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# **Reservoir Safety in England and Wales**

## **Consultation on the Implementation of Amendments to the Reservoirs Act 1975**

**February 2012**

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Llywodraeth Cymru  
Welsh Government



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See page 2 of this consultation document.

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**Department for Environment, Food and Rural Affairs**  
**Welsh Government**

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## Section 1 – Summary

<b>Topic of this consultation:</b>	Consultation on the implementation of the amendments to the Reservoirs Act 1975 contained in the Flood and Water Management Act 2010
<b>Purpose of this consultation:</b>	The purpose of this consultation is to seek views on the proposed timetable for implementing the amendments to the Reservoirs Act 1975 and to seek views on the content of supporting secondary legislation
<b>Scope of this consultation:</b>	<p>The UK and Welsh Governments intend to commence the provisions within Schedule 4 to the Flood and Water Management Act 2010 which amend the Reservoirs Act 1975.</p> <p>The intention of the UK and Welsh Governments is to commence the provisions in two phases. In Phase 1 the amendments would come into force only in respect of existing large raised reservoirs (i.e. those capable of holding more than 25,000 cubic metres of water above the natural level of the surrounding land). In Phase 2 the amendments would come into force for smaller reservoirs in line with the new threshold figure set out in the Flood and Water Management Act 2010 (i.e. those capable of holding more than 10,000 cubic metres of water above the natural level of the surrounding land or any different volume of water specified by the Minister).</p> <p>It is intended that Phase 1 would take effect from Autumn 2012 with Phase 2 following at a later date.</p> <p>UK and Welsh Government Ministers invite comments on these proposals. All responses, including those which propose an alternative to the preferred option, will be given due consideration.</p>
<b>Geographical scope:</b>	<p>This consultation covers England and Wales.</p> <p>While the Reservoirs Act 1975 also covers Scotland, separate amendments have been undertaken by the Scottish Government in the Reservoirs (Scotland) Act 2011.</p>
<b>Impact Assessment:</b>	An Impact Assessment accompanies this consultation
<b>Duration of the Consultation:</b>	12 weeks – 23 February 2012 to 17 May 2012
<b>Body Responsible:</b>	Department for Environment, Food and Rural Affairs and the Welsh Government

## 1.1 How to contribute

1. Responses can be sent to:

**Reservoir Policy Team**  
**Defra**  
**Area 2D**  
**Ergon House**  
**London**  
**SW1P 2AL**

[ReservoirFM@defra.gsi.gov.uk](mailto:ReservoirFM@defra.gsi.gov.uk). Please use the message header "Response to reservoirs consultation 2012"

Or to

**Flood & Coastal Erosion Risk Management**  
**Sustainable Places Division**  
**Welsh Government**  
**Cathays Park**  
**Cardiff**  
**CF10 3NQ**

[floodcoastalrisk@wales.gsi.gov.uk](mailto:floodcoastalrisk@wales.gsi.gov.uk). Please use the message header "Response to reservoirs consultation 2012"

2. The closing date for this consultation is **17 May 2012**.
3. Please contact us if you wish for these documents to be made available in a different format (large print etc.) and we will endeavour to accommodate your request.

## 1.2 Confidentiality

4. In line with Defra and the Welsh Government's policy of openness, at the end of the consultation period, copies of the responses we receive will be published in a summary of the responses to this consultation on the Defra and Welsh Government websites. **If you do not consent to this, you must clearly request that your response be treated as confidential.**
5. Any confidentiality disclaimer generated by your IT system in email responses will not be treated as such a request.
6. Respondents should also be aware that there may be circumstances in which Defra or the Welsh Government will be required to communicate information to third parties on request, in order to comply with their obligations under the Freedom of Information Act 2000.

### **1.3 Compliance with the Code of Practice on Consultation**

7. This consultation complies with HM Government's Code of Practice on Consultation.

## Section 2 – Introduction

8. The Reservoirs Act 1975<sup>1</sup> (the 1975 Act) provides the current legal framework to ensure the safety of large raised reservoirs in England, Wales and Scotland. The 1975 Act does not apply to Northern Ireland.
9. The 1975 Act seeks to ensure public safety through imposing a statutory obligation on the undertakers<sup>2</sup> 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 this obligation is to reduce the risks of uncontrolled releases of water, which may lead to loss of life occurring, to an acceptable level.
10. The essential features of the 1975 Act have not changed much since the Reservoirs (Safety Provisions) Act 1930<sup>3</sup> (the 1930 Act), which was introduced following the failure of certain reservoirs in the 1920's.
11. Responsibility for the enforcement of reservoir safety rests with the Environment Agency<sup>4</sup> in England and Wales. In their enforcement role, the Environment Agency 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 Defra Secretary of State and the Welsh Ministers<sup>5</sup>.

### 2.1 Scope of the 1975 Act

12. 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 1,925 large raised reservoirs in England and 201 in Wales.
13. Reservoirs with a raised capacity of less than 25,000 cubic metres, sometimes referred to as small raised reservoirs<sup>6</sup>, are not currently subject to any statutory safety requirements under the 1975 Act, irrespective of the possible consequences of any dam failure.

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<sup>1</sup> The Reservoirs Act 1975 - <http://www.legislation.gov.uk/ukpga/1975/23>

<sup>2</sup> For anyone other than the Environment Agency or a water undertaker, this is the person(s) carrying out the undertaking(s) for which the reservoir is used, and where there is no such undertaking, it is the owners or lessees of the reservoir.

<sup>3</sup> This document is not available as a download via the Internet. If you wish to obtain a copy please contact either the British Library or the Parliamentary Archives.

<sup>4</sup> On 29 November 2011 the Welsh Government announced their intention to merge the Environment Agency in Wales, the Countryside Council for Wales and the Forestry Commission in Wales to form a Single Environment Delivery Body for Wales. Decisions on the enforcement of the provisions of the 1975 Act in Wales will be made as part of the consultative process for the establishment of the new body.

<sup>5</sup> Matters relating to the appointment of Panel Engineers are set out in Section 7 below.

<sup>6</sup> for the purposes of this consultation these are known as small raised reservoirs a phrase coined outside of the legislation



14. There are currently reservoirs below the 25,000 cubic metres capacity threshold in built up areas of England and 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.

## 2.2 The Flood and Water Management Act 2010

15. Schedule 4 to the Flood and Water Management Act 2010<sup>7</sup> (the 2010 Act) includes a number of provisions amending the 1975 Act.

16. 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 classed as low likelihood/high consequence.

17. Although likelihood 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 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.

18. The events which occurred at Ulley reservoir, Rotherham, in summer 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.

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.

19. To ensure that reservoir safety in England and Wales 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 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 thought to pose a risk to life.

