Cyfoeth Naturiol Cymru
Natural Resources Wales

# Form

## 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 30th November 2017;<br>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**

Cyfoeth Naturiol Cymru
Natural Resources Wales

# Record of a Habitats Regulations Assessment of a project

***Contents***

***Section***

## 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-019159 |
| **Date application received** | ***Duly Made 23/01/2023*** |
| **Applicant details** | ***The First Milk and Cheese Company Limited*** |
| **Activity proposed** | ***The First milk and cheese company have applied for a variation to their permit for Haverfordwest creamery (permit number EPR/XP3830UR) to increase the production capacity by 178 tonnes per day (specifically from a total of 1066 tonnes per day to 1244 tonnes per day). The increase in capacity will also result in the addition to the site of***<br>• ***2 new cheese vats (each with 30,000 litre capacity), taking the total to 10.***<br>• ***1 additional milk intake bay***<br>• ***1 additional milk storage silo (increasing volume by 360,000 litres (total volume on site will increase to 1,720,000 litres))***<br>• ***Increased whey concentrate (larger silo replacing an older, smaller silo, increasing the storage by 55,000 litres (total volume on site will increase to 130,000 litres))***<br>• ***Increase cream storage (new silo increasing the volume stored on site by 55,000 litres (total volume on site will increase to 180,000 litres)***<br>• ***Expansion of existing milk pasteurisers & separators***<br>• ***Increased pipework size for various product routes***<br>• ***Replacement of the older whey clarifier***<br>• ***Expansion of the membrane plants and modifications to the whey evaporator to increase capacity for whey processing in line with the increase in milk processing and cheese production***<br>• ***Expansion of cleaning in place (CIP) set and removal of 2 others.*** |

| | |
|---|---|
| | ***The proposal would not add any new point source emissions to air or water and maximum permitted total daily volume and maximum instantaneous volumes will remain unchanged for the effluent treatment plant. In addition, the applicant has stated that their existing effluent treatment plant has the capacity to continue to be able to achieve the existing and future date (post 03/12/2023) emission limits in the permit with the increase in production capacity.***<br>***The applicant has not proposed any additional containment or drainage over what is already used in the existing site.*** |
| **Relevant legislation** | ***Environmental Permitting (England and Wales) Regulations 2016***<br>***Industrial Emissions Directive 2010/75/EU*** |
| **Location** | ***Haverfordwest Creamery, Pembroke Road, Merlins Bridge, Haverfordwest, Pembrokeshire, SA61 1JN***<br>***NGR: SM 94890 14500*** |
| **Application documents** | ***Documents can be accessed Internal on the DMS here. External Can be accessed on the public register here*** |
| **Environmental Statement** | ***N/A*** |
| **Pre-application correspondence** | ***N/A*** |
| **NRW team responsible for drafting this HRA report, and name of lead officer** | ***William Wallace, permitting officer***<br>***Installation and RSR permitting*** |

## 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?** | ***No*** |
| **2.3 Is it necessary to carry out an HRA?** | **Yes**<br><br>**There is a potential impact pathway through the discharge of milk, cream or whey stored in silos located outdoors in the event failure of primary containment.**<br><br>**The site currently has silos for these substances however the proposal is to introduce new storage silos for milk, whey and cream which are to be located closer to the site entrance than the existing ones. As such there is an increased risk of pollutants leaving the site boundary in the event of a failure of the site drainage system (tertiary containment).**<br><br>**The applicant/operator has stated that the silos do not have secondary containment (such as bunding) and have not proposed any additional containment. The applicant has stated that they will use their site drainage (tertiary containment) to prevent discharge. As the applicant has proposed to rely on an alternative to secondary containment, it has been deemed that a HRA is required to assess the impacts from a reasonably foreseeable failure of primary containment and to assess the alternative measures in place. We consider that the risk of potential off-site spills from the new silos and their associated pipework during operational use is elevated based on the fact that secondary containment is not being used and the fact that the site has** |

