FORM WRD: Application for a new abstraction licence or a technical variation to an abstraction licence

Water Resources Act 1991, Environment Act 1995, The Water Resources (Abstraction and Impoundment) Regulations 2006, The Natural Resources Body for Wales (Functions) Order 2012

Cyfoeth Naturiol Cymru Natural Resources Wales

1. Application type

New full abstraction licence	☐	Give existing licence serial number and/ pre-application reference number
New temporary abstraction licence	☐	
New licence to transfer water	☐	21/57/12/0033 PPN-00235
Renewal of a time-limited abstraction licence	☐	
Technical variation to an abstraction licence	☒	

For hydropower abstractions, specify the capacity (in kilowatts) of your scheme.
25kW or less ☐ >25 to 50kW ☐ >50 to 100kW ☐ >100kW ☐

2. Linked licences

2.1 Does your proposal involve water rights trading?
No ☒ Yes ☐ If yes, provide licence serial number(s)

2.2 Is the licence (to be) aggregated with any other licences?
No ☒ Yes ☐ If yes, provide licence serial number(s)

3. Abstraction details

Provide details of all points of abstraction. Details of abstraction location(s) should correspond with any maps submitted.
If necessary, continue on a separate sheet and tick here to show that you have done this ☒

Abstraction location name / reference	Type (single point / reach)	National Grid Reference (12 digit)	If a reach, downstream National Grid Reference (12 digit)
Nant Fawr	Single point	ST 18671 82188	
Nant Glandulais West	Single point	ST 19601 83138	
Nant Glandulais East	Single point	ST19857 83100	
Nant Tydraw	Single point	ST 19485 83243	
Nant Y Felin	Single point	ST 19520 83436	

4. Means of abstraction

Detail the structure and equipment involved in the abstraction process. If this information is detailed in a supporting document, provide the document reference. For groundwater abstractions, include borehole depth and diameter and provide details of screening and lining. If necessary, continue on a separate sheet and tick here to show that you have done this. ☐

Additional supporting document : Llanishen Reservoir licence variation supporting information

5. Abstraction quantities

Provide details of the abstraction quantities and periods proposed, including any deregulated abstractions (< 20 cubic metres per day) you currently have. Details of abstraction locations should correspond with any maps submitted.

Abstraction location name / reference	Purpose which water will be used for	Abstraction period (state 'all year' or give months)	Maximum annual abstraction volume (cubic metres)	Maximum daily abstraction volume (cubic metres)	Maximum hourly abstraction volume (cubic metres)	Number of hours of abstraction per day	Peak abstraction rate (litres per second)
Nant Fawr	Maintain water level in Llanishen and Lisvane and industrial water supply	All year	2,545,000			24 hrs	266 l/s at Q10
Glandulais West	As above	All year				24 hrs	89 l/s for the combined intakes
Glaudulais East	As above	All year				24 hrs	
Nant Tydraw	As above	All year				24 hrs	
Nant Y Felin	As above	All year				24 hrs	
		Total	2,545,000	N/A	N/A		

6. Calculations and supporting information

Please provide further details of your intended use of water, including calculations in support of the quantities you have requested, your operational regime and any management agreements. See Guidance Note WRX for details of what is required. If your proposal involves the provision of a residual flow via a notch or orifice, provide information on how this has been calculated.
If necessary, continue on a separate sheet and tick here to show that you have done this. ☐

We require an additional 500 Ml per annum until Llanishen reservoir has refilled. The additional 500 Ml/annum is based on a refill mass balance that would give a high probability of refill being completed by summer 2021. The figures considered in the mass balance are as follows:

- Current annual licence = 2045 Ml/annum
- Volume reserved for industrial customer supply = 1544 Ml/annum (1st April to 31st March)
- Remaining licenced volume for refill with no licence variation = 501 Ml/annum
- Empty Volume of Llanishen reservoir = 1275 Ml
- Number of licence years required for refill with no licence variation = 3 years (Apr to Mar)

Based on the above figures, it would take three licence years to refill Llanishen with no increase in licence volume (this is subject to water availability in the catchments). The refill is planned to begin in January 2020, so the first licence year of the refill will be the current licence year, April 2019 to March 2020, and the final year will be April 2021 to March 2022. This would mean that the final 500 Ml of refill would be occur during 2022, which is when the reservoir is planned to be opened to the public.

An additional 500 Ml/d annum would allow the refill to be completed in two licence years (subject to water availability in the Nant Fawr and Nant Glandulais), so the final part of the refill is more likely to be in the winter/spring before the planned opening to the public in summer 2021. There is strong support for refilling the reservoir as quickly as possible, without detrimentally impacting on the environment, from welsh government to allow recreational activities to start as early as possible.

