



# Guidance Note

## Hydropower Guidance Note: HGN 13 Approvals, Licenses and Consents

This guidance note is not intended as a statement of law. It should be read in combination with, and in the context of, the relevant enactments and EU obligations. Nothing in this guidance is intended to give Natural Resources Wales (NRW) power to do anything that it would not otherwise have power to do, or exercise any of its functions in a manner contrary to the provisions of any enactment or any EU obligation. In the event of any conflict between this guidance and enactments or EU obligations the latter takes precedence.

This Guidance Note has been prepared by Natural Resources Wales (NRW) to provide hydropower developers with information on approvals, licenses and consents. Its contents may be updated periodically and developers should ensure they read the most recent version.

### Introduction

Developing a hydropower scheme requires approvals, licenses and consents from NRW and the relevant Planning Authority. These are applied for through separate processes. Applicants are recommended to consult with the relevant planning authority as early as possible. Whilst some environmental issues may be addressed in the NRW licensing process, NRW will often seek other environmental safeguards in connection with the development itself via other consenting regimes such as the relevant planning consenting process. This note seeks to offer broad guidance that is not restricted solely to NRW's licensing function but also to its other functions including that of consultee in the planning process. We provide information on Planning Issues at the end of this Guidance Note.

We strongly recommend that developers follow our guidance on the pre-application and formal application process. The procedures described make the licensing process transparent, efficient and technically sound.

However, every hydropower scheme is different. The design must suit the characteristics of each site and provide appropriate levels of environmental protection. The use of this and

other guidance notes will help minimise environmental impacts, but our guidance cannot cover every eventuality. Some sites may require additional or alternative environmental protection measures and monitoring.

When you submit a pre-application for a proposed hydropower scheme, we will assign you an Account Manager. Their job is to help you understand our requirements and to highlight any areas in your proposals that are likely to be a concern. You are welcome to contact us before you submit a pre-application.

## Environmental report

With every application for a an abstraction or impoundment licence in connection with a hydropower scheme we will expect you to carry out an assessment of the potential environmental impacts and submit an Environmental Report based on that assessment. This will need to address:

- the ecological impacts of the scheme;
- the impact on geomorphology;
- the impacts on fisheries and conservation;
- the cumulative impacts, particularly on fish migration;
- the impact on flood risk;
- the impact on navigation rights;
- the impacts on other people's rights to, and uses of, water;
- how compliance with the Water Framework Directive will be ensured;
- how (if applicable) compliance with protected site/species legislation will be ensured

Details on some these topics are available in other Guidance Notes. If we receive an application that departs from this guidance, we may require you to demonstrate that equivalent levels of environmental protection can be provided and maintained.

## Consulting with other river users

Hydropower schemes can affect local communities, other river users and the environment.

Before you consider submitting an application we recommend that you consult interested parties and take steps to address their concerns.

Consider consulting early with:

- rivers users – including representative bodies such as local angling clubs, Canal and Rivers Trusts, British Waterways, Inland Waterways Association, National Association of Boat Owners, the British Canoe Union and the Ramblers Association;
- environmental bodies – such as Afonydd Cymru, Salmon & Trout Association, the Rivers Trusts, Wildlife Trusts, the RSPB and the Management Units for any Areas of Outstanding Natural Beauty;
- local authority officers who deal with environmental health, highways, local flood risk, ecology and archaeology;
- neighbours – including residents and businesses;
- organisations with an interest in the built environment – including Cadw, Welsh Government’s historic environment service;
- regional electricity company;
- neighbouring local planning authorities.

This list is not exhaustive. Your list will depend on where your site is and the specific local details. Be sure to consider ‘up river’ and ‘down river’ stakeholders whose interests might be affected by your scheme.

Refer to the relevant local planning authority’s Statement of Community Involvement. This will include details on consultation arrangements for planning applications.

## **Water resource licensing for hydropower**

We grant water resources licences under the Water Resources Act 1991 (WRA), as amended by the Water Act 2003 (WA).

