

Record of a Habitats Regulations Assessment of a project

OGN 200 Form 1

Document owner: Protected Sites Team, EPP

Version History:

Document Version	Date Published	Summary of Changes
1.0	March 2016	Document created
1.1	30 November 2017	References to the 2010 Habitats Regulations updated to reflect new consolidated version of the regulations which entered into force on 30 th November 2017; References to KSP and National Services Directorates updated to EPP
1.2	28 June 2018	With marked up changes in light of ruling in CJEU case c-323/17 'People over Wind'.
1.3	27 June 2019	With marked up changes in light of ruling in CJEU case c-323/17 'People over Wind'. See Guidance here

Next review date: April 2019

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1. Project Details

1(a): Project details where an external party has applied to NRW for any form of authorisation	
Application reference number (if applicable)	PAN-010733
Date application received	18/06/2020
Applicant details	Dairy Partners (Cymru Wales) Limited
Activity proposed	<p>This is a substantial variation application to an existing EPR permit (EPR/WP3231NB) for The Creamery, Aberarad, Newcastle Emlyn, Carmarthenshire, SA38 9DQ operated by Dairy Partners (Cymru Wales) Limited. The variation is to upgrade and replace their existing effluent treatment plant (ETP) at the installation with a new effluent treatment plant. All process and cleaning waters are treated in the ETP and process effluent introduced into the ETP has not changed in composition or volume as part of this variation. Treated effluent is discharged via a pipeline from the installation to the Afon Teifi / River Teifi, the discharge point and monitoring points have not changed as part of this variation and the maximum permitted discharge volume is decreasing from 1050 m³/day to 900 m³/day. The treatment process has changed as part of this variation although the EPR Schedule 5.4 activity remains the same as biological treatment of non-hazardous waste. A number of new parameters and limits will be added to the permit reflected by the change in the composition of the treated effluent, in addition a number of existing limits on the permit will be reduced.</p> <p>Current parameters and limits on the existing EPR permit:</p> <p>Maximum daily discharge volume: 1050 m³/day Ammonia as N: 22 mg/L Nitrite as N: 3 mg/L Mercury: 0.5 µg/L Cadmium: 0.01 mg/L Chemical oxygen demand (COD): 120 mg/L Total suspended solids: 50 mg/L Temperature: 21 °C</p>

	<p>Proposed parameters and limits following the variation:</p> <p>Maximum daily discharge volume: 900 m³/day Ammonia as N: 10 mg/L Nitrite as N: 1.0 mg/L Mercury: 0.5 µg/L Cadmium: 0.525 µg/L Chemical oxygen demand (COD): 110 mg/L Total suspended solids (TSS): 30 mg/L Temperature: 21 °C pH: minimum 6 - maximum 9 Total phosphate as P: 1.0 mg/L Aluminium: 1.0 mg/L Total nitrogen as N: 20 mg/L Biological oxygen demand (BOD): 20 mg/L</p> <p>The only emission changing as part of this variation is: Emission to surface water from discharge of treated effluent into River Teifi. There are no emissions to sewer or to ground of process effluent. There are no other changes to point source emissions from the permitted installation.</p> <p>As the treatment process is changing the composition of the treated effluent has changed a complete Water Framework Directive (WFD) assessment has been completed on the new composition (see here: PAN-01788 WFD Compliance Assessment). This assessment has concluded that there no potential to cause deterioration of any water body or prevent a water body or WFD Protected Area from meeting its objectives.</p> <p>Note that a variation application for this proposal was previously submitted and was subsequently refused on 28/06/2021 (application reference PAN-010733). Refusal reasons were primarily related to the ETP's containment measures and assessment of odour, please see PAN-010733 Dairy Partners Refusal Decision Document.pdf for more information). A HRA at that time was undertaken. In light of the conclusions of an Appropriate Assessment and taking account of the advice received from technical specialist advisors; the assessment established that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, taking into account any conditions or restrictions as applicable, either alone or in-combination with other plans and projects (see previous assessment here: PAN-010733 Dairy Partners OGN200 Form 1 HRA).</p> <p>The applicant is now re-applying for the variation. There are no changes to the proposed ETP process, discharge rate or the composition of the treated effluent.</p>
Relevant legislation	Environmental Permitting Regulations 2016 (as amended) Industrial Emissions Directive Water Framework Directive

