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Llywodraeth Cymru
Welsh Government

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Consultation Document

Reservoir Safety in Wales

Commencement to Schedule 4 to the Flood and Water Management Act 2010



Date of issue: **18 June 2014**

Action required: Responses by **13 August 2014**

Overview

This consultation aims to obtain views on the Welsh Government's proposed approach to the commencement of Schedule 4 to the Flood and Water Management Act 2010 which amends the Reservoirs Act 1975 in respect of reservoirs safety.

How to respond

Responses should be sent to:

Flood and Coastal Erosion Risk Management
Sustainable Futures
3rd floor, South Wing, B10
Cathays Park
Cardiff
CF10 3NQ

The closing date for this consultation is 13 August 2014.

This consultation will only run for 8 weeks rather than the usual 12 weeks for the following reasons:

This consultation will focus only on the commencement element of Schedule 4 to the Flood and Water Management Act 2010 as the areas in which subordinate legislation can be made have already been consulted on and remain relevant. A link to the original consultation can be found [here](#)

The consultation is being put out to a targeted audience of interested parties including those within Wales who responded to the original consultation and drawing on contacts that Natural Resources Wales have obtained in relation to the work that has been ongoing in preparation for the new regime created by the amendments to the Reservoirs Act 1975. The audience for a targeted consultation will include; local authorities, Natural Resources Wales, Dŵr Cymru Welsh Water, farming unions, current undertakers and potential new undertakers where contact details are available.

Further information and related documents

Large print, Braille and alternate language versions of this document are available on request.

Links to relevant legislation:

Flood and Water Management Act 2010
Reservoirs Act 1975

Contact details

For further information:

Flood and Coastal Erosion Risk Management:
Sustainable Futures
3rd floor, South Wing, B10
Cathays Park
Cardiff
CF10 3NQ:

e-mail: floodcoastalrisk@wales.gsi.gov.uk
Tel: 029 2082 5696

Data protection

How the views and information you give us will be used

Any response you send us will be seen in full by Welsh Government staff dealing with the issues which this consultation is about. It may also be seen by other Welsh Government staff to help them plan future consultations.

The Welsh Government intends to publish a summary of the responses to this document. We may also publish responses in full.

Normally, the name and address (or part of the address) of the person or organisation who sent the response are published with the response. This helps to show that the consultation was carried out properly. If you do not want your name or address published, please tell us this in writing when you send your response. We will then blank them out.

Names or addresses we blank out might still get published later, though we do not think this would happen very often. The Freedom of Information Act 2000 and the Environmental Information Regulations 2004 allow the public to ask to see information held by many public bodies, including the Welsh Government. This includes information which has not been published. However, the law also allows us to withhold information in some circumstances. If anyone asks to see information we have withheld, we will have to decide whether to release it or not. If someone has asked for their name and address not to be published, that is an important fact we would take into account. However, there might sometimes be important

reasons why we would have to reveal someone's name and address, even though they have asked for them not to be published. We would get in touch with the person and ask their views before we finally decided to reveal the information.

Introduction

The Reservoirs Act 1975 (the 1975 Act) provides the current legal framework to ensure the safety of large raised reservoirs in England and Wales. This act does not apply to Scotland or Northern Ireland.

The 1975 Act seeks to ensure public safety through imposing a statutory obligation on the undertakers of reservoirs above a certain volume to take, and act on, independent professional advice on the integrity of the reservoir to manage and respond to all of the forces and conditions imposed on it. The purpose of such duties and obligations is aimed at reducing the risk from uncontrolled releases of water, which may lead to loss of life.

The essential features of the 1975 Act have not changed much since the Reservoirs (Safety Provisions) Act 1930 (the 1930 Act), which was introduced following the failure of certain reservoirs in the 1920's.

In Wales, responsibility for the enforcement of reservoir safety rests with Natural Resources Wales. In their enforcement role, Natural Resources Wales does not impart any engineering judgement or technical advice. This is the responsibility of the qualified civil engineers employed by the undertakers. Qualified civil engineers are those engineers appointed to Panels of Engineers by the Welsh Ministers.

Scope of 1975 Act

The 1975 Act currently applies only to large raised reservoirs – that is, a reservoir which is designed to hold or capable of holding more than 25,000 cubic metres of water above the natural level of the adjoining ground. This threshold was set on the basis of failures of reservoirs of this size in the 1920s which caused loss of life and prompted the introduction of the 1930 Act. There are currently 203 large raised reservoirs in Wales.

