

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

WRHYDROELECTRICDEVELOPMENTLTD2706

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

>100kW

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

Abstraction details

Abstraction location name/reference

Ystradffin Hydro Intake

Abstraction point type

Single point

National Grid Reference

SN 78576 47476

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.

Concrete intake with screen will remain as detailed in the original application, which was built in 2020 and has operated since then.

Abstraction quantities

Abstraction location name/reference

Ystradffin Intake

What purpose will the water be used for?

Generation of Electricity

Period of abstraction Will it be all year?

Yes

Maximum quantities (cubic metres)

Annual 154,526,400

Daily 423,360

Hourly 17,640

Peak abstraction rate (in litres per second)

4900

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.

Abstraction is as per availability of the watercourse and the rest of the licence conditions which are remaining unaltered.

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)
	N/A	0.02	89.25	48.5

	Turbine efficiency (%)	System efficiency (%)	Maximum power output (kilowatts)	Annual capacity (kilowatt hours)
	0.91	0.954	2024	17730240

State the length of depleted reach (in metres)

2587

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

Q95	0.959
Q10	7.690
Qmean	4.200
What is the ratio of Q95:Qmean?	0.228
What is the ratio of Q10:Qmean?	1.831

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)?

As per current licence conditions

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):

Meter and Power Generated as per existing scenario

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.

No water is used or wasted all is to be returned 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	Tyrolean	Vertical Bar
Screen aperture size (mm)	10	25

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.

NRW Fish trap present downstream of intake location ensures that there is no upstream movement of fish to the intake. Migrating sewin and salmon use parts of the depleted reach and juveniles of both species should be assumed to be resident below the confluence between the Towy and the Doethie. The protection measures already in place will continue to protect these fish.

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	SN 775530 45920	4.9	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

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

Outfall Channel and Screen

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.

Lyne Brianne Dam is upstream and therefore not effected despite being nearby.

Planning application

Have you sought advice on your planning application?

Yes

Submit a copy of the Planning Authority's response.

- File: E34887 - Decision Notice (2).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 Ewan Campbell-Lendrum
Print name EWAN CAMPBELL-LENDRUM
position Director

Date

* 27/06/2023

Would you like a copy of your submission?

Yes

Your email address

adam@ellergreen.com