| | |
|---|---|
| | **experienced liquid pollution incidents before.** |

# 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*** |

## 3.2 Likelihood of significant effects (LSE) test

| | |
|---|---|
| **3.2.1 Which Natura 2000 sites might be affected by the proposal?** | 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, The location of these sites (within the 10km screening distance) relative to the site search location point is shown on a map at the end of this document.<br><br>• **Pembrokeshire Marine / Sir Benfro Forol (UK0013116) – SAC** located downstream of the part of Merlin's Brook considered most vulnerable to pollution from the storage silos (Merlin's Brook is a tributary of the Western Cleddau and it follows the northern boundary of the installation at a distance of approximately 30 metres).<br>• **Afonydd Cleddau / Cleddau Rivers (UK0030074) - SAC** – located approximately 300 meters upstream from where Merlin's brook joins the Western Cleddau. Although the SAC is located 300 meters upstream, there are mobile features of this SAC that migrate through the area that could potentially be impacted by pollution from the storage tanks.<br><br>The potential for the project to affect the following Natura 2000 sites was also initially considered, but can be ruled out without further consideration:<br><br>• **Pembrokeshire Bat Sites and Bosherton Lakes / Safleoedd Ystlum Sir Benfro a Llynnoedd Bosherton (UK0014793) – SAC –** South Pembrokeshire, so not hydrologically connected to Merlin's Brook or the Cleddau Rivers SAC at Haverfordwest.<br><br>• **West Wales Marine / Gorllewin Cymru Forol (UK0030397) – SAC** – Not hydrologically connected within 10 km of the closest point of the site to the watercourse |

**Figure 1:Location of Pembrokeshire Marine / Sir Benfro Forol and Afonydd Cleddau/ Cleddau Rivers Special area of consveration relative to the installation and Merlin's Brook**

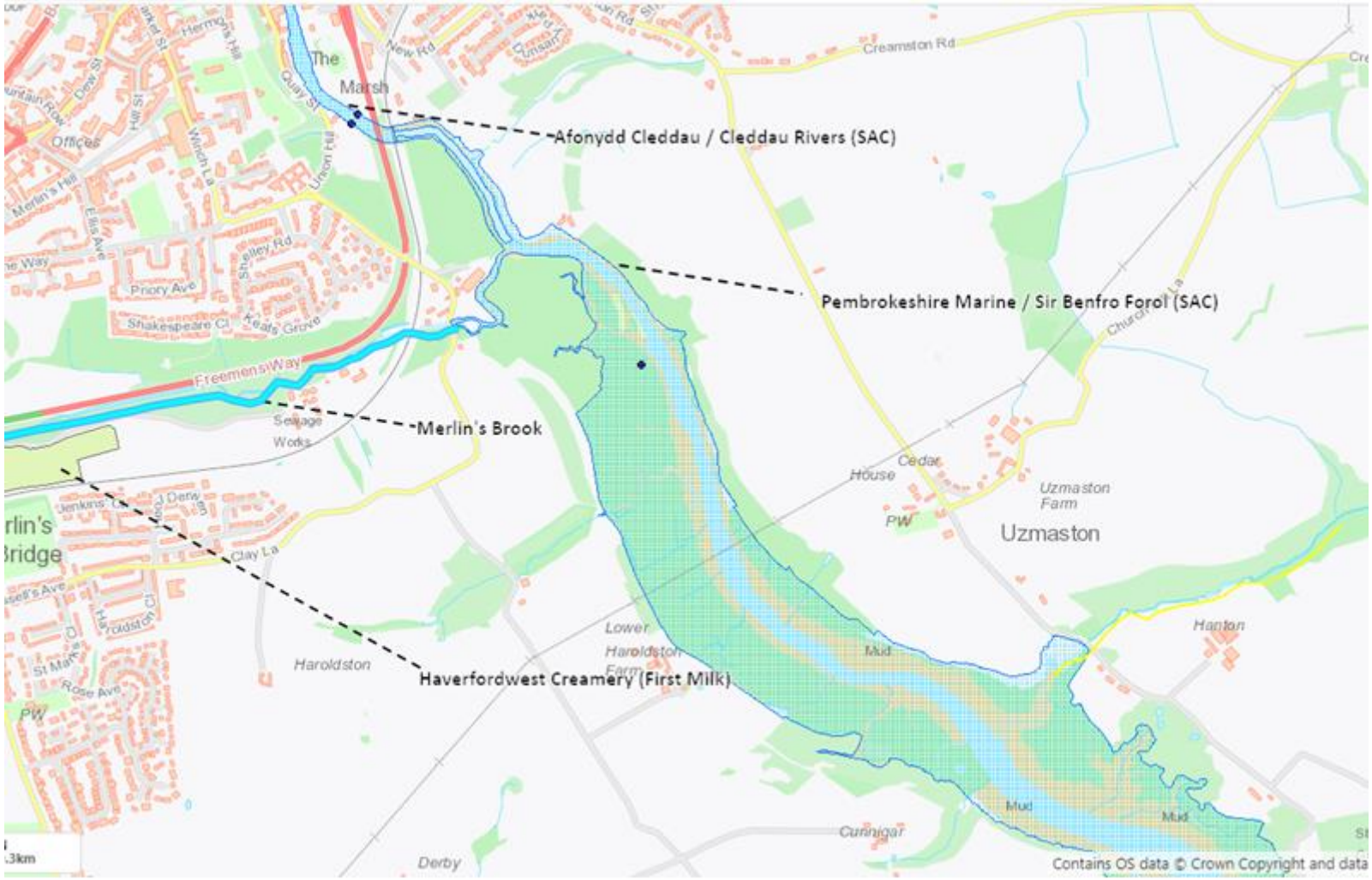
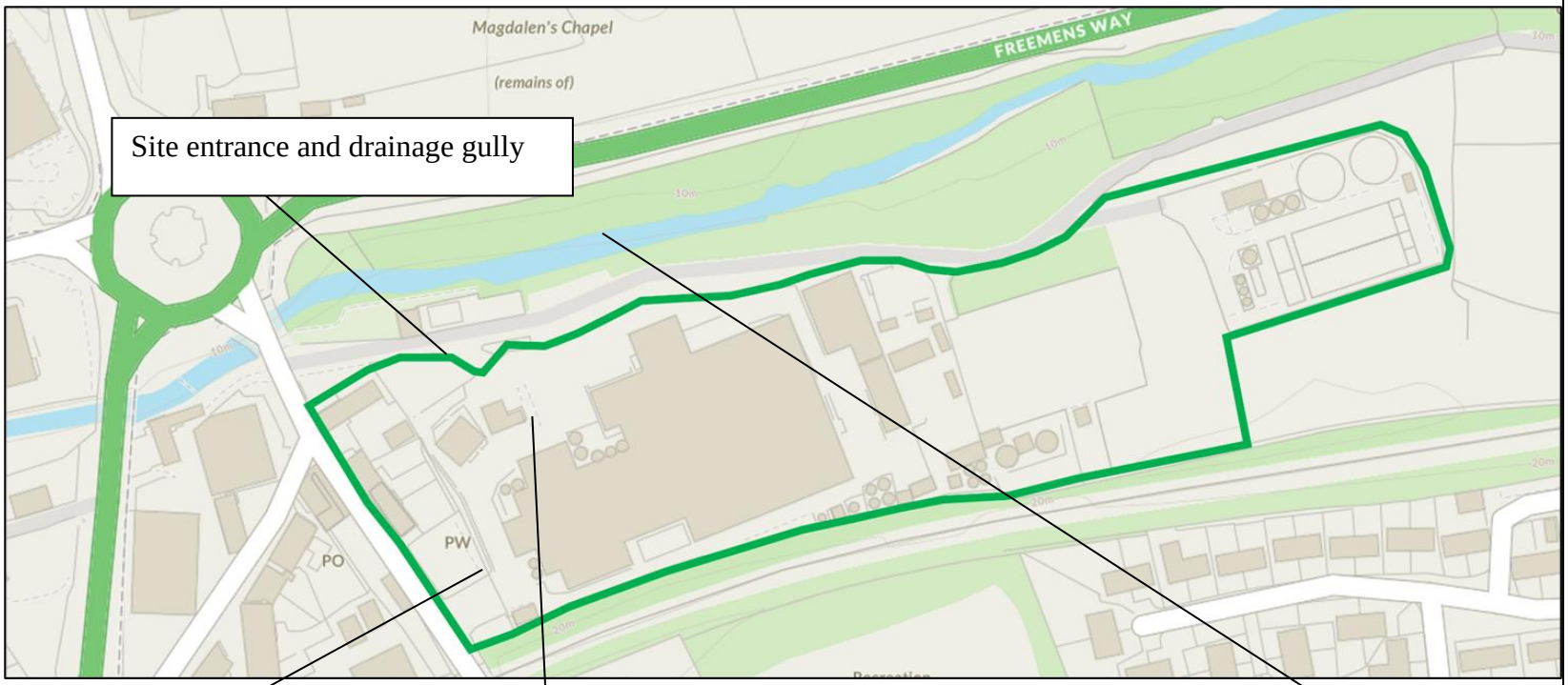