<p>Location</p>	<p>Installation central NGR: SN 31541 40205 (shown as blue dot on map below) Water discharge location: NGR: SN 31356 40462</p>  <p>The map shows the town of Castellnewydd Emlyn and Newcastle Emlyn. A blue dot marks the installation location near the center of the town. Various landmarks are labeled, including 'Depot', 'Sewage Works', 'Hotel', 'Liby', 'Market', 'Sch', 'A475', 'A484', 'Aber-Arad', 'Penlan', and 'Foelallt'. The River Emllyn is also visible winding through the town.</p>
<p>Application documents</p>	<p>Application documents on DMS</p>
<p>Environmental Statement</p>	<p>N/A</p>

Pre-application correspondence	N/A
NRW team responsible for drafting this HRA report, and name of lead officer	Jennifer McGuire Senior Permitting Officer, Installations & RSR

2. Determining the need for a Habitats Regulations Assessment

2.1 Is the whole of the project directly connected with or necessary to the management of one or more Natura 2000 sites, for the purposes of conserving the habitats or species for which the Natura 2000 site(s) is/are designated?	NO	
2.2 Is there a possibility that the project could affect a different Natura 2000 site to the one(s) the project is intended to conserve?	N/A	
2.3 Is it necessary to carry out an HRA?	YES	

3. Considering the likelihood of a significant effect (LSE)

3.1 Renewal of a permission on the same or more restrictive terms as the extant permission

Is this project a renewal of a current permission which complies with NRW approved criteria for ruling out significant effects of renewals (see section 6.2A of OGN 200) without conducting a project-specific LSE test?	NO
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3.2 Likelihood of significant effects (LSE) test

3.2.1 Which Natura 2000 sites might be affected by the proposal?	<p>Based on the project specification or information provided in the application, it is considered that the following Natura 2000 sites have features which could be affected by the project:</p> <p>SAC Afon Teifi / River Teifi UK0012670</p> <p>The potential for the project to affect the following Natura 2000 sites was also initially considered, but can be ruled out without further consideration:</p> <p>N/A</p>	
3.2.2 Screening assessment		
	Assessment of likelihood of significant effect	
	I Relevant conservation objectives	II Potential impact pathway
SAC Afon Teifi / River Teifi UK0012670		
1.3 Riverine habitats & running waters Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Core Management Plan Including Conservation Objectives for Afon Teifi / River Teifi SAC (Special Area of Conservation) Version 1.8 Date April 2008 Approved by: Tracey Lovering	<p>Toxic contamination Significant effects from toxic contamination cannot be ruled out due to the potential presence of the following substances in the discharge: Aluminium, Mercury, Cadmium, Dosing chemicals – Urea, sulphuric acid, phosphoric acid, sodium hydroxide, anionic and cationic polymers.</p> <p>Nutrient enrichment Significant effects from nutrient enrichment cannot be ruled out due to presence of the following substances in the discharge: ammonia and phosphorus, also effects from BOD cannot be ruled out.</p> <p>Acidification Significant effects from acidification of the receiving watercourse cannot be ruled out due to the potential acidic nature of the discharge.</p> <p>Changes in salinity regime No impact pathway as there will be no saline content within the effluent.</p>
2.6 Non-migratory fish and invertebrates of rivers Brook lamprey <i>Lampetra planeri</i>		
2.5 Anadromous fish River lamprey <i>Lampetra fluviatilis</i>		
2.5 Anadromous fish		

Atlantic salmon <i>Salmo salar</i>		
2.6 Non-migratory fish and invertebrates of rivers		
Bullhead <i>Cottus gobio</i>		
2.9 Mammals of riverine habitats		
European otter <i>Lutra</i>		
2.1 Vascular plants of aquatic habitats		
Floating water-plantain		
<i>Luronium natans</i>		
1.4 Standing waters (sensitive to acidification)		
Oligotrophic to No mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoeto-Nanojuncetea</i>		
2.5 Anadromous fish		
Sea lamprey <i>Petromyzon marinus</i>		

Changes in thermal regime
Significant effects from changes in thermal regime cannot be ruled out due to potential temperature of the discharge.

