



Palm Paper Limited

ENVIRONMENTAL RISK ASSESSMENT

In support of the application to vary
Environmental Permit - EPR/FP3132UE





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CONTENTS

1	INTRODUCTION	1
1.1	OVERVIEW	1
1.2	PROJECT DESCRIPTION	1
1.3	THE OBJECTIVE	1
1.4	RISK MATRIX	2
2	ENVIRONMENTAL RISK ASSESSMENT	4
	EMISSIONS TO AIR	20
	HABITATS ASSESSMENT	22
	EMISSIONS TO WATER OR SEWER	23
	NOISE	23
	ODOUR	24
	HAZID STUDY	25
	FIRE	25
	CONCLUSIONS	25

TABLES

Table 2-1 – New Point Source Emissions to Air	21
Table 2-2 – Habitat Sites	22

FIGURES

Figure 1-1 - Criteria applied to the assessment.	3
Figure 1-2 - Risk matrix.	3
Figure 2-1 - Updated Point Source Emissions Plan	22



APPENDICES

APPENDIX A

PRE-APPLICATION CONSERVATION SCREENING REPORT

1 INTRODUCTION

1.1 OVERVIEW

This environmental risk assessment has been produced as part of an environmental permit variation application for Palm Paper Limited (hereinafter 'Palm Paper') in relation to changes proposed at the King's Lynn Paper Mill, including the installation of anaerobic digestion tanks for effluent treatment and utilisation of biogas for energy on site. These improvements to the effluent treatment plant on site will enable a more sustainable production, by reducing the imported energy demand and greenhouse gas emissions. Further details on the effluent treatment plant developments are provided in the main environmental permit variation application supporting report.

The King's Lynn Mill will continue to be operated with an Environmental Management System (EMS) which is to be certified to ISO 14001. This will be reviewed in relation to the changes proposed and updated as necessary, to support the activities that will be occurring at the facility.

1.2 PROJECT DESCRIPTION

The installation comprises an integrated recovered paper facility which produces newsprint, from recycled newspaper and magazines, for sale into wholesale paper distributors and newspaper outlets. All process effluent from the paper manufacturing process is directed to the Effluent Treatment Plant (ETP) where it is subjected to biological wastewater treatment prior to discharge to the River Great Ouse. Palm Paper is seeking to vary its Environmental Permit in relation to its effluent treatment, through the installation of up to four Anaerobic Reactors to treat organic wastes in the effluent stream, a biogas treatment system (BGTS) and coarse Biological Sulphur Removal (BSR). This proposed project will also involve the use and utilisation of biomethane, extracted from the Anaerobic Reactors for energy production.

The objective and purpose of these changes will enable Palm Paper to reduce peak COD levels in the final effluent, greenhouse gas use (CO₂), sludge production, and organic loading on downstream aerobic systems (the aeration tanks and mixer aerator systems) and energy costs via biomethane utilisation. This will improve energy efficiency and reduce the overall environmental impact of the site.

1.3 THE OBJECTIVE

This environmental risk assessment has been undertaken in accordance with the methodology set out in the Environment Agency (EA) guidance 'Risk assessment for your environmental permit' in the GOV.UK website (<https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>). This ERA has been will:

- a. Identify and consider risks for your site, and the sources of the risks.
- b. Identify the receptors (people, animals, property and anything else that could be affected by the hazard) at risk from your site.
- c. Identify the possible pathways from the sources of the risks to the receptors.
- d. Assess risks relevant to your specific activity and check they are acceptable and can be screened out.

- e. State what you will do to control risks if they are too high.

The assessment considers the risk of potential accidents associated with the proposed activities associated with anaerobic digestion and the measures which will be implemented to limit accidents.

1.4 RISK MATRIX

The risk matrix and associated criteria that have been employed throughout this environmental risk assessment are outlined below in Figure 1-1 and Figure 1-2.

Figure 1-1 - Criteria applied to the assessment.

