Environmental Risk Assessment

Location – Newcastle Emlyn Creamery

Operator – Dairy Partners Wales

Date of Assessment – February 2020

Reason for assessment – Permit Variation process, upgrade of Effluent Treatment Plant

Topic - Noise

What do you do that can harm, and what could be harmed?			Managing the risk		Assessing the risk	
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequences	Residual Risk
What has the potential to cause harm?	What is at risk?	How can the hazard reach the receptor?	What measures can you take to reduce the risk?	How likely is this to happen?	What is the harm that could be caused?	What is the risk that remans?
Noise related to construction activity	Residential property	Air	Construction activities planned to take place during 0900 – 1700hrs. Noisy work not to take place on weekends. Regular noise monitoring and review to be completed during the site inspection process	Exposure is likely during the construction phase; however, noise will be limited to normal work hours and where possible measure will be taken to screen the noise.	Nuisance	None after construction is completed. Minor disruption based on normal work hours, some individuals may still be affected by the activities.
Vehicle movements	Residential property	Air	Drivers are instructed to turn their engines off when sitting on the yard.	Effluent sludge is collected at various times throughout the day / night. Current vehicle movements are	Nuisance	Low risk When new plant is installed sludge waste will be better managed

			Horns and radios are not permitted to be used in the construction areas New system would see better management of the sludge produced and better control over the tanker movements	between 5 and 10 HGVs daily. Tanker movements will be reduced, with the expectation of 1 road tanker / day during normal operations Tanker movements will be managed to take place during normal work hours and operational times.		leading to a reduction in HGV movements
Noise from ETP system	Residential property	Air	Systems have been designed and chosen with reduced noise levels as a key parameter Pumps will be on duty standby and will only operate as required Position of pumps and potential noise emitters have been placed in locations away from the neighbouring properties Systems have been designed to run on	Once new system is operational the noise levels generated from ETP related equipment is minimal due to design proposals.	Nuisance	Low

			plant supplied air removing the need for additional compressors Blowers will be housed within an acoustic shielded building PPM systems will be in place for the maintenance of key systems reducing the risk of noise associated to fail modes			

Topic - Emissions

What do you do that can harm, and what could be harmed?			Managing the risk		Assessing the risk	
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequences	Residual Risk
What has the potential to cause harm?	What is at risk?	How can the hazard reach the receptor?	What measures can you take to reduce the risk?	How likely is this to happen?	What is the harm that could be caused?	What is the risk that remans?
Dust during construction activity	Residential property / work force	Air	Tasks that may generate dust are planned to depend on weather conditions. Additional water is used to supress any dust generated	Unlikely as construction is taking place during the winter months (wet), additionally all work can be considered clean installation i.e. delivery and build	Nuisance / illness	None

Construction waste	Environment	Land	All wastes will be managed via the site construction plan with segregation of waste materials completed Waste will only be removed and disposed of by licenced contractors Waste system subject to review and audit Duty of care / transfer notes will be held for all wastes removed from site Project will operate a zero waste to landfill requirement, where possible packaging materials will be returned with the supplier. New ETP system will see the use of bulk tanks for chemical storage, where smaller containers are used these will be sent back	Waste will be generated during the construction phase. When operational the ETP will generate very little solid waste	Environmental damage	Low

			to the supplier for reuse			
Sludge waste	Environment	Land / Air	All sludge waste is handled by a licenced contractor Waste is processed to an agreed specification, where sludge meets this criteria it is treated within a local AD plant for energy creation Waste outside of the specification is sent for land spreading in line with land bank consents Waste transfer notes are supplied for all movements of sludge waste The current system creates a significant volume of sludge due to the additional chemical treatment required in the process. New plant will see reduced sludge	When new ETP is generated the sludge disposal movements required will be significantly reduced.	Environmental damage	Medium

			generation within the process			
Light	Residential property	Air	All vehicles are to be parked in a manner that lights are directed away from properties Vehicles will switch off lights when parked Additional workplace lighting requirements will be reviewed prior to use during the construction phase, light heads will be pointed downwards and positioned away from property. Lighting plans will be developed for the design stage, efforts will be made to use auto sensor systems. Solar powered lighting to be considered in new ETP area	Possible during vehicle movements, however work after allotted hours must be approved by the client, neighbours will be instructed of any potential requirement for later working, and lighting positions will be evaluated to minmise effects on the neighbouring property.	Nuisance	Low risk after construction phase
Discharge of untreated effluent	Sensitive Receptor – River Teifi / River Arad	Water	No direct emissions other than those within the site permit are allowed.	The ETP in its current form is an aging asset, as a result treatment quality fluctuates, and the system can be	Environmental Damage	Currently the risk should be considered high based on the risk posed by a failure of the current asset