Habitat loss
No impact pathway as there is no destructive work occurring at the SAC as part of this proposal. The installation is approximately 300 m from the SAC.

Physical damage
No impact pathway as there is no physical work occurring at the SAC as part of this proposal. The discharge pipe is already in situ. The installation is approximately 300 m from the SAC.

Smothering
No impact pathway as no change to point source air emissions as part of this variation.

Turbidity and siltation
Significant effects from turbidity and siltation cannot be ruled out due to potential discharge of suspended solids.

Entrapment
No impact pathway as there is no water abstraction activity.

Disturbance (noise)
No impact pathway as noise is not expected to be significant at the SAC. The installation is located approximately 300 m from the SAC. Noise levels are predicted to reduce as part of this variation with replacement of the existing ETP with new ETP.

Failure of the Effluent Treatment Plant (ETP) primary containment, leaks or spills
Significant impacts (toxic contamination, nutrient enrichment, acidification, changes in thermal regime, turbidity and siltation) in the event untreated effluent or chemicals are discharged to the Afon Arad / River Arad (tributary of the Afon Teifi / River Teifi) in the event of catastrophic failure of primary containment, leaks or spills.

1.3.3 Screening decision of the project ‘alone’

(a) If ALL rows in column II of Table 3.2.2 are GREEN	The project is not likely to have a significant effect on any Natura 2000 site, because there is no impact pathway from the project to any Natura 2000 features, and no further consideration under the Habitats Directive/Regulations is required in order to determine the application.
(b) If there are NO rows coloured RED in column II of Table 3.2.2, and there are ANY rows which are BLUE	The project is not likely to have a significant effect on any Natura 2000 sites when considered alone, but the possibility of significant effects in combination with other plans and projects needs to be considered.
(c) If ANY rows in Column II of Table 3.2.2 are RED	The project is likely have a significant effect on one or more Natura 2000 sites and therefore an appropriate assessment is required.

4. Appropriate assessment of the project when considered alone

4.1 Assessment of project as currently defined

Natura 2000 site feature (from Table 3.2.2 – RED rows only)	Impact pathway(s) (from Table 3.2.2)	Description of impacts	Assessment in view of conservation objectives	Can adverse effect on site integrity be ruled out?
SAC Afon Teifi / River Teifi UK0012670				
1.3 Riverine habitats & running waters Water courses of plain to montane levels with	Toxic Contamination Nutrient Enrichment Acidification Changes in thermal regime Turbidity and siltation Failure of the Effluent	Toxic Contamination 1. Aluminium Aluminium is acutely toxic to fish in its active form. Aluminium is present in Polyaluminium chloride which is used as part of the effluent treatment process. NRW has completed a surface water risk assessment that has followed the recognised H1 methodology in line with .gov guidance. There are four initial screening tests and if the aluminium does not screen out further modelling is required. The H1 assessment completed by us has been attached to this Form 1 within the full WFD assessment. The aluminium screened out in the second screening test and therefore no further assessment is required. A limit will be placed	Toxic Contamination See assessment completed, no relevant PNEC or EQS values are expected to be exceeded. Limits will be placed in the permit to control aluminium, mercury and cadmium. Discharge of acids/bases will be controlled by pH	Toxic Contamination YES Nutrient Enrichment YES

