



## Hydropower Guidance Note: HGN 7 Competing Schemes

This guidance is not intended as a statement of law and 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 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.

### Competing Schemes

This Guidance Note has been prepared by NRW (NRW) to provide applicants for abstraction and impoundment licences for hydropower schemes with information on Competing Schemes. Its contents may be updated periodically and developers should ensure they read the most recent version.

### Introduction

NRW has a number of roles concerning hydropower developments. These include:

- issuing abstraction licences;
- issuing impoundment licences;
- authorising fish passes;
- granting flood defence consents;
- providing advice to local planning authorities at the planning stage for any scheme likely to affect a Site of Special Scientific Interest (SSSI);
- a competent authority in relation to Habitats Regulations Assessments for schemes concerning European sites and Ramsar sites;
- providing advice to other competent authorities in relation to Habitats Regulations Assessment;
- issuing licences for protected species where NRW is the licensing authority in respect of development (Eg. European Protected Species, Badgers).

NRW is the statutory advisor in respect of European sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPA)), Ramsar sites, and Sites of Special Scientific Interest. It is the licensing authority in respect of some protected species where development is concerned, and as a public authority as defined by the Natural Environment and Rural Communities (NERC) Act 2006, it has a legal duty to have regard to conserving biodiversity in the exercise of its functions.

NRW has rarely had to consider competing licence applications for the same water for hydropower. A recent increased interest in hydropower schemes has led to an increased incidence of applications for competing proposals for hydropower schemes. The purpose of this guidance note is to explain how NRW determines such applications.

This guidance is non-statutory and is not intended to detract from any of our general or specific duties<sup>1</sup>. Rather, it is intended to assist applicants where there is a competing hydropower proposal.

## Approach to Competing Schemes

Water is an increasingly scarce and precious resource which is subject to a number of different pressures - for example, discharges of sewage or industrial or agricultural pollutants; modification for flood defence or navigation; changes in the climate including the risk of more frequent floods and droughts. Accordingly, it will be increasingly important for NRW to make careful judgements about the desirability, both now and in the future, of licensing a particular proposed abstraction or impoundment. This judgement is more complex where there is an actual or potential alternative scheme competing for a licence.

In managing water resources, NRW's policy aims include promoting efficient water use and effective water resource management; protecting the environment; and working with abstractors and users of water to ensure that they manage demand, and use and share water in the most efficient way. NRW also has a statutory duty to have regard to costs and benefits in exercising its licensing powers.

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<sup>1</sup> In determining any application for an abstraction or impoundment licence for a hydropower scheme, NRW is bound by a number of general statutory duties (e.g. the Natural Resources Body for Wales (Functions) Order 2013, sections 4, 6, 7 and 39 Environment Act 1995) and specific statutory duties e.g. sections 38, 39 and 40 Water Resources Act 1991, the requirements of the Water Framework Directive), in accordance with which we are required to act.

NRW supports the use of sustainable energy, including hydropower, to help meet Welsh Government's renewable energy and greenhouse gas reduction targets. That said, hydropower development poses a risk to river ecosystems and the services they provide to the citizens of Wales. The aim of NRW, therefore, is to support the development of the best possible sustainable hydropower schemes.

A decision to approve a hydropower scheme has long-term implications for the environment. Hence there is a need for well-designed schemes that minimise risks to the environment.

Where two or more (current or prospective) applicants seek to develop hydropower schemes at a single site, there may be a number of possible options:

- a. The applicants may work together to propose a joint (shared) scheme, agreeing between themselves such issues as how investment in the scheme, and any associated profits, are to be split. They will then be able to seek the necessary licences from NRW for the joint scheme and these will be considered in the usual way.
- b. It may be possible for the water at the site to be shared, with each of two applicants submitting their own application. This will not be possible at all sites and may involve the need for each party to accept a lower abstraction level than that originally proposed. It will also normally entail the need for cooperation and agreement between the parties. This issue is considered further below under 'Split schemes'.
- c. If neither a shared scheme nor a split scheme is possible, it will become necessary for NRW to decide which (if any) of the proposed schemes should be permitted to proceed: see below under 'Factors to be considered when choosing between competing schemes'.

There are benefits to applicants in agreeing to a shared or (where this is considered by NRW and the applicants to be feasible) split scheme. Where agreement can be reached, both parties may be able (subject to NRW approval) to benefit from a hydropower scheme at the relevant location. In the absence of agreement, there is a risk that neither scheme – or at most only one scheme – will be licensed. We therefore encourage parties to reach agreement if possible.