			Both receptors are protected areas, discharge consent limits are to be maintained at all times Emissions to the River Arad are restricted to permitted water run-off All treated effluent is discharged to the River Teifi via a discharge pipe Flow of discharge monitored by MCERTS flowmeter Water quality analysis completed in line with the requirements of the permit Current ETP system is manned 24/7, new system would be significantly better automated, with monitoring and alarm systems built in to the equipment. Additional divert and storage	significantly impacted by temperature changes or chemical make-up The new system will see a change to BAT and a better quality of effluent whatever the operating conditions		The risk is Low when the new ETP comes on line making use of better technology and system automation

			tanks will allow for better control of waste water. The new ETP will see improvements in the discharge consent limits, this will allow for lower limits within the permit consent.			
Exhaust gases	Residential property / work force	Air	Drivers are instructed to turn their engines off when sitting in the construction areas Vehicles are subject to driver checks/servicing and MOT, all vehicles are road legal and therefore have filters fitted	Delivery drivers will be expected to bring tools and equipment to the construction site	Nuisance / illness	Medium risk Some exposure to exhaust gases is likely when operators are in the construction area, unlikely to case any additional issues based on the location of the main road in relation to the site.
Fuel spillage / chemical spillage	Contamination	Land / Water	Improved floors/ground conditions will hold the spill on hard standing once ETP construction is complete Spill kits available Procedures in place for spill clean up and prevention of pollution	Significant spillages would only occur in an abnormal event Some spillages could occur during uncoupling of chemical delivery or effluent collection hoses, drivers to use spill equipment or drip trays below couplings.	Contamination incident	Medium risk during construction phase Low risk during operations, all spillages would be contained within the ETP sump.

			All drains in the area will be diverted to ETP sump No fuels used during normal ETP operations Chemical deliveries will only be completed by competent and trained people All delivery equipment is subject to pre-start checks, hoses removed from service if damaged During construction refuelling will not be permitted within 50m of the river Arad All construction refuelling activities will have a drip tray and spillkit in position Refuelling will only be completed by competent people, using correct fuel delivery systems			

Topic – Accident Risks

What do you do that can harm, and what could be harmed?			Managing the risk		Assessing the risk	
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequences	Residual Risk
What has the potential to cause harm?	What is at risk?	How can the hazard reach the receptor?	What measures can you take to reduce the risk?	How likely is this to happen?	What is the harm that could be caused?	What is the risk that remans?
Effluent escape Due to vandalism or system failure	Contamination	Water	ETP is within the main site boundary Additional security fencing will be in place, all access point to the ETP will be managed ETP is away from the main vehicle activity area Controls will be within a locked control room, Additional monitoring is in place of the system to identify a leak/loss. Dairy Partners to develop emergency procedures to cover an escape event, details	Highly unlikely due to the positioning of the tank and control measures protecting the unit.	Environmental Damage	Low risk Based the security measures and the probability of this occurring

			should also include how to warn the neighbours. Current system is being managed using PPM, operation of the plant is being completed 24/7 with operators present throughout New system will be included within the site Scada system, meaning that issues can be captured, controlled and dealt with by the creamery team leaders			

Question	Answer to the question and explanation of reasons (Yes/No or Not Known (?) or N/A)		Is a Significant Effect Likely? (Yes/No or Not Known (?) or N/A)	
	Briefly explain answer to Part 2a and, if applicable and/or known, include name of feature and proximity to site **(If answer in Part 2a / 2b is 'No', the answer to Part 3a / 3b is 'N/A')**		Is a significant effect likely, having regard particularly to the magnitude and spatial extent (including population size affected), nature, intensity and complexity, probability, expected onset, duration, frequency and reversibility of the impact and the possibility to effectively reduce the impact? If the finding of no significant effect is **reliant on specific features or measures** of the project envisaged to avoid, or prevent what might otherwise have been, significant adverse effects on the environment **these should be identified in bold**.	
1. NATURAL RESOURCES				
1.1 Will construction, operation or decommissioning of the project involve actions which will cause physical changes in the topography of the area?	No	This is a replacement project for existing infrastructure, there are no plans to alter the height of the land or change the land use		
1.2 Will construction or operation of the project use natural resources above or below ground such as land, soil, water, materials/minerals or energy which are non-renewable or in short supply?	No	The project will see the treatment of already extracted raw materials and waste products i.e. water		
1.3 Are there any areas on/around the location which contain important, **high quality or scarce resources** which could be affected by the project, e.g. forestry, agriculture, water/coastal, fisheries, minerals?	No			
2. WASTE				
2.1 Will the project produce solid wastes during construction or operation or decommissioning?	Yes	Some constructions wastes will be generated during the construction phase, this will be linked to packaging and delivery. All waste will be managed in line with the environmental construction plan, and waste will be recycled and reused		