<p>the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation</p>	<p>Treatment Plant (ETP) primary containment, leaks or spills</p>	<p>in the permit of 1000 µg/L. Please see the attached full WFD assessment for full details.</p>	<p>minimum and maximum limits in the permit. <u>No adverse effect on site integrity is concluded.</u></p>	<p>Acidification YES</p>
<p>2.6 Non-migratory fish and invertebrates of rivers Brook lamprey <i>Lampetra planeri</i></p>		<p>2. Mercury Mercury is a priority hazardous substance. The applicant has completed a surface water risk assessment that has followed the recognised H1 methodology in line with .gov guidance. There are four initial screening tests and if the mercury does not screen out further modelling is required. The H1 assessment completed by the applicant has been audited by us and is attached to this Form 1 within the full WFD assessment. The mercury screened out in the second screening test and therefore no further assessment is required. The limit will remain in the permit as 0.5 µg/L. Please see the attached full WFD assessment for full details.</p>	<p>Nutrient Enrichment <i>Ammonia</i> – reduction of discharged ammonia will be brought in by the proposal, existing and proposed discharge both meet the ammonia target, therefore <u>no adverse effect on site integrity concluded.</u></p>	<p>Changes in thermal regime YES</p>
<p>2.5 Anadromous fish River lamprey <i>Lampetra fluviatilis</i></p>		<p>3. Cadmium Cadmium is a priority hazardous substance. The applicant has completed a surface water risk assessment that has followed the recognised H1 methodology in line with .gov guidance. There are four initial screening tests and if the cadmium does not screen out further modelling is required. The H1 assessment completed by the applicant has been audited by us and is attached to this Form 1 within the full WFD assessment. The cadmium screened out in the second screening test and therefore no further assessment is required. The limit will be reduced in the permit from 0.01 mg/L to 0.525 µg/L based on the treatment specifications of the new ETP. Please see the attached full WFD assessment for full details.</p>	<p><i>BOD</i> – reduction of BOD will be brought in by the proposal, existing and proposed discharge both meet BOD target, therefore <u>no adverse effect on site integrity concluded.</u></p>	<p>Turbidity and Siltation YES</p>
<p>2.5 Anadromous fish Atlantic salmon <i>Salmo salar</i></p>		<p>4. Dosing chemicals There are a number of dosing chemicals used in the new ETP process: Anionic and cationic emulsion polymers, urea, phosphoric acid, sulphuric acid and sodium hydroxide. Each dosing chemical has been assessed using H1 methodology assuming that 100 % of the dosing chemical used at the plant is present in the final treated effluent, this is an extremely conservative assumption.</p>	<p><i>Phosphorus</i> – a large reduction in phosphorus will be brought in by the proposal, over a 10 fold reduction in the discharged amount will be achieved by the new ETP (from 12.15 mg/L to 1 mg/L). Also considering the reduction in permitted daily discharge volume, the variation will reduce the orthophosphate load discharged per day from</p>	
<p>2.6 Non-migratory fish and invertebrates of rivers Bullhead <i>Cottus gobio</i></p>		<p>Anionic and Cationic emulsion polymers Non-ionic polyacrylamides are considered to be low toxicity and have no hazard ratings, are therefore are not considered any further in this surface water risk assessment. We will limit the substances at concentrations well below the EQS by operational control through the Environment Management System and will not set a numerical limit in the permit.</p> <p>Urea (CH₄N₂O)</p>		