**Figure 2 Site Plan and location of new silos relative to the Brook**


Magdalen's Chapel
(remains of)
FREEMENS WAY
PO
PW
Site entrance and drainage gully
Merlin's Brook
Location of larger whey silo (proposed to replace existing whey silo)
Proposed location of new milk and cream silos

**3.2.2 Screening assessment**

| | Assessment of likelihood of significant effect | |
|---|---|---|
| | **I**<br>**Relevant conservation objectives** | **II**<br>**Potential impact pathway** |
| ***SAC -Pembrokeshire Marine / Sir Benfro Forol*** | | |
| Sandbanks which are slightly covered by seawater all the time | Pembrokeshire Marine / Sir Benfro Forol Special Area of Conservation Advice provided by Natural Resources Wales in fulfilment of Regulation 37 of the Conservation of Habitats and Species Regulations 2017.<br><br>Link: (Contents (naturalresources.wales)) | No impact pathway<br>This feature of the SAC is not located within 10 km downstream of the proposed site and location of site. |
| Estuaries | Location of features:<br>Pembrokeshire Marine non-interactive A3 map (naturalresources.wales) | Site located within 10 km (down river) from discharge point. There are several key species covered by this habitat that can be potentially impacted.<br><br>Toxic contamination<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore the impacts from toxic contamination cannot be ruled out at this stage.<br><br>Nutrient Enrichment<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore the impacts from Nutrient Enrichment cannot be ruled out at this stage.<br>Smothering |

