

Determination report

Licence numbers: WA/058/0074/0014 & WA/058/0074/0015

Application reference numbers: PAN-031009 & PAN-031010

Site name: Cilybebyll Hydro

Report of an application for a new full abstraction licence and new impoundment licence.

Purpose of this document

This determination report:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies any further conditions in the licence other than those applied as standard.

Unless the determination report specifies otherwise we have accepted the applicant's proposals.

NRW has decided to issue the licence.

We consider that in reaching this decision, we have taken into account all relevant considerations and legal requirements and that the licence will ensure that the appropriate level of environmental protection is provided.

A glossary of acronyms used can be found at the end of this document in [Annex 2](#).

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1. Summary of the proposal

The applicant Richard Bowen, has applied for a new abstraction licence and a new impoundment licence for a 25Kw Hydroelectric Power (HEP) scheme at SN 75553 04360 on the River Clydach near Cilybebyll, Neath Port Talbot.

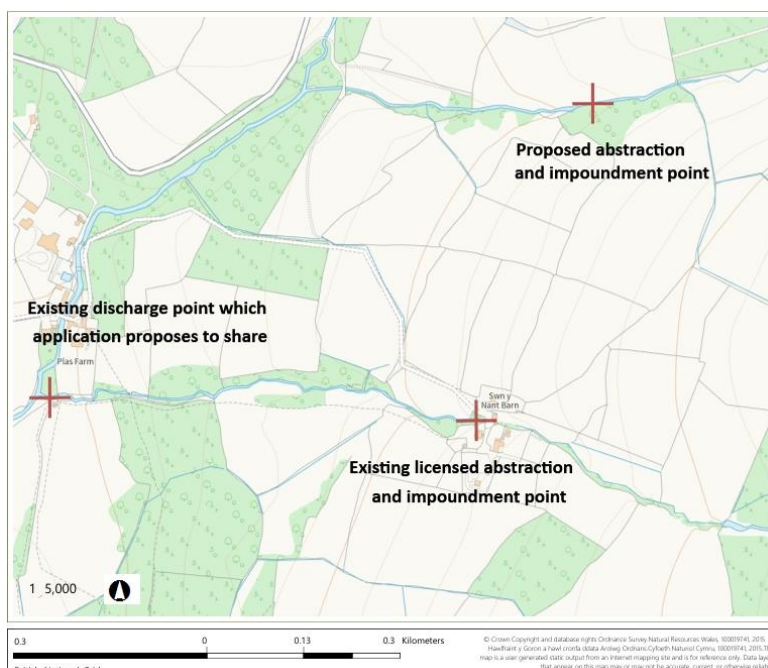
The following maximum abstraction rates are proposed: 59 litres per second (l/s), 212 cubic metres per hour (m³/hour), 5,088 cubic metres per day (m³/day) and 1,857,120 cubic metres per year (m³/year).

The intake design consists of a new concrete weir with a Coanda intake screen with 1.3 millimetre (mm) aperture size. The scheme also includes a gravity feed penstock pipe, turbine, powerhouse and discharge outlet pipe fitted with a 25mm vertical bar screen.

The intake structure is designed to physically secure a residual flow of Q95 (7 litres per second), secured by a rectangular HoF notch, and an abstraction of 50% of the available flow above the residual flow all year, up to a maximum of 59 litres per second.

All abstracted water will be discharged to SN 74841 03975.

This is the second HEP scheme that the applicant is proposing. The first scheme is already built and is known as Plas Farm Hydro which is authorised under abstraction and impoundment licences WA/058/0074/0012 and WA/058/0074/0013. This second HEP scheme application proposes to share the powerhouse and outfall with the existing licensed scheme however, will install separate turbine within the powerhouse.



2. Application details

Administrative details	
Applicant name and address	Richard Bowen Plas Farm, Cilybebyll, Pontardawe, Swansea, Neath Port Talbot. SA8 3JQ
New licence numbers	WA/058/0074/0014 abstraction WA/058/0074/0015 impoundment
Hydrometric sub-catchment	058/0074: Neath

Departures from application forms	
Aspect of application	New value applied for
Intake design	Revised drawing including fish passage – Revision 'F'.
Outfall Plan	Not provided with initial application. Provision of outfall design and plan.

Any differences between what was applied for within the initial application and what was subsequently agreed as the application details have been communicated to the applicant..

3. Validation of the application and further information received during determination

The application was validated on 20/01/2026. This means we considered it was submitted on the correct form, the correct application fee has been received and that the application contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination; see below –

Further information was required to enable final determination of the application. Copies of these requests and the responses when received were placed on our public register.

