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

1. Application type

1.

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

WRNUCLEARRESTORATIONSERVICESLIMITED2801

2. For hydropower abstractions, specify the capacity (in kilowatts) of your scheme.

- [ ] 25kW or less
- [ ] >25 to 50kW
- [ ] >50 to 100kW
- [ ] >100kW

3. Are there any applications currently being assessed by us that are linked to this application?

- [ ] Yes
- [X] No

4. Is the proposed abstraction going to be aggregated with another existing abstraction?

- [X] No
- [ ] Yes (Please let us know the licence it will be aggregated with)

2. Linked applications

5. Please confirm how this application is linked to the other application(s)

Example: this application could be one of multiple abstractions and/or impoundment licence applications at the same site. The proposal could involve water rights trading, or this application could be linked to another application for a previously exempt activity.

NONE

6. Linked application numbers

3.

Does your site span the England-Wales border and therefore require you to secure licences from both us and the Environment Agency for your activity? In this section we would like to know if you have any applications (at pre-application or formal stage) or licences at the same site on the English side of the border.

Cross border applications

7. Are any applications, at the same site; being assessed by the Environment Agency?

- [ ] Yes
- [X] No

4.

8. What are the application reference numbers?

5.

Normally abstraction licences are granted for between 6 and 18 years in line with the catchment common end date. If you require a shorter or longer duration licence, please provide details and your justification

9. Tell us when you want your abstraction licence to end: [DD/MM/YY]

31/12/2083

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

Due to a blockage in the original French drain external to the Trawsfynydd Safe Store 1 (SS1) building; five boreholes have been installed to abstract groundwater collected within the failed French drain. This action was necessary to prevent ground water from entering the Safe Store 1 building. Whilst there are plans to demolish the building, it will entail some novel decommissioning of a Magnox nuclear reactor and there is no certainty on when the ground water abstraction system will become redundant. The current decommissioning forecast indicates the system will be required until around 2083, which is the basis for given end date. At which point the reactor void will be decommissioned and filled in and the site will be sympathetically landscaped to fit in with the surrounding countryside.

11. Submit additional details if required

6. Abstraction details

Provide a 12 digit National Grid Reference (NGR) and name/reference for all points of abstraction which corresponds with any maps or drawings you are going to submit. Specify if the abstraction location is a single point, reach (a stretch of water along which you may place a mobile pump for example), or area. If you propose to abstract from a reach, provide the two NGRs which define the extent of the reach (upstream and downstream NGRs). If you proposed to abstract from an area, include the four points of the area.

12. Abstraction location name/reference

TRAWSFYNYDD DECOMMISSIONING SITE

13. Abstraction point type

- [X] Single point
- [ ] Reach
- [ ] Area

14. National Grid Reference

SH 69115 38092

15. Downstream National Grid Reference (If abstracting from a reach), or corners of the area.

16. Do you have any further points of abstraction?

- [ ] Yes
- [X] No

7. Abstraction details - Further points

Provide a 12 digit National Grid Reference (NGR) and name/reference for all points of abstraction which corresponds with any maps or drawings you are going to submit. Specify if the abstraction location is a single point, reach (a stretch of water along which you may place a mobile pump for example), or area. If you propose to abstract from a reach, provide the two NGRs which define the extent of the reach (upstream and downstream NGRs). If you proposed to abstract from an area, include the four points of the area.

17. Abstraction location name/reference

Trawsfynydd Decommissioning Site - SS1 South Dewatering

18. Abstraction point type

- [X] Single point
- [ ] Reach
- [ ] Area

19. National Grid Reference

SH 69115 38092

20. Downstream National Grid Reference (If abstracting from a reach), or corners of the area.

21. Do you have any further points of abstraction?

- [ ] Yes
- [X] No

8. Abstraction details - Further points

Provide a 12 digit National Grid Reference (NGR) and name/reference for all points of abstraction which corresponds with any maps or drawings you are going to submit. Specify if the abstraction location is a single point, reach (a stretch of water along which you may place a mobile pump for example), or area. If you propose to abstract from a reach, provide the two NGRs which define the extent of the reach (upstream and downstream NGRs). If you proposed to abstract from an area, include the four points of the area.

22. Abstraction location name/reference

23. Abstraction point type

- [ ] Single point
- [ ] Reach
- [ ] Area

24. National Grid Reference

25. Downstream National Grid Reference (If abstracting from a reach), or corners of the area.

26. Upload any additional points of abstraction below. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

9. 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.

