

Application number: NPS/WR/029357

Licence number: SW/045/0002/048

EA Area: Devon and Cornwall

Date of Application: 04/12/2018

Applicant details: Coldharbour Mill Trust Limited, Coldharbour Mill, Coldharbour, Uffculme, Cullompton, EX15 3EE

Summary of the proposal:

Coldharbour Mill Trust Limited have applied for a new full abstraction licence. This proposal is for a new Hydroelectric Power Scheme at the Coldharbour Mill on an existing leat supplied by the River Culm in Uffculme, Devon. The power is proposed to be generated through the use of a single Archimedes screw type turbine installed at an existing sluice gate which connects two sections of the leat. All of the water will be returned to the leat at the turbine outfall.

All the water entering the leat system is controlled by a flow control structure on the River Culm licenced under a non-time limited licence, licence number 14/45/002/1918. The leat is approximately 650 metres in length and runs North East to South West. .

There is a large millpond upstream of the mill. It is now overgrown and a spillway provides water flow to a bypass channel which skirts the mill buildings. The licence is time limited to 31 March 2028 in accordance with the Exe Abstraction Licensing Strategy.

Source of Supply: River Culme

Points of abstraction and quantities:

At National Grid Reference: ST 06248 12195

1,980 cubic metres per hour

47,520 cubic metres per day

11,717,832 cubic metres per year

At an instantaneous rate not exceeding 550 litres per second

Means of abstraction: Gravity flow to a single Archimedes turbine controlled by a weir and an adjustable sluice gate

Purpose of abstraction: Power generation: hydroelectric

Abstraction period: All year

Justification of quantities:

The applicant has estimated their water requirements based on the design capacity of their chosen turbine and their understanding of the hydrology of the river at the proposed point of abstraction.

Resource assessment:

The abstraction point is within the AP9 Woodmill assessment point in the Exe abstraction licensing strategy.

Water is available for consumptive abstraction.

Water abstraction for hydropower scheme is non-consumptive, with all water used returned to the watercourse. Hands of Flows and maximum abstraction volumes are determined in line with the Environment Agency's Hydropower Good Practice Guidelines and based on the assessment of the environmental risk for each scheme.

External Representations:

A number of representations were received and they raised a mixture of concerns. We have considered the potential impacts of the scheme with regards to all factors that are relevant to our duties and responsibilities with respect to determining water resources licence applications.

- There are concerns that the abstraction would result in increased water levels, flow or water pressure leading to deterioration of the leat walls. There are also concerns regarding a potential for flood risk in areas near to the abstraction point due to increased flow down the leat.

The scheme is not expected to increase the water levels in the leat immediately upstream of the intake, only the water velocity might increase. The wetted area and depth of water upstream of the scheme will not increase. According to the applicant, the installation is proposed in an existing leat drain down sluice which is used during maintenance of the channel. The flow rates and velocity which can be discharged when the sluice is opened, far exceeds the maximum turbine velocity flow rates. The historic sluice framework, supporting masonry wing walls, spillway and discharge pool are designed to accommodate the higher flow rates during sluice operation.

We encourage the applicant to address the issue of water leaking out of the leat. However, the leakage concerns are not sufficient grounds to refuse the abstraction licence application.

The proposed hydropower scheme needs a flood risk activity permit. We will assess whether the scheme could increase flood risk as and when Coldharbour Mill Trust Ltd apply for a flood risk activity permit.

In response to the remaining concerns raised:

- We do not anticipate any negative impact on the River Culm as the scheme is to be located within the leat system and won't take more water into the leat beyond what is already authorised by licence number 14/45/002/1918.
- With the conditions on the draft licence, we do not consider the proposed abstraction to pose a risk to the ecology. The applicant undertook an ecological assessment which supports these conclusions.
- Noise is not in the remit of water resources permitting. We recommend any such concerns are raised with the local council.
- Maintenance of the mill pond and leat are beyond the remit of this determination. However, we encourage the applicant to address these issues.
- The listed status of a building is outside of the remit of this determination and is usually considered in the planning application process.
- We advise developers to talk early to affected stakeholders as part of developing hydropower schemes in a responsible manner, and we will continue to give this advice through our pre-application advisory role. However, we have no statutory powers to enforce it. This application has been advertised and due consideration given to all representations received.

Conclusion and recommendation:

It has been concluded that this application is justified and, with appropriate conditions, does not pose any risk to the environment or protected users.

Contact the Environment Agency team responsible for this decision: PSC-WaterResources@environment-agency.gov.uk