<sup>7</sup> The Flood and Water Management Act 2010 - <http://www.legislation.gov.uk/ukpga/2010/29>

20. These two changes alone are not enough to bring about the new risk based approach to reservoir safety and, as a result, the 2010 Act contained a number of provisions allowing the UK Government and the Welsh Ministers to make a number of pieces of secondary legislation. These include powers to:

- determine how to calculate reservoir capacity
- substitute a different volume of water for the threshold figure
- define a structure or area to be treated as “large” or define structures or areas not to be classed as a large raised reservoir, including considerations of their proximity to or potential communication with other structures or areas (cascade reservoirs)
- set the registration process
- specify the 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
- detail the assessment of the quality of engineers reports
- require people to make post incident safety reports
- prescribe a charging scheme

21. This joint consultation covers England and Wales and presents details of how Defra and the Welsh Government intend to make the secondary legislation contained within Schedule 4 of the 2010 Act which amends the 1975 Act.

## **2.3 Implementation**

22. In October 2011 Defra and the Welsh Government passed a Commencement Order which included several of the provisions within Schedule 4 to the 2010 Act. This enabled the development of the statutory instruments needed when other provisions amending the 1975 Act are commenced. That Commencement Order marked the start of the implementation of the changes to the 1975 Act. This consultation is a part of that process.

23. It is the intention of Defra and the Welsh Government to split the implementation of those changes into two phases. Phase 1 involves the commencement of all of the changes to the 1975 Act except the change in threshold for large raised reservoirs. In other words, it is our intention to only make the changes for existing large raised reservoirs in the first instance.

24. Phase 1 will be commenced from the Autumn of 2012.
25. These changes 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 new Regulations. It will also involve the designation of certain registered reservoirs as high risk where they meet the criteria set out in the legislation. Those reservoirs that are designated as high risk will be subject to the full safety monitoring requirements set out in the amended 1975 Act. A review of a designation can be undertaken at any time.
26. A separate consultation on the designation process was recently undertaken by the Environment Agency<sup>8</sup>.
27. Defra and the Welsh Government want to see the re-registration and designation of the existing large raised reservoirs under Phase 1 completed before commencing the reduction in threshold to 10,000 cubic metres as part of Phase 2. Once Phase 2 is commenced those reservoirs designed to hold or capable of holding between 10,000 cubic metres and 25,000 cubic metres will also be subject to the requirements of the amended 1975 Act.
28. The undertakers of these small raised 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.

## 2.4 Moving Forward

29. Set out within this consultation paper are details of the policies of Defra and the Welsh Government in respect of the secondary legislation that will be made to support the move to a risk based reservoir safety regime. Also included are a number of questions.
30. Both Defra and the Welsh Government would welcome your comments on the proposals set out within this paper and any other aspects of reservoir safety in England and Wales.
31. At the end of the consultation period, copies of the responses we receive will be published in a summary of the responses to this consultation on the Defra and Welsh Government websites. We expect this summary to be available by the Autumn. The responses will be used to inform the detailed implementation of amendments to the Reservoirs Act 1975.
32. Definitions of technical or unfamiliar terms are in Annex 3.

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<sup>8</sup> Environment Agency "Consultation on high risk reservoirs in England and Wales" - <https://consult.environment-agency.gov.uk/portal/ho/flood/reservoir/risk>

## Section 3 – Large Raised Reservoirs: Capacity, Exemptions & Registration

33. Section 1(1) of the 1975 Act makes clear that when referring to reservoirs this means reservoirs for water, and goes on to define both a raised reservoir and a large raised reservoir:
- 1(1)(a) a reservoir is a “raised reservoir” if it is designed to hold, or capable of holding, water above the natural level of any part of the land adjoining the reservoir; and
  - 1(1) (b) a raised reservoir is a “large raised reservoir” if it is designed to hold, or capable of holding, more than 25,000 cubic metres of water above that level.
34. The changes set out within the 2010 Act repeal this definition and replace it with a new one set out in new Section A1:
- A1(1) In this Act “large raised reservoir” means –
    - (a) a large, raised structure designed or used for collecting and storing water, and
    - (b) a large, raised lake or other area capable of storing water which was created or enlarged by artificial means.
  - A1(2) A structure or areas is “raised” if it is capable of holding water above the natural level of any part of the surrounding land.
  - A1(3) A raised structure or area is “large” if it is capable of holding 10,000 cubic metres of water above the natural level of any part of the surrounding land.
35. It is the intention of Defra and the Welsh Government to repeal the existing definition set out in the 1975 Act and replace it with the new definition set out in the 2010 Act. This will be done in a two stage approach.
36. In Autumn 2012 we will commence the new aspects of the definition set out in new Sections A1(1) and A1(2), but retain the threshold figure in the 1975 Act as part of Phase 1. This means that from Autumn 2012, a large raised reservoir will be a large raised structure or lake capable of holding over 25,000 cubic metres of water above the natural level of the surrounding land.
37. The reduction of the threshold to 10,000 cubic metres will take place at a later date as part of Phase 2.
38. The decision to introduce the new threshold at a later date has been taken to allow the completion of high risk designations for Phase 1 reservoirs (those capable of holding more than 25,000 cubic metres of water) and to ensure that the undertakers of small raised reservoirs have some time to prepare for the change.

### 3.1 Definition of Large Raised Reservoir

39. The new definition set out in the 2010 Act specifically refers to large raised structures designed or used for collecting and storing water. “Raised” applies if the structure is capable of storing water above the natural level of any part of the surrounding land, and there is a further clarification that captures a lake or other area capable of storing water which was created or enlarged by artificial means.
40. This consideration of capability allows the extension of what is considered a large raised reservoir to include, for example, bodies of water retained behind railway and road embankments where the normal drainage facilities have become blocked. In that condition, the embankment structure (created by artificial means) with blocked culvert is capable of holding water above the surrounding land and satisfies the condition set out in paragraph (b) of new Section A1(1), even though it may not have been intended that it should do so.
41. Neither Defra nor the Welsh Government intends to include such “unintended reservoirs” within the amended 1975 Act as a matter of course. However, Ministers<sup>9</sup> wish to ensure that if such embankments are deliberately converted in some way to store water for any purpose, they will fall under the legislation if they meet the capacity criteria and are designated as “high risk”.

#### Capable of Storing

42. In considering the term “capable of storing” Defra and the Welsh Government are considering whether this should mean that, for all reservoirs, we measure capacity based on the assumption that all spillways are blocked. There are two points of view on this approach.
43. Measuring capacity to include blocked spillways would increase the capacity of the reservoir. In such a condition water levels could rise to the next overflow point, which typically might be the crest of a dam. At this point both the risk of failure and the consequences of that failure would be far greater. In taking a risk management approach to reservoir safety, this may therefore be a more precautionary approach.
44. Conversely, reservoir undertakers are highly unlikely to allow any spillway blockage to remain for long, as water levels would be higher than intended for long term storage and would increase the possibility of triggering a reservoir failure. Furthermore, for reservoir dams considered likely to endanger communities in the event of a breach, spillways are already sized to accommodate at least the 1:10,000 flood. Spillways of such proportions are not considered likely to block.
45. Taking both views into account, Defra and the Welsh Government intend “capable of storing” to mean that water levels can be as high as the lowest of any spillway crests, but that where a spillway is fitted with gates, the gates are closed. See also discussion under the heading “Capable of storing” related to “fixed crest”.
46. Where a reservoir is designated as “high risk”, and therefore under the supervision of a supervising engineer, the supervising engineer can require visual inspections to be carried

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<sup>9</sup> In relation to reservoir safety in England and Wales, the term “Minister” means the Secretary of State for Environment, Food and Rural Affairs in England, the Welsh Ministers in Wales.

out and these can include checking spillways for blockages if that is considered to be a major concern. Reports of blockages can then be acted upon in good time.

