissions Review	2014
Substances Released/Potentially Released	**Description of event and any contamination/decontamination of the site which has occurred**
Landfill gas	Details of any notifiable events have been submitted to the Environment Agency in accordance with our notification procedure
Spillages	No significant spillages, contamination or decontamination to report for this installation

Site Management System Review	
Date of recent review / issue	**Date next review required***
15/01/2013	2017

*Site Management Systems (SMSs) incorporate details regarding site protection and monitoring.

Site Closure plan review	2011
Date of recent review / issue	**Date next review required***
25 May 2011	2015

The Permit requires that the site closure plan is reviewed at least every four years

Raw Materials (& Water) Assessment Table					
Site: Bryn Pica	**Reporting period:** Jan - Dec 2014			**Permit Reference:** XP3436SY	

Raw Materials	Application	Current Measures to Ensure Efficiency and Waste Minimisation	Annual Quantity Used	Fate of Material	Environmental Impact Potential	Reason Alternatives are Not Practicable	Details of Process Modifications which Could Result in Savings
Landfill gas	Fuel for engines to produce electricity	Kilowatt generation from volumes processed is maximised through effective operation, maintenance and servicing of plant	Variable depending on site conditions	Combustion	Potentially flammable, explosive, toxic, asphyxiant, ecotoxic, corrosive and odorous, greenhouse gas	N/A - Combustion of landfill gas essential for environmental control	N/A - environmental benefits to be gained from conversion of methane to CO2
Lubricating oils	To ensure efficiency of utilisation plant is maintained in accordance with manufacturer's instructions	Efficient use of lubricating oil is maximised through oil analysis to identify requirement for oil changes	22,000 litres purchased in 2014	Reprocessing	Ecotoxic and odorous	Specification determined by engine manufacturer to ensure maximum performance and efficiency	Oil used is speciaised for landfill gas fuel as recommended by the OEM. Oil change intervals are based on oil analysis therefore maximising efficiency and minimising use
Water	Coolant for engine block and domestic water supply	Cooling water is recirculated around the engines to maximise efficiency and minimise consumption	No water supply on site. Water is supplied to the compound by bowser from the landfill supply.	Treatment	Inert	N/A - Inert therefore best practicable environmental option	Re-use of water for coolant purposes ensures volumes used are as low as reasonably practicable. Cleaning practices assessed and minimal volumes used, cleaning practices are infrequent
	Hygiene purposes	handwashing and (where available) toilet facilities		where installed toilet waste is removed from site and treated as sewerage	Inert	n/a	n/a
Glycol	Antifreeze for use in coolant water	Glycol is recirculated around the engines to maximise efficiency and minimise consumption	Glycol contained within enclosed-loop system is drained into a container for re-use. OEM* recommends change of glycol every 20,000 hours. Infinis policy is to change following natural depletion or contamination.	Reprocessing	Toxic, ecotoxic	Specification determined by engine manufacturer to ensure maximum performance and efficiency	Antifreeze mix is specific to engine type and pre-determined by the OEM*. Levels are topped-up following natural depletion or contamination
Battery Acid	In batteries used for engine start-up and to provide back-up power to ensure rapid restart following any loss of mains power supply	Battery use is essential minimised to the applications listed (see left)	Typically less than 10 batteries removed from each site per year	Recycled	Corrosive	Portable electrical supply required for start-up	Minimal use of battery during start-up only therefore opportunity for savings is insignificant

*OEM: Original Engine Manufacturer

Waste Minimisation, Recovery and Disposal Assessment

Installation Name:	Bryn Pica Gas Utilisation Plant	**Permit Reference:**	XP3436SY	**Reporting period:**	Jan - Dec 2014