| | | |
|---|---|---|
| | | Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD can lead to smothering of aquatic species.<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Changes in salinity regime<br>Release of milk, cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect.<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC.<br>Turbidity<br>The discharge would also be unlikely to carry large particles that could deposit causing siltation although the discharge of milk, cream and whey can lead to turbidity through reduction of light as a result of their presence in the watercourse. In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage<br><br>Siltation<br>The discharge is unlikely to be of a significant flow rate to disturb the river bed to cause siltation. The discharge would also unlikely to carry large particles that could deposit causing siltation. Therefore, no realistic mechanism of effect.<br><br>Habitat loss & Physical Damage<br>No impact pathway The proposal is unlikely to cause physical damage resulting in habitat loss. |

| | | |
|---|---|---|
| Mudflats and sandflats not covered by seawater at low tide | | Site located within 10 km (down river) from discharge point. There are several key species covered by this habitat that can be potentially impacted.<br><br>Toxic contamination<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore, impacts from toxic contamination cannot be ruled out at this stage.<br><br>Nutrient Enrichment<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, impacts from Nutrient Enrichment cannot be ruled out at this stage.<br><br>Smothering<br>Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD can lead to smothering of aquatic species.<br>As such, there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Changes in salinity regime<br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC |

| | | |
|---|---|---|
| | | Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Siltation<br>The discharge is unlikely to be of a significant flow rate to disturb the river bed to cause siltation. The discharge would also unlikely to carry large particles that could deposit causing siltation. Therefore, no realistic mechanism of effect.<br><br>Habitat loss & Physical Damage<br>No impact pathway. The proposal is unlikely to cause physical damage resulting in habitat loss. |
| Large shallow inlets and bays | | Features are confirmed to be located within 10 km (down river) from discharge point. There are several key species covered by this habitat that can be potentially impacted.<br><br>Toxic contamination<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore, impacts from toxic contamination cannot be ruled out at this stage.<br><br>Nutrient Enrichment<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, impacts from Nutrient Enrichment cannot be ruled out at this stage. |

| | | |
|---|---|---|
| | | Smothering<br>Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD can lead to smothering of aquatic species.<br>As such, there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Changes in salinity regime<br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC<br><br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Siltation<br>The discharge is unlikely to be of a significant flow rate to disturb the river bed to cause siltation. The discharge would also unlikely to carry large particles that could deposit causing siltation. Therefore, no realistic mechanism of effect.<br><br>Habitat loss & Physical Damage<br>No impact pathway. The proposal is unlikely to cause physical damage resulting in habitat loss. |

| | | |
|---|---|---|
| | | |
| Coastal lagoons | | No impact pathway<br>This feature of the SAC is not located within 10 km downstream of the proposed site and location of discharge points. |
| Reefs | | Features of this SAC are located within 10 km downstream of the discharge point of the site.<br><br>Toxic contamination<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore impacts from toxic contamination cannot be ruled out at this stage.<br><br>Nutrient Enrichment<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore impacts from Nutrient Enrichment cannot be ruled out at this stage.<br><br>Smothering<br>Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD can lead to smothering of aquatic species.<br><br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Changes in salinity regime<br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect. |

| | | |
|---|---|---|
| | | Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC<br><br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Siltation<br>The discharge is unlikely to be of a significant flow rate to disturb the river bed to cause siltation. The discharge would also be unlikely to carry large particles that could deposit causing siltation. Therefore no realistic mechanism of effect.<br><br>Habitat loss & Physical Damage<br>No impact pathway – The proposal is unlikely to cause physical damage resulting in habitat loss. |
| Atlantic Salt Meadows | | Features are confirmed to be located within 10 km (down river) from discharge point. There are several key species covered by this habitat that can be potentially impacted.<br><br>Toxic contamination<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore, impacts from toxic contamination cannot be ruled out at this stage.<br><br>Nutrient Enrichment |

| | | |
|---|---|---|
| | | In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, impacts from Nutrient Enrichment cannot be ruled out at this stage.<br><br>Smothering<br>Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD can lead to smothering of aquatic species.<br>As such, there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Changes in salinity regime<br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC<br><br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Siltation<br>The discharge is unlikely to be of a significant flow rate to disturb the river bed to cause siltation. The discharge would also unlikely to carry large particles that could deposit causing siltation. Therefore, no realistic mechanism of effect. |