**QUESTIONS:**

1. *Do you agree that road and rail embankments should be excluded from the Act, unless they are deliberately used for storing water?*
2. *Do you agree that the definition of “capable of storing” should not include the blocked spillway scenario?*

## 3.2 Capacity

47. New Section A1 (4) set out in the 2010 Act requires the Minister to make Regulations about how to calculate the capacity of a reservoir. The intention of Defra and the Welsh Government is to clarify the way that the capacity of a large raised reservoir is calculated to remove any ambiguity as far as is possible.

48. Currently, the calculation of capacity is covered by The Reservoirs Act 1975 (Registers, Reports and Records) Regulations 1985<sup>10</sup>, and by the Reservoirs Act 1975 (Registers, Reports and Records) (Amendment) Regulations 1985<sup>11</sup>. It is the intention of Defra and the Welsh Government to amend these Regulations to clarify the following points:

- The capacity that is important is the volume of water that could escape from the reservoir in the event of an uncontrolled release of water.

Defra and the Welsh Government consider that this is the maximum volume that can be stored within the reservoir and is related to the top water level as defined by the lowest fixed spillway crest. For a gated spillway, the gates are considered to be closed; the “fixed crest” becomes the next lowest point of overflow, which could be the top of a gate.

- The capacity is a fixed volume as it refers to a fixed elevation.

Engineers, for the purposes of assessing the strength needed for the reservoir structures, will need to consider how much water elevations could rise during a flood event, and design accordingly.

- The term “capable of storing” relates to the elevation of the lowest fixed crest, as defined above.
- The term “natural level of any part of the surrounding land” means, where relevant, the lowest bed level of any watercourse at the edge of the reservoir, into which the area of the reservoir would drain if the reservoir were not present, otherwise it will be the level of

<sup>10</sup> SI 1985/177 - <http://www.legislation.gov.uk/ukSI/1985/177/contents/made>

<sup>11</sup> SI 1985/548 - <http://www.legislation.gov.uk/ukSI/1985/548/contents/made>

the natural (undisturbed by excavation and/or filling) land over which any escaping contents will flow.

- Where the drain from the lowest point of the reservoir area does not discharge into a natural watercourse, the reference level will be lowest level, assessed at the edge of the reservoir area, of either the invert of the drain, or the natural level of the surrounding land.

Any water stored above this elevation within the area of the reservoir falls into the description of “escapable contents”, provided that it can drain freely out of the reservoir in the event of an uncontrolled release of water.

- The volume of water stored within a reservoir is that volume stored above the bed of the reservoir that can drain out of the reservoir freely.
- The bed of the reservoir is the natural land at the time of construction of the reservoir, including any excavation made at that time.
- The volume of any silt or other material that accumulates by whatever means on the bed of a reservoir after initial construction is not taken into account to reduce the capacity of a reservoir.

Removal of such material by whatever means does not constitute enlargement.

- Excavation of the bed of a reservoir to increase the free-draining volume of reservoir after initial construction constitutes an enlargement of the reservoir.

49. The Regulations will set out the detail of how the capacity is to be calculated, based on the information above. The 1975 Act is not concerned with water stored in a reservoir that cannot drain freely from the reservoir.

**QUESTION:**

3. *Do you agree with the proposed approach to the calculation of capacity? If not, how would you calculate capacity?*

**Reservoirs in Cascade**

50. New Sections A1 (5) & (6) set out in the 2010 Act allow the Minister to make Regulations that allow a reservoir that is smaller than the minimum capacity to fall under the terms of the 1975 Act (as amended) because of its proximity to another reservoir, and to apply the rule only where 10,000 cubic metres or more of water would be released in total.

51. The test will be that an uncontrolled release of water from the upstream reservoir (in the sense that its volume would discharge entirely into the nearby reservoir) would be expected to cause the failure of the nearby reservoir such that at least 10,000 cubic metres of water

would be released. Reservoirs that would fall under this measure include reservoirs in cascade.

52. Failure of an upstream reservoir could trigger the failure of a downstream reservoir as it becomes overwhelmed by the uncontrolled release of water from the upstream reservoir. Where there are several reservoirs in cascade, the volume of water that is released uncontrollably increases, to the point that it could exceed the threshold volume set out in the amended 1975 Act.
53. In such a case, all of the reservoirs in the cascade contributing to the volume that exceeds the threshold could be treated as large raised reservoirs.
54. It is the intention of Defra and the Welsh Government to make Regulations that allow for reservoirs in cascade to fall within the terms of the amended 1975 Act even where the amount they are capable of holding individually is smaller than the minimum threshold figure.
55. The Regulations will clarify the following points:
- A reservoir is classed as being in a cascade if water flow from it enters directly into another reservoir's area either overland or via a watercourse. Similarly, a reservoir is in a cascade if it receives water from another reservoir either overland or via a watercourse.
  - Non-impounding reservoirs can fall into this category where all of their capacity could flow into the area of an impounding reservoir.
  - Where reservoirs in a cascade are capable of cumulatively holding levels of water above the minimum threshold in legislation, and where failure could result in the release of levels of water above the minimum threshold in legislation, they are all to be considered to be large raised reservoirs.
  - If a reservoir in a cascade is already a large raised reservoir, the reservoirs upstream will only be treated as large raised reservoirs if they are assessed as being likely to contribute towards its failure in a cascade failure scenario.
56. To decide whether an upstream reservoir would be expected to cause the failure of a downstream reservoir, some assumptions need to be made.
57. We propose to adopt the assumptions made in the Environment Agency's Reservoir Inundation Mapping exercise with respect to cascade reservoirs which are:
- A downstream large raised reservoir that is constructed of concrete is deemed not to be liable to failure in the event of an uncontrolled release of water from a reservoir into its reservoir area.
  - A downstream large raised reservoir that is constructed with an embankment will fail if the volume of water from an uncontrolled release of water from another reservoir into its area causes its water level to increase to an elevation greater than 0.15 metres above its embankment crest. This assumes that the downstream reservoir is full to spillway level, with any gates closed.



58. These assumptions can be reassessed for reservoirs in a cascade by a qualified civil engineer, though the final determination rests with the Environment Agency as the enforcement authority.

