Cyfoeth Naturiol Cymru
Natural Resources Wales

Guidance Note

Hydropower Guidance Note HGN 3 Water Framework Directive

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.

Water Framework Directive

This Guidance Note has been prepared by Natural Resources Wales (NRW) to provide applicants for impoundment and abstraction licences for the purpose of hydropower with information in relation to the Water Framework Directive (WFD). Its contents may be updated periodically and applicants should ensure they read the most recent version, which is available on the NRW website.

What is the Water Framework Directive?

The WFD is a piece of European Union legislation that requires member states to implement measures to protect and improve the water environment. It became law in the UK in December 2003 through the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (‘the Regulations’).

The Regulations require NRW to exercise its relevant functions so as to secure compliance with the requirements of WFD.
The WFD applies to:

- all inland surface freshwaters – including lakes, streams, canals and rivers
- all groundwaters
- all transitional waters – estuaries
- all coastal waters – out to one nautical mile from the low-tide mark

For the purposes of WFD compliance, waters are divided into water bodies. Each river water body has a defined catchment. However, only a representative part of a river water body within the catchment is used for reporting purposes.

Each water body is classified in terms of its condition or 'status'. A range of biological and non-biological elements is sampled to determine the current status of the water body.

Objectives are set for each water body, based on the status we expect the elements to achieve by a particular date.

What does the Water Framework Directive aim to do?

The principal aims of the WFD are as follows:

- aim to achieve good status or potential in inland and coastal waters by December 2015, and to prevent a deterioration in their status
- achieve compliance with standards and objectives set for designated sites – these are listed in the Register of Protected Areas under the WFD and include all Natura 2000 Protected Areas designated for water-dependent species or habitats.
- encourage wiser, sustainable use of water as a natural resource.

What are the main issues?

We must consider the impact of each hydropower scheme on the achievement of WFD objectives.

In assessing the status of a water body, NRW are required to consider many elements, including biological, chemical, morphological and flow-related aspects. We must consider any activity that could affect these elements, either now or in the future. NRW is required to assess all new modifications, and certain existing ones, in order to establish that they:

- will not cause a deterioration in the current ecological status or potential (for water bodies that have been designated as artificial or heavily modified)

- will not prevent the achievement of good status/potential in the future.

If a hydropower scheme will cause either of these problems, then it can only be justified if it meets the conditions set out in Article 4.7, 4.8 and 4.9 of the Directive. Alternatively, the developer can re-locate or re-design the scheme, or propose appropriate mitigation measures so that it does not in fact prevent the achievement of the WFD.

In determining the impacts of pressures on the environment, NRW is required to consider not only impacts from single activities, but also the effects of cumulative pressures and of different combinations of pressures. We consider the potential impact of cumulative effects because of the need to prevent deterioration in ecological status or potential of a water body and to ensure that water bodies are not prevented from achieving their objectives. Our assessment of the environmental impacts of a scheme considers both the magnitude of the effects – for example the level of flow depletion and the size of the area that would be affected. For more information on this see hydropower guidance note 5, **Cumulative and In-Combination Effects.**

Effects to be considered include:

- reductions in fish stocks – for example through damage, loss of habitat or obstructions to migration

- changes to morphology caused by static flows and the flushing of nutrients and sediment at times of low flow

What needs to be considered	**How**
Existing pressures	The River Basin Characterisation data (RBC) in our internal River Basin Management (RBM) data base describes the extent of morphological pressures within a water body (as of 2006).
Recent schemes	Our staff will consider other schemes that have recently been through the WFD compliance assessment process.
Local knowledge	Local knowledge on existing impoundments, their height and effects on in-stream channel ecology could factor into the cumulative impacts assessment.

Other planned schemes	Other 'new' schemes, introducing similar pressures to the scheme in question, may be planned for the water body. Where other schemes are in the advanced stages of planning, we have to factor them into our assessment of cumulative impacts. We also have to consider schemes which appear in plans, programmes and strategies that are funded and so will take place, for example on the Medium Term Plan (for flood risk management schemes).
Expert judgement is needed to assess whether cumulative impacts will occur. This consideration should only include other pressures (hydrological or morphological) when they affect the same elements as the proposal would.	

If, after considering the above factors, we conclude that the proposal could cause deterioration, then further detailed investigation may be required. This will assess the impacts on, or future attainment of, good ecological status or good ecological potential.

What do you need to do?

As a developer, you need to demonstrate that your proposed hydropower scheme will not cause or contribute to a reduction in water body status/potential or prevent the achievement of future WFD objectives. By following the principles and technical guidance provided by NRW, you can reduce the risk of your scheme compromising the objectives of the WFD.

How can you help do this?

- understand the scale and nature of the environmental impacts associated with the proposed hydropower scheme;
- consider how these impacts could affect the objectives of the Directive and to demonstrate that no objectives will be compromised;
- engage in pre-application discussions with us to will help develop an appropriate scope for your Environmental Report;
- make sure your Environmental Report addresses the Water Framework Directive requirements. This may require input from a suitably qualified expert.

We will consider the Environmental Report in reaching conclusions with regard to achievement of WFD objectives.