| | | |
|---|---|---|
| | | Habitat loss & Physical Damage<br>No impact pathway. The proposal is unlikely to cause physical damage resulting in habitat loss. |
| Submerged or partially submerged sea caves | | No impact pathway<br>This feature of the SAC is not located within 10 km downstream of the proposed site and location of discharge points. |

| | | |
|---|---|---|
| **Anadromous Fish:**<br>Sea lamprey *(Petromyzon marinus)*<br>River lamprey *(Lampetra fluviatilis)*<br>Twaite shad *(Alosa fallax)*<br>Allis shad *(Alosa Alosa)* | | Toxic contaminations<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore the impact from toxic contamination (e.g. fish kill) cannot be ruled out at this stage.<br><br>Nutrient Enrichment<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore the impact from Nutrient Enrichment cannot be ruled out at this stage<br><br>Acidification<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Changes in salinity regime<br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect.<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC<br><br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this |

| | | |
|---|---|---|
| | | impact pathway cannot be ruled out at this stage.<br><br>Siltation<br>The discharge is unlikely to be of a significant flow rate to disturb the river bed to cause siltation. The discharge would also be unlikely to carry large particles that could cause siltation. Therefore no realistic mechanism of effect.<br><br>Habitat loss & Physical Damage<br>No impact pathway. - The proposal is unlikely to cause physical damage resulting in habitat loss.<br><br>Entrapment<br>All changes associated with the proposal will occur on land within the installation boundary, so there is no likelihood of fish entrapment occurring as a result. |

| | | |
|---|---|---|
| Shore Dock *(Rumex rupestris)* | | No impact pathway<br>This feature of the SAC is not located within 10 km downstream of the proposed site and location of discharge points. |

| | | |
|---|---|---|
| Grey Seal *(Halichoeurus grypus)* | | Toxic contaminations<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to the SAC. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore impacts from toxic contamination cannot be ruled out at this stage.<br><br>Changes in salinity regime<br><br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect.<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC.<br><br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Physical Damage<br>No impact Pathway - - The proposal is unlikely to cause physical damage to the seals.<br><br>Disturbance (noise)<br>No impact pathway – as noise not associated with accidental spills. |

| | | |
|---|---|---|
| Otter *(Lutra lutra)* | | Toxic contaminations<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to the SAC. The substances (milk, cream and whey) have a high BOD and nutrient content. Therefore impacts from toxic contamination cannot be ruled out at this stage.<br><br>Nutrient Enrichment<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to the SAC. Therefore, impacts from Nutrient Enrichment cannot be ruled out at this stage.<br><br>Acidification<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to the SAC. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Changes in salinity regime<br><br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect.<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC.<br><br>Habitat Loss & Physical Damage<br>No impact Pathway - - The proposal is unlikely to cause physical damage resulting in habitat loss.<br><br>Entrapment<br>All changes associated with the proposal will occur on land within the installation boundary, so there is no |

| | | |
|---|---|---|
| | | likelihood of otter entrapment occurring as a result.<br><br>Disturbance (noise)<br>No impact pathway – as noise not associated with accidental spills. |
| ***Afonydd Cleddau / Cleddau Rivers*** | | |
| Anadromous Fish:<br>Sea lamprey *(Petromyzon marinus)*<br>River Lamprey *(Lampetra fluviatilis)* | CONSERVATION OBJECTIVES FOR N2K SITES (naturalresources.wales) | Toxic contamination<br><br>The designated site is upstream from the installation and the Merlin Brook. However Lamprey are mobile features and populations can still be impacted given that the Cleddau is tidal at the point where Merlin's Brook joins it and also that these species are found in the Pembrokeshire Marine SAC, from which they may travel into the Cleddau Rivers SAC.<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct impact pathway to the watercourse (Pembrokeshire Marine SAC) downstream of this designated site that could impact the populations of these fish species. Therefore impacts from toxic contamination cannot be ruled out at this stage.<br><br>Nutrient enrichment<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct impact pathway to the watercourse (Pembrokeshire Marine SAC) downstream of this designated site that could impact the populations of these fish species. Therefore the impacts from nutrient enrichment cannot be ruled out at this stage and it is noted that the Cleddau Rivers SAC is sensitive to phosphate inputs.<br><br>Acidification<br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook. Although Merlin's Brook is downstream of this designated site, the loss of primary |

