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
wrhydromatch1007

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]
31/03/2037

Abstraction details

Abstraction location name/reference
Intake Point A

Abstraction point type
Single point

National Grid Reference
SH 61773 47209

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.
Micro hydropower system using a Pelton turbine and intake fitted with a Coanda screen (1 mm bar spacing) HoF provided by orifice beneath the screen to avoid blockages and flow split above this via weir crest. Attached: 1) Intake drawing with ref to Datum Level (326 A.04 Intake A v3.pdf) 2) Spreadsheet of hydro system operation under license conditions included bypass flows (326 Clogwyn operation table.xls) 3) Intake and discharge elevations, calculation of HoF, Graphical Illustrations of Abstraction and Bypass flows (326 Clogwyn Abstraction graphs and HOF.pdf)

If necessary, continue on a separate sheet and upload below.
• File: 326 A.04 Intake A v3.pdf - Download • File: 326 Clogwyn operation table.xls - Download • File: 326 Clogwyn Abstraction graphs and HOF.pdf - Download

Abstraction quantities

Abstraction location name/reference
Intake Point A

What purpose will the water be used for?
Electricity Generation

Period of abstraction Will it be all year?
Yes

Maximum quantities (cubic metres)

Annual 264524

Daily 2246

Hourly 94

Peak abstraction rate (in litres per second)

26

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.

Please see attached details

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

- File: 326 Clogwyn operation table.xls - Download
- File: 326 Clogwyn Abstraction graphs and HOF.pdf - Download

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)
	zone 3	38%	1.5	108

	Turbine efficiency (%)	System efficiency (%)	Maximum power output (kilowatts)	Annual capacity (kilowatt hours)
	80	72	20	52,000

State the length of depleted reach (in metres)

290

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

Q95	0.002
Q10	0.0446
Qmean	0.026
What is the ratio of Q95:Qmean?	0.077
What is the ratio of Q10:Qmean?	1.73

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)?

0.002

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.

Efficent design of turbine and generator system which maintains high performance over the complete operational flow range

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	Conanda	Bar
Screen aperture size (mm)	1 mm	20 mm

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.

No fish known to be present due to elevation of intake and steep gradient

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)
	Point B	SH 62091 47103	0.026	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

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

Pipe discharge from turbine sump to river bank. Stone wall protection around discharge point to avoid errosion

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.

N/A

Planning application

Have you sought advice on your planning application?

Yes

Submit a copy of the Planning Authority's response.

- File: Clogwyn planning consent letter.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 P Maher

Print name Phil Maher

position Director

Date

* 14/10/2025

Submit your application

Enter your email address to get a copy of your application

phil@hydromatch.co.uk