<p>2.9 Mammals of riverine habitats European otter <i>Lutra</i></p>		<p>There is no agreed EQS to use for urea therefore a Predicted No Effect Concentration (PNEC) of 0.47 mg/L has been used as a surrogate EQS. We have completed a surface water risk assessment that has followed the recognised H1 methodology in line with .gov guidance. Urea did not screen out as requiring further assessment. However, the modelling completed was highly conservative assuming 100% of the urea dosed is present in the treated effluent whereas in reality, this figure will be much lower where the urea will be utilised in the process. Notwithstanding this, the Applicant has proposed a pH limit range (6-9) which will be listed on the permit which provides sufficient control against a large volume of urea being present in the treated effluent by ensuring it remains within a neutral pH range. This is because a large volume of urea, which has pH value of 9.8-10, will result in the upper end of the range being exceeded. The use of urea will also be controlled by an automated system, only being used when required to achieve the current nutrient balances within the activated sludge process. Therefore, we consider further assessment is not required and no further limits are required on the permit.</p>	<p>12.7575 kg/day to 0.9 kg/day, a reduction of 11.8575 kg/day or 92.9453 %.</p>	
<p>2.1 Vascular plants of aquatic habitats Floating water-plantain <i>Luronium natans</i></p>			<p><i>Based on the large reduction of phosphorus load on the watercourse from this variation, <u>no adverse effect on site integrity has been concluded.</u></i></p>	
<p>1.4 Standing waters (sensitive to acidification) Oligotrophic to No mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoet-Nanojuncet ea</i></p>		<p>Phosphoric acid (H₃PO₄) There is no agreed EQS to use for phosphoric acid therefore a Predicted No Effect Concentration (PNEC) of 0.49 mg/L has been used as a surrogate EQS. We have completed a surface water risk assessment that has followed the recognised H1 methodology in line with .gov guidance. Phosphoric acid did not screen out as requiring further assessment. However, it is noted that the modelling completed was highly conservative assuming 100% of the phosphoric acid dosed is present in the treated effluent whereas in reality, this figure will much lower where the phosphoric acid will be utilised in the process. Notwithstanding this, the Applicant has proposed a pH limit range (6-9) which will be listed on the permit which provides sufficient control against a large volume of phosphoric acid being present in the treated effluent by ensuring it remains within the neutral pH range. This is because a large volume of phosphoric acid, which has pH value of <1, will result in the lower end of the range being exceeded. The use of phosphoric acid will also be controlled by an automated system, only being used when required to achieve the current nutrient balances within the activated sludge process. Therefore, we consider detailed modelling is not required.</p> <p>Sulphuric acid (H₂SO₄) From reviewing literature, the hazards to freshwaters associated with sulphuric acid is change in pH and also formation of sulphate. There will be a limit on the permit</p>	<p>Acidification Minimum and maximum limits will be added to the permit in line with WFD requirements. <u>Therefore, no adverse effect on site integrity has been concluded.</u></p> <p>Changes in thermal regime Current limit for temperature will remain as per current permit and ensures the WFD requirements are met. <u>Therefore, no adverse effect on site integrity has been concluded.</u></p> <p>Turbidity and Siltation The limit currently on the permit will be reduced. Therefore, due to reduction <u>no adverse</u></p>	

<p>2.5 Anadromous fish Sea lamprey <i>Petromyzon marinus</i></p>	<p>for pH (minimum 6 and maximum 9), this is considered an appropriate control for sulphuric acid. The formation of sulphate has been assessed, sulphate is considered an 'other pollutant' and has an EQS of 400 mg/L. We have completed a surface water risk assessment that has followed the recognised H1 methodology in line with .gov guidance. There are four initial screening tests and if the sulphate does not screen out further modelling is required. The sulphate screened out in the second screening test and therefore no further assessment is required.</p> <p>Sodium Hydroxide (NaOH) Sodium hydroxide does not fill the criteria for persistency, bioaccumulation and toxicity therefore in the absence of a generic PNEC available, no further assessment has been undertaken for this substance. Minimum and maximum pH limits will be placed in the permit.</p> <p><u>Nutrient Enrichment</u> Elevated levels of ammonia and phosphorus can cause excess algae growth which can in turn reduce dissolved oxygen levels within the receiving watercourse. A review of current and proposed water quality in the receiving watercourse has been undertaken to ensure the proposed emission limits are acceptable in terms of the Habs Directive and WFD. The compliance targets in the receiving watercourse were set at the 'Common Standards Monitoring Guidance for Rivers', which applies to all riverine SACS:</p> <p style="text-align: center;">Table 4. Organic pollution targets</p> <table border="1" data-bbox="730 944 1415 1091"> <thead> <tr> <th>Attribute</th> <th>Target</th> </tr> </thead> <tbody> <tr> <td>10%ile DO (% saturation)</td> <td>85</td> </tr> <tr> <td>Mean BOD (mg L⁻¹)</td> <td>1.5</td> </tr> <tr> <td>90%ile total ammonia (NH₃-N, mg L⁻¹)</td> <td>0.25</td> </tr> <tr> <td>95%ile un-ionised ammonia (NH₃-N, mg L⁻¹)</td> <td>0.025</td> </tr> </tbody> </table> <p>Ammonia and BOD targets as above.</p> <p>The phosphorous target for habitats is detailed in the current Core Management Plan for the Afon Teifi / River Teifi SAC (Version 4, dated September 2022). For this water body (Teifi - Afon Clettwr to Afon Ceri, GB110062043564), the target is 0.02 mg/l.</p> <p>1. Ammonia The 90%ile total ammonia must be below the 0.25 mg/L stated in table 4 above. Modelling has been completed to predict the current impact from the existing ETP</p>	Attribute	Target	10%ile DO (% saturation)	85	Mean BOD (mg L ⁻¹)	1.5	90%ile total ammonia (NH ₃ -N, mg L ⁻¹)	0.25	95%ile un-ionised ammonia (NH ₃ -N, mg L ⁻¹)	0.025	<p><u>effect on site integrity has been concluded.</u></p>	
Attribute	Target												
10%ile DO (% saturation)	85												
Mean BOD (mg L ⁻¹)	1.5												
90%ile total ammonia (NH ₃ -N, mg L ⁻¹)	0.25												
95%ile un-ionised ammonia (NH ₃ -N, mg L ⁻¹)	0.025												