		Criteria		
		Probability	Consequence	Overall Risk
Rating	Low	Probability of an event occurring is low or the event duration is short term.	Low financial costs (£1,000s). Short term nuisance/pollution incident of duration impact (hours).	Risk may not be noticeable or is reduced by using low amounts of financial or time resources.
	Medium	Probability of an event is likely to happen in a single year, or the event duration may last many months or a few years.	Medium financial costs (£10,000s). Mid-time nuisance/pollution incident of duration impact over a whole day or days.	Risk may be noticeable and financial, or time resources needed might be disruptive to normal operations.
	High	An event is very likely to happen at a regular interval, or the event duration may last for 3 years or greater.	High financial costs (£100,000s). Long term impact of the nuisance/pollution incident or event lasting for whole weeks at a time.	A risk is present that necessitates significant company financial or time resources to manage.

Figure 1-2 - Risk matrix.

		Probability		
Impact		Low	Medium	High
Low		Low	Low	Medium
Medium		Low	Medium	High
High		Medium	High	High

2 ENVIRONMENTAL RISK ASSESSMENT

Ref.	Type	Hazard	Scenario	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk Rating
1	Fugitive Emissions	Releases of emissions from polluting and greenhouse gases	Emergency use of flare in abnormal operating conditions. Leakage of biogas from system. Use of Pressure Relief Valves (PRVs)	Human Health	Harmful gas emissions may be inhaled	Venting will be minimised through use of pressure relief valves and gas pressures will be monitored. Leak detection and repair will be employed, and gas holders will be maintained and replaced as needed. Emissions are controlled by emission limit values and monitoring results will be reported to the Environment Agency. During abnormal operations where biogas cannot be processed, it will be combusted by flaring to prevent biogas release to the atmosphere. During normal operation the biogas will be combusted in the permitted combustion	Low	High	Medium

						plant on-site and emissions monitored by existing monitoring requirements.			
2	Fugitive Emissions	Release of micro-organisms (bioaerosols)	Accidental release during storage or transfer of effluent.	Human Health	Bioaerosols travel through the air and can be inhaled.	The proposed development is an anaerobic treatment system comprising four anaerobic reactors, the BSR (biological sulphur removal) system, activated carbon filters for fine desulfurization, biogas storage, weak gas storage, BGTS (Biogas treatment system) and a flare.	Low	Medium	Low
3	Accidents	Gaining unauthorised access to site	Unplanned and Intermittent	Humans and animals	Physical contact with all on-site hazards such as wastes, machinery and vehicles.	Activities shall be managed and operated in accordance with the site's management system which includes site security measures to prevent unauthorised access. Maintenance workers or contractors are not permitted on site without a suitable qualification, and they must have permission to do the work. The site is fenced	Low	Medium	Low

						and a security office controls access. There is a separate fenced-off area for the ETP with access controlled by swipe access to authorised personnel only.			
4	Accidents	Fire caused by arson / vandalism or accidental fire.	Unplanned and Intermittent	Staff on-site and nearby receptors, including members of the public. Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters, arsonists or vandals.	Air – smoke. Ground – firewater release. Surface water – firewater release.	<u>Procedural Control:</u> Existing fire prevention measures and protocols in place will be reviewed and updated to ensure that new infrastructure, procedures and site areas are included. The existing Fire Prevention Plan for the site will be reviewed and updated to include any changes which may result from the new flare. Compliance with DSEAR will be continued, a review will be undertaken to ensure any changes resulting from the new equipment are captured in the risk assessment. <u>Supervisory Control:</u>	Low – the site will maintain the equipment as per the site Planned Preventative Maintenance Programme (PPMP). There are fire detection measures on-site and the site is visited by the fire service for familiarisation with their activities. The site has a fire prevention plan for the waste paper operations.	Medium	Low

						Suitability of fire prevention and response measures for the site will be reviewed regularly and updated as necessary. The process is carried out in an enclosed system. Security measures already in place at the site will be reviewed and updated to ensure that new infrastructure and site areas are included and that the site remains secure against trespassers. <u>Corrective Control:</u> The relevant authority would be contacted by Palm Paper.			
5	Accidents	Accidental explosion of gas	Unplanned and Intermittent	Local human population and local environment	Air – Fire, smoke and blast wave.	<u>Procedural Control:</u> Existing fire prevention measures and protocols in place will be reviewed and updated to ensure that new infrastructure, procedures and site areas are included. Accident management for the site to be updated to include AD plant activities. A	Medium – effective management measures will be in place to control and mitigate risks.	Medium	Medium

