

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

MD/054/0001/012/V001

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]

31/10/40

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

Put this date as there does not appear to be a catchment common end date for our area on your list.

Abstraction details

Abstraction location name/reference

Inland waterway known as Dwr Tenau. Tylwch. Llanidloes. Powys.

Abstraction point type

Single point

National Grid Reference

SN 97123 80922

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.

A gravity feed pipe of an internal diameter not exceeding 185 mm controlled by a concrete weir.
All details as per our existing Licence MD/054/0001/012

Abstraction quantities

Abstraction location name/reference

Dwr Tenau in Tylwch Llanidloes.

What purpose will the water be used for?

Hydro electric power production via a turgo turbine

Period of abstraction Will it be all year?

Yes

Maximum quantities (cubic metres)

Annual 418,176.0

Daily 1900.8

Hourly 79.2

Peak abstraction rate (in litres per second)

22 litres per second

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.

As per existing licence MD/054/0001/012

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)
	As per original licenceMD/054/001/012	As per original licenceMD/054/001/012	As per original licenceMD/054/001/012	42

	Turbine efficiency (%)	System efficiency (%)	Maximum power output (kilowatts)	Annual capacity (kilowatt hours)
	78%	70	5.5	48,180

State the length of depleted reach (in metres)

600

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

Q95 As per MD/054/001/012
Q10 As per MD/054/001/012
Qmean As per MD/054/001/012
What is the ratio of Q95:Qmean? As per MD/054/001/012
What is the ratio of Q10:Qmean? As per MD/054/001/012

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)?

1.3 ltrs per second

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.

As per existing licence MD/054/001/012

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	Mesh	N/a
Screen aperture size (mm)	3mm	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.

No fish were found during survey carried out prior to grant of our original licence MD/054/001/012

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)
	Dwr Tenau	SN96950 80380	100 % of abstraction	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

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

100 % of abstracted water discharged back at above grid reference onto streamside rock to prevent bank erosion

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

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 S.E.J.Higgs

Print name S.E.J.Higgs

position Partner

Date

* 01/12/2021

Would you like a copy of your submission?

Yes

Your email address

cwmfron@lineone.net