		<p>and predicted impact from the new ETP. The current downstream 90%ile concentration is 0.130 mg/L and predicted downstream concentration is 0.0854 mg/L, both existing and predicted meet the target. The reduction in discharged load will result in more compliance headroom to meet the Habitats Directive ammonia target. The reduction in permitted daily discharge volume and tightening of the ammonia concentration will reduce the daily load discharged from 0.0231 kg/day to 0.009 kg/day, reduction of 0.0141 kg/day.</p> <p>2. BOD</p> <p>The mean BOD must be below the 1.5 mg/L stated in table 4 above. Modelling has been completed to predict the current impact from the existing ETP and predicted impact from the new ETP. The current downstream mean concentration is estimated to be 1.34 mg/L predicted downstream mean concentration is 1.32 mg/L, both existing and predicted meet the target with ample compliance headroom remaining.</p> <p>3. Orthophosphate</p> <p>An orthophosphate target of 0.02 mg/L (mean) is contained within the Afon Teifi SAC Core Management Plan. From reviewing historical documents a H1 risk assessment supporting the original permit application (2005) demonstrated that the existing ETP is capable of treating to a mean of 12.15 mg/L orthophosphate, more recent data is not available and there is currently no limit on the permit. Modelling the impact of the discharge assuming it still contains 12.15 mg/L orthophosphate shows that concentrations just downstream of the discharge point are currently estimated to be around 0.044 mg/L, which is in excess of the target within the SAC Core Management Plan.</p> <p>Should the volume and load be reduced in line with the applicants proposals then the mean concentration of orthophosphate downstream of the discharge point would reduce to 0.026 mg/L. Whilst this value is still in excess of the proposed target of 0.02 mg/L, there is a daily reduction in load of 11.8575 kg/day of orthophosphate being discharged (92.95 %), furthermore, placing a 1.0 mg/L orthophosphate limit on the permit will ensure the concentrations are closely regulated through regular monitoring and reporting. Therefore, the proposal will not cause deterioration in the watercourse with respect to orthophosphate.</p> <p>Conclusion</p> <p>A large reduction in phosphorus will be brought in by the proposal, over a 10 fold reduction in the discharged amount will be achieved by the new ETP (from 12.15 mg/L to 1 mg/L). Also considering the reduction in permitted daily discharge</p>		
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		<p>volume, the variation will reduce the orthophosphate load discharged per day from 12.7575 kg/day to 0.9 kg/day, a reduction of 11.8575 kg/day or 92.9453 %.</p> <p>The current and proposed discharge both do not meet the phosphorus target of the watercourse with the current orthophosphate concentration immediately downstream of the discharge approximately 120 % over the target or 0.044 mg/L. The proposal will lead to the orthophosphate concentration immediately downstream of the discharge to be just 28.4 % over the target or 0.02568 mg/L.</p> <p>The orthophosphate concentration upstream of the plant is already above the target at 0.024 mg/L (20 % over), the proposal will lead the downstream concentration to be 0.02568 mg/L, a 7 % increase (or 0.00168 mg/L) on the current upstream concentration but importantly a 41.6 % reduction on the current downstream concentration due to the current discharged levels.</p> <p>We consider the Operator is achieving BAT (best available techniques) for phosphorus removal at the ETP as the concentration of phosphorus in the discharge (1 mg/L) is 4x tighter than the BAT-AEL (associated emission levels) for this type of plant (contained within the Food, Drink and Milk Industries BRef (2019), which is 4 mg/L. This signifies the Operator is utilising BAT for phosphorus removal. The Operator employs dosing using Polyaluminium Chloride (PAC) for phosphorus removal.</p> <p>Furthermore, a tighter limit of 1.0 mg/L will still not ensure the target is met and is unachievable. If this variation were to be refused on the basis of the orthophosphate target, the Operator would need to continue to operate their existing (old) ETP, maintaining the current situation whereby a much higher concentration of phosphorus is being discharged. This represents a far worse environmental outcome than if the variation for the new ETP is issued, which would achieve significant improvements in phosphorus levels being discharged and therefore a positive environmental impact on SAC water quality.</p> <p>Ultimately, in order for the orthophosphate target to be met, other inputs of phosphorus within the upstream catchment need to be reduced. Notwithstanding this, the reduction in phosphorus being discharged as a result of this variation does make a significant contribution to the target being achieved.</p> <p>This decision is in line with NRW guidance 'Advice to planning authorities for planning applications affecting phosphorous sensitive river Special Areas of Conservation' (version 3 July 2022, accessed on 18/01/2023) which says developments which improve water quality discharges by reducing the</p>		
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phosphorous concentration can be screened out as not likely to have a significant effect on a river SAC as there is unlikely to be a source of additional phosphorus or pathway for impacts.