The applicant submitted

- Additional photos to support Geomorphology survey.
- Intake drawing, revised versions B, C, D, E, and finalised revision F.
- Notch compensation calculations (initial and revised)
- H beam locations with regard to pipeline watercourse crossing.

Entitlement to apply

The applicant demonstrated that they are entitled to apply for the abstraction licence, as they have, or will have when the licence takes effect, a right of access to the abstraction point.

4. Advertising

A copy of the application is available on the public register. In accordance with our legal obligations we also advertised the application in a local newspaper and served notice to relevant bodies.

Advertisement details	
Date of advertisement	24/03/2026
Name of local newspaper	South Wales Evening Post
Notice served to	The Statutory Water Undertaker

This notice was also placed on our website directing people to the public register, advising them of how they could view or request copies of the application documents if required and how they can provide comments.

A summary of representations and our response to the representations we received can be found in Section 7.11. We have taken all relevant representations into consideration in reaching our decision.

5. Justification of requirements and water efficiency

The turbine design flow of 59 litres per second (l/s) is equal to the agents Mean Flow (Qmean) estimate of 59 (l/s) and is therefore within the limits set out in NRW's Abstraction Rates for Hydropower guidance which recommends that maximum rates of abstraction should not exceed 1.3 x Qmean for a Zone 2 scheme.

The proposed residual flow of 7 l/s equals the agents estimate of Q95 which is in accordance with NRW's hydropower guidance.

NRW agrees with the agent's assessments of flows.

The proposed annual activity is equivalent to 365 times the maximum daily quantity proposed which is in accordance with NRW's Hydropower guidance and therefore considered acceptable.

The net head of this scheme has been determined as 58 metres.

The agent has based the electrical output on a maximum flow rate of 59 litres/second, and states that the scheme will have a maximum output of 25 kilowatts (kW). The following equation gives an estimate of the power (P) that can be generated (in kilowatts) based on the abstraction rate (Q), acceleration due to gravity (g) and head difference:

$$P = Q \times g \times h$$

Where:

Q = 0.059 cubic metres per second

g = 9.81 metres per second squared

h = 58 metres

$$P = 0.059 \times 9.81 \times 58 = 33 \text{ kW}$$

System efficiency is the product of the individual efficiencies of the scheme, and for this proposal based on the power output calculation above, the design system efficiency has been calculated as 76% ($25/33 \times 100$) which is reasonable.

NRW have assessed the applicant's justification of requirements and have deemed them reasonable as they align with NRW's Hydropower Guidance

Water efficiency

Natural Resources Wales have reviewed the measures provided by the applicant and consider that they are satisfactory to ensure that water is used efficiently.

6. Consultation

Natural Resources Wales carried out consultation on the application in accordance with its legal obligations, our statutory Public Participation Statement (PPS) and Principles of Working Together agreements.

Consultation with other bodies	
Heneb (the Trust for Welsh Archaeology)	24/03/2026

A summary of consultation comments and our response can be found in 7.11. We have taken all relevant representations into consideration in reaching our decision.

7. Technical assessment of the proposal

This proposal has been screened for potential impacts to the water environment, which includes designated sites, protected species, protected rights and lawful users.

7.1 Resource assessment and Abstraction Licensing Strategy (ALS)

The abstraction and impoundment is within NRW's Swansea Bay Abstraction Licensing Strategy (ALS) area. According to the ALS, there is water available for licensing at this location (Clydach catchment).

The Swansea Bay ALS states that, if an abstraction returns 100% of the water abstracted back to the same catchment it is known as "non-consumptive". As all the water is returned, the environmental impact is localised and there is no overall change in water availability.

7.2 Hydrology and/or hydrogeology

The abstraction and impoundment are located on the River Clydach towards the bottom of the Clydach catchment. All abstracted water is discharged to an unnamed stream before its confluence with the River Clydach (approximately 10 meters downstream). The river Clydach then flows for approximately 8km before it's confluence with the main River Neath, and subsequently a further approximate 8km before entering Swansea Bay.

7.3 Impact on groundwater

Not applicable as this application is for a surface water abstraction and impoundment with no identified impacts to groundwater.

7.4 Impact on surface water flows

Natural Resources Wales have reviewed the proposal in accordance with NRW's Hydropower Guidance and have concluded that the proposal is in line with the guidance and is sustainable. It has been agreed that the proposal should be categorised as a Zone 2 abstraction regime which, in accordance with NRW's hydropower guidance, permits 50% abstraction of flows above a residual flow equal to Q95 up to a maximum abstraction rate of $1.3 \times Q_{\text{mean}}$.