The Water Act 2003 introduced three types of abstraction licences: transfer, full and temporary. New licences are always time limited – this will provisionally be to the common

end date for the catchment, as set out in Catchment Abstraction Management (CAMS) documents. Time limits will range from six years up to a maximum of 18 years.

### **Transfer licence**

A transfer licence is needed where water is transferred from one source of supply to another, or to another point within the same source of supply, without intervening use. For example, an abstraction for a hydropower scheme may actively move water from one channel to another channel, perhaps from the main river to a leat, for subsequent use within a turbine. This abstraction will, in part, be permitted using a transfer licence to authorise the removal of water. There is no annual abstraction charge for a transfer licence.

### **Full licence**

A full licence is required to abstract water from a source of supply where that water is used directly for a purpose – for example where water is abstracted from a source of supply via a piped off-take or off-take structure and is supplied directly to a turbine. Hydropower as a use is chargeable under the NRW abstraction charging scheme. However there is an exemption from annual charges for small hydropower schemes with a peak output of under 5 MW.

### **Temporary licence**

A temporary licence authorises abstraction for a maximum of 28 days and is not applicable to hydropower.

### **Impoundment licence**

An impoundment licence is required if changes are being made to structures which impound water, such as weirs and sluices, or if new structures are to be built.

We may also require an agreement with the operator under Section 158 WRA to regulate the way the scheme must be operated. These agreements will need to cover rights of access, and may need to include the control of river levels, maintenance of the weir and river structures, fisheries and other environmental protection matters.

## For what situations do you need these licences?

Scheme layouts can be complex. For every scheme, ask your area Account Manager at the pre-application stage to confirm which licences you will require.

If a hydropower scheme is located completely within a watercourse, it will not normally require a full or transfer abstraction licence. Examples of this are:

- a scheme where turbines are installed on an existing weir and the water remains between the existing banks of the river; or
- a new scheme installed within the workings of an old mill site.

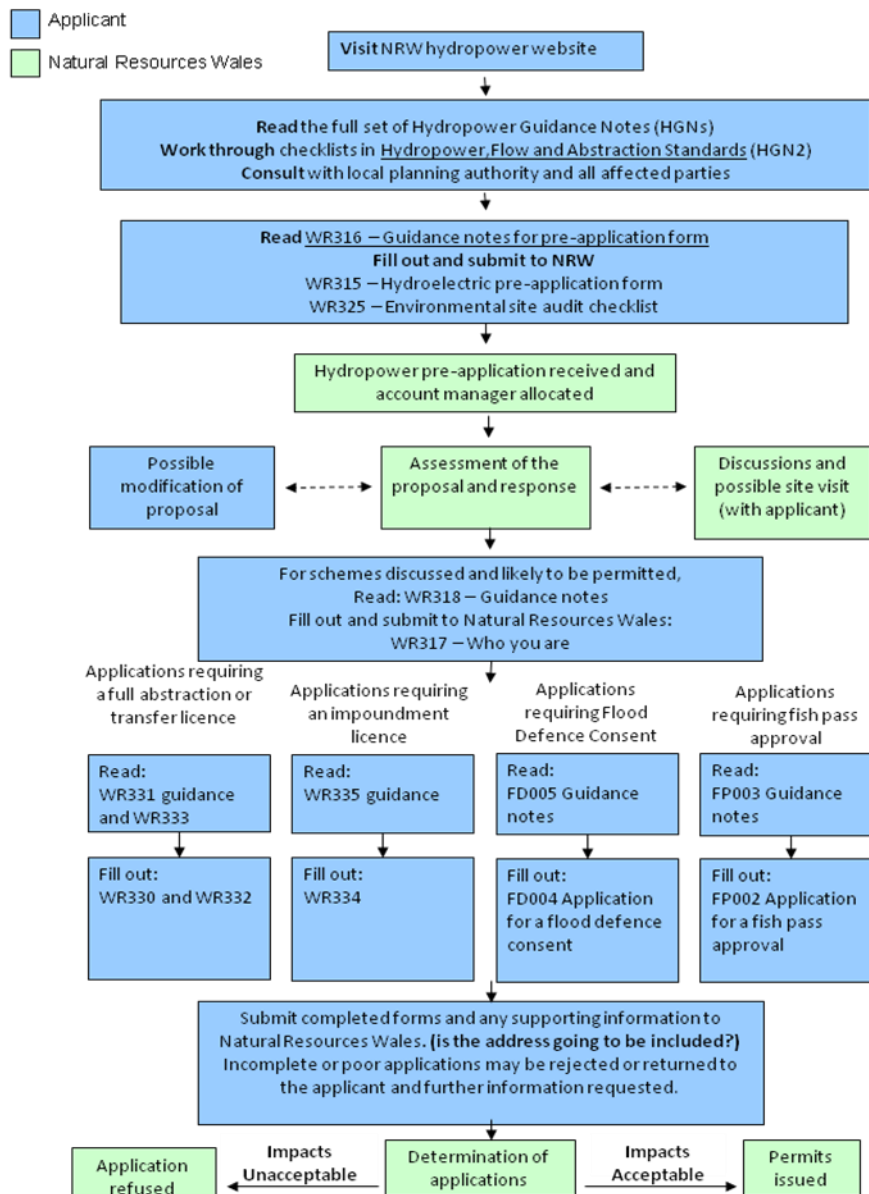
An impoundment licence will be required if changes are to be made to any existing impounding structures or if a new weir is to be constructed.