| | | |
|---|---|---|
| | | containment could impact the populations of these fish species, as the river is tidal at the confluence with Merlin's Brook and these species reach the Cleddau SAC via the Pembrokeshire Marine SAC.. Therefore the impacts from acidification cannot be ruled out at this stage.<br><br>Changes in salinity regime<br>Release of milk cream and whey are unlikely to alter the salinity regime of the watercourse, so no realistic mechanism of effect.<br><br>Changes in thermal regime<br>Not a realistic mechanism of effect, as it is expected that milk, cream and whey would be at ambient temperature on entry to the SAC.<br><br>Habitat Loss & Physical Damage<br>No impact Pathway - - The proposal is unlikely to cause physical damage resulting in habitat loss.<br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impact pathway cannot be ruled out at this stage.<br><br>Siltation<br>The discharge is unlikely to be of a significant flow rate to disturb the river bed to cause siltation. The discharge would also unlikely to carry large particles that could deposit causing siltation. Therefore no realistic mechanism of effect.<br><br>Entrapment<br>No impact pathway - All changes associated with the proposal will occur on land within the installation boundary, so there is no likelihood of otter entrapment occurring as a result. |

| | | |
|---|---|---|
| Non-Migratory Fish: Brook lamprey *(Lampetra planeri)* Bullhead *(Cottus gobio)* | | As above.<br><br>In addition:<br>Smothering<br><br>Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD can lead to smothering of aquatic species.<br><br>In the event of a catastrophic failure of the primary containment for milk, cream and whey there is a direct pathway to the Merlin brook which is hydrologically connected to this feature. This could impact the populations of these designated features. Therefore, this impact pathway cannot be ruled out at this stage. |
| European otter Lutra lutra | | Toxic contamination<br>Nutrient Enrichment<br>Acidification<br>Changes in thermal regime<br>Although there is not a direct impact pathway to this feature at this location, the Cleddau Rivers SAC flows downstream into the Pembrokeshire SAC and the river itself is tidal at its confluence with Merlins Brook. As such the loss of containment of milk, cream or/and whey could damage features such as fish that the otter predate downstream from this designated site, which is the principal mode of impact on this species. Therefore, we cannot rule out likelihood of significant affects at this stage. Impact as described in the section on Otter in the Pembrokeshire Marine SAC above.<br>Changes in salinity regime<br>Entrapment<br>Disturbance noise<br>Habitat Loss and Physical Damage<br>No impact pathways for the same reasons given for this species in the section on Pembrokeshire Marine SAC above. |
| Watercourses of plain to | | Toxic contamination<br>Nutrient enrichment<br>Acidification |

| | | |
|---|---|---|
| montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation | | Changes in thermal regime<br>Habitat loss<br>Physical damage<br>Smothering<br>No impact pathway. The non-mobile features are located upstream from the site and any discharge |
| Active raised bogs *Priority feature | | Toxic contamination<br>Nutrient enrichment<br>Acidification<br>Changes in thermal regime<br>Habitat loss<br>Physical damage<br>Smothering<br>No impact pathway. The non-mobile features are located upstream from the site and any discharge. |
| Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) *Priority feature | | Toxic contaminations<br>Nutrient Enrichment<br>Smothering<br>Changes in salinity regime<br>Changes in thermal regime<br>Turbidity<br>Siltation<br>Physical Damage<br>No impact Pathway. The non-mobile features are located upstream from the site and any discharge. |

| **3.2.3 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 -Pembrokeshire Marine / Sir Benfro Forol*** | | | | |
| ***Species***<br>• ***Sea lamprey Petromyzon marinus***<br>• ***River lamprey Lampetra fluviatilis***<br>• ***Twaite shad Alosa fallax***<br>• Allis shad *(Alosa Alosa)*<br>• ***Grey Seal Halichoeurus grypus***<br>• ***Otter Lutra lutra*** | Toxic contamination<br>Nutrient Enrichment<br><br>Acidification<br><br>Smothering<br><br>Turbidity | The main impact pathway from the proposal is the risk of loss of primary containment from the new silos for Whey, Cream and Milk. The applicant has not proposed to include bunding to contain the liquid and in the event of loss of containment the site will be reliant on other forms of prevention including site drainage and the drain gully at the site entrance to prevent the discharge from reaching the nearest water course (Merlin Brook) located approximately 65 meters from the proposed silos and 38 metres from the site entrance. The Merlin Brook is hydrologically connected to the Western Cleddau (1500 meters downstream).<br>Therefore, in the event in loss of containment there is an impact pathway for the released substances (milk, cream and whey) to reach the watercourse.<br>Toxic contamination | The applicant has proposed to install new milk, and cream bulk silos closer to the site boundary (and closer to the Merlin's Brook) and to increase the size of the whey silo (same location as the old whey silo). The applicant has stated that they will not have any secondary containment (such as bunding) and as such there is a risk that in the event of a failure of the new silos, milk, cream or whey could reach the Merlin's Brook which is hydrologically connected to the Pembrokeshire Marine SAC.<br><br>The large loss of milk, cream and whey which has a very high BOD and nutrients can lead to high oxygen depletion and cause suffocation of aquatic species (i.e toxic contamination from a sudden incident). This in turn can cause indirect impact on predator species that are reliant on the aquatic life.<br><br>Milk, cream and whey also contain high concentration of nutrient which along with the deoxygenation of the water course could result | no |