A Hands Off Flow (HOF) will be applied to the licence, which will be sufficient to protect low flows. This means that the licence holder must stop abstracting when flows reach 7 litres per second or lower. Therefore there are no anticipated detrimental impacts to flows as a result of this proposal.

Construction operation and maintenance - The hydropower scheme will be constructed, operated, maintained and be kept free from leakage and obstruction at all times in accordance with the drawings submitted to ensure that the abstraction regime is physically secured in a fail safe manner. Conditions will be included on both licences accordingly,

together with conditions to clearly define the term 'hydropower scheme' (impoundment structure defined as 'intake works' on the impoundment licence) to ensure the licences are clear and enforceable. A condition will be included on the abstraction and impoundment licences stating that the Licence Holder shall ensure that during construction works and any subsequent maintenance, all flow shall be allowed to pass downstream unchanged in quantity and quality at all times to protect down stream flows.

Purpose restriction - The Licence Holder will be required to ensure that as far as is reasonably practicable, no water flows through the turbine if they are unable to generate electricity. This is to ensure that abstraction only takes place for the authorised purpose and will prevent depletion of flow in the river when power generation is not taking place.

Return of water - In order to ensure that the proposal can be classed as non-consumptive, a condition will be included on the abstraction licence requiring all abstracted water to be returned to the unnamed watercourse at SN 74841 03975, as proposed.

Compliance - A condition will be included on the abstraction licence whereby the Licence Holder must contact NRW within 7 days (calendar) after abstraction for generation first starts. This is for NRW's compliance process to begin.

Condition 4.3 and 4.4 will be included on the impoundment licence whereby the Licence Holder must contact NRW within 28 days (calendar) of intention to commence authorised works and subsequently within 28 days (calendar) upon completion. This is for NRW's compliance process to begin.

7.5 Impact on ecology

There are no anticipated impacts on ecology as a result of this proposal as licenced. Note that impacts to ecological features within designated sites can be found in section 7.8.

7.5.1 Impacts on fisheries

The proposal and depleted reach sit in the River Clydach, which itself is not accessible to migratory fish due to barriers further downstream in the catchment. Resident populations of brown trout are known to be present at this location and require safe passage if they are to migrate downstream.

Condition 9.6 will be included on the abstraction licence whereby no abstraction shall take place unless a Coanda intake screen with spacing no greater than 1.3 millimetres has been installed to prevent the entrapment, entrainment or impingement of fish at the point of abstraction. The Licence Holder is required to maintain the fish screen in accordance with the manufacturer's specifications and keep records of such maintenance available for inspection.

Condition 9.7 will be included on the abstraction licence whereby no abstraction shall take place unless a vertical bar screen with spacing no greater than 25 millimetres has been installed to prevent the entrapment, entrainment or impingement of fish at the point of discharge. The Licence Holder is required to maintain the fish screen in accordance with the manufacturer's specifications and keep records of such maintenance available for inspection.

Condition 4.6 will be included on the impoundment licence whereby the intake works authorised shall not be carried out in the watercourse between 15 October and 15 April in any year. This is to avoid damage to fish during vulnerable life stages such as spawning, migration, emergence and early maturation

Condition 4.7 will be included on the impoundment licence whereby the Licence Holder shall construct a plunge pool, with a minimum depth of 300 millimetres, across the width of the watercourse immediately downstream of the intake works to ensure the safe downstream passage of fish.

As a result of the conditions imposed on both abstraction and impoundment licences no impacts are expected on fisheries.

7.5.2 Impacts on other water dependent species and habitats

There are no anticipated impacts to water dependent species or habitats as a result of this proposal.

In order to provide sufficient environmental protection and to support local ecology, abstractions for hydropower that create a depleted reach are required to protect three key characteristics of natural flow regimes - low flows, flow variability and high flows.

Condition 9.5 will be included on the licence to prevent impacts to water dependent species and habitats. The intake structure is designed to physically secure abstraction of 50% of the available flow, above the residual flow of Q95 all year, up to a maximum of 59 litres per second.

7.6 Impact on water quality

Condition 9.8 (abstraction) and condition 4.2 (impoundment) are included on the licences to ensure that during construction works and any subsequent maintenance works to the hydropower scheme, the flow in the River Clydach is allowed to pass downstream unchanged in quantity and quality at all times.

During consultation and notification no concerns were raised in relation to water quality.