**QUESTIONS:**

4. *Do you agree with the proposed approach to reservoirs in cascade?*
5. *Do you have any additional recommendations for deciding whether reservoirs should be considered to be in a cascade?*

59. As Defra and the Welsh Government intend to adopt a staged implementation of the amendments to the 1975 Act, the inclusion of the provisions with respect to cascade reservoirs would be restricted to the release of 25,000 cubic metres of water in the first instance. Any reduction would coincide with the wider reduction in the threshold figure.

60. There remains the question of how we identify those reservoirs that are in cascade for the purposes of treating them as large raised reservoirs under the 1975 Act. The reservoirs we are concerned about are those that are individually below the threshold in the 1975 Act, but that should be considered with others in a cascade because of the risk of releasing uncontrollably a combined volume of water that is above the threshold. These reservoirs individually will not be registered under Section 2 of the 1975 Act, so we propose to include in the appropriate regulations a responsibility on owners of cascade reservoirs to register their reservoirs under Section 2B of the 1975 Act, based on a reduced capacity threshold applied only to reservoirs in cascade. The modification could be a simple percentage of the threshold capacity set out in the 1975 Act or some other approach.

**QUESTION:**

6. *Do you agree with the proposal that all undertakers of reservoirs in cascade should be required to register their reservoirs based on a reduced threshold capacity? If so, how would you assess the reduction?*

**Different Volume of Water**

61. New Section A1(7) set out in the 2010 Act allows the Minister to substitute a different volume of water, by order, should it be considered that the figure of 10,000 cubic metres is no longer appropriate.

62. This provision allows government to maintain flexibility if there is evidence that a 10,000 cubic metre threshold did not capture all reservoirs that posed a risk to life.

63. There is no intention to use this power in either England or Wales at this time.

### 3.3 Exemptions

64. New Section A1 (8) set out within the 2010 Act allows the Minister to make Regulations specifying those things that should not be treated as large raised reservoirs.

65. Defra and the Welsh Government propose to exempt the following:

- A mine or quarry lagoon which is a tip within the meaning of the Mines and Quarries (Tips) Act 1929<sup>12</sup>.
- Ponds within extractive waste sites or waste facilities.
- Canals or other inland waterways.
- Weirs. Weirs retain water within the normal banks of a river and so are not considered reservoirs.
- Structures or areas of water designed to protect land from the sea. These structures do not store water, and so are not within the ambit of the Reservoirs Act 1975.
- Sewage sludge lagoons.
- Road and railway embankments, provided that the drains through them are not artificially blocked for the purposes of using the areas upstream to store water.
- Embanked watercourses. Embanked watercourses are conveying water, not storing it.

#### QUESTIONS:

7. *Do you agree with the proposed exemptions?*

8. *Are there any other structures or areas that you would consider exempting and why would you consider doing so?*

### 3.4 Registration

66. The amendments contained within the 2010 Act include a number of amendments to the registration requirements for large raised reservoirs.

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<sup>12</sup> This document is not available as a download via the Internet. If you wish to obtain a copy please contact either the British Library or the Parliamentary Archives.

67. Currently, it is the responsibility of the Environment Agency to establish and maintain a register of large raised reservoirs in England and Wales. In the future there will be a statutory duty on the undertaker to register a large raised reservoir. This change is set out in new Section 2(2B) of the amended 1975 Act, as set out within the 2010 Act.
68. Furthermore, new Sections 2(2C)-(2E) of the amended 1975 Act, as set out within the 2010 Act, allows the Minister to make Regulations setting out the information to be provided by the undertaker. The current requirements for registration are set out in the Reservoirs Act 1975 (Registers, Reports and Records) Regulations 1985<sup>13</sup>, and it is the intention of the UK Government and the Welsh Government to amend these Regulations.
69. The amended Regulations will clarify the following points:
- The requirement to register a large raised reservoir or notification action for failure to register a large raised reservoir will be triggered by:
    - the coming into force of the amended Regulations for existing reservoirs
    - the intention to start construction of a reservoir
    - the issue of a construction certificate for a new reservoir
    - the issue of a construction certificate for the alteration of a reservoir
    - a proposal to alter a reservoir
    - a proposal to abandon a reservoir
    - a proposal to discontinue a reservoir
    - the appointment, or termination of an appointment, of an engineer for a purpose of the Act
    - a change of undertaker
  - Information pertinent to the registration of a reservoir, or changes to such information, should be provided to the Environment Agency within 28 days. The Environment Agency confirmed that this period is consistent with other sections of the amended 1975 Act and have not requested a different period.
  - The list of information to be provided will be the same as that which should be held on the register and we propose to use the list set out in the Reservoirs Act 1975 (Registers, Reports and Records) Regulations 1985<sup>14</sup>, as follows:
    - Name and situation of reservoir.
    - National grid reference of reservoir.

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<sup>13</sup> SI 1985/177 - <http://www.legislation.gov.uk/ukSI/1985/177/contents/made>

<sup>14</sup> SI 1985/177 - <http://www.legislation.gov.uk/ukSI/1985/177/contents/made>

- Name and address of undertakers. We propose to add telephone number and email address to the registered information.
- Name and address of enforcement authority, if any.
- A summary of the contents of all certificates or reports under the 1975 Act or the 1930 Act received by the authority, including:—
  - (i) the name and address of the engineer giving the certificate or making the report
  - (ii) the section of whichever Act the certificate is given under or the report made
  - (iii) the date(s) of the latest inspection made under either Act
  - (iv) where no final certificate was given under either Act because the construction or alteration of the reservoir was completed before the commencement of that Act, a statement of that fact.
- The following information, if it is revealed by any certificate or report or is otherwise known to the authority:—
  - (i) the category of the reservoir (i.e. whether impounding or non-impounding),
  - (ii) the year(s) in which the dam(s) were completed,
  - (iii) the construction of the dam(s) (i.e. whether constructed of earth, rockfill, gravity, buttress or by other means),
  - (iv) the maximum height of the dam(s) in metres measured from the lowest natural ground level adjacent to it, to the top of the dam, excluding the height of the wave wall,
  - (v) the capacity of the reservoir above the lowest natural ground level adjacent to it (in cubic metres) to top water level,
  - (vi) the water surface area of the reservoir at top water level (in square metres or square kilometres).
- Name and business address of the supervising engineer or, if the reservoir is under the supervision of a construction engineer, of that engineer.
- Date when the next inspection is due under the amended 1975 Act or any date recommended for the next inspection under the amended 1975 Act by the supervising or inspecting engineer.
- Particulars of any appointment made by the enforcement authority under section 15 of the amended 1975 Act.

- Particulars of any measures taken by the enforcement authority under section 16 of the amended 1975 Act, including the date on which they were taken.