The 5 boreholes, drilled to a depth of between 6.2m & 7.5m and lined with 125mm diameter steel casing sections, will be used to maintain a groundwater level below the Safe Store 1 building base slab. The maximum measured abstraction pump rate is 2.14ltr/second. The abstracted water is transferred via a connecting pipe, approx. 63mm diameter, into a plated interceptor and then into a settlement tank. The settlement tank is emptied by gravity into the main site drainage system, which discharges the water to the Trawsfynydd Lake via the Diversion Culvert, which is a permitted discharge route under EPR permit CG0087701.

27. If necessary, continue on a separate sheet and upload below.

If you are planning to build an intake structure to control how much water you take, rather than using a pump or pipe to take water, you will need to include drawings detailing the design of the structure with your application. These drawings will be assessed as part of your application and they may be included in your licence document. Your drawings will need to meet the following requirements. You may need a consultant to prepare them for you;

- Plan view, front elevation and cross-section drawings for the intake structure at a scale of 1:50 or higher resolution to show construction detail.
- Drawings must detail the weir crest, intake and residual flow structure crest heights or invert levels with reference to an appropriate datum point, for example Ordnance Datum and also include all relevant dimensions and a scale.
- A design statement clearly explaining how the structure will operate in accordance with the abstraction regime, including details of how Hand off Flows and maintenance of prescribed and/or residual flow (and variable abstraction if relevant) will be maintained. Supporting design calculations of these should be included.

Revisions of drawings after the licence has been issued may require a technical variation to your licence.

28. Please upload your drawings and calculations here. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

10. Abstraction quantities

Please provide details of the abstraction quantities and periods proposed, including any deregulated abstractions you currently have.

- Details of abstraction locations should correspond with any maps submitted.
- Please include a proposed purpose of the abstraction.
- If water is to be used for multiple purposes (i.e. Dust suppression and mineral washing) provide a breakdown of the abstraction quantities for each different use.

You need to give the instantaneous/peak abstraction rate (in litres per second, and the hourly (m^3/hour), daily (m^3/day), and annual (m^3/year) quantities for each purpose)

If you are applying to amend the quantities you are authorised to abstract under an existing licence, state the new quantities you want to abstract. To reduce the quantities you want to abstract, see our Apply to change an existing abstraction or impoundment licence page.

For hydropower abstractions, please see our Hydropower flow standards for confirmation of the maximum instantaneous abstraction rate we will authorise for each zone. For temporary licences, you only need to specify the total quantity (m^3) and peak abstraction rate (l/s).

29. Abstraction location name/reference

Trawsfynydd Decommissioning Site - SS1 South Dewatering

30. What purpose will the water be used for?

Intercepting water from entering the Reactor Building Basement

31. Period of abstraction

Will it be all year?

[X] Yes

[ ] No

11.

32. Start Date: [DD/MM/YY]

28/01/2026

33. End Date: [DD/MM/YY]

31/12/2083

34. Maximum quantities (cubic metres)

Annual	73000
Daily	200
Hourly	8

35. Peak abstraction rate (in litres per second)

2.14

36. Number of hours of abstraction per day

24

37. Add quantities for another location?

[ ] Yes

[X] No

13. Abstraction quantities - Another location

Please provide details of the abstraction quantities and periods proposed, including any deregulated abstractions you currently have.

- Details of abstraction locations should correspond with any maps submitted.
- Please include a proposed purpose of the abstraction.
- If water is to be used for multiple purposes (i.e. Dust suppression and mineral washing) provide a breakdown of the abstraction quantities for each different use.

You need to give the instantaneous/peak abstraction rate (in litres per second, and the hourly (m^3/hour), daily (m^3/day), and annual (m^3/year) quantities for each purpose)

If you are applying to amend the quantities you are authorised to abstract under an existing licence, state the new quantities you want to abstract. To reduce the quantities you want to abstract, see our Apply to change an existing abstraction or impoundment licence page.

For hydropower abstractions, please see our Hydropower flow standards for confirmation of the maximum instantaneous abstraction rate we will authorise for each zone. For temporary licences, you only need to specify the total quantity (m^3) and peak abstraction rate (l/s).

38. Abstraction location name/reference

39. What purpose will the water be used for?

40. Period of abstraction

Will it be all year?

- [ ] Yes
- [ ] No

14.

41. Start Date: [DD/MM/YY]

42. End Date: [DD/MM/YY]

43. Maximum quantities (cubic metres)

Annual

Daily

Hourly

44. Peak abstraction rate (in litres per second)

45. Number of hours of abstraction per day

46. Add quantities for another location?

- [ ] Yes
- [ ] No

16. Abstraction quantities - Another location

Please provide details of the abstraction quantities and periods proposed, including any deregulated abstractions you currently have.