						Hazard and Operability study is to be carried out for the new plant and equipment. The existing Fire Prevention Plan for the site will be reviewed and updated to include any changes which may result from the new flare. Compliance with DSEAR will be continued, a review will be undertaken to ensure any changes resulting from the new equipment are captured in the risk assessment. Leak detection measures will be in place to monitor for biogas release. <u>Supervisory Control:</u> Suitability of fire prevention and response measures for the site and the AD plant operations will be reviewed regularly and updated as necessary. The process is carried out in an enclosed system.			
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						Security measures already in place at the site will be reviewed and updated to ensure that new infrastructure and site areas are included and that the site remains secure against trespassers. <u>Corrective Control:</u> The system is an enclosed system, however, there are pressure relief measures in place to prevent explosions and disperse explosive gases. The relevant authority would be contacted by Palm Paper in the result of an explosion.			
6	Accidents	Spillage of digestate tank failure liquids, including oil	Damage to storage tanks or extreme weather events	River Nar, River Great Ouse, surface water and aquatic life.	Direct run-off from the site across made ground and through surface water drains and ditches	Preservation of critical infrastructure, all new storage areas and digestion tanks shall be constructed to an approved standard and secondary containment in place. All transfer of digestate and material will be supervised. The site drainage plan is well documented and	Medium	Medium	Medium

						all staff are trained in the event of an emergency or accident.			
7	Accidents	Flooding	Unplanned and Intermittent emergency discharge to ETP and River Great Ouse.	River Great Ouse.	Through on-site drainage and into ETP.	<u>Procedural Control:</u> A small area of the development site is at risk of flooding as it lies within Flood Zone 2. However, the site benefits from local flood defences. The defences have been properly constructed and are believed to be in good condition and are inspected by the EA under a suitable management regime; therefore, any defects or likely causes of a breach should be identified long before a failure will occur. <u>Supervisory Control:</u> Inspection and maintenance regimes will be reviewed and	Low	Medium	Low

						updated to include all new infrastructure that is to be introduced to ensure that integrity of these structures is able to withstand the effects of a flood as far as possible. <u>Corrective Control:</u> Emergency procedures outlined in the site's EMS would be adhered to in the event of a flood, which outlines actions to be taken. This is already in place at the factory. This will be reviewed and updated as necessary following these changes. The relevant authority would be contacted by Palm Paper.			
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8	Accidents	Generation and run-off of fire water	Unplanned and Intermittent	On-site ETP, the River Wissey and soil and ground water beneath site.	Through on-site drainage or through gaps in sealed surface allowing Infiltration into ground.	<u>Procedural Control:</u> All site areas will be covered by an impermeable surface to protect the ground beneath from any potential contamination. Site drainage will run to the on-site ETP where it has the ability to be contained and treated until it appropriate to be discharged – in extreme cases tankers can be used to remove effluent for off-site treatment. The existing Fire Prevention Plan for the site will be reviewed and updated to include and changes which may result from the new flare. <u>Supervisory Control:</u> Suitability of fire prevention and response measures for the site will be reviewed regularly and updated as necessary. Security measures already in place at the site will be reviewed and updated to ensure that new infrastructure and	Low – fire water will be directed to the ETP for treatment.	Low – fire water to be captured and treated in the ETP.	Low
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						site areas are included and that the site remains secure against trespassers. <u>Corrective Control:</u> Any fire water run-off can be directed to the on-site wastewater treatment plant for treatment, prior to discharge.			
9	Accidents	Extreme Weather events including strong winds, heavy snowfall and lightning strikes.	Unplanned discharge to on-site ETP and receiving watercourse – River Great Ouse.	River Great Ouse	On-site drainage systems to ETP, infiltration through site surface and the ground.	<u>Procedural Control</u> The site has procedures in place to detail the action to take in the event of extreme weather events. These will be extended to encompass all new activities, infrastructure and site areas. Regular site inspections of infrastructure and areas will continue to be carried out to ensure that integrity of buildings and infrastructure is maintained, to prevent harm posed by storms. <u>Supervisory Control</u> The CMS (computerised monitoring system) will monitor any problems in the plant due to extreme	Low	Low – any pollution as a result of extreme weather events would only occur in the event of plant and equipment too.	Low