A number of general points should be understood by applicants who are unable to reach agreement:

- a. In reaching a decision as to whether to licence a particular scheme, NRW will consider applications on their merits having regard to any other (actual or potential<sup>2</sup>) competing applications relating to the same water of which it is aware. The fact that a particular application has been received first in time, or that a particular applicant contacted NRW first, will not normally be relevant. The ultimate question in every case will be which scheme (if any) is desirable (or most desirable) and in the public interest, as informed by our legislative duties and policy aims. See further 'Factors to be considered when choosing between competing schemes', below.
- b. It follows that NRW does not operate a 'first come first served' policy in relation to competing hydropower applications. Rather, NRW will usually be concerned (where it is necessary to choose between competing schemes) to determine which of two or more competing applications is most environmentally acceptable, desirable in the public interest and/or of greater public benefit, regardless of which application is received first.
- c. It cannot be assumed that NRW will necessarily licence one of two or more competing applications. There may be particular circumstances where it is deemed not environmentally acceptable or in the public interest to licence any of the existing applications. For example, schemes likely to significantly affect European designated sites have to meet the requirements of Regulation 61 of the Conservation of Habitats and Species Regulations 2010 (as amended).

## Split schemes

In many cases, hydropower developers will seek to use the maximum amount of water available under the NRW abstraction licensing standards. It will normally be impossible for two schemes to abstract at the maximum allowable rate.

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<sup>2</sup> In considering a potential competing scheme in circumstances where no application has yet been made, the Agency will consider in particular the likelihood of an application being made in relation to that scheme in the future. The circumstances may vary from, on the one hand, a scheme which has already gone through detailed pre-application discussions and intra-Agency consultation to, on the other, a scheme which has, to date, only been the subject of an informal enquiry.

Where the applicants express an interest in pursuing the possibility of a split scheme, NRW will consider with the applicants whether a split scheme – two hydropower schemes each utilising a proportion of the available flow – is feasible at the site in question. Such consideration may include the following factors, where relevant:

- a. The potential impact on statutory designated sites and legal requirements that must be taken into account in any permitting decision;
  - b. The physical location and the feasibility, desirability and impact (including visual impact), of installing two hydropower schemes.
  - c. The available flow at the site and the available flow for each of the two schemes.
  - d. The viability – both in practical and economic terms – of the two schemes with a share of the available flow.
  - e. The enforceability of licence conditions for the two schemes. In particular, a feasible means of apportioning the available flow between the two schemes and of enforcing a ‘Hands Off Flow’ licence condition independently for each scheme will be needed. It is likely that control systems for two schemes will require shared elements, for example one system to monitor flows and/or water levels. The details are likely to be site specific.
  - f. Any agreement which the applicants have made, or propose to make, in relation to the split scheme – including any agreement as to, for example, shared costs, monitoring, operation of scheme and fish pass, and mutual co-operation.
1. In some cases, NRW may conclude that a split scheme is not acceptable for environmental reasons, or is not in the public interest, at the site - for example, where there will be unacceptable impacts upon notified features of designated sites, fish passage, weir pools or increased flood risk. In such cases, if both applicants still wish to proceed with schemes at the site, the applicants may wish to consider proposing a joint (shared) scheme. Failing this, it may fall to NRW to assess both applications.
  2. Shared schemes are likely to be preferred to split schemes for environmental reasons, especially in relation to fish passage. On split schemes a single fish pass may not be effective, leading to the need for two fish passes to utilise the attraction flow from each scheme.

## Factors to be considered when assessing competing schemes

3. If NRW decides that only one of two (or more) competing schemes is appropriate at a particular site, it will then (where appropriate) consider which of the schemes (if any) will be licensed. In doing so, some or all of the factors set out in paragraph 17 below may be relevant, depending upon the characteristics of the site and all other relevant circumstances. It is emphasised that the list below is non-exhaustive: other factors may be relevant and may be of equal, or greater, importance (again, depending on the circumstances).
4. The ultimate question in every case will be which of the proposed schemes, if any, is environmentally acceptable and in the public interest, for NRW to licence. NRW's role will be to make decisions about the appropriate use of the site for the benefit of existing and future generations, bearing in mind the long-term impacts of many hydropower schemes and NRW's statutory remits. That remit includes: contributing to sustainable development, managing and protecting designated sites, conserving and enhancing the natural beauty and amenity of waterways and associated land, conserving the aquatic environment, protecting fisheries and securing the proper and efficient use of water resources.
5. NRW's overall aim in making its decision will be to ensure the development of the best possible sustainable hydropower schemes both now and in the future. If faced with two or more competing schemes, only one of which might be licensed, we will choose between the schemes on their merits by deciding which scheme is most environmentally acceptable and offers the greatest public benefit by reference to the factors set out below (this list is not exhaustive – see paragraph 14 above), including in particular the need for efficiency in the use of water resources and the need to protect the environment.
6. In deciding which scheme (if any) should be licensed, NRW will normally give particular weight to the following issues (although other issues may be of equal or greater weight in any particular case):
  - a. The optimum use of available water resources considering for example (i) the amount of water used; (ii) the reasonable requirement for water (iii) the amount of

power proposed to be generated and (iv) any adverse impacts in water resources terms.