Reservoirs with a raised capacity of less than 25,000 cubic metres, sometimes referred to as small raised reservoirs, are not currently subject to any statutory safety requirements under the 1975 Act, irrespective of the possible consequences of any dam failure.

There are currently reservoirs below the 25,000 cubic metre capacity threshold in Wales, where the consequence of failure would be likely to involve significant damage to people, property and infrastructure. Equally there are reservoirs above the current threshold where the consequence of failure is considered to be negligible.

The Flood and Water Management Act 2010

Since reservoir legislation was first introduced, there have been no losses of life through reservoir failure, however, in recent years there have been a number of near miss incidents where lives could have been lost if a reservoir had failed.

Sir Michael Pitt's report into the 2007 flooding in England made 92 recommendations including updating of reservoir safety legislation. Since the Pitt Review, much work has been done to improve reservoir safety. Reservoir inundation maps for every reservoir in Wales and England registered under the 1975 Act have been published and are available through the Natural Resources Wales website. These indicate the "worst realistic case" of the effect of a dam breach on the downstream catchment. These have been prepared for emergency planning purposes and show the consequences of reservoir flooding; however, they do not show the likelihood of reservoir flooding occurring.

Further to this, Schedule 4 to the Flood and Water Management Act 2010 (the 2010 Act) includes a number of provisions updating reservoir safety legislation by amending the 1975 Act. The 2010 Act introduces a risk based approach to reservoir safety. At present, reservoirs with a capacity greater than 25,000 cubic metres of water are all subject to the same level of inspection and supervision, regardless of the danger they may or may not pose to human life. However, the 2010 Act recognises that reservoirs with a capacity of over 10,000 cubic metres can pose as much, or greater risk to life, as those with a larger capacity, especially as their locations are currently largely unknown.

The primary reason for amending the 1975 Act is to ensure that appropriate safeguards are in place to protect the public. The risks from reservoir breaches are classified as being of low likelihood but with a high impact.

Although the likelihood of failure is low, the consequences from a sudden uncontrolled release of water from a reservoir are potentially catastrophic; in the absence of specific evidence from actual UK events, an illustration of the type of inundation expected is that of the Boscastle flood in 2004. Although the flood wave was not caused by the breach of a reservoir, the volume of heavy rainfall and the resultant effects resembled the impact of a reservoir breach. However, a reservoir breach in an urban area would have a significantly greater impact, possibly causing loss of life as well as the destruction of property.

The events which occurred at Ulley reservoir, Rotherham, in the summer of 2007 served to highlight the potential risks faced by communities living in dam inundation areas. Furthermore, Ulley was not an isolated incident and incidents also occur at reservoirs that are not covered by the current legislation.

Ulley Reservoir Case Study

At Ulley reservoir, the spillway was not adequate to contain the flood without causing serious damage to the dam, but the dam crests were not overtopped. The dam had a masonry spillway channel at the toe of the embankment. Following heavy rainfall, a large volume of water flowed down the spillway channel. It is believed that turbulent water overtopped the spillway walls and also plucked masonry blocks out of the wall. This led to the spillway walls collapsing, which exposed the downstream face of the dam to erosion. As a result of existing river flooding and the threat from the reservoir, many people living downstream were evacuated and major roads, such as the M1, were closed.

To ensure that reservoir safety in Wales and England is based on a proportionate risk management basis, several amendments to the 1975 Act were included in the 2010 Act. Chief amongst these were the reduction of the threshold for a large raised reservoirs from 25,000 cubic metres to 10,000 cubic metres capacity and the introduction of the high-risk designation for those large raised reservoirs where an uncontrolled release of water could endanger human life.