						weather conditions, allowing any affected equipment to be safely shut down and corrected. <u>Corrective control</u> Structures on site are designed to withstand strong winds.			
10		Spills, leaks and drips and loss of containment of small amounts of chemicals.	Unplanned discharge to on-site ETP, River Great Ouse and groundwater and soil.	Soil and Groundwater and River Great Ouse.	On-site drainage systems to ETP, infiltration through site surface and the ground.	<u>Procedural Control:</u> The new plant and equipment to be installed and operated as part of the AD treatment process will be incorporated into the site PPMP which is implemented at the facility. This will include inspection and maintenance of all relevant plant and equipment where failure could cause harm to the environment. Leak detection and repair will be employed across the facility. <u>Supervisory Control:</u> Site management will ensure the implementation of PPMPs and will	Low – due to the implementation of the site's PPMP.	Medium – potential pollution/contamination and harm to human health.	Low – if management practices adhered to.

						regularly inspect site infrastructure. <u>Corrective Control:</u> Any equipment or infrastructure identified to be deteriorating will be safely shutdown and repaired or, if beyond repair, steps will be taken to initiate replacement.			
11		Storage of incompatible materials.	Unplanned and Intermittent	Local human population and local environment	Air – Fire, smoke and blast wave.	<u>Procedural Control:</u> Palm Paper ensure relevant training and competence is upheld for all staff. A shift supervisor is always present. No change to technical competency expected as a result of this proposed variation. <u>Corrective Control:</u> The accident management plan implemented as part of the EMS is suitable for the site and its operations. Any changes resulting from this permit variation will be included.	Low – due to the implementation of the site's EMS and high level of staff competency.	Medium – potential pollution/contamination and harm to human health.	Low – if management practices adhered to.
12	Maintenance	Deterioration of plant and equipment due	Unplanned discharge to	Soil and Groundwater	On-site drainage	<u>Procedural Control:</u>	Low – due to the	Medium – potential pollution/contamination	Low – if management

		to lack of maintenance.	on-site ETP, River Great Ouse and groundwater and soil.	and River Great Ouse.	systems to ETP, infiltration through site surface and the ground.	The new plant and equipment to be installed and operated as part of the AD treatment process will be incorporated into the site PPMP which is implemented at the facility. This will include the inspection and maintenance of all relevant plant and equipment where failure could cause harm to the environment. <u>Supervisory Control:</u> Site management will ensure the implementation of PPMPs and will regularly inspect site infrastructure. <u>Corrective Control:</u> Any equipment or infrastructure identified to be deteriorating will be safely shutdown and repaired or, if beyond repair, steps will be taken to initiate replacement.	implementation of the site's PPMP.	and harm to human health.	practices adhered to.
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13	Noise and Vibration	Noise from the normal operation of Anaerobic Reactors, Biogas Treatment System and the emergency flare.	Planned and Continuous	Nearest residential receptor – High Road (0.65km)	Sound propagation through air	<u>Procedural Control:</u> A noise assessment has been completed, which found that noise levels expected to be introduced as a result of the planned improvements at the site's ETP, including the emergency flaring, are not anticipated to be greater than the background noise levels that are measured on site to date. Therefore, there will be no additional noise impact. Preventative maintenance regimes will be extended to include the new infrastructure to ensure efficient operation and prevent risk of elevated noise levels. <u>Supervisory Control:</u> Implementation of PPMPs will be monitored by Site Management. <u>Corrective Control:</u> If there are any noise complaints received at the facility, Site	Low due to the implementation of the site's PPMP.	Low	Low
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						Management will follow the Complaints Procedure, to investigate the noise and develop a suitable response.			
14	Odour	Odour from the normal operation of Anaerobic Reactors	Planned and Continuous	Nearest residential receptor – High Road (0.65km)	Odour propagation through air	During normal operation, air from storage is extracted for combustion, eliminating odour. Ventilation is also in place to reduce odour outside of normal operation. Fixed gas detectors will be used to detect fugitive emissions. The anaerobic reactors are closed systems. Possible odour emissions from the lean gas exhaust and flare, which is due to sulfur-containing compounds, are largely destroyed by the combustion-related oxidation, so that no deterioration in terms of odour is to be expected outside the company premises. Improvements can even be expected in the area of the aerobic stages of the sewage treatment plant as a result of	Low due to the implementation of the site's PPMP.	Low	Low

