Form WRE: Application for a new impoundment licence, technical variation to an impoundment licence or the removal of an existing impoundment

Reference number (The number you generated in form WRA). Example: WRNATURALRESOURCESWALES1101

WRDERWENTHYDRO1411

Are you applying for a licence for a new impoundment or an existing impoundment

alteration to an existing impoundment

Impoundment detailsAll information should correspond with any maps and drawings submitted with this application

	Impoundment location name/reference	Left bank National Grid Reference	Right bank National Grid Reference
	Point of Abstraction [A]	SJ 09885 42370	SJ 09885 42370
	-	-	-
	-	-	-

Provide details about the type of impoundment you propose to construct at the points specified above and how the works will operate. This should include a description of any existing works and how your proposal will affect the flow of inland water. Tell us the purpose of the works. If the water is to be impounded for more than one purpose, list both the primary and secondary purpose

This is a technical variation to license WA/067/0005/0028.

There is no change to the proposed design of impoundment i.e. the intake works will still comprise a 1.05m high Coanda weir structure with adjacent flow-split notch.

An updated design drawing (covering both temporary and permanent works) is appended, together with site photographs showing the location and extent of the temporary diversion which has been granted Ordinary Watercourse Consen ref: DCC2021LD125 (document attached).

The only license variation requested is to remove Clause 4.7 (intake work time limitation).

Rationale: it is important for the viability of the project that construction of the intake commences before May 15th 2022 so that the scheme can be commissioned by July 2022 when the Feed-in-Tariff deadline expires. This has been discussed with Richard Pierce (NRW Fisheries) and this site is regarded as low risk because:

1. this is a small, very steep and rocky stream (mean gradient of 26%),
2. the intake is at least 800m upstream of the closest identified stretch that salmon could potentially reach (and that reach is not a spawning area),
3. the bedrock terrain at the intake allows a single bund to divert the whole stream away from the shelf on which the intake is located, so that the works can be constructed in the dry,
4. the bund will be built to a height that will divert at least 1.55m³/sec, or 20 times Mean Flow, so cannot be over-topped even in a major flood event.

We therefore request that there are no date limitations placed on the in-river works (Clause 4.7 in the existing license).

Description of impoundment

Name of watercourse
Nant Lechog

Will your proposed impoundment result in a change to the submerged area (downstream) or new submerged areas behind (upstream of) the impounding works?(If yes, ensure this is shown on any map or drawings submitted)
No

Will the ponded area created by the impoundment be lined?
No

Give the height of the impoundment structure, from the downstream toe to crest or top of spillway (in metres above Ordnance Datum). If the proposal involves an existing impoundment, state the change in height (in millimetres).
Toe to crest = 1050mm

What is the overflow or crest level of the impoundment (in metres above Ordnance Datum)?
346.500 mAOD

Will the proposal create a raised reservoir?(A raised reservoir is one where water is stored at a level above the natural level of the lowest level of the surrounding area.)
No

What is the proposed capacity of the impoundment when full to spillway level (in cubic metres)?
Less than 20m³

Does the proposal involve the controlled release of water to safeguard downstream flows? This could be the release of flood attenuation flows, reservoir compensation flows or a residual flow via a notch or orifice.
Yes

Tell us what the proposed flow at the outlet will be and how you intend to measure this. If the works involve monitoring of levels or flows, include details of this.

No change to the existing license:

The prescribed flow will be guaranteed by a notch in the intake structure. The dimensions of the notch have been calculated to provide the prescribed flow of Q95 plus 30%.

Is the impounded water to be used for a subsequent purpose?

Yes

Provide details of subsequent purpose (for abstractions, state the daily and annual quantities in cubic metres).

Hydropower

Daily 6653 m3

Annual 3652387 m3

How will the impounded area be filled initially, and subsequently refilled if applicable? Example: by rainwater, overland flow or pumped from another source.

By the stream

Fish and eel passage

Confirm the fish species present at your site.

A few small brown trout may be present. The depleted reach is impassable to fish pasage.

Please confirm type of fish screen

Intake Coanda

Outfall Mesh

Please confirm screen height and width - intake (millimetres)

Width Coanda screen: 2.4m wide

Height 0.45m high

Please confirm screen height and width - outfall (millimetres)

Width Covering a 450mm pipe

Height Covering a 450mm pipe

Please confirm screen aperture size (millimetres)

Intake 2mm

Outfall 30mm

Please confirm type of upstream fish/eel passage intake

EITHER 100mm pipe with 2 entwined chains OR mussel rope

Please confirm type of downstream fish/eel passage

Bywash notch with plunge pool

Please confirm proposed flow for fish pass

N/A

Construction, maintenance and operation

Provide details of maintenance or activities relating to the operation of the impoundment. Include the extent and frequency of activities. This could include the operation of scour valves or maintenance of a fish pass.Describe any sediment management plan associated with the impoundment.

The hydro operator will inspect the fish screen and weir notch on a weekly basis, and clear major debris from the intake.

Do you intend to divert the flow of the inland water while you are building, changing or removing the impounding works?

Yes

How do you intend to divert the flow of the inland water while you are building, changing or removing the impounding works. Give details.

Please see the appended Ordinary Watercourse Consent, issued 30/9/21, and Construction Methodology which describe the temporary diversion works as approved by the local flood risk officer.

Proposed Design of Structure

Upload design drawings and calculations here. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

- File: Bonwm Hydro - Site Layout & Intake Works.pdf - Download
- File: Ordinary Watercourse Consent _ LD125 Sept21.pdf - Download
- File: Bonwm Hydro - Temporary Works Methodology (for OWC).pdf - Download

Other permissions

Planning permission advice received?
Yes

Is planning permission required?
Yes

What is the status of the planning permission?
Approved

Planning permission reference
05/2018/0790/PFHY

Have you applied for or do you hold a Flood Risk Activity Permit (FRAP) for the proposed works?
Yes

Please give permit/permit application reference number
Ordinary Watercourse Consent, ref: DCC2021LD125

Commercial confidentiality and national security

Are you applying for Commercial Confidentiality?
No

Have you applied to the Welsh Ministers for national security for your application?
No

Would you like a copy of your submission?
Yes

Your email address
oliver.paish@derwent-hydro.co.uk