Acidification

It is proposed the limit of >6 and <9 pH is added to the permit. This is in line with the WFD targets for a ‘High’ and ‘Good’ watercourse shown below, therefore deemed appropriate.

Table 3

Acid conditions standards in rivers			
pH – all river types in England and Wales			
High	Good	Moderate	Poor
5 and 95 percentile		10 percentile	10 percentile
>=6 to <=9		4.7	4.2

Changes in thermal regime

As per the 2015 Water Framework Directive ‘Temperature Standards for Rivers’, the 98%ile annual river temp for ‘High’ class in salmonid rivers should be 20 degrees Celsius, there should also be no increase/decrease in river temperature above 2 degrees Celsius. The current limit on the permit is 21 degrees Celsius. The receiving watercourse ‘GB110062043564 Teifi (Afon Clettwr to Afon Ceri) is designated ‘High’ for temperature with the annual 95 %ile being 17.7 degrees Celsius, this is in line with the standards as published within the WFD. Although there is no data available to show the impact of the discharge is having immediately downstream considering the temperature of the effluent itself lies within good status it is anticipated there will be negligible effect on the temperature of the receiving watercourse.

Turbidity and Siltation

There is currently a limit of 50 mg/L for suspended solids (SS) on the discharge consent. It is proposed the maximum limit set on the permit is reduced to 30 mg/L in line with the treatment specifications of the new ETP.

Failure of the Effluent Treatment Plant (ETP) primary containment, leaks or spills

The Applicant has proposed a ‘Secondary Containment Lagoon’ which will act as a bund to all ETP tanks (including chemical storage tanks). The capacity of the bund confirms to CIRIA736 ‘Containment systems for the prevention of pollution’ by providing 110% capacity of the largest tank within the bund. This will protect the

		Afon Arad / River Arad (and hence the Afon Teifi / River Teifi) in the event of catastrophic failure of a tank. Drainage within the Secondary Containment Lagoon is completely contained with run-off being pumped to the ETP for treatment before being discharged. This will ensure any leaks or spills are treated before being discharged.		
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4.3 Concluding the appropriate assessment of the project alone

(a) If the right hand column of Table 4.1 and Table 4.2 (if applicable) is 'YES' for all features	It has been ascertained that the proposal, when considered alone, will not adversely affect the integrity of any Natura 2000 sites.
(b) If there are any 'NO's in the right hand column of Table 4.1 that have not been resolved to 'YES' through mitigation measures identified in Table 4.2	It has not been ascertained that the proposal, when considered alone, will not adversely affect the integrity of one or more Natura 2000 sites.
(c) Are there any residual effects of the project (net of any mitigation measures identified) which, though insignificant on their own, could be significant if considered in combination with the effects of other plans or projects?	YES