b. Whether there are any likely significant effects on designated sites (SAC, SPA, Ramsar and SSSI) and whether the proposals meet the requirements of the Conservation of Habitats and Species Regulations 2010 (as amended) and S.28 of the Wildlife and Countryside Act 1981 (as amended).

c. Local and wider environmental impacts of the proposed scheme. Such effects could be positive or negative, and might include, for example: changes in hydromorphology, changes to water body status, changes to fish passage through inclusion of a fish pass, provision of appropriate screening and scheme design to enable best measures for fish protection/passage.

d. Assessment and mitigation of flood risk of the proposed scheme both where a scheme requires consent from NRW for works and in its role as adviser on flood risk with a duty to exercise a general supervision over all matters relating to flood risk.

e. Impact on other water users of the proposed scheme in terms of effects on protected rights of existing abstractors and lawful uses of water by others for agricultural, industrial, public supply or recreational purposes including fishing and on requirements of fisheries, navigation or land drainage.

f. The impact of the scheme in renewable energy terms, including both (i) carbon emissions saved by electricity generation, (ii) the amount of renewable energy generated and (iii) embedded carbon and the lifecycle carbon footprint of the scheme.

7. Annex 1 sets out particular issues which will usually be considered in reaching the decision on which proposal (if any) to licence. To undertake a comparison of potentially relevant factors NRW will need to be provided with information in the environmental report accompanying each scheme application.

## Conclusion

8. Every hydropower application will be decided on its own merits. NRW will seek to grant those hydropower applications which are most environmentally acceptable and of greatest public benefit, bearing in mind their short and long-term impacts on the environment and the overall desirability of any particular scheme in the public interest, when considered against all other actual or potential proposals at the site.

## **Annex 1 – non-exhaustive list of potentially relevant factors where NRW considers two or more competing hydropower applications (not in priority order)**

### **a.** Water resources, fish passage and technological issues

- the location of the proposed scheme: an ‘on weir’ scheme will normally be preferred to a scheme which creates a depleted reach, as it is likely to reduce the potential environmental impact of the scheme;
- the scheme that best demonstrates a reasonable requirement for the water and efficient use of such water;
- the scheme which best includes provision of a fish and/or eel pass and best facilitates for fish passage;
- the scheme which best includes appropriate fish and eel screening of the turbines as set out in NRW’s screening guidance note and ensures protection against fish entrainment or impingement;
- the scheme which best meets the requirements for design/environmental mitigation;
- the scheme which makes best use of water available;
- the scheme which best suits the proposed turbine type, bearing in mind both environmental factors and aesthetic/amenity issues at the location.

### **b.** Hydromorphological impacts of location of turbine/HEP scheme in relation to flows in the river channel

- the scheme which best considers and mitigates impacts on flow pattern particularly with respect to the intake and outfall;
- the scheme which best considers and mitigates impacts on the weir pool morphology/ecology;
- the scheme which best considers and mitigates impacts on sedimentation;
- the scheme which best considers and mitigates impacts of the scheme on flood risks;

- the scheme which best considers and mitigates impacts of the scheme on other water users such as fisheries interests, recreational uses, agricultural or industrial uses.
- c.** Impact of the scheme in relation to renewable energy.
- the scheme which best considers the carbon footprint of scheme design and construction including factors relating to the design of the scheme, including cost-effectiveness and sustainability – for example, construction costs, materials used, lifetime of components;
  - the scheme which best considers carbon saving (in absolute terms) and/or relative to carbon cost of scheme construction;
- d.** Impact of the scheme on designated sites.
- for schemes affecting European sites (SAC, SPA) or Ramsar sites, the scheme that meets the requirements of Regulations 61 and 62 of the Conservation of Habitats and Species Regulations 2010 (as amended), or can be amended/conditioned to do so; (if
  - a scheme adversely affects the integrity of a European or Ramsar site and there is an
  - alternative which does not, it is unlikely to meet these requirements)
  - for schemes that affect Sites of Special Scientific Interest (SSSI), the extent to which the scheme meets the requirements of s.28 of the Wildlife and Countryside Act 1981 (as amended) or can be conditioned to do so.
- e.** Impact of the scheme on protected species.
- for schemes affecting EU and UK protected species, the scheme that meets the legislative protection afforded the relevant species, and for water dependent species, flow regimes that will protect them in the long term.
- f.** Other factors
- the scheme which best considers aesthetic criteria, including heritage considerations and has the least impact on natural beauty and local heritage including on buildings and sites of archaeological, architectural, historic or engineering interest.

- electricity distribution issues (e.g. environmental impact of infrastructure necessary for connection to the grid) and energy efficiency of the scheme.
- community involvement/benefit: for example, a community scheme using the electricity locally and avoiding use of grid distribution may have a greater environmental benefit.
- legal issues relating to the ownership and responsibility for any weir/impoundment: the proposal that best demonstrates the licence holder will have complete control over the operation of the scheme.