

# 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

WRNBHYDRO08072026

For hydropower abstractions, specify the capacity (in kilowatts) of your scheme.

25kW or less

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]

As far ahead as possible

## Abstraction details

Abstraction location name/reference

Existing intake

Abstraction point type

Single point

National Grid Reference

SH 72827 22779

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.

Self cleaning overshot screen with gravity feed penstock pipe of 100mm.

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

- File: Bryn Cemlyn Intake as built v2.pdf - [Download](#)
- File: Design statement for abstraction licence.pdf - [Download](#)
- File: Low Flows Report Bryn Cemlyn.pdf - [Download](#)

## Abstraction quantities

Abstraction location name/reference

Bryn Cemlyn Intake

What purpose will the water be used for?

Hydropower

Period of abstraction

Will it be all year?

Yes

Maximum quantities (cubic metres)

**Annual** 374760

**Daily** 1080

**Hourly** 45

Peak abstraction rate (in litres per second)

12.5

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.

The rated flow has been set at 12.5l/s to allow the system to generate 3.7kW at its peak power output.  
The hourly rate is that multiplied by 3600 seconds per hour  
The daily rate is that multiplied by 24 hours per day  
The annual rate is that multiplied by 365 days per year and 95% availability.

The rated flow is below the annual daily flow of 14 l/s.  
HOF is set at Q95

## Industry-specific requirements

|  | % abstraction and zone applied for | Average gradient of depleted reach (%) | Catchment size above abstraction point (kilometres squared) | Net head between abstraction and discharge points (metres) |
|--|------------------------------------|----------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|
|  | 50%                                | 25                                     | 0.3                                                         | 49                                                         |

|  | Turbine efficiency (%) | System efficiency (%) | Maximum power output (kilowatts) | Annual capacity (kilowatt hours) |
|--|------------------------|-----------------------|----------------------------------|----------------------------------|
|  | 80                     | 65                    | 3.7                              | 25000                            |

State the length of depleted reach (in metres)

200

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

|                                        |        |
|----------------------------------------|--------|
| <b>Q95</b>                             | 0.0014 |
| <b>Q10</b>                             | 0.034  |
| <b>Qmean</b>                           | 0.014  |
| <b>What is the ratio of Q95:Qmean?</b> | 0.1    |
| <b>What is the ratio of Q10:Qmean?</b> | 2.425  |

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)?

Q95 = 0.0014m3/s

## 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.

Power Generated

## 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.

The system has been built to a high specification with high efficiency turbine and generator and pipeline. Regular checks will be made to ensure there are no leaks and that the system is functioning as it should.

## 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 ([opens in new tab](#))

|                           | Intake            | Outfall |
|---------------------------|-------------------|---------|
| Type of fish screen       | Perforated screen | none    |
| Screen aperture size (mm) | 3                 | n/a     |

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.

The outfall location is significantly above the level of the river and includes very steep drops and is thus inaccessible to fish.

Discussions with fishery officer at application stage indicated that the measures at the outfall and intake were sufficient to protect fish and eels.

## 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) |
|--|-------------------------------------|-------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------|
|  | Outfall                             | SH7296622897                                          | 100% of abstraction                          | -                                                                        |
|  | -                                   | -                                                     | -                                            | -                                                                        |
|  | -                                   | -                                                     | -                                            | -                                                                        |
|  | -                                   | -                                                     | -                                            | -                                                                        |

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

The turbine discharges into a natural channel approximately 5m elevation above the mawddach and 10m length. The channel is approximately 300mm wide and 300mm deep and includes a series of very steep drops.

## 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.

None

## Planning application

Have you sought advice on your planning application?

Yes

Submit a copy of the Planning Authority's response.

- File: Planning\_Consent\_Notice\_NP5-60-136.pdf - [Download](#)

## 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** Eirian Davenport

**Print name** Eirian Davenport

**position** Partner

Date

\* 08/07/2026

## Submit your application

Enter your email address to get a copy of your application

nick@nbhydro.co.uk