#### QUESTIONS:

9. *Do you agree with the proposed approach to registration?*
10. *Do you agree with the proposed approach to the provision of information or a change of information with regards to the registration of a large raised reservoir?*
11. *Do you agree with the list of information to be provided?*

### Criminal Liability

70. New Sections 22(A1) and 22(A2) of the amended 1975 Act, set out within the 2010 Act, provide for the creation of criminal liability for the failure of an undertaker/owner to comply with a requirement to register a reservoir or to provide the required information within the set time. This is discussed further in Section 9 below.

### 3.5 High risk reservoirs

71. Under the terms of the 2010 Act, the Environment Agency is required to consider each large raised reservoir in England and Wales and issue a designation to those considered to be high risk reservoirs.

72. The proposals for the designation of high risk reservoirs are the subject of a separate consultation by the Environment Agency<sup>15</sup>.

73. The amendment to the 1975 Act set out in new Section 2A(4) provides for the Minister, by Order, to specify a minimum period within which representations to the Environment Agency may be made with respect to a provisional designation notice. The Environment Agency has included consideration of the timescale for representations in its consultation on designation. Defra and the Welsh Government will take into account the responses to the Environment Agency consultation in considering whether a Ministerial Order to specify a minimum period for representations is necessary.

74. A right of appeal against designations made under Section 2B of the amended 1975 Act has been included and this is discussed later in Section 8 – Appeals.

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<sup>15</sup> Environment Agency “Consultation on high risk reservoirs in England and Wales” - <https://consult.environment-agency.gov.uk/portal/ho/flood/reservoir/risk>

## Section 4 – Monitoring, Supervision & Inspections

75. Undertakers of large raised reservoirs are required by the 1975 Act to keep a record of information about their reservoirs in the prescribed form.
76. The prescribed form is set out in Schedule 2 of the Reservoirs Act 1975 (Registers, Reports and Records) Regulations 1985<sup>16</sup>. Amendments to Part 8 of that Schedule were set out in the Reservoirs Act 1975 (Registers, Reports and Records) (Amendment) Regulations 1985<sup>17</sup>.
77. These requirements will need to be reviewed in the light of amendments to the 1975 Act set out within the 2010 Act.

### 4.1 High risk reservoirs: monitoring and supervision

78. The most fundamental change set out within the 2010 Act is to restrict the requirements for monitoring and supervision to those large raised reservoirs designated as high risk reservoirs. Those reservoirs that are not considered to be high risk reservoirs do not fall within the requirements for monitoring and supervision. It should however be remembered that a designation can be reviewed and changed at any time.
79. The requirement for an undertaker to appoint a supervising engineer to monitor a high risk reservoir at all times when it is not under the supervision of a constructing engineer as set out in Section 12(1) of the 1975 Act remains in force. This also continues to be an enforceable offence.
80. New Sections 12(2A) and 12(2B) of the amended 1975 Act, as set out in the 2010 Act, require the supervising engineer to provide the undertaker with a written statement at least once a year setting out the steps taken to maintain a reservoir in accordance with the recommendations of the inspecting engineer. This provision was included to improve reservoir management and provide an audit trail for necessary work.
81. New Sections 12(6) and 12(7) of the amended 1975 Act, as set out within the 2010 Act, provide supervising engineers with the power to direct undertakers to carry out visual inspections at specified intervals and place a duty on undertakers to notify supervising engineers of the results of those inspections.
82. These new provisions ensure that an inspection regime can be put in place and carried out with clearly identified responsibilities on all parties. It also recognises that regular inspections do not have to be carried out by a supervising engineer, so providing the undertaker with some flexibility in the way that the reservoir is managed.
83. It is the intention of Defra and the Welsh Government that these changes will take effect within Phase 1. This means that they will take effect from Autumn 2012, initially for high risk reservoirs capable of holding more than 25,000 cubic metres above the natural level of the

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<sup>16</sup> SI 1985/177 - <http://www.legislation.gov.uk/ukSI/1985/177/contents/made>

<sup>17</sup> SI 1985/548 - <http://www.legislation.gov.uk/ukSI/1985/548/contents/made>

surrounding land. They will be rolled out to reservoirs with a capacity of more than 10,000 cubic metres in line with Phase 2.

84. New Section 12(8) allows the Minister to issue guidance on supervision and to take into account the performance of supervising engineers in complying with that guidance when considering appointments to panels of engineers.

85. Neither Defra nor the Welsh Government intends to issue such guidance in England and Wales at this time. However, should evidence be brought to our attention that such guidance is required we are prepared to reconsider this decision.

## QUESTION

*12. Do you believe that guidance on supervision of high risk reservoirs and the performance of supervising engineers is required?*

## The Prescribed Form

86. Amendments to Section 20 to the 1975 Act, set out within the 2010 Act, add the written statements required in new Sections 12(2A) and 12(2B) to the standard list that must be in the prescribed form.

87. Prescribed forms for certificates, reports and prescribed information are set out in the Reservoirs Act 1975 (Certificates, Reports and Prescribed Information) Regulations 1986<sup>18</sup>. These Regulations will require amendment in light of this new requirement and new forms will be developed with the Advisory Group on the Reservoirs Act, which includes panel engineers and representatives of major undertakers.

## Criminal Liability

88. New Sections 22(1AC) and 22(1AD) of the amended 1975 Act, set out within the 2010 Act, provide for the creation of criminal liability for the failure of an undertaker to carry out a visual inspection or to notify the supervising engineer of the results. This is discussed further in Section 9 below.

## 4.2 High risk reservoirs: Inspections

89. The 2010 Act makes some changes to the requirements for statutory inspections. As with the changes to the monitoring and supervising requirements, the most fundamental of these is to restrict the requirement for statutory inspections to those large raised reservoirs designated as high risk reservoirs.

<sup>18</sup> SI 1986/468 - <http://www.legislation.gov.uk/ukSI/1986/468/contents/made>

90. Those reservoirs that are not considered to be high risk reservoirs do not fall within the requirements for monitoring and supervision. It should however be remembered that a designation can be reviewed and changed at any time.

91. Further to this, changes have also been made to the statutory timings for inspections. Section 10(2) of the 1975 Act now requires inspections to take place at times specified by the Minister within Regulations. This change is set out within the 2010 Act and Defra and the Welsh Government intend to bring in a revised approach as set out below:

- We intend to require an inspection within two years at most from the date of any final certificate for the reservoir given by the construction engineer responsible for the construction of the reservoir or any alteration to it.
- We intend to require an inspection within six months of any alterations to the reservoir which do not increase its capacity but might affect its safety and which have not been designed and supervised by a qualified civil engineer. A qualified civil engineer does not have to be employed for alterations that do not increase or decrease the capacity of a large raised reservoir, except where required in the interests of safety. An inspection needs to be carried out to determine whether or not the alteration might affect safety. The previous requirement for this to be done “as soon as practicable” is too open-ended under a risk based approach to reservoir safety.
- We intend to allow for an inspection to be required at any time when the supervising engineer so recommends.
- We intend to require an inspection to be undertaken within ten years at most from the last inspection or within any shorter interval that may have been recommended in the report of the inspecting engineer on the last inspection.