For schemes that involve the refurbishment of existing unlicensed turbines, or the reinstatement of derelict mill structures / equipment, we will take a view on whether an impounding licence is required. Our general advice is that if you are planning to make changes to the existing situation, it is likely that you will require a licence.

## Hydropower licensing process

The flow chart below outlines a typical application and licensing process.

Natural Resources Wales: Hydropower Application Process



## Flood risk considerations

A hydropower scheme may increase flood risk or affect what would happen in the event of flooding. You will therefore need to evaluate the potential effects as part of any planning application. You may also need to apply to us for a Flood Defence Consent if the scheme is on a Main River, or if not, to the Lead Local Flood Authority for an Ordinary Watercourse Consent. Your Account Manager will be able to tell you if the site for your proposed scheme is on a Main River.

This section briefly explains the need for:

- flood consequences assessment (FCA)
- flood defence consents (FDCs)

### Flood consequences assessment

It is likely that you will need to carry out a Flood Consequences Assessment (FCA). This assessment will form part of your planning application to your local planning authority (see 'Planning considerations' section below). Please ask your Account Manager to explain what you need to do and when.

You will find details of guidance for carrying out these assessments in:

*Flood Risk Assessment (FRA) Guidance Note 3* – All development in Flood Zones 2 and 3 where standing advice does not apply. This document is available to download on the Environment Agency website.

Further information about development and flood risk is also available from the National Planning Policy Framework and Technical Guidance on the GOV.UK website.

You should also refer to Welsh Government's Planning Policy website and in particular *Technical Advice Note 15* on development and flood risk.

### Flood Defence Consent

A proposed hydropower scheme on a Main River is likely to require Flood Defence Consents under the Water Resources Act 1991 and Natural Resources Wales Regional Land Drainage / Flood Defence Byelaws. If the scheme is on an ordinary watercourse then

Ordinary Watercourse Consents under the Land Drainage Act 1991 may be required from the Lead Local Flood Authority.

Under the Water Resources Act 1991 and associated byelaws, you need to apply for our formal consent for work in, over, under or within the 7 metre byelaws distance adjacent to main rivers and/or the landward toe of any existing flood defence wall/embankment.

Under the Land Drainage Act 1991, you also need consent from the Lead Local Flood Authority if you want to build a culvert, dam, weir or similar impounding structure in order to control the flow of water on any ordinary watercourse.

Consent is also required for the erection of structures – including buildings, walls and fences etc – within the ‘byelaw margin’ of a main river (NRW Regional Land Drainage / Flood Defence Byelaws). This margin is specified in byelaws which vary around the country (7m in Wales). Developers should consult with their Account Manager about any proposed structures within 20m of a main river, to see whether consent is necessary.

