

Form WRD: Application for a new abstraction licence or a technical variation to an abstraction licence

Application type

Reference number (The number you generated in form WRA). Example:
WRNATURALRESOURCESWALES1101

WRNATURALRESOURCESWALES1107

Are there any applications currently being assessed by us that are linked to this application?

No

Is the proposed abstraction going to be aggregated with another existing abstraction?

No

Are any applications, at the same site; being assessed by the Environment Agency?

No

Tell us when you want your abstraction licence to end: [DD/MM/YY]

31/03/2040

If you require a shorter or longer duration licence, please provide details and your justification

The abstraction relates to an existing fish bypass channel which NRW intends to operate indefinitely, to sustain fish passage over Glascoed Weir. This application has arisen following a administrative/notification issue which resulted in failure of NRW to renew the previous transfer licence, which legally expired in March 2022.

Please note the previous licence issued to extract water: MD/054/0001/0066 noted that A transfer licence rather than an abstraction licence is required as there is no intervening use of water, and there is no justification for requiring protected rights associated with an abstraction licence. "The applicant applied for an abstraction licence. On reviewing the licence application it became apparent that a transfer licence was more appropriate because there is no intervening use of water. The applicant agreed to amend the licence type in an email dated 30 July 2014 which is saved on EDRM".

We expect the same rationale to apply in this instance but have submitted this form to align with the normal application protocols and initiate the discussions necessary. A copy of this previous Licence and its 'Determination Report' has been attached for context.

Notwithstanding the above we welcome a Teams Meeting from the case officer to discuss this and other particularities of this application given the particular circumstances. Please Contact Ruairi Barry (Project Manager) and/or Jason Jones to facilitate this.

We also welcome any advice or discussion on whether an extended licence (Transfer and/or abstraction) period is possible or appropriate in these circumstances to avoid similar issues arising. For the purpose of this application I have selected 15 years.

Submit additional details if required

- File: Determination Report.pdf - [Download](#)
- File: Determination Transfer Licence PDF Copy.pdf - [Download](#)

Abstraction details

Abstraction location name/reference

Glascoed Bypass Channel Intake Structure - Afon Cynllaith near Llansilin

Abstraction point type

Reach

National Grid Reference

SJ 21715 28309

Downstream National Grid Reference (If abstracting from a reach), or corners of the area.

SJ 21678 28211

-
-
-

Do you have any further points of abstraction?

No

Means of abstraction

Provide full details of the equipment you propose to use to abstract water, such as maximum pump capacity and any relevant dimensions, e.g. pipe diameter. For groundwater abstractions, include details about the borehole (depth and diameter) and details of screening and lining.

Flows are abstracted passively by means of a inlet structure / sluice on the right hand bank of the Afon Cffynnalith. refer to attached supporting documentation and drawings for complete details.

Please refer also to Transfer Licence MD/0540001/0066 for additional background. A copy of the Licence and Determination Report have also been attached for context. If further details are not available in our your files then please contact NRW's project lead Ruairi Barry.

If necessary, continue on a separate sheet and upload below.

- File: 290049-ARP-ZZ-00-DR-ZX-0001-NRW A1 (Land-Vert).pdf - [Download](#)
- File: 290049-ARP-ZZ-00-DR-ZX-0002-NRW A1 (Land-Vert).pdf - [Download](#)
- File: 290049-ARP-ZZ-00-DR-ZX-0003-NRW A1 (Land-Vert).pdf - [Download](#)
- File: Determination Transfer Licence PDF Copy.pdf - [Download](#)
- File: Determination Report.pdf - [Download](#)

Please upload your drawings and calculations here. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

- File: 290049-ARP-FP-XX-FN-ZX-0001_Outline Design Report.pdf - [Download](#)
- File: 290049-ARP-FP-XX-RP-ZX-0002_Hydraulic Modelling.pdf - [Download](#)

Abstraction quantities

Abstraction location name/reference

Glascoed Bypass Channel - Llansilin

What purpose will the water be used for?

Weir bypass channel for fish passage purposes

Period of abstraction Will it be all year?

Yes

Maximum quantities (cubic metres)

Annual 51,214,464

Daily 140,313.6

Hourly 5846.4

Peak abstraction rate (in litres per second)

2.036

Number of hours of abstraction per day

24

Add quantities for another location?

No

Calculations and supporting information

Use this section to show us how you have calculated the amount of water you require. This should include details of your operational regime (for example, number of hours and days you intend to abstract, number of units produced or area to be irrigated). We use this information to determine if the volumes you propose to abstract are appropriate for the purpose. Depending which industry you are in, you may need to provide additional information below.