The additional volume will allow us to fill Llanishen in a steady and continuous manner. This is important as extended periods of no refill will allow vegetation to regrow on the banks of the reservoir. This vegetation may create new temporary habitat for nesting birds that has previously prevented refill and may therefore extend the refill programme. We would like to avoid this additional delay.

7. Industry-specific requirements

Complete the relevant table in line with the purpose of your proposal to demonstrate a justification of need for the quantities proposed. For uses not covered here or to provide further details, please use a separate sheet and tick here to show that you have done this ☐

7.1 For agricultural use:

Crop type	Soil type (for multiple soil types, indicate approximate split)	Maximum area of crop to be irrigated annually (hectares)	Maximum annual depth of irrigation to be applied (millimetres)
e.g. Carrots	*Silty clay*	*10*	*90*

Livestock type	Number of animals	Maximum daily quantity of water used (cubic metres)	Comments
e.g. Sheep	*200*	*0.005 per animal*	*Drinking water*
Provide details of any additional requirements (washing / cleaning)			

7.2 For golf course irrigation:

Feature	Maximum area to be irrigated daily (hectares)	Maximum depth of water to be applied daily (millimetres)
e.g. Greens	*0.9*	*220*
Tees		
Greens		
Fairways		
Others		

7.3 For industrial use:

Industry sector or process type	Water use per unit produced (state units)	Maximum units produced per year
e.g. Ice cream	*1.9 cubic metres per tonne of ice cream*	*10,000 tonnes*

7.4 For hydropower:
If you have submitted this information as part of your pre-application enquiry and no changes have been made to your proposal in the meantime, you are not required to provide these details again.

% abstraction and zone applied for (see HGN2)	Average gradient of depleted reach (%)	Catchment size above abstraction point (kilometres square d)	Net head between abstraction and discharge points (metres)
Turbine efficiency (%)	**System efficiency (%)**	**Maximum power output (kilowatts)**	**Annual capacity (kilowatt hours)**

State the length of depleted reach (in metres)

Provide the flow data (in cubic metres per second) & ratios specified below:	
Q95	
Q10	
Qmean	
What is the ratio of Q95:Qmean?	
What is the ratio of Q10:Qmean?	

Please send us a copy of the full flow duration curve for the site and confirm the method used to derive this. If you have used modelling software such as LowFlows, please provide us with a copy of the output (graph, data and catchment map) including the Long Term Average rainfall.

What low flow protection* do you propose to maintain in the depleted reach when the hydropower scheme is operating (in m^3/s)?
* Low flow protection is the flow rate above which abstraction can begin and is separate to the abstraction % take, see HGN2 for details.

8. Means of measurement

State how you intend to measure abstracted quantities at each abstraction point.
Meter ☒ Power Generated ☐ Other ☐
If other, please specify

9. Water efficiency

Describe all steps you have taken or intend to introduce to ensure efficient use of water, such as water storage, re-use or conservation provision. If necessary, continue on a separate sheet and tick here to show that you have done this. ☐

Once Llanishen reservoir is refilled abstraction volumes will revert back to historic levels as no additional demand is being put onto the reservoirs.

10. Fish and eel considerations (surface water abstractions only)

10.1 Confirm the fish species present at your site. If you are submitting a survey or report with your application, please tick here to show that you have done this. ☐

10.2 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.

	Intake	Outfall
Type of fish screen	Go Flow	
Screen aperture size (mm)	2 mm	

11. Discharge details

11.1 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.

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)

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

12. 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.

13. Planning application

Have you sought advice on your planning application?

No ☒ Yes ☐

If yes, submit a copy of the Planning Authority's response.

14. Declaration

Please see Guidance Note WRX for details of who can sign this section and note the information in that document relating to the Data Protection Act 1998.

By signing below, you are declaring that as far as you know and believe the information given in this form, on any map and in any supporting or additional information, is true.

Signed	
Print name	Ian Christie
Position	Managing Director Water Services, Asset Planning and Capital Delivery
Date	20/01/2020.

Application Checklist

Please tick the following checklist items to indicate that you have included the required information. If any sections of the form are left blank and no supporting information submitted, where we have insufficient information to make a decision on your application, we will return your application to you.

Essential:

Form WRA completed ☒

Map showing applicant's land boundary with all abstraction and discharge point(s) clearly marked ☒

Evidence of negotiations of expected access rights, if applicable ☐

State number of continuation sheets (enter 0 if none included) [ ]

Where relevant:

Letter of authorisation from the applicant, allowing the agent to act as signatory ☒

Form WRE completed, if your proposal also requires an impoundment licence ☒

Further information requested in our pre-application response letter to you ☒