**QUESTION:**

*13. Do you agree with the proposed approach to statutorily required inspections?*

**Frequency of Inspection Period**

92. It has been brought to the attention of Defra and the Welsh Government that in some circumstances, it might be appropriate to allow for a longer statutory inspection period than ten years.

93. Across England and Wales there are some older reservoirs that have shown no deterioration over a number of ten-year inspections and are constructed in a manner that is considered safe by panel engineers generally. In certain limited circumstances it might be appropriate to allow for an inspecting engineer to specify a longer inspection period that will not exceed twenty years.



94. Defra and the Welsh Government believe that there are sufficient safeguards within the 1975 Act as amended by the 2010 Act to accommodate this proposal. For example, a supervising engineer can call for an inspection at any time. However, any move to allow such an exception would require consistent understanding of two aspects:

- the concept of “generally to be constructed in a manner that is considered safe”
- how many “uneventful” inspections should have occurred before an extended inspection period can be considered.

95. Should longer inspection periods be allowed, Defra and the Welsh Government will produce guidance on the relevant criteria and their application.

## QUESTION

*14. Do you support longer inspection periods in certain exceptional circumstances?*

## Powers of Entry

96. The powers of entry in Section 17(1) of the 1975 Act have been amended within the 2010 Act to ensure that inspections, surveys or other operations to determine whether any provision of the 1975 Act applies can be carried out, and that work recommended in respect of maintenance can be checked.

97. The appeals provisions under Section 19 of the 1975 Act have also been amended to reflect the changes to powers of entry.

## Criminal Liability

98. New Sections 22(1AA) & (1AB) of the amended 1975 Act, set out within the 2010 Act, provide for the creation of criminal liability for failure to carry out a recommendation as to the maintenance of a reservoir.

99. This is discussed further in Section 9 below.

## **Section 5 – Construction, Alteration, Abandonment & Discontinuance**

100. Under the terms of the 1975 Act as currently drafted the construction of a large raised reservoir requires the employment of a qualified civil engineer to design and supervise the works. The same is true of any alterations to raise the capacity of a large raised reservoir. However, there is no requirement for the employment of a qualified civil engineer to design and supervise alteration works to reduce the capacity of a large raised reservoir.
101. Defra and the Welsh Government believe that such a requirement is also necessary for alteration works to decrease the capacity of a large raised reservoir, and that including this requirement is consistent with a risk based reservoir safety regime.
102. Amendments have also been made to the provisions concerning abandonment and discontinuance of large raised reservoirs.

### **5.1 Construction and alteration**

103. Amendments have been made to Section 6 of the 1975 Act, as set out within the 2010 Act, to ensure that a qualified civil engineer must be appointed to oversee alteration works to reduce the capacity of a large raised reservoir, to ensure that the work needed to ensure the safety of the reservoir has been designed and executed properly, and that the process is controlled through certification. Related amendments are found also in Sections 7, 8 and 9 of the 1975 Act.
104. The addition of new Section 6(A) to the 1975 Act, set out within the 2010 Act, clarifies that a reduction of capacity below the minimum volume for a large raised reservoir is discontinuance of a large raised reservoir and refers action in that situation to the provisions which are set out in Section 13.
105. It is important to note that this change applies to all large raised reservoirs, and not just to those designated as high risk reservoirs. It is the intention of Defra and the Welsh Government that this amendment will take effect in Phase 1, and relate initially to the current volumetric threshold of 25,000 cubic metres.

### **5.2 Discontinuance and Abandonment**

106. As currently drafted, Section 13 of the 1975 Act governs the requirements in the event of discontinuance of a large raised reservoir, and Section 14 of the 1975 Act governs the requirements for the abandonment of a large raised reservoir.

#### **Discontinuance**

107. Discontinuance of a large raised reservoir requires the undertaker to alter the large raised reservoir in such a way as to ensure that it is no longer capable of holding more than

the minimum volume of water set out in law. This is a permanent reduction of capacity, with no possibility that the reservoir could fill more than the reduced capacity.

108. The undertaker must appoint a qualified civil engineer to design, approve and supervise the alteration and on completion of the works the engineer must issue a certificate. Without a certificate the reservoir is not considered to be discontinued and remains within the definition of a large raised reservoir within the 1975 Act.
109. After discontinuance, and subject to the issuing of a certificate, the structure will still be used as a reservoir, but it would no longer be a “large raised reservoir” for the purposes of the Act. That reservoir will still have an “undertaker” responsible for it, but it will no longer be subject to the requirements of the 1975 Act in relation to “large raised reservoirs”.
110. It should be noted that reservoirs that have been discontinued to any capacity between 10,000 and 25,000 cubic metres will become large raised reservoirs again when Phase 2 commences with a lowered capacity of 10,000 cubic metres, and so will have to go through the “high risk” designation process unless they are discontinued to the new lower capacity.
111. New Sections 13(1A) to 13(1E) of the amended 1975 Act, set out within the 2010 Act, provide for a process of interim certification by the qualified civil engineer during discontinuance. These amendments provide for greater control over the process of reducing the capacity of a reservoir to ensure that a safe water level is not exceeded in the reservoir during the execution of the works to reduce the reservoir capacity.

## Abandonment

112. Abandonment of a large raised reservoir involves emptying the reservoir of the water so that it is no longer used as a reservoir. It will still be physically capable of holding in excess of 25,000 cubic metres of water, but will be incapable of refilling above the level of the adjoining land or “*is only capable of doing so to an extent that does not constitute a risk*”.
113. Should an undertaker opt for abandonment, they are required to obtain a report from a qualified civil engineer setting out the measures needed to ensure that the reservoir does not fill above natural ground level, or only to an extent that it does not constitute a risk. The qualified civil engineer must issue a certificate stating whether or not the report contains any measures to be taken in the interests of safety, and the undertaker must comply with any measures set out within the report. Failure to do so is an enforceable offence.
114. Abandonment does not remove the reservoir from the register. It will still be a “large raised reservoir” for the purposes of the 1975 Act, and it will still have an “undertaker” who is responsible for continued compliance with the requirements of the 1975 Act.
115. Section 14 of the 1975 Act has been amended by the 2010 Act, by referring the timescale for the action needed to allow for abandonment to that specified in the engineer’s report. Further to this, new Section 14(6) to the 1975 Act, set out within the 2010 Act, allows the Minister to make Regulations about what, for the purposes of the Act, is to be treated as “abandonment” and “bringing back into use”.