Therefore, there are no anticipated impacts to water quality as a result of this proposal as licensed.

7.7. Protected rights and lawful users

Lawful uses of water have been considered and appropriate measures to safeguard them have been taken.

No protected rights have been identified as being at risk of derogation as a result of this proposal.

7.8 Conservation impacts – Designated sites

7.8.1 The National Site Network and Ramsars:

No National Site Network Sites or Ramsars have been identified as at risk as a result of this proposal. Therefore, a Habitats Regulations Assessment (HRA) is not required because there is no conceivable impact pathway by virtue of location of the project.

7.8.2 Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Areas of Outstanding Natural Beauty (AONB)

The following sites were identified within the potential impact pathway of the proposal:

Crymlyn Burrows SSSI

Natural Resources Wales is of the opinion that the proposal is not likely to have any impact on this site for the following reasons: All abstracted water is returned 13 km upstream of the designated site. There is no conceivable impact pathway to the features that this site is designated for. A SSSI assessment is available on the public register to view.

7.8.3 Other Designations

Heritage Coast

None identified

Local Nature Reserves (LNRs)

None identified

Local Wildlife Sites (SINCs)

Multiple identified during screening, Natural Resources Wales is of the opinion that the proposal is not likely to have any impact on these sites. This is due to condition 9.5 (abstraction) will be included on the licence to prevent impacts to water dependent species and habitats. Also condition 9.4 will be included ensuring the abstraction is non-consumptive.

Ancient Woodland

Multiple Restored Ancient Woodland and Ancient Semi Natural Woodland sites identified during screening, Natural Resources Wales is of the opinion that the proposal is not likely to have any impact on these sites. This is due to condition 9.5 (abstraction) will be included on the licence to prevent impacts to water dependent species and habitats. Also condition 9.4 will be included ensuring the abstraction is non-consumptive.

7.9 Water Framework Directive Regulations 2017

The abstraction and impoundment sits within an unassessed waterbody “unnamed tributary of River Clydach” and hydrologically linked with GB110058026390 Clydach - headwaters to conf with River Neath, GB541005800700 Neath Estuary, and GB641008260000 Swansea Bay.

A Water Framework Directive Regulations Compliance Assessment has been completed and NRW consider that the proposal has no or low risk of causing deterioration in overall waterbody status or quality elements. NRW consider that the proposal will not prevent any water body or WFD Protected Area from reaching its objectives. The assessment is available on the public register to view.

7.10. Other considerations

Consideration	
Flooding	No concerns have been raised regarding flood risk as a result of this proposal. Due to the nature of this proposal, NRW will advise the applicant to apply for any necessary consents relating to flood risk.
Archaeology	NRW sent a screening request to Heneb the Trust for Welsh Archaeology to seek advice on potential impacts to the historic environment.

	No concerns have been raised regarding impacts to the historic environment and archaeology as a result of this proposal.
Recreation and amenity	NRW consider that this proposal will have minimal impact to recreation and amenity.
Subsidence and desiccation	NRW do not have concerns regarding the risk of subsidence and desiccation as a result of this proposal.

7.11 Representations and external consultation/notification responses

No representations were received after advertising this application.

For specific statutory bodies and voluntary organisations consulted, no responses were received.

Below are tables which summarise responses received together with how they have been addressed in the determination process. For specific statutory bodies and voluntary organisations, we have summarised their specific responses. Where responses were received from individuals we have not included their personal details and have grouped responses into categories. Where we received similar responses from individuals we have grouped those together and shown how the issue raised was addressed.

Representations from statutory & non-statutory bodies	
Name of organisation and summary of representation	NRW response
Heneb – No concern with proposal.	No cause for action

7.12 Other consents

The applicant may be required to apply for other consents in addition to this application. It is the applicant's responsibility to ensure that all necessary consents are obtained before commencing this proposal.

8. Cost benefits and environmental mitigation or gain

In accordance with the Environment Act 1995, Section 39, NRW have had regard to costs and benefits in exercising its powers in the assessment below.

Assessment of probable benefits and costs of proposed option to the :	
Water Resources/ The Environment	There is low risk of environmental damage occurring as a result of this proposal. The inclusion of flow conditions will ensure there is enough water for the environment. The proposal accords with local water resources policy and is sustainable.
The applicant	The applicant will benefit from the availability of water for their operation. The applicant will incur the costs of installing and maintaining the method of abstraction and of measuring the volumes of water they abstract. The applicant will have to pay the application fee, and advertising costs that apply.
Natural Resources Wales	Natural Resources Wales will incur the cost of determining the applications and enforcing the licences. These costs will be partly recovered through the application charge and annual charges, where applicable. In determining the licences in accordance with local and national policy, Natural Resources Wales is fulfilling its duties as a regulator.
The economic and social well being of the rural community.	No adverse effects upon the social and economic well being of local communities in the rural area are perceived as a result of this proposal.