- Details of abstraction locations should correspond with any maps submitted.
- Please include a proposed purpose of the abstraction.
- If water is to be used for multiple purposes (i.e. Dust suppression and mineral washing) provide a breakdown of the abstraction quantities for each different use.

You need to give the instantaneous/peak abstraction rate (in litres per second, and the hourly (m^3/hour), daily (m^3/day), and annual (m^3/year) quantities for each purpose)

If you are applying to amend the quantities you are authorised to abstract under an existing licence, state the new quantities you want to abstract. To reduce the quantities you want to abstract, see our Apply to change an existing abstraction or impoundment licence page.

For hydropower abstractions, please see our Hydropower flow standards for confirmation of the maximum instantaneous abstraction rate we will authorise for each zone. For temporary licences, you only need to specify the total quantity (m^3) and peak abstraction rate (l/s).

47. Abstraction location name/reference

48. What purpose will the water be used for?

49. Period of abstraction

Will it be all year?

- [ ] Yes
- [ ] No

17.

50. Start Date: [DD/MM/YY]

51. End Date: [DD/MM/YY]

18.

52. Maximum quantities (cubic metres)

Annual	
Daily	
Hourly	

53. Peak abstraction rate (in litres per second)

54. Number of hours of abstraction per day

55. If necessary, continue on a separate sheet and upload below.

19. 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.

From the Golder hydrological impact appraisal report (2022) the discharge volume forecast is based on the measured average abstract volume over July & August of 2021, which is a period after the pumping height was lowered to the current position where >20m^3 a day is expected. The system will operate continuously to maintain a groundwater level beneath the Safe Store 1 building slab.

Whilst the measured average daily abstract rate is 73m^3 per day, this average rate is likely to increase considering the data was gathered during the drier months of the year. To account for this, the annual forecast assumes an average daily abstract rate of 110m^3, which is 50% higher than that measured rate in July & August 2021. Average daily rate x days per year 110 x 365 = 40150.

Furthermore, the actual abstract rate varied substantially during the monitored period. This variation could be linked to rainfall. Whilst progressively lowering the abstraction depth the observed daily standard deviation was 68% of the overall average. To provide a 98% coverage factor for daily abstract rates, the value used as the maximum abstract rate is the measured average in July & August 2021 plus the measured daily standard deviation multiplied by 2, which is 173m^3 per day. 73 + (2x68x73) = 173, rounded to 200m^3/day. 200m^3/day x 365 = 73,000 as a max.

The maximum possible pumping rate whilst all pumps are running has been measured at 7.7m^3/hr. 7.7x24 = 186m^3/day. To avoid giving a misleading level of abstract volume certainty; the maximum daily and hourly abstraction rates recorded in the application have been rounded up to the nearest single significant figure.

56. Additional document. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

20. Industry-specific requirements

If your abstraction is for agricultural use, golf course irrigation, industrial use, or for a hydropower scheme, you will also need to complete the relevant table in this section. We use this information to determine if the volumes you propose to abstract are appropriate for that purpose. To do this we need to understand your demand for water and how it relates to the scale of your operation. If your intended use is not covered here, use the examples as a basis to demonstrate to us how you have calculated the amount of water you require (i.e. number of units, area etc.)

57. 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)
N/A			

58. For agricultural use

Livestock type	Number of animals	Maximum daily quantity of water used (cubic metres)	Comments
N/A			

59. Provide details of any additional requirements (washing / cleaning)

N/A

60. For golf course irrigation

	Maximum area to be irrigated daily (hectares)	Maximum depth of water to be applied daily (millimetres)
Tees	N/A	
Greens		
Fairways		
Others		

61. For industrial use

Industry sector or process type	Water use per unit produced (state units)	Maximum units produced per year
N/A		

Hydropower

Complete these tables with the details of your hydropower scheme and flow data. See our Hydropower flow standards for more information. State the length, in metres; of the depleted reach. This is the distance between the abstraction and discharge points. You will need to submit a copy of the full flow duration curve for the site and confirm the methods used to derive this. If you have used a 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.

62.

% 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)
N/A			

63.

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

64. State the length of depleted reach (in metres)

N/A

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

Q95	N/A
Q10	
Qmean	
What is the ratio of Q95:Qmean?	
What is the ratio of Q10:Qmean?	

66. 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 m^3/s)?

N/A

67. 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.

- [ ] Meter
- [ ] Power Generated
- [ ] Other (please specify):

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.