## Regulatory Definitions

116. We propose that abandonment of a large raised reservoir has the meaning set out above. Any high risk designation of the reservoir will be reviewed after the works to abandon the reservoir are complete, taking into account the condition of the reservoir structures and the nature of the abandonment works.
117. This proposal reflects the need to set out in the Regulations the requirement to review the “high risk” designation after the completion of the abandonment works.
118. We propose that bringing back into use of a large raised reservoir has the meaning set out in the following text:
119. *A large raised reservoir that previously has been abandoned may only be brought back into use if a qualified civil engineer has been employed to inspect the reservoir and make a report on it, and to supervise the reservoir until a final certificate is issued for the works associated with bringing it back into use, including those necessary for its safety. Any high risk designation of the reservoir will be reviewed after the works to bring the abandoned reservoir back into use are complete.*
120. There is an argument that the meaning of “bringing back into use” should include discontinued as well as abandoned reservoirs, but the bringing back into use of a discontinued reservoir is addressed by Section 6 of the 1975 Act – Construction or enlargement of reservoirs.

**QUESTION:**

*15. Do you agree with the proposals for abandonment and bringing back into use?*

## Section 6 – Flood Plans

121. Section 12A of the 1975 Act allows for the preparation of Reservoir Flood Plans. As currently drafted it allows for the Secretary of State and the Welsh Ministers<sup>19</sup> to issue a direction requiring an undertaker to prepare a plan. That direction may also set out the:
- matters to be included within the plan;
  - methods of technical or other analysis to be used in its preparation;
  - persons it is to be shared with; and
  - requirements for publication.
122. The production of reservoir flood plans by undertakers is an integral part of reservoir safety. These plans lay out what the undertaker would do in the event of a potential or actual uncontrolled release of water and the communication to trigger any off site emergency response.
123. The benefits of having on site plans are clear insofar as although there has been no loss of life from reservoir failure since the 1920s, the aging nature of our reservoirs and the fact that there are on average four emergency draw downs each year points to an increased likelihood of a future failure. The initial cost of preparing a plan is estimated to be £2,640 and it is estimated to cost in the region of £940 per annum to keep the plan up to date.
124. A Ministerial direction can be issued in respect of any reservoir, and while it is likely that one would only be issued in respect of high risk reservoirs, it is possible that a direction may be issued in respect of other reservoirs such as those where an uncontrolled release of water might impact upon our critical national infrastructure.

### 6.1 Flood plans

125. New Section 12A(1A) of the 1975 Act, set out within the 2010 Act, amends the definition of a flood plan in order to provide that a flood plan must also give information about the:
- areas that may be flooded in the event of an uncontrolled escape of water
  - action the undertaker would take in order to prevent an uncontrolled release of water
  - action the undertaker would take to mitigate the effects of any uncontrolled release of water

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<sup>19</sup> This power was devolved to the National Assembly for Wales through the National Assembly for Wales (Transfer of Functions) Order 1999, SI 1999/672 <http://www.legislation.gov.uk/uksi/1999/672/contents/made>. The power is now exercisable by the Welsh Ministers by virtue of section 162 of and paragraph 30 to Schedule 11 of the Government of Wales Act 2006.

126. New Section 12AA of the 1975 Act, set out within the 2010 Act, defines the procedures to be followed where an undertaker is directed to prepare a flood plan, including certification, review, revision, testing and implementation of a flood plan.
127. The undertaker must prepare a flood plan in consultation with the appointed engineer and the engineer must certify that it meets the requirements of Section 12A(2)(a) and (b) of the 1975 Act. A supporting amendment has also been made to Section 19 of the 1975 Act to allow the undertaker to challenge a failure by the appointed engineer to issue a certificate under new Section 12AA(3).
128. New Section 22(1AE) of the 1975 Act, set out within the 2010 Act, makes it an offence to fail to comply with the requirements of new Section 12AA(4), (5), (6)(a) or (7) and sets out the penalties for these offences.

## 6.2 Ministerial Direction

129. In early 2010 Defra and Welsh Government consulted on proposals for issuing a Ministerial direction for the preparation of Flood Plans under Section 12A of the 1975 Act. A key proposal of the consultation was to determine the timing of issuing a direction. The favoured option was to phase in a direction, initially requiring flood plans in respect of those higher priority reservoirs identified by the Reservoir Inundation Mapping exercise then requiring them of the remaining large raised reservoirs at a later date
130. The overwhelming view of respondents was that the proposals set out in the consultation were supported including the phasing in of the direction. However Defra and the Welsh Government agreed to postpone the issuing of a direction until the implementation of Schedule 4 to the 2010 Act.
131. There are currently no plans to issue such a direction in England or Wales at this time. However, Defra and the Welsh Government are keeping this matter under review and may consult on a direction following Phase 2.

## Section 7 – Panels of Engineers & Engineer Reports

132. There are a number of provisions within the 1975 Act that require the appointment of a qualified civil engineer. Examples include the requirement for an inspecting engineer under Section 10 and requirement for a supervising engineer under Section 12. Under the terms of Section 4 to the 1975 Act, a civil engineer is considered qualified if they are a member of the relevant panel or panels.

### 7.1 Panels of engineers

133. As currently drafted, the 1975 Act requires the Defra Secretary of State to make appointments to the relevant panel or panels. This requirement was drafted prior to devolution and takes no account of the possibility of different legislation in England, Scotland and Wales, or indeed the possibility of different panels.

134. New Sections 4(10) and (11) to the 1975 Act, as set out within the 2010 Act, allows for panel of engineers to be appointed jointly in England and Wales, i.e. for a single panel established jointly by the Secretary of State and Welsh Ministers. Joint panels will be able to maximise resources of as it takes into account the limited number of serving panel members and the need for consistency in both England and Wales.

135. Defra and the Welsh Government intend to commence this amendment for Phase 1, which means that it will come into force in Autumn 2012.

136. Separate arrangements in respect of Scottish panels of engineers are set out in the Reservoirs (Scotland) Act 2011<sup>20</sup>.

### 7.2 Reports

137. As currently drafted, the 1975 Act contains some guidance as to the content of reports provided by qualified civil engineers in the Reservoirs Act 1975 (Certificates, Reports and Prescribed Information) Regulations 1986<sup>21</sup>, but no guidance on the standard or quality of those reports. Nor does the 1975 Act set out a process for requesting specified information, or specify sanctions for the failure to provide either information or reports.

### Assessment of reports and statements

138. New Section 20A to the 1975 Act, set out within the 2010 Act, allows the Minister to make Regulations for the assessment of the quality of reports and written statements prepared by inspecting and supervising engineers. This includes a provision for that assessment to be made by a committee of members of the Institution of Civil Engineers.