9. Biodiversity and Sustainable development

The principles of sustainable development and biodiversity are embodied in the conditions attached to the licences.

10. Time limit

Impoundment licence -

A time limit has not been included because the licence applied for is to impound water.

Abstraction Licence –

The licence has an expiry date of greater than 12 years because we have applied the 'skipping' common end date principle. As a result of applying this principle, a minimum value condition has been included in the licence, in the absence of catchment specific minimum value conditions, the quantities specified in the condition are the same as the licenced quantities.

11. Special agreements

There are no special agreements relevant to this proposal.

12. Measurement of water abstracted

The applicant will be advised of the measuring requirements which will comply with the Abstraction Metering Good Practice Manual (R & D Technical Report W84).

Flow Measurement Analysis (FMA) will be applied to the abstraction licence in accordance with NRW's Guidance for Hydropower. The Licence Holder will be required to determine the quantities of water abstracted by reference to the kilowatt-hours generated, as measured by a kilowatt-hours meter multiplied by a site specific conversion factor determined using the calculation checklist attached to the abstraction licence.

In accordance with current guidance, records of weekly electrical output and the corresponding quantity of water abstracted will need to be submitted to the NRW on an annual basis (within 28 days of 31 March in each year) or within 28 days of the NRW requesting the records in writing. The Licence Holder will also be required to keep all records for at least 6 years and to make them available for inspection during all reasonable hours.

13. Considerations of SMNR – compliance with our General Purpose

We are satisfied that this decision is compatible with our general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

14. Conclusion and decision

Full and due consideration has been given to any representations made, and due regard has been taken of protected rights and other lawful interests.

The principles of sustainable development are embodied in the conditions attached to the licence.

The conditions incorporated on the licences are considered to be necessary and reasonable in light of the available and presented evidence. The conditions are also considered to be consistent with appropriate standards for enforcement by Natural Resources Wales.

NRW has therefore approved the applications (as modified) and issue of Licence numbers WA/058/0074/0014 & WA/058/0074/0015 with the conditions applied.

Annex 1 – Administration

Purpose code and loss factor

Primary Code	Secondary Code	Use	Loss factor
P: Production of Energy	ELC: Electricity	240:Hydro-electric Power Generation	Very Low
X: Impounding	UNK: Unknown	240:Unknown (Impounding)	N/a

Finance

The abstraction licence is exempt from the payment of annual charges being one of the categories under Paragraph 6.2 of [Natural Resources Wales's water abstraction charges scheme](#).

Annex 2 - Glossary of acronyms used in this document

ALS	Abstraction Licensing Strategy
CAMS	Catchment Abstraction Management Strategy
CRoW	Countryside Rights of Way
EFI	Environmental Flow Indicator
FRAP	Flood Risk Activity Permit
GES	Good Ecological Status
GW	Groundwater
HAF	Hydro abstraction factor
HEP	Hydro-electric power
HES	High Ecological Status
HIA	Hydrological Impact Assessment
HoF	Hands-off flow
HoL	Hands-off level
HRA	Habitat Regulations Assessment
Kw	Kilowatt
LNR	Local Nature Reserve
LSE	Likely Significant Effect
NNR	National Nature Reserve
NRW	Natural Resources Wales
PALS	Permitting and Licensing System
PPS	Public Participation Statement
PWS	Public Water Supply

Application references: PAN-031009 & PAN-031010
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Q ₃₀	Flow exceeded 50% of the time period considered
Q ₅₀	Flow exceeded 50% of the time period considered
Q ₇₀	Flow exceeded 70% of the time period considered
Q ₉₅	Flow exceeded 95% of the time period considered
RBMP	River Basin Management Plans
ROA	Rights of Access (e
RSA	Restoring Sustainable Abstraction
SAC	Special Area of Conservation
SINCs	Site of Importance for Nature Conservation (Local Wildlife Sites)
SMNR	Sustainable Management of Natural Resources
SPA	Special Protection Area
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
WAT	Welsh Archaeological Trust
WFD	Water Framework Directive (2008/98/EC)
WFS	Water Feature Survey
WIA	Water Industry Act
WR	Water Resources