Waste Stream	**Application/Source**	**Current Measures to Ensure Efficiency and Waste Minimisation**	**Fate of Material**	**Reason Alternatives are Not Practicable**	**Details of Process Modifications which Could Result in Savings**
Oil Filters (205ltr Drum) (EWC 16-01-07)	Engine maintenance	Predetermined by manufacturers' recommendations to ensure efficiency	Reprocessing	Oil and filtration devices predetermined by manufacturers to ensure efficiency	Not applicable: oil filters changed at pre-determined life based on oil analysis and differential pressure
Oil Contaminated Rags & Absorbents (205ltr Drum) (EWC 15-02-02)	Engine maintenance and housekeeping	Control measures in place to prevent spillage	Reprocessing	As above	No further modifications considered possible: Preventative maintenance and procedural practices minimise spillage and the requirement for oil absorbancy products
Waste Engine Oil (Bulk) (EWC 13-02-05)	Engine maintenance	Efficient use of lubricating oil is maximised through oil analysis to identify requirement for oil changes	Reprocessing	As above	No further modifications considered possible: Oil used is specific to the landfill gas fuel in use and as recommended by the OEM*. Oil change intervals are based on oil analysis therefore maximising efficiency and minimising use
Batteries (EWC 16-06-01)	Engine maintenance	Recharged	Recycled	Batteries essential for engine start-up and ensuring rapid restart	Batteries only replaced when they no longer hold a charge. Maintenance practices are in place to lengthen battery life
Fluorescent Tubes (EWC 20-01-01)	Lighting	Replacement when faulty or damaged	Reprocessing	Alternatives not considered practicable due to warm-up time of energy saving bulbs	Tubes are only replaced when they have expired
General Waste	Packaging	Waste streams which can be reprocessed or recycled are identified and segregation facilities provided where appropriate	Disposal	Materials not segregated/ reprocessed are produced in small quantities only making alternatives not viable	Not applicable as a result of small quantities only being produced
Waste water/effluent	Welfare facilities	Facilities are maintained to ensure minimal water usage	Road tanker to treatment plant	Connection to mains sewer not practical - quantities produced are small.	Not applicable as a result of small quantities only being produced

*Original Engine Manufacturer

Annual Reporting of Other Performance Indicators

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Parameter	**Jan - Dec 2014**	**Units**
Flare operation hours	1,377	hrs
Gas engine downtime hours	1,538	hrs
Gas engine operation hours	15,982	hrs
Volume of LFG utilised	6,201,591	m3 (treated by engines)

Operator's Comments:
GUP combustion activities are now classified as Directly Assocated Activities (DAAs)

Reporting of Performance Indicators (Form Ref: PI1)

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Annual Production/Treatment (MWh)	**Jan - Dec 2014**
Total production of energy	11958

Environmental Performance Indicators

Parameter	**Annual Average Jan - Dec 2014**	**Units**	**Trends in Environmental Performance**	
			2012	**2013**
Total oxides of nitrogen (expressed as NO2) emission	20.0	Kg/MWh	1.4	1.9
Total carbon monoxide	4.3	Kg/MWh	4.8	4.3
Total engine downtime (downtime hrs/available operation time in hrs)	8.8	%	4.8	10.0

Reporting period	**Energy Imported (Primary Energy Usage) (MWh)**	**Parasitic (MWh)**	**Energy Exported (MWh)**	**Energy Used on Site (MWh)**	**Site Efficiency**
Jan - Dec 2014	4.7	477	11481	482	36.1

*Site efficiency has been calculated as follows: (Engine efficiency (%) x (gas to generation/total gas) x (power export / (power generation + imported power)). This calculation method has been revised since the previous years' reports as it is considered to more accurately reflect the overall energy efficiency at the site”

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Accident Management Plan Review	**Jan - Dec 2014**
Current Issue Date	**Date of Next Review**
January 2013	Reviewed monthly following a review of notifiable events

Permit requires that the accident management plan is reviewed at least every 2 years, or as soon as practicable after an accident (whichever is the earlier).

Operator's comments:
No accidents occurred during this period which would require amendment to the Accident Management Plan for this installation.

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Emissions to Air Reporting	**Jan - Dec 2014**		
Report Submission Date			**16-Jun-14**
Submitted to			**Gwyn Jones**

Summarised Report Detailing Progress Towards EMS Annual Improvement Targets & Objectives			
Installation:	Bryn Pica Landfill Gas Utilisation Plant	**Permit Reference:**	XP3436SY

Operators Comments
Targets and objectives are set annually. Detailed reviews of these are conducted on a quarterly and annual basis. An annual summary of the progress towards the FY14 targets and objectives was submitted to the EA in 2014. An annual summary of progress towards the FY15 objectives will be forwarded following the annual review later this year.