					these planned changes to the ETP. The lean gas exhaust is constructed to a height of 6m which will reduce odour impact. There have been no previous odour complaints at the site. <u>Supervisory Control:</u> Implementation of PPMPs will be monitored by Site Management. <u>Corrective Control:</u> If there are any odour complaints received at the facility, Site Management will follow the Complaints Procedure, to investigate the odour and develop a suitable response.			
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EMISSIONS TO AIR

Existing point source emissions to air are detailed in Schedule 3, Table S3.1 of the current Environmental Permit and comprise:

- A1 – Standby diesel generator exhaust *and* standby diesel sprinkler pump exhaust
- A3 – LCP No. 257 (boiler plant fired on natural gas)
- A4 – Sludge combustor
- A5 – LCP No. 422 (gas turbine fired on natural gas)
- A6 – Calendar heating gas boiler stack

Twelve new point source emissions to air will be introduced as a result of this permit variation application, including eight overpressure release valves. Table 2-1 below provides details of these new point source emissions to air and their relevant emissions and Figure 2-1 shows their location.

An air quality assessment was undertaken by Fichtner to determine the air quality impact of the flare. The flare will be utilised in emergency scenarios only, either if desulphurisation equipment is out of service (in which case raw biogas would be flared with a hydrogen sulphide (H₂S) concentration of up to 10,000 ppmv), if the BGTS is out of service but the desulphurisation process is still running (in which case clean biogas would be flared with a H₂S concentration of up to 100 ppmv), or if the BGTS is in operation but failing to reach adequate biomethane quality for use in the boilers (in which case clean biogas would be flared with a very low H₂S content).

The EA's H1 Tool can be used to assess emissions to air, however it does not account for the temperature and velocity of release or vicinity to sensitive receptors which in the case of the flare, are key factors in the dispersion and buoyancy of the plume. The release temperature of the flare is very high (~850°C) and therefore the flare plume would be very buoyant and disperse effectively. Proximity to sensitive receptors is also a key factor to consider, with the closest receptor 400 m south (King's Lynn Power Station), and the closest residential (sensitive) receptor being 650 m south of the proposed flare. These receptors are not considered close enough to be impacted by the emergency operation of the flare.

Emissions from the flare are expected to comply with the emission standards for enclosed gas flares as set out in the Guidance for monitoring enclosed landfill gas flares (LFTGN 05). [Monitoring enclosed landfill gas flares: LFTGN 05 - GOV.UK](#)