| | | | | |
|---|---|---|---|---|
| | | These substances are highly toxic towards aquatic life and would result in damage to aquatic life population if they entered the watercourse.<br>Nutrient Enrichment<br>The substances (milk cream and whey) are very nutrient rich. In the event of loss of containment the site the discharge of milk to the environment could damage the features<br><br>Changes in thermal regime<br>The substances are usually cooled to a low temperature. In the event of a catastrophic failure of the primary containment for milk, cream and whey there is an direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impacts pathway cannot be ruled out at this stage.<br><br>Smothering<br>Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD.<br><br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is an direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impacts pathway cannot be ruled | in changing the competitive balance towards opportunistic species. | |
| ***Estuarine and Intertidal Habitats:***<br>• ***Estuaries***<br>• ***Mudflats and sandflats not covered by seawater at low tide***<br>• ***Reefs***<br>• ***Atlantic Salt Meadows***<br>• ***Large shallow*** | Toxic contamination<br>Nutrient Enrichment<br><br>Smothering<br><br>Turbidity | | | |

| | | | | |
|---|---|---|---|---|
| ***inlets and bays*** | | out at this stage | | |
| ***SAC - Afonydd Cleddau / Cleddau Rivers*** | | | | |
| ***Species***<br>• ***Sea lamprey Petromyzon marinus***<br>• ***Brook lamprey Lampetra planeri***<br>• ***River Lamprey Lampetra fluviatilis***<br>• ***Bullhead Cottus gobio***<br>• ***Otter Lutra lutra*** | Toxic contamination<br><br>Nutrient Enrichment<br><br>Acidification<br><br>Smothering<br><br>Turbidity | The main impact pathway from the proposal is the risk of loss of primary containment from the new silos for Whey, Cream and Milk. The applicant has not proposed to include bunding to contain the liquid and in the event of loss of containment the site will be reliant on other forms of prevention including site drainage and a drain gully at the site entrance to prevent the discharge from reaching the nearest water course (Merlin Brook) located approximately 65 meters from the proposed silos and 38 metres from the site entrance. The Merlin Brook is hydrologically connected to the Western Cleddau (1500 meters downstream).<br>Therefore, in the event in loss of containment there is an impact pathway for the contained substances (milk, cream and whey) to reach the watercourse.<br>Toxic contamination<br>These substances are highly toxic towards aquatic life and would result in damage to aquatic life population if they entered the watercourse.<br>Nutrient Enrichment<br>The substances (milk cream and whey) are very nutrient rich. In the event of loss of containment the site | As per the description for Pembrokeshire Marine SAC described in the row above. In addition, the Cleddau Rivers SAC is sensitive to nutrient enrichment from phosphate inputs.<br><br>Although the Afonydd Cleddau / Cleddau Rivers SAC site is located 300 meters upriver from the Haverfordwest creamery, some of the designated features are mobile and damage to the designated sites down stream of the site could impact the overall population in this SAC upstream of the discharge point where the Merlin Brook enters the Western Cleddau river. | No |

| | | | | |
|---|---|---|---|---|
| | | the discharge of milk to the environment could damage the features<br><br>Changes in thermal regime<br>The substances are usually cooled to a low temperature. In the event of a catastrophic failure of the primary containment for milk, cream and whey there is an direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impacts pathway cannot be ruled out at this stage.<br><br>Smothering<br>Milk and cream have a very high biological oxygen demand. In the event of a spill into the watercourse the high BOD.<br><br>Turbidity<br>Discharge of milk, cream and whey can lead to turbidity through reduction of light and suspension of substances (cream and whey). In the event of a catastrophic failure of the primary containment for milk, cream and whey there is an direct pathway to the Merlin brook which is hydrologically connected to this feature. Therefore, this impacts pathway cannot be ruled out at this stage | | |