## What do you need to do?

You need separate flood defence consents for:

- Temporary works that do not form part of the permanent works
- Permanent works

Include any specific measures you plan to take while the work is being carried out to:

- keep disruption to a minimum
- reduce any unwanted environmental impacts
- ensure flood risk is acceptably managed

### Temporary works

Temporary works could include, for example, scaffolding and cofferdams (watertight enclosures) across a watercourse, or temporary diversions of water while work is carried out.



For any temporary work, we need to know how you are proposing to carry it out. So you need to send us a 'method statement'. Again this should include details of the specific measures you plan to take while the work is being carried out to:

- to keep disruption to a minimum
- reduce any unwanted effects while the work is being carried out
- ensure flood risk is not increased elsewhere

### **Permanent works**

For the permanent works we will also need an environmental appraisal to identify and consider all likely effects on the environment. You should consider:

- the direct and indirect effects the work has on sites and features of interest
- species of particular value

Include any specific measures you plan to take to keep disruption to a minimum and reduce any unwanted effects while the work is being carried out.

## Planning considerations

In almost all cases, you will need planning permission from your local planning authority (LPA) to develop a hydropower scheme. It is important to contact your LPA to discuss your plans at an early stage. The LPA should be able to tell you which parts of the scheme require planning permission and if listed building consent is also needed.

This section looks at:

- the planning process;
- the issues that may be taken into account;
- the measures that may be needed to mitigate potential problems;
- planning conditions;
- what you need to do;
- the need for an Environmental Impact Assessment;
- the need for an Environmental Statement;
- the use of the Environmental Statement by Natural Resources Wales.

### The planning process

The LPA will decide on planning applications for hydropower schemes in accordance with the policies in their development plan unless material considerations indicate otherwise. This plan should be available on their website.

The LPA may also need to take account of national planning policy as well as other material considerations.

The Planning Portal is the UK Government's online planning and building regulations resource for England and Wales

We encourage you to apply for planning permission and NRW permits at the same time: this is known as 'parallel tracking'. It is important to appreciate however, that although the two application processes may be inter-linked, decisions are independent of each other – a successful licensing application is not an indicator that planning consent will be granted (or vice-versa).

## What are the issues?

Planning permission establishes whether a hydropower scheme is an acceptable use of land (which includes the riverbed), taking into account a wide range of environmental, social, aesthetic and economic considerations. These include potential cumulative effects and issues such as:

- the physical appearance of any buildings
- ecology
- river morphology
- landscape
- amenity
- flood risk
- archaeology

A LPA may also need to take into account other potential 'material planning considerations' such as water resources, fisheries and biodiversity. However, LPAs should work on the assumption that the relevant pollution control regime will be properly applied and enforced, and that they should assume that permits will secure adequate controls to protect people and the environment.

For each key planning issues associated with a hydropower scheme, the LPA may ask for mitigation measures and impose planning conditions.

## Mitigation measures

You may need to take steps to resolve or address potential problems. You can identify many of these measures during the pre-application consultation process. Measures will address aspects of design and location as well as relate to restrictions on operation.

## Planning conditions

A local planning authority may attach planning conditions to permissions for hydropower schemes in order to make otherwise unacceptable developments acceptable.

## What do you need to do?

Contact your LPA to discuss your plans at an early stage.

You will have to provide your local planning authority with a Design and Access Statement and other information. You should ask the LPA what other information is required with the planning application.

You may be asked to carry out an Environmental Impact Assessment (EIA). You can ask the LPA for a 'screening' opinion to help you find out if you need an EIA. If unacceptable impacts are expected, you will need to provide an Environmental Statement as part of your planning application.

You are more likely to need an EIA for schemes above 0.5 megawatts. Schemes situated in or near to sensitive areas – such as sites designated for their biodiversity, harbouring protected species, or of heritage value– are likely to require an EIA regardless of their capacity.