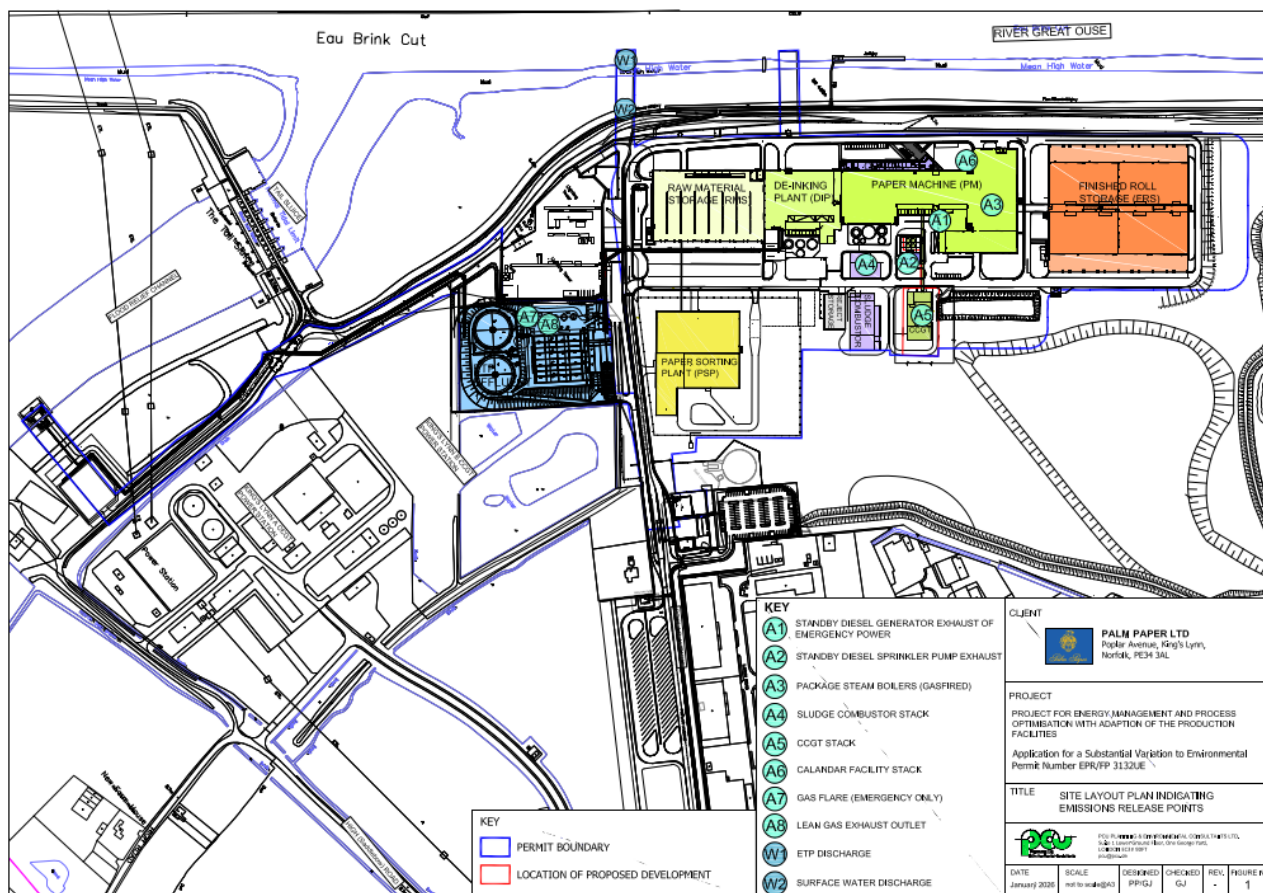
Given the emergency nature of the flare operation, alongside the buoyancy of the plume and distance from receptors, it is considered unlikely that the operation of the flare would have a significant impact on local air quality.

For the full assessment refer to Appendix E of the Technical Supporting Document.

Table 2-1 – New Point Source Emissions to Air

Emission Number	Unit	Relevant Emissions	Emission Point Permit Reference
E1	Anaerobic Reactor 1	None under normal conditions	A10
E2	Anaerobic Reactor 2	None under normal conditions	A11
E3	Anaerobic Reactor 3	None under normal conditions	A12
E4	Anaerobic Reactor 4	None under normal conditions	A13
E5	Desulphurisation 1 (emitted via aeration lane in aerobic treatment stage)	Low H ₂ S and trace Mercaptan, Dimethylsulfide and Dimethyl disulfide	A14
E6	Desulphurisation 2 (emitted via aeration lane in aerobic treatment stage)	Low H ₂ S and trace Mercaptan, Dimethylsulfide and Dimethyl disulfide	A15
E7	Biogas Storage Overpressure Protection	None under normal conditions	A16
E8	Flare	NO _x - 350mg/Nm ³ SO _x - 20mg/Nm ³	A7
E9	Lean Gas Exhaust Outlet	CO ₂ – 1954.49 g/Nm ³ CH ₄ – 5.27 mg/Nm ³ SO _x – 9.29 g/Nm ³	A8
E10	BGTS Blow Out Valve	None under normal conditions	A17
E11	Overpressure Protection BGTS	None under normal conditions	A18
E12	Compressor Blow Out Valve	None under normal conditions	A19

