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

WREgniMynydd1501

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

alteration to an existing impoundment

Impoundment details

All 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
	Intake	260619 365519	260632 365512
	-	-	-
	-	-	-

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

Water from the water course will be extracted from the watercourse at the intake (via a coanda screen). From the intake the water will be diverted down through a 1200 length penstock (penstock would consist of a 560mm HDPE pipe). At the bottom of the penstock will be a turbine (located inside the power house) that will generate electrical energy from the pressure of the water. After passing through the turbine the water will be channelled back into the watercourse via an outfall pipe.

Description of impoundment

Name of watercourse

Galedffrwd

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)

Yes

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).

1400

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

247.75 mOAD

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)?

Back filled no capacity

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.

All abstracted water to be returned to river. Continuous records of energy generation will be used to monitor water flowing through the turbine.

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).

The water will be use to generate Hydroelectric power. Abstracted flows quantities – annual 11195280m3, daily 30672m3

How will the impounded area be filled initially, and subsequently refilled if applicable?

Example: by rainwater, overland flow or pumped from another source.

The impounded area will be filled with material excavated from the footprint of the structure. It will not need to be refilled the watercourse will keep the impounded area full.

Fish and eel passage

Confirm the fish species present at your site.

Limited fish present due to fish blockers along the derogated reach, only isolated brown trout present. For further details see response to this question on form WRD.

Please confirm type of fish screen

Intake Coanda screen

Outfall Square bar

Please confirm screen height and width - intake (millimetres)

Width 5250

Height 0.75

Please confirm screen height and width - outfall (millimetres)

Width 700

Height 700

Please confirm screen aperture size (millimetres)

Intake 2

Outfall 30

Please confirm type of upstream fish/eel passage intake

Notch in intake weir

Please confirm type of downstream fish/eel passage

Pool at foot of weir

Please confirm proposed flow for fish pass

Boulder information fish pass, flow is HOF 0.03 m3/2

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.

Coanda screen will typically need monthly cleaning (brush silt and debris stuck to the screen) to ensure that sufficient water is being extracted.

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.

During construction water will be temporarily diverted from the intake location. This would be achieved by using sand bags to block the stream above the intake and diverting the water around the construction site via pipes. Pumps would also be used to ensure any excess water can be removed from the construction site. Pumps water will be fed to a silt trap away from the watercourse.

Proposed Design of Structure

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

- File: 4 Intake Plan 10 009 drg 101.pdf - Download
- File: 4a Intake Sections 10 009 drg 102.pdf - Download
- File: 4b Intake Sections 19 009 drg 103.pdf - Download

Please upload your stage 1 geomorphology photosurvey. Find out more on how to complete your survey on our Geomorphology Photosurveys for Hydropower developments page

- File: Galedffrwd Hydro Geomorph Report and Assessment of Cumulative Impacts.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
C18/0657/16/LL

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
FRA-NM-2018-0098 / 0099 / 0100 / 0101

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

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	J Wong
Print name	Jennifer Wong
Position	Chair / Director

Date
* 15/01/2025

Would you like a copy of your submission?
Yes

Your email address
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