You can also ask the local planning authority to provide, in writing, an opinion on the information that should be provided in any Environmental Statement. This is known as a 'scoping opinion' and can be requested at the same time as a screening opinion.

The Environmental Statement should be prepared by a technically competent person.

## The Environmental Statement and Natural Resources Wales

We recommend that the Environmental Statement includes the information NRW needs for its decisions on:

- which permits to issue;
- any necessary design or operating conditions.

This will help reduce duplication between the planning and licensing processes. Ask your Account Manager what information you need to include for NRW.

We recommend you refer to the Environment Agency's guidance on EIAs, available from the Environment Agency's website.

Please note that the majority of this information was published in 2002. Certain legislative aspects described may now be out of date and should be considered with care. However, the technical issues highlighted are still relevant.

## Checklist for Natural Resources Wales permissions

We recommend that developers contact us at an early stage to discuss supporting information requirements. The location of a scheme can affect information requirements.

Some of the information detailed in this checklist will be available from us on request. Contact your Area Account Manager for more details during the pre-application stage.

Much of this information will also be required as part of any application to the planning authority and for planning permission. Check additional information requirements with the local planning authority before submitting a planning application.

Supporting Document/ Information	Description	LPA	NRW
Scheme details	This should include a description of the proposal and its location as well as details of grid connection works, including transformer and transmission lines.	✓	✓

Supporting Document/ Information	Description	LPA	NRW
Plans	<p>These should include maps and diagrams and may include the following:</p> <p>location plan showing the application site (at a scale of 1:1250)</p> <p>site plan showing the location of intake, pipeline, turbine house, tailrace and other elements of the scheme that affect its physical appearance (at a scale of 1:500 or as suitable)</p> <p>existing and proposed elevations (at a scale of 1:50 or 1:500 or as suitable)</p>	✓	✓
Design and Access Statement		✓	
Details of vehicular access and movements		✓	
Details of provision for fish passes (where required)	<p>This may be required to highlight what measures have been incorporated to enable fish to pass safely downstream and upstream at the intake structure.</p> <p>Details of information requirements are available from our Fish Pass application form.</p>		✓

Supporting Document/ Information	Description	LPA	NRW
Details of fish screening measures	<p>This may be required to highlight the measures incorporated to prevent fish and/or eel from entering the turbine. This information should include:</p> <ul style="list-style-type: none"> <li>• the type of fish screen – such as mesh screens, vertical or inclined bar racks, coanda-effect screens (wedge-wire spillway screens)</li> <li>• mesh size of the intake screen, in millimetres (mm)</li> <li>• dimensions (width x height) of the screen in millimetres (mm)</li> <li>• angle of the intake screen (in degrees) in relation to the main flow path – this should be adequate to guide fish effectively to the bypass channel</li> <li>• the approach velocity, for the intake screen only, in metres per second</li> <li>• the 10-figure National Grid Reference of the intake screen &amp; outfall screen.</li> </ul>		✓
Details of the bywash channel	<p>Where required, the design of a bywash channel is critical to the performance of any fish screen placed within a channel. The entrance to a bywash should be where the fish have the best chance of finding it. It will be necessary to state whether the bywash is a separate channel, whether the fish pass forms part of the bywash channel, and the dimensions.</p>		✓

Supporting Document/ Information	Description	LPA	NRW
Alternative screening methods	Alternative screening methods such as behavioural fish barriers can be used where physical screens are not practical. Behavioural fish barriers include louvre bar, acoustic and strobe lighting.		✓
Land contamination	<p>Identifying the existing and previous uses of the site will give an indication of the possibility of contamination. A preliminary risk assessment is likely to be required to help determine whether a site investigation and more detailed risk assessment would be needed.</p> <p>Where a proposed site is known or suspected to be affected by land contamination (e.g. has previously been used for industrial purposes or is a landfill site) it will be necessary to undertake a land contamination study. The assessment should examine the likelihood of the presence of land contamination, its nature and potential risk to the proposed development, and what further measures are required to ensure the site is suitable for use. Further information is available in <i>Planning Policy Statement 23: Planning and Pollution Control</i>.</p>		✓