Question	Answer to the question and explanation of reasons (Yes/No or Not Known (?) or N/A)		Is a Significant Effect Likely? (Yes/No or Not Known (?) or N/A)	
3. POLLUTION AND NUISANCES				
3.1 Will the project release pollutants or any hazardous, toxic or noxious substances to air?	No			
3.2 Will the project cause noise and vibration or release of light, heat, energy or electromagnetic radiation?	Yes	Possible noise generated during the construction phase, design and engineering techniques are being used to prevent issues during full operation		
3.3 Will the project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	No	This project is designed to improve the water quality		
3.4 Are there any areas on or around the location which are already subject to pollution or environmental damage, e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No			
4. POPULATION AND HUMAN HEALTH				
4.1 Will there be any risk of major accidents (including those caused by climate change, in accordance with scientific knowledge) during construction, operation or decommissioning?	No			
4.2 Will the project present a risk to the population (having regard to population density) and their human health during construction, operation or decommissioning? (for example due to water contamination or air pollution)	No			
5. WATER RESOURCES				
5.1 Are there any water resources including surface waters, e.g. rivers, lakes/ponds, coastal or underground waters on or	Yes	Discharge location is already permitted under the current environmental permit, there is no ambition to raise the current volume of 1050m3 / daily		

Question	Answer to the question and explanation of reasons (Yes/No or Not Known (?) or N/A)		Is a Significant Effect Likely? (Yes/No or Not Known (?) or N/A)	
around the location which could be affected by the project, particularly in terms of their volume and flood risk?		discharge, there is also a drive to improve the current effluent quality to a target better than the current discharge consent.		
6. BIODIVERSITY (SPECIES AND HABITATS)				
6.1 Are there any protected areas which are designated or classified for their terrestrial, avian and marine ecological value, or any non-designated / non-classified areas which are important or sensitive for reasons of their terrestrial, avian and marine ecological value, located on or around the location and which could be affected by the project? (e.g. wetlands, watercourses or other water-bodies, the coastal zone, mountains, forests or woodlands, undesignated nature reserves or parks. (Where designated indicate level of designation (international, national, regional or local))).	Yes	River Teifi		
6.2 Could any protected, important or sensitive species of flora or fauna which use areas on or around the site, e.g. for breeding, nesting, foraging, resting, over-wintering, or migration, be affected by the project?	No			
7. LANDSCAPE AND VISUAL				
7.1 Are there any areas or features on or around the location which are protected for their landscape and scenic value, and/or any non-designated / non-classified areas or features of high landscape or scenic value on or around the location which could be affected by	No			

Question	Answer to the question and explanation of reasons (Yes/No or Not Known (?) or N/A)		Is a Significant Effect Likely? (Yes/No or Not Known (?) or N/A)	
the project?[1] Where designated indicate level of designation (international, national, regional or local).				
7.2 Is the project in a location where it is likely to be highly visible to many people? (If so, from where, what direction, and what distance?)	Yes	Neighbours are located within 100m of the planned project, but outside of the site boundary		
8. CULTURAL HERITAGE/ARCHAEOLOGY				
8.1 Are there any areas or features which are protected for their cultural heritage or archaeological value, or any non-designated / classified areas and/or features of cultural heritage or archaeological importance on or around the location which could be affected by the project (including potential impacts on setting, and views to, from and within)? Where designated indicate level of designation (international, national, regional or local).	Yes	A listed residential property is located less than 100m from the project but located outside of the site boundary.		
9. TRANSPORT AND ACCESS				
9.1 Are there any routes on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	No			
9.2 Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	No			
10. LAND USE				
10.1 Are there existing land uses or community	No			

[1] See question 8.1 for consideration of impacts on heritage designations and receptors, including on views to, within and from designated areas.

Question	Answer to the question and explanation of reasons (Yes/No or Not Known (?) or N/A)		Is a Significant Effect Likely? (Yes/No or Not Known (?) or N/A)	
facilities on or around the location which could be affected by the project? E.g. housing, densely populated areas, industry / commerce, farm/agricultural holdings, forestry, tourism, mining, quarrying, facilities relating to health, education, places of worship, leisure /sports / recreation.				
10.2 Are there any plans for future land uses on or around the location which could be affected by the project?	No			
11. LAND STABILITY AND CLIMATE				
11.1 Is the location susceptible to earthquakes, subsidence, landslides, erosion, or extreme /adverse climatic conditions, e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	No			
12. CUMULATIVE EFFECTS				
12.1 Could this project together with existing and/or approved development result in cumulation of impacts together during the construction/operation phase?	No			
13. TRANSBOUNDARY EFFECTS				
13.1 Is the project likely to lead to transboundary effects?[2]	No			

[2] The Regulations require consideration of the transboundary nature of the impact. Due to the England's geographical location the vast majority of TCPA cases are unlikely to result in transboundary impacts.