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<sup>20</sup> Reservoirs (Scotland) Act 2011 - <http://www.legislation.gov.uk/asp/2011/9>

<sup>21</sup> SI 1986/468 <http://www.legislation.gov.uk/uksi/1986/468/contents/made>

139. The introduction of this provision is intended to provide a basis on which improvements to, and a greater consistency in, engineers' reports and written statements can be achieved and will help to identify where prescribed forms or guidance needs to be revised.
140. All reports and statements have to be delivered in the prescribed forms, which are set out in the Reservoirs Act 1975 (Certificates, Reports and Prescribed Information) Regulations 1986<sup>22</sup>, as follows:
- Schedule 1 - forms of certificates
  - Schedule 2 - forms of reports
  - Schedule 3 - prescribed information to be given under Section 21(1) of the 1975 Act.
141. New forms needed to meet the requirements of the amendments to the 1975 Act will be developed with the advice of the Advisory Group on the Reservoirs Act 1975 and the Regulations will be amended.
142. It should be noted that amendments to section 20 of the 1975 Act extend the requirement to supply reports, certificates and directions to the enforcement authority within 28 days of their delivery to the undertaker. They also simplify the requirements, generally to say that any document (as listed in the amended legislation) issued to the undertaker must also be sent to the enforcement authority.

## Information and reports

143. New Section 21A to the 1975 Act, as set out within the 2010 Act, allows the Environment Agency, by notice, to require an undertaker to provide specified information for the purposes of carrying out its functions under the 1975 Act.
144. New Section 21B to the 1975 Act, as set out within the 2010 Act, allows the Minister through new Regulations to require a specified person to report to the Environment Agency on any incident of a specified kind which affected or could have affected the safety of a large raised reservoir. The Regulations may impose a duty to report on an undertaker or an engineer appointed for any purpose of the 1975 Act, and may also make provision about the form and manner of a report and its timing.

## Criminal Liability

145. New Sections 22(4A) to (4C) to the 1975 Act, as set out within the 2010 Act, provide for the creation of criminal liability for the failure of an undertaker to provide the specified information under Section 21A or the failure of a specified person to make a report to the Environment Agency about any incident of a specific kind which affected, or could have affected, the safety of a large raised reservoir under Section 21B, which are discussed under the heading "Sanctions", below.

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<sup>22</sup> SI 1986/468 - [http://www.legislation.gov.uk/ukxi/1986/468/pdfs/ukxi\\_19860468\\_en.pdf](http://www.legislation.gov.uk/ukxi/1986/468/pdfs/ukxi_19860468_en.pdf)



Department for Environment, Food and Rural Affairs  
Welsh Government

146. Defra and the Welsh Government intend to commence these provisions in Phase 1, which means that they will come into force in Autumn 2012.

**QUESTION:**

*16. Do you agree with the proposal to require a specified person to report to the Environment Agency on any incident of a specified kind which affected or could have affected the safety of a large raised reservoir?*

## Section 8 – Appeals

147. As a consequence of the changes to the 1975 Act made within the 2010 Act, a number of changes have also had to be made to the appeals provisions included within the 1975 Act. This includes both amendments to existing appeals provisions and the introduction of new appeals provisions in relation to new duties and responsibilities.
148. Throughout the 1975 Act there are a number of provisions requiring the Minister to make Regulations setting out appeals processes, including the effect of pending appeals.
149. The process for appeals against the designation of a reservoir as “high risk” is also set out in this section.

### 8.1 Appeals against the requirements of enforcement notices

150. Under Sections 8(1), 9(7), 10(7), 12(4), 13(5) and 14(4) of the 1975 Act the Environment Agency may serve an enforcement notice on the undertakers of a large raised reservoir requiring them to appoint an engineer where it appears to the Agency that the undertakers have not appointed one as required. The failures are summarised as follows:
- 8(1) – to appoint a construction engineer for construction or alteration of a reservoir;
  - 9(7) – to appoint a qualified civil engineer to report on an abandoned reservoir being brought back into use and to supervise the reservoir until the issue of a final certificate;
  - 10(7) – to appoint an independent qualified civil engineer to carry out a section 10 inspection;
  - 12(4) – to appoint a supervising engineer;
  - 13(5) – to appoint a qualified civil engineer to design or approve and to supervise alteration of a reservoir to render it incapable of holding more than the threshold volume (discontinuance);
  - 14(4) – to appoint a qualified civil engineer to report on a reservoir to be abandoned and to design or approve and to supervise alteration of the reservoir to secure that it does not constitute a risk.
151. Under Sections 8(3A), 9(7), 10(7) and 14(4) of the 1975 Act the Environment Agency may also serve an enforcement notice on the undertakers of a large raised reservoir where it appears to the Agency that the undertakers have not carried out any recommendation of an engineer as to measures in the interests of safety. The notices are given for failures with respect to the following:
- 8(3A) – with respect to construction or alteration;
  - 9(7) – with respect to the re-use of an abandoned reservoir;

- 10(7) – with respect to recommendations in a section 10 inspection report;
  - 14(4) – with respect to the abandonment of a reservoir.
152. New Section 19A of the 1975 Act, set out within the 2010 Act, requires the Minister to make Regulations to provide a right of appeal against the requirements in these enforcement notices. Regulations must confer jurisdiction on the Minister, a court or a tribunal and make provision about procedure.
153. In particular the Minister must provide a right of appeal for undertakers against enforcement notices served where there has been a failure to appoint an engineer under Sections 8(1), 9(7), 10(7), 12(4), 13(5) and 14(4) of the 1975 Act, as summarised above.
154. The Regulations must also provide a right of appeal against an enforcement notice issued where there was a failure to comply with a recommendation of an engineer under Sections 8(3A), 9(7), 10(7) and 14(4), as summarised above.

## **8.2 Appeals against designation of risk by the Environment Agency**

155. New Section 2E of the 1975 Act, set out within the 2010 Act, requires the Minister to make Regulations providing a right of appeal against the final designation of risk by the Environment Agency (Section 2B and associated procedure for designation making process).
156. The Regulations must confer jurisdiction on the Minister, court or a tribunal and make provisions setting out the procedure.
157. Under new Section 2E (3) a designation is suspended pending the outcome of the appeal.

## **8.3 Tribunals**

158. Defra and the Welsh Government propose to adopt a tribunal approach to all appeals under the 1975 Act, with the power to hear appeals vested in the First Tier Tribunal.
159. The First-tier Tribunal is empowered to deal with a wide range of issues which might form the substance of appeals, and to ensure the cases are dealt with in the interest of justice and minimising parties' costs. The composition of a Tribunal is a matter for the Senior President of Tribunals to decide and may include non legal members with suitable expertise or experience in an appeal in addition to Tribunal judiciary.
160. The General Regulatory Chamber operates under the Tribunal Procedure (First-tier Tribunal) (General Regulatory Chamber) Rules 2009<sup>23</sup> which provide flexibility for dealing

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<sup>23</sup> The General Regulatory Chamber Rules may be found at: <http://www.justice.gov.uk/guidance/courts-and-tribunals/tribunals/rules.htm>

with individual cases. Rule 2 of the General Regulatory Chamber Rules states its overriding objective as being to deal with a case fairly and justly.

161. This includes dealing with a case in ways which are proportionate to the importance of the case, the complexity of the issues and the anticipated costs and resources of the parties. The Rules give the Tribunal judge wide case management powers in order to achieve these objectives
162. Any party to a case has a right to appeal to the Upper Tribunal on points of law arising from a decision