

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

WRPETERBURTON1901

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]

31/03/2040

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

as long as possible

Abstraction details

Abstraction location name/reference

Nant Ewyn weir

Abstraction point type

Single point

National Grid Reference

SJ 02369 26846

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 weir across water course built with 70/30 intake/bypass proportions. Extraction through 3mm grid. Hydro generator limited to 15kw max so water abstraction also so constrained.

This is renewal for the original hydro scheme approved and commissioned in October 2014. There have been no changes in construction or operation since then.

Design documents can be forwarded if not already held or need to be seen again.

Abstraction quantities

Abstraction location name/reference

Nant Ewyn weir

What purpose will the water be used for?

Hydro electric generation

Period of abstraction Will it be all year?

Yes

Maximum quantities (cubic metres)

Annual 1892160

Daily 5184

Hourly 216

Peak abstraction rate (in litres per second)

60

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.

Design flow calculated for the 15kw generator.
Constant flow so daily and annual totals just multiplied up.

All as per original application

Industry-specific requirements

	Turbine efficiency (%)	System efficiency (%)	Maximum power output (kilowatts)	Annual capacity (kilowatt hours)
	-	-	15	131400

State the length of depleted reach (in metres)

250m

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.

All abstracted water injected into turbine with no loss.
Turgo turbine is 65% (from manufacturer) efficient in power generation.
All water fed directly back into water course

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	trout
Screen aperture size (mm)	3mm	10mm

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.

Trout and bullhead present in lower reaches of water course.
None at abstraction site due to series of natural vertical falls in water course in excess of 2m.

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)
	Nant Ewyn 'outfall'	SJ 02353 26618	1892160	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

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

Outflow from pipe beneath turbine. Flow interrupted/redirected at 90deg alongside watercourse to slow the flow. Then through channel horizontally with 10mm fish screen joining existing watercourse at acute angle and same level.

All abstracted water is returned at outfall.

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?

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 Peter Burton
Print name PETER BURTON
position Owner

Date

* 19/01/2022

Would you like a copy of your submission?

Yes

Your email address

peterrburton@yahoo.com