

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

WRRHONDDACYNONTAFCBC1112

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?

Yes

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

No

Linked applications

Please confirm how this application is linked to the other application(s)

Example: this application could be one of multiple abstractions and/or impoundment licence applications at the same site. The proposal could involve water rights trading, or this application could be linked to another application for a previously exempt activity.

We are applying for an impoundment licence as well.

Linked application numbers

Unknown

-

-

-

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

No

Abstraction details

Abstraction location name/reference
Treforest Weir
Abstraction point type
Single point
National Grid Reference
ST 08422 88918
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.
Two double regulated vertical Kaplan turbines, 7.5 cubic metres per second design flow @2.9metre Net Head (each). 1.4 metre runner diameter. Control to level@ weir crest + 104mm (Q95) Startup level = weir crest + 119mm (Q90)

Abstraction quantities

Abstraction location name/reference
Treforest Weir
What purpose will the water be used for?
Energy Generation
Period of abstraction Will it be all year?
Yes

Maximum quantities (cubic metres)

Annual 473,040,000

Daily 1,296,000

Hourly 54,000

Peak abstraction rate (in litres per second)

15,000

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.

Fish pass flow calculated from discharge curves in Fish Pass manual - page 120
Residual flow over weir calculated using standard broad crested weir formula

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)
	On Weir	N/A	455	2.5 metres @ full load

	Turbine efficiency (%)	System efficiency (%)	Maximum power output (kilowatts)	Annual capacity (kilowatt hours)
	88%	82%	300	1,300,000

State the length of depleted reach (in metres)

0

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

Q95 3.67
Q10 49.9
Qmean 21.1
What is the ratio of Q95:Qmean? 0.174
What is the ratio of Q10:Qmean? 2.36

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)?

3.67

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.

High efficiency turbine and generators. Automated screening.

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	Submerged bar screen	Submerged bar screen
Screen aperture size (mm)	10	50

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.

As confirmed by NRW Fisheries Office.

The species likely to be present at the site of Treforest weir are Atlantic Salmon, Sea Trout, Brown Trout, European Eel and Grayling.

There will also be smaller species present such as bullhead, minnow, stone loach and stickleback.

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)
	-	ST 08433 88887	15 cubic metres per sec	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

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

Submerged turbine draught tube and diffuser (x) via screens flush with embankment wall.

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.

No abstractors affected.

The new fish passage can allow canoe passage.

Planning application

Have you sought advice on your planning application?

Yes

Submit a copy of the Planning Authority's response.

- File: Pre-application response - 23-5039 Treforest Weir Treforest Pontypridd.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 Jodie Pritchard

Print name Jodie Pritchard

position Senior Surveyor

If an agent is to sign on behalf of the Licence Holder, a letter of authorisation from the Licence Holder is required.

- File: Customer Authorisation Letter - Baileys.pdf - [Download](#)

Date

* 14/02/2025

Would you like a copy of your submission?

Yes

Your email address

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