If your proposal involves the provision of a residual flow via a notch or orifice, provide information on how this is being calculated. This should include details of the equation being used.

This is a passive sluice structure. The flows within the channel will vary based on river flows. The nature of the control structure is such that bypass flows reach their maximum 'capped' limits around Q10 flow scenarios. The maximum values provided in the previous table are based on the original application information, as the repaired/improved control structure remains consistent with the previous arrangement. These values by their nature are considered conservative. Typical flows entering the bypass will be considerably lower than maximal values.

Additional document. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

- File: 290049-ARP-FP-XX-FN-ZX-0001_Outline Design Report.pdf - [Download](#)

Industry-specific requirements

State the length of depleted reach (in metres)

120

Provide the flow data (in cubic metres per second) & ratios specified below:

Q95 0.0070

Q10 2.036

Qmean NA

What is the ratio of Q95:Qmean? -

What is the ratio of Q10:Qmean? -

What low flow protection (Low flow protection is the flow rate above which abstraction can begin and is separate to the abstraction % take) do you propose to maintain in the depleted reach when the hydropower scheme is operating (in m³/s)?

The inlet structure is to have an orifice to control the flows entering the bypass channel from the main river. The notch has been sized to balance flow depths and velocities. The calculations take account of low flow data in the main river, and using the cross sections / topographical survey in the area calculate the depth of flow at the varying flow regimes (Q95, Q50, Q10). An iterative notch sizing process has been undertaken to determine an appropriate orifice for the inlet structure. The client stated that the current impoundment license only allows for 50% of the Q95 flow to be directed through the bypass channel. The optimum size was found to be as below in Figure 4, resulting in flows and velocities as shown in Table 2. This shows the percentage of the main river flow that will be directed through the bypass channel, sometimes known as the attraction flow, which should ideally be above 10%. The calculations also show that velocities through the orifice will be low enough to allow fish passage up to at least the Q10 flows, as they do not exceed the Mean Burst Speed of most fish species

Means of measurement

State how you intend to measure the quantity of water you abstract. You do not need to do this for a temporary or transfer licence.

Other (please specify):

No measurement proposed.

Water efficiency

Provide details of what measures you provide or intend to implement, to ensure efficient use of water. This could include water storage, re-use or recirculation, monitoring and checking for leaks, undertaking water audits or other industry specific good practice.

Given nature of arrangements this is not applicable. All water is returned quickly to the watercourse.

Fish and eel considerations (surface water abstractions only)

Does your proposal include measures to safeguard fish and eels? Only provide details of outfall screening if abstracted water is to be discharged back into a watercourse. For further guidance on appropriate screening Intake screening for fish

	Intake	Outfall
Type of fish screen	None	None
Screen aperture size (mm)	See note below.	None (open channel)

Confirm the fish species present at your site. If you're not proposing any measures to protect fish and eels, you must justify this. For example, we may have confirmed in our pre-application response that the intake is inaccessible to fish or you undertook a fish survey to confirm.

being a fish pass the arrangements run contrary to this i.e. the bypass channel, it's features and the intake structure have been specifically designed to cater for and attract fish to pass via the structure. Refer to details in the design report e.g. table 3.

Discharge details

If you intend to return any of the abstracted water to the environment, provide details below. Details of discharge location(s) should correspond with any maps submitted. Do not include discharges to a public sewage system.

Discharge location name / reference	National Grid Reference of discharge point (12 digit)	Total volume to be discharged (cubic metres)	Environmental Permit for Water Discharge Activity number (if applicable)
DS of Glascoed Weir	SJ 21678 28211	All abstracted/transferred flows	NA
-	-	-	-
-	-	-	-
-	-	-	-

Provide a description of the structure and equipment involved in discharge.

Discharge is via a natural open channel re-entering the Afon Cynllaith some 120m downstream on the right bank.

Other abstractors / water users

Provide details of nearby abstractors or users of water who could be affected by your proposal. This should include deregulated users (exempt activities or abstractions < 20 cubic metres per day), anglers and canoeists. Your local authority's environmental health will hold details of exempt domestic abstractors.

NA

Planning application

Have you sought advice on your planning application?

No

Declaration

By signing below, you are declaring that, to the best of your knowledge; the information given in this form, on any map and in any supporting or additional information; is true.

Signed Ruairi Barry

Print name RUAIRI BARRY

position Ruairi.Barry@cyfoethnaturiolcymru.gov.uk

Date

* 01/09/2025

Would you like a copy of your submission?

Yes

Your email address

Ruairi.Barry@cyfoethnaturiolcymru.gov.uk