The objective of this system is to prevent water from entering the Reactor building basement. To minimise the amount of water abstracted the groundwater pumping depth has been set at the highest point where the system objective is met, this ensures efficient abstraction of water.

The water quality is checked weekly. Checks include turbidity, pH, suspended solids, surface contamination and radiological reassurance. The system integrity and general condition is checked weekly.

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

68. 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	N/A	N/A
Screen aperture size (mm)		

69. 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.

N/A as this is groundwater abstraction

Any measures to safeguard fish and eels need to be included in your drawing (including details and dimensions).

24. Discharge details

70. 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)
Consent Point “B”	SH 69383 38127	200 per day	CG0087701
Consent Point “C”	SH 69383 38127	200 per day	CG0087701

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

Please refer to drawing TRA/3120/LA/42946 South Dewatering System As Built and other figures at the rear of the Hydrological Impact Assessment (Golder, 2022) report.

Abstracted water is discharged into surface water Manhole 143 which is adjacent to the abstraction point. This manhole forms part of the main site drainage system with the final discharge being via a permitted surface water discharge route Ref - CG0087701 into Trawsfynydd Lake, which discharges through one of two discharge pipes and terminates at "Consent Point B" or "Consent Point C" on the dam located at grid reference SH 69383 38127.

The total discharge volume recorded above is based on the average daily volume of water transferred by the borehole pumps during the monitored periods in July & August 2021 and does not represent the total volume of main site drainage system water discharged at the SH 69383 38127.

25. Other abstractors / water users

72. 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 identified

73. Have you sought advice on your planning application?

- [ ] Yes
- [X] No

27.

74. Submit a copy of the Planning Authority's response.

28. Declaration

Each individual (or individual trustee), who is applying to have their name appear on the licence, must complete the declaration. The table below shows the different types of licence holder, and who must sign the declaration for each type.

Type of licence holder	Signature needed
Individual / Sole trader	The licence holder
Registered company	Company director or Company secretary
Organisation of individuals (Other than partnerships, trusts and charities)	The chairman, treasurer, secretary, or other person authorised to represent the organisation
Partnership	One or more partners
Trust	All trustees or the chairman, treasurer, or secretary
Charity	A person authorised to sign documents on behalf of the charity
Public body (i.e a local authority)	A person authorised to sign on behalf of the organisation

75. 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	
Print name	Colin Reid
Position	Company Secretary, Nuclear Restoration Services Limited

76. If you need to submit additional signatures, please upload here in a separate document.

77. If an agent is to sign on behalf of the Licence Holder, a letter of authorisation from the Licence Holder is required.

78. Date

* 29/01/2026

29. GDPR, National Security, and Commercial Confidentiality

The information provided by you will be processed by Natural Resources Wales in line with the GDPRs Data Protection Principles. This will to enable us to process your application; to monitor compliance with any permit conditions; to process renewals, and to maintain the relevant public register.

We will process the information you provide in connection with the following:

- Consultation with third parties who are relevant and responsible for responding to consultation requests from us to enable us to process your application
- Carrying out statistical analysis, research and development on environmental issues
- Providing public register information for enquiries
- Preventing and investigating possible breaches of environmental law and taking any resulting action
- Responding to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004

If you have any further queries or concerns, please contact dataprotection@naturalresourceswales.gov.uk

For further information on the processing of your personal details please see our Privacy Notice page

Confidentiality and national security
We will normally put all the information in your application on a public register of environmental information. However, we may not include certain information in the public register if this is in the interests of national security, or because the information is confidential.

Confidentiality
You can ask for information to be made confidential by enclosing a letter with your application giving your reasons. If we agree with your request, we will tell you and not include the information in the public register. If we do not agree with your request, we will let you know how to appeal against our decision, or you can withdraw your application.

79. Only tick the box below if you wish to claim confidentiality for your application.

☐ Please treat the information in my application as confidential

80. Tick the box to confirm you have provided evidence to support your confidentiality claim and upload the evidence here:

National security
You can tell the Welsh Ministers that you believe including information on a public register would not be in the interests of national security.

You must enclose a letter with your application telling us that you have told the Welsh Ministers and you must still include the information in your application. We will not include the information in the public register unless the Welsh Ministers decides that it should be included.

You cannot apply for national security via this application.

30.

81. Would you like a copy of your submission?

- [X] Yes
- [ ] No

31.

82. Your email address

sian.williams@nrservices.uk
sion.richards@nrservices.uk
patrick.j.haley@nrservices.uk
colin.reid@nrservices.uk