The 2010 Act inserted a number of provisions into the 1975 Act allowing the UK Government and the Welsh Ministers to make secondary legislation. These provisions place certain duties and powers on the Welsh Minister to make legislation in relation to the following areas:

- prescribe how to calculate reservoir capacity
- substitute a different volume of water for the threshold figure
- provide for a structure or area to be treated as large taking into consideration their proximity to or potential communication with other structures or areas (cascade reservoirs)
- set the registration process in relation to the information required within the registration process and the time by which information or changes to information must be registered.
- specify the minimum period for representations against a provisional designation and provide a right of appeal against designation
- specify the timing for inspections of large raised reservoirs
- define what is to be treated as abandonment and what is to be treated as bringing a reservoir back into use
- provide a right of appeal against a requirement to appoint an engineer and a requirement to carry out a recommendation of an engineer
- make provision for the assessment of the quality of engineers reports and written statements
- require people to make post incident safety reports
- prescribe a charging scheme in relation to a category 1 responder's ability to charge a fee to an undertaker in respect of costs incurred in carrying out their functions in connection with a reservoir.

A joint consultation covering Wales and England ran between 23 February and 17 May 2012 giving details of how the Welsh Government and Defra intended to make secondary legislation under the areas outlined above. Welsh Government is in the process of drafting secondary legislation in a number of these areas. This consultation also considered how Schedule 4 to the Flood and Water Management Act 2010 was to be commenced.

What is this consultation for?

This current consultation aims to obtain views on the commencement of Schedule 4 to the 2010 Act which amends the Reservoirs Act 1975 in respect of reservoir safety.

This consultation sets out Welsh Government's amended proposal for commencement of Schedule 4 to the 2010 Act.

Original consultation (2012):

Within the joint consultation the Welsh Government proposed a two phased approach to the commencement of Schedule 4 to the Flood and Water Management Act 2010:

- Phase 1 would commence all of the changes to the Reservoirs Act 1975 except the reduction in the threshold of a large raised reservoir to 10,000 cubic metres. This first phase would involve the registration of all reservoirs designed to hold, or capable of holding, over 25,000 cubic metres in line with the new registration requirements, to be set out in Regulations. It would also involve the designation by Natural Resources Wales of certain registered large raised reservoirs as high-risk where they meet the criteria set out in the legislation. Those reservoirs that are designated as high-risk would be subject to the full safety monitoring requirements set out in the amended 1975 Act.
- Phase 2, once commenced, would reduce the threshold of what is classed as a large raised reservoir to 10,000 cubic metres bringing them within the scope of the 1975 Act. The undertakers of these smaller reservoirs will be responsible for their registration. The designation process for this extended group of large raised reservoirs will be the same as that for the existing large raised reservoirs.

A link to the original consultation can be found [here](#)

What is being proposed within this consultation?

Since the 2012 consultation, much has changed and it is now felt that the approach proposed in the original consultation to commencement is no longer suitable.

Welsh Government now propose that the whole of Schedule 4 to the Flood and Water Management Act 2010 is commenced in one go in Wales, meaning that the 1975 Act, as amended by the 2010 Act will apply to all reservoirs with a capacity of over 10,000 cubic metres immediately.

Reservoirs with a capacity of over 25,000 cubic metres should already be registered with Natural Resources Wales, and following the commencement of Schedule 4 to the 2010 Act, there will become a requirement for all undertakers with reservoirs over 10,000 cubic metres to also register.

Once reservoirs are registered Natural Resources Wales will be required, as soon as is reasonably practicable, to designate certain large raised reservoirs as being “high-risk”. Reservoirs designated as being high-risk will be those where human life would be endangered should there be an uncontrolled release of water. Undertakers of reservoirs that are designated high-risk will need to comply with all of the requirements of the Reservoirs Act 1975.

Undertakers of large raised reservoirs which are classed as not-high-risk will be informed of this and only be subject to regulations that apply to all large raised reservoirs, irrespective of risk designation. For example, these are to notify Natural Resources Wales of:

- changes to the register information
- appointment of qualified civil engineers to alter the reservoir
- of incidents relating to reservoir safety

At the point of commencement of Schedule 4 to the Flood and Water Management Act 2010, transitional provisions will be put in place which will ensure that the existing regime, in particular the supervision and inspection regime of the Reservoirs Act 1975 stays in place for reservoirs with a capacity over 25,000 cubic metres unless and until such time that they are designated as being high-risk or that the undertakers are informed that they are not of high-risk.

Why are we proposing this option?

Schedule 4 to the Flood and Water Management Act 2010 brings in a risk based approach to reservoir safety and to this extent the original proposal for a two phased commencement does not reflect this risk based approach.