Figure 2-1 - Updated Point Source Emissions Plan



HABITATS ASSESSMENT

The nearest receptor with human exposure (residential) is a standalone property approximately 650 m away and the nearest relevant area for nature conservation is located around 800 m from site (the River Nar)

A pre-application Screening Report (EPR/FP3132UE/P001) nature heritage and conservation report was received from the Environment Agency which has been reviewed as a part of this risk assessment. The habitat features listed below in Table 2-2 are derived from this report.

Table 2-2 – Habitat Sites

Habitat Site	X	Y	Distance from Site (km)
Special Areas of Conservation			
The Wash & North Norfolk Coast	559833	323665	5.7 km to the north of the installation
Roydon Common & Dersingham Bog	567823	322311	7.6 km to the north east of the installation
Special Protection Area			

The Wash	559836	323682	5.7 km to the north of the installation
Ramsar			
The Wash	559836	323682	5.7 km to the north of the installation
Roydon Common	567823	322311	7.6 km to the north east of the installation
Sites of Special Scientific Interest			
River Nar	562004	317852	0.8km to the east of the installation

As well as the identified sites, the following Local Wildlife Sites are within 2 km of the installation:

- Saddlebow Reedbeds;
- Adj. River Nar;
- Clenchwarton Road;
- West Winch Common; and
- Rush Meadow.

EMISSIONS TO WATER OR SEWER

Existing point source emissions to water include:

- W1 – Treated effluent from the ETP; and
- W2 – Uncontaminated surface water from drainage system.

As the treated effluent from the new AD process will be directed back to the original effluent pathway and undergo aerobic digestion as previous, there will be no new point source emissions to water introduced as a result of the permit variation application.

There will be a small increase in volume of treated effluent which will be discharged from emission point W1, as water from anaerobic stage cleaning operations and condensation from biogas drying will be incorporated into the process effluent. This will amount to a few litres per day.

NOISE

A noise assessment has been undertaken to assess the anticipated increase in noise levels as a result of the planned changes to the ETP on site. The anticipated noise levels were calculated using a digital three-dimensional calculation model in accordance with the standardised international procedure described in ISO 9613-2. The anticipated specific noise rating levels were calculated at the four nearest noise sensitive receptors (NSRs), as well as the surrounding area.

The assessment concluded that resultant rating levels do not exceed the identified background sound levels at all assessment locations during typical on-site operations. BS 4142 indicates that, where the rating level does not exceed the background sound level, the impact of the specific sound level is likely to be low. Therefore, during typical operation, the calculated rating levels are unlikely to

result in impacts at the nearby residential receptors. During emergency overpressure scenarios, the sound levels may exceed the background but, with consideration to the limited frequency of occurrences, it is unlikely that this operation would give rise to significant adverse impacts.

A further acoustic assessment will be carried out in accordance with the normative requirements of British Standard 4142:2014 at a later stage during this project. For the full noise assessment, please see Appendix G of the Technical Supporting Document.

ODOUR

The Anaerobic Reactors are closed systems. Possible odour emissions from the flare are largely reduced due to the combustion-related oxidation of sulphur-containing compounds. Emissions from the lean gas exhaust outlet will contain trace levels of sulphur containing compounds and will be released in small volumes from a height of 6m to minimise odour on site. As discussed in the Muller-BBM statement, Appendix E, 'Upgrading of The Operational Wastewater Treatment Plant by means of an Anaerobic Stage, Expert Opinion on the Exhaust Gas Discharge Conditions of The Emission Source E9 Lean Gas Outlet', which states that:

“An odour contamination of the lean gas can result primarily from the sulphur compounds (in particular hydrogen sulphide, mercaptans, etc.) still contained in it even after fine desulfurization. Assuming that the sulphur specified as sulphur dioxide is completely present in reduced form as hydrogen sulphide (as a representative of odour-active sulphur compounds) and only a small portion in an even more odour-relevant form, e.g. as mercaptans, a rough estimate of the odour concentration in the lean gas can be obtained, taking into account a lower odour threshold for hydrogen sulphide of 0.01 ppm (corresponds to approx. 0.0157 mg/m³), thus resulting in an odour concentration of the lean gas of a few hundred odour units / m³ (approx. 500 OU/m³). In connection with the volume flow of 280 m³/h, odour loads of 0.1 to 0.3 106 OU/h would be expected, which would mean that the corresponding smells would be noticeable on the company premises. However, in comparison with the odour emissions from the existing open basins, no changes are to be expected from the operation of the source under consideration that would have an odour impact in the area of the nearest neighbours.

If higher proportions of mercaptans or other more strongly odour-active compounds in the emissions of sulphur-containing compounds result in a significantly greater odour relevance in actual operation (can be verified by appropriate odour emission measurements), an RTO may need to be retrofitted as a lean gas treatment.”

There have been no previous odour complaints at the site. The nearest receptor with human exposure (residential) is a standalone property approximately 650 m away and the nearest relevant area for nature conservation is located around 800 m from site (the River Nar). Odour levels are not expected to deteriorate beyond the site boundary, and therefore there will be no resulting impacts on local receptors. Improvements can be expected in the area of the aerobic stages of the ETP due to the upstream anaerobic digestion of the effluent, reducing the COD load at this stage. Please refer to Appendix E of the Technical Supporting Document for the full air quality report.

HAZID STUDY

A HAZID study was completed to identify safety, environmental, and asset hazards and safeguards associated with the operation of the new AD plant. The existing facility was not considered except for impacts from the new plant and infrastructure. A total of 52 hazard scenarios were risk ranked:

- No scenarios were found to be intolerable.
- 29 scenarios were categorized as Tolerable if ALARP.
- 23 scenarios were Broadly Acceptable.

Thirty-three actions were recommended to Palm Paper or suppliers to maintain or improve safety. A key recommended action included the development of operating and maintenance procedures for the new AD plant, including PPE, personal gas detection, and access control. This was deemed applicable to a range of hazard scenarios. For the full HAZID report please see Appendix of the Technical Supporting Document.

FIRE

The site has a fire prevention plan which will be updated to reflect changes made to site, and any new risks, associated with the proposed variation. Palm Paper has proposed an Improvement Condition as detailed in the Technical Supporting Documents.

CONCLUSIONS

Further review and assessments have been undertaken, including detailed modelling for emissions to air and noise.

It is not anticipated that there will be any new hazards introduced in relation to the following, and therefore these areas have not been assessed as part of this ERA:

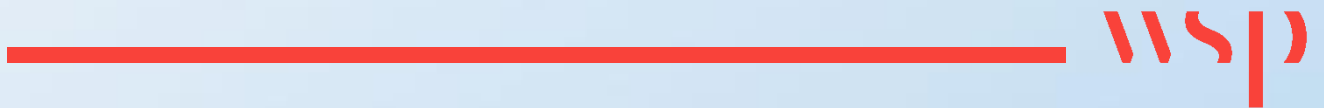
- Discharges to surface water or sewer; and
- Visible emissions.

There are no additional discharges to surface water or sewer that are related to the planned upgrades to the ETP at Palm Paper's King's Lynn site.

Due to the nature of the changes being introduced at the King's Lynn site, and the control measures being implemented, it is considered that the proposed variation will **not have any significant impact** on the local environment.

Appendix A

PRE-APPLICATION CONSERVATION SCREENING REPORT





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WSP UK Limited makes no warranties or guarantees, actual or implied, in relation to this report, or the ultimate commercial, technical, economic, or financial effect on the project to which it relates, and bears no responsibility or liability related to its use other than as set out in the contract under which it was supplied.

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