Supporting Document/ Information	Description	LPA	NRW
Details of site management measures during the construction phase	The construction of a hydropower scheme may result in the siltation of watercourses, as well as adverse effects on sensitive habitats and others receptors (for example due to disturbance from construction machinery). A site management plan can help avoid or minimise these effects by ensuring that construction is undertaken sensitively and at the appropriate times of year. It may also highlight any additional permissions required during the course of the works.	✓	✓
Photomontages		✓	
Details of the power from the installation (in KW) and anticipated efficiency	Details should be provided of the power from the installation (in KW), the anticipated efficiency, the net head, as well as what the energy will be used for (if applicable).	✓	✓
Flood Consequences Assessment	Development on or next to a river may have an impact on flood risk. It is likely that applications for hydropower schemes will need to be accompanied by a Flood Consequences Assessment.	✓	✓

Supporting Document/ Information	Description	LPA	NRW
Water Framework Directive assessment	Hydropower development may affect ecological status /potential and the supporting elements assessed in River Basin Management Plans. Schemes will need to be assessed to determine whether they will lead to any change in status. Schemes causing deterioration are unlikely to be permitted unless the conditions set out in Articles 4.7, 4.8 and 4.9 of the Water Framework Directive are met.		✓

Supporting Document/ Information	Description	LPA	NRW
Assessment of hydrology	<p>This assessment will need to include analysis on how the proposed scheme will affect the volume of water flow, or water level, within all channels present or proposed. This should fully explain the effect the scheme will have on the flow and level of water over any structures in the river, such as weirs or fish passes.</p> <p>The assessment will need to include the following:</p> <ul style="list-style-type: none"> <li>• an overview of the catchment hydrology</li> <li>• hydrometric information (– current meter gaugings, gauging station data, model data, rainfall data</li> <li>• a pre-scheme assessment (flow survey) of all channels included within the scheme</li> <li>• assessment of the change in flow within all channels affected</li> <li>• seasonal variation in flows</li> <li>• base flow/run-off comparison</li> <li>• assessment of high-flow events (management of structures, relief channels)</li> <li>• reduction in downstream levels</li> <li>• raising of upstream levels</li> <li>• residual flows downstream of intake needed to protect the river, its ecology and other interests.</li> </ul>		✓

Supporting Document/ Information	Description	LPA	NRW
Flow duration statistics	The flow duration curve (FDC) represents the statistical availability of any given flow, based on best available information. The FDC and associated information can indicate the volume of flow which is available for any percentage of the time.		✓
Residual Flow	The prescribed flow is the flow that must be maintained in the depleted reach of a watercourse when the hydropower scheme is operating. It is set at a level that protects river, the environment and the appearance of the site. The prescribed flow can also include the flow needed to maintain the effectiveness and the efficiency of a fish pass.		✓
Habitats Regulations Assessment	Hydropower schemes that have the potential to affect interest features of riverine European sites will require a Habitats Regulations Assessment, undertaken by the competent authority (usually the local planning authority and Natural Resources Wales). The developer will normally be expected to provide the competent authority will all the necessary information to enable it to undertake the HRA which can be included within an Environmental Report or Environmental Statement.	✓	✓

Supporting Document/ Information	Description	LPA	NRW
Environmental Report	Applications for NRW consent will require the preparation of an Environmental Report (where a scheme is not the subject of Environmental Impact Assessment) assessing the likely significant impacts of a proposed scheme and identifying mitigation measures. This is likely to draw together much of the information outlined in this table and where possible, it may be useful to include environmental information required for both planning and NRW permission in a single report.	✓	✓
Environmental Statement	Where a proposed development is the subject of Environmental Impact Assessment, the developer is required to prepare an Environmental Statement. This is likely to draw together much of the information outlined in this table in order to assess likely significant environmental effects of a proposal and where possible, it may be useful to include environmental information required for both planning and NRW permission in a single report.	✓	✓