## 4.2 Assessment of the project taking into account mitigating measures, conditions or restrictions

| Natura 2000 Feature (from Table 4.1 – 'NO' rows only) | Description of adverse effect(s) | Can adverse effect(s) be mitigated? | Description of mitigation measures, and how they would be applied (e.g. contractual obligations, consent conditions) . | Can adverse effect on site integrity be ruled out? |
|---|---|---|---|---|
| Sir Benfro Forol / Pembrokeshire Marine SAC<br><br>***Sea lamprey Petromyzon marinus***<br><br>***River lamprey Lampetra fluviatilis***<br><br>***Twaite shad Alosa fallax***<br><br>**Allis shad *(Alosa Alosa)***<br><br>***Grey Seal Halichoeurus grypus***<br><br>***Otter Lutra lutra*** | The main impact pathway from the proposal is the risk of loss of primary containment from the new silos for Whey, Cream and Milk. The applicant has not proposed to include bunding to contain the liquid and in the event of loss of containment the site will be reliant on other forms of pollution prevention including site drainage and a drain gully at the site entrance to prevent the discharge from reaching the nearest water course (Merlin Brook) located approximately 65 meters from the proposed silos and 38 | Yes<br><br>If alternatives to secondary containment proposed can prevent substances from leaving the site and ending up in Merlins Brook, the impact from loss of containment could be mitigated. | Without secondary containment (as outlined in the standard permit condition 3.2.3), any alternatives to secondary containment will have to be considered as mitigation measures.<br>The applicant would be relying on two methods to prevent the discharge of substances.<br>The first is regular testing and maintenance of the silos. The operator has proposed non-destructive testing to check for cracks in the integrity of the silos themselves (but this would not be extended to the associated pipe work).<br><br>The second mitigation measure is the use of the site drainage to prevent substances from leaving the site in the event of loss of containment. The site drainage could be used to divert substances discharged as a result of failure of primary containment, to the effluent treatment plant and associated storage tanks (which could then be treated at the ETP or tankered off site by a third party).<br>The site has a surface water drainage system including a gully at the site entrance. The applicant has done testing (using tankers filled with water) to simulate a leak from the proposed silos and associated piping. Although the testing did not represent a worst-case scenario, the test did show that (for the milk silo and cream silo), released liquid can overflow the drain gully and leave the site boundary. Given the close location of the site boundary to Merlins Brook, the released liquid could flow downhill into the brook and from there, the western | No<br><br>It has been shown that under conditions that are not considered worst case scenario there is a possibility of substances leaving the site boundary and potentially ending up in the Merlins Brook.<br><br>Therefore the alternatives to secondary containment proposed, will not prevent damage to the |

| | | | | |
|---|---|---|---|---|
| | metres from the site entrance. The Merlin Brook is hydrologically connected to the Western Cleddau (1500 meters downstream). Therefore, in the event in loss of containment there is a direct pathway for any released substances (milk, cream and whey) to reach the watercourse.<br><br>Potential adverse effects are as described in table 3.2.2 above. | | Cleddau. | designated features through the impact pathways discussed. As such, adverse impact on site integrity cannot be ruled out. |
| ***Habitats***<br>• ***Estuaries***<br>• ***Mudflats and sandflats not covered by seawater at low tide***<br>• ***Reefs***<br>• **Atlantic Salt Meadows**<br>• **Large shallow inlets and bays** | As above | As Above | | No- As above |
| ***Afonydd Cleddau /*** | As above | As Above | | No- As above |

| | | | | |
|---|---|---|---|---|
| ***Cleddau Rivers SAC***<br>• ***Sea lamprey Petromyzon marinus***<br>• ***Brook lamprey Lampetra planeri***<br>• ***River Lamprey Lampetra fluviatilis***<br>• ***Bullhead Cottus gobio***<br>• ***Otter Lutra lutra*** | | | | |

## 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?**~~ | |

## 6. Conclusion

| | |
|---|---|
| **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, and the project is not likely to have a significant effect on any other Natura 2000/Ramsar sites.<br>(As documented in section 2.1 and 2.2 of this form)** | |
| **HRA is not required because there is no conceivable impact pathway to any Natura 2000/Ramsar site<br>(As documented in section 2.3 of this form)** | |
| **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.<br>(As documented in section 3.1 of this form)** | |
| **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<br>(As documented in section 3.2 of this form, or section 5 if applicable)** | |
| **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.<br>(As documented in section 4 of this form, and section 5 if applicable)** | |
| **In light of the conclusions of the appropriate assessment, it has not 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.**<br><br>**Approval for the project cannot be given unless either:**<br>• **the project specification, and/or the terms under which it might be approved, are modified so as to remove the risk of** | **X** |

| | |
|---|---|
| **adverse effects, and a revised HRA report is prepared, or**<br>• **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: W Wallace**<br><br>**Name: William Wallace**<br><br>**Position: Senior Permitting Officer, Installations and RSR permitting**<br><br>**Date: 23/10/2023** | |

## 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(s) of correspondence* and any meeting(s) with protected sites advisor(s) | Description of how the comments from protected sites advisors have been taken into account |
|---|---|---|
| 3 and 4 | 24/10/2023 | Amendments to HRA as Atlantic salt meadows and large Shallow inlet and bays had been confirmed by the local environment team to be located within screening distance of the Installation and shore doc located more than 10 km from the site. The assessment was amended to take into account these features. |
| | | |
| | | |
| | | |

## 8. Conservation Technical Specialist's comments

I have reviewed the HRA documented in this form and confirm that I agree/do not agree* with its findings.
(*strike out as applicable)

**Additional comments (if any):**

**Signed:**

**Name:**

**Position:**

**Date:**