5 In combination assessment

5.1 Identifying possible in combination effects

BLUE impact pathway from Table 3.2 and/or Residual effect (from appropriate assessment in section 4)	Natura 2000 site feature(s) concerned	Other plans/projects with effects that might interact with the effects of the project to render its effects significant (if any)	Nature of the in-combination effect (if any)	Is there likely to be any significant in-combination effect, in view of the site's conservation objectives?
Water emissions Toxic Contamination Nutrient Enrichment Acidification Changes in thermal regime Turbidity and siltation	SAC Afon Teifi / River Teifi UK0012670	N/A - For the purposes of the WFD Assessment, permit applications 10km upstream and 10km downstream were assessed. No relevant permit applications were identified. Therefore, any residual impacts from this proposal will not be compounded by other proposals that can act 'in combination'. Furthermore, as discussed, the risk of residual impacts is low where the proposal is anticipated to result in a betterment in terms of water quality.	N/A	NO
(a) If the right hand column is 'NO' for all rows	The project, when considered in combination with other plans and projects, is either not likely to have a significant effect on or will not adversely affect the integrity of any Natura 2000 site.			
(b) If any rows in the right hand column are 'YES' or 'DON'T KNOW'	The project is likely to have a significant effect in combination with other plans or projects.			

6. Conclusion

<p>HRA is not required because the whole of the project is directly connected with or necessary to the management of one or more Natura 2000/Ramsar sites, for the purposes of conserving the habitats or species for which the site(s) is/are designated, <u>and</u> the project is not likely to have a significant effect on any other Natura 2000/Ramsar sites. (As documented in section 2.1 and 2.2 of this form)</p>	
<p>HRA is not required because there is no conceivable impact pathway to any Natura 2000/Ramsar site (As documented in section 2.3 of this form)</p>	
<p>This project is a renewal of a current permission which complies with NRW agreed criteria for ruling out significant effects of a renewal without conducting a project-specific LSE test. Therefore it is considered not likely to have a significant effect on any Natura 2000/Ramsar sites, either alone or in-combination with other plans and projects. (As documented in section 3.1 of this form)</p>	
<p>The project has been screened for likelihood of significant effects and, taking account of the advice received from protected sites advisors, is considered not likely to have a significant effect on any Natura 2000/Ramsar site (As documented in section 3.2 of this form, or section 5 if applicable)</p>	
<p>In light of the conclusions of an appropriate assessment, and taking account of the advice received from protected sites advisors, it has been established that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, taking into account any conditions or restrictions as applicable, either alone or in-combination with other plans and projects. (As documented in section 4 of this form, and section 5 if applicable)</p>	<p>X</p>
<p>In light of the conclusions of the appropriate assessment, it has <u>not</u> been ascertained that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, as documented in section 4 of this form, and section 5 is applicable.</p> <p>Approval for the project <u>cannot</u> be given unless either:</p> <ul style="list-style-type: none"> • the project specification, and/or the terms under which it might be approved, are modified so as to remove the risk of adverse effects, and a revised HRA report is prepared, or 	

- | | |
|---|--|
| <ul style="list-style-type: none">• the project satisfies the requirements of Article 6(4) of the Habitats Directive, an Article 6(4) Statement of Case is prepared (OGN 200 Form 3) and submitted for consideration by the appropriate authority, normally Welsh Ministers | |
|---|--|

Signed: Jennifer McGuire

Name: Jennifer McGuire

Position: Senior Permitting Officer, Installations & RSR

Date: 18/01/2023

7. Consultation with protected sites advisor(s) and how sections 2, 3, 4 and 5 of this HRA report (as applicable) take into account that advice.

Relevant section of the HRA report	Date of correspondence and any meeting with protected sites advisor	Description of how the comments from protected sites advisors have been taken into account
2,3, 4 and 5	16/01/2023 – 30/01/2023	Call on 18/01/2023 to discuss approach to HRA and conclusions. Email request for HRA Form 2. No response received (assume agreement with conclusion).