Reservoirs with a capacity of over 25,000 cubic metres are already well known about under the current regime and therefore seem not to pose as significant a risk, due to the fact that they are currently being regularly supervised by the supervising engineer and periodically inspected by a qualified civil engineer. The smaller capacity raised reservoirs could pose a greater risk as the location of these is not as well known, if known at all, and many are not being regularly supervised or inspected.

This proposed commencement option will allow any reservoir with a capacity over 10,000 cubic metres and seemingly posing a risk to life to be designated, or provisionally designated as high-risk by Natural Resources Wales

immediately. This will put certain responsibilities on the undertakers straight away in terms of safety.

What does this mean for undertakers?

Many undertakers will already have been contacted by Natural Resources Wales to advise them of the changes that will be taking place.

Any reservoir in Wales that was previously registered with Environment Agency Wales will have already been transferred over to the Natural Resources Wales register. Any undertaker who has already registered their reservoir(s) with Natural Resources Wales (or previously with the Environment Agency Wales) will not be required to re-register and therefore not be required to do anything further immediately. However the undertaker will be required to provide to Natural Resources Wales any new or updated information as and when necessary.

Undertakers of reservoirs with a capacity over 25,000 cubic metres:

Undertakers of reservoirs with a capacity over 25,000 cubic metres should already have registered the details of their reservoir with Natural Resources Wales. No further information will be required from registered undertakers by Natural Resources Wales, unless they own or operate other smaller reservoirs with a capacity over 25,000 cubic metres or where it is necessary to provide new or updated information in relation to existing legislation.

Upon commencement of Schedule 4 to the Flood and Water Management Act 2010, existing regulated reservoirs (those over 25,000 cubic metres) will continue to be regulated as they are now unless and until such time that Natural Resources Wales either notify the owner that they are high-risk or inform them that they are not high-risk.

Once notified of a high-risk designation, undertakers will be required to continue to comply with the requirements of the Reservoirs Act 1975, as amended by the Flood and Water Management Act 2010.

Once informed that a reservoir is not designated high-risk, details will remain on the Natural Resources Wales register and undertakers must inform Natural Resources Wales of changes to registered information including the date of change.

At any point, Natural Resources Wales can carry out a review of the designation of a reservoir if:

- it is considered that the designation of a large raised reservoir as a high-risk reservoir may have ceased to be appropriate, or
- it may be appropriate to designate a large raised reservoir as a high-risk reservoir.

The requirements for appointing qualified civil engineers to supervise and inspect reservoirs will only apply to those designated as high-risk

Undertakers of reservoirs with a capacity of 10,000-25,000 cubic metres:
Undertakers of reservoirs with a capacity between 10,000 and 25,000 cubic metres will need to register them with Natural Resources Wales.

The Reservoirs Act 1975, as amended by Schedule 4 of the Flood and Water Management Act 2010 will require owners and operators of large raised reservoirs with a capacity of more than 10,000 cubic metres, to register them with Natural Resources Wales.

The registration requirements are expected to include:

- name and location of the reservoir,
- ownership details, and
- information from any existing safety reports where these are already available.

Once registered, whether designated high-risk or not, undertakers will need to inform Natural Resources Wales of the following changes:

- proposed alterations, to increase or decrease the capacity of the reservoir,
- proposals to abandon a large raised reservoirs under section 14,
- proposals to discontinue a large raised reservoir under section 13,
- appointment or terminations of a construction, supervising or inspecting engineer,
- termination of construction and supervising engineers,
- changes in undertaker details.

Timescale

The intention is that Schedule 4 to the Flood and Water Management Act 2010 in relation to reservoir safety will be commenced in autumn 2014.

Consultation question

The Welsh Government proposes to commence the whole of Schedule 4 to the Flood and Water Management Act 2010 at once. This will include the reduction of the capacity threshold of what is classified as a large raised reservoir to 10,000 cubic metres.

***Do you agree with the proposed approach to commencement?
If not, please provide details as to why and how you would propose commencement.***

**Consultation
Response Form**

Your name:

Organisation (if applicable):

email / telephone number:

Your address:

Question 1: We have asked one specific question.

If you have any related issues which we have not specifically addressed,
please use this space to report them:

Please enter here:

Responses to consultations are likely to be made public, on the internet or in a report. If you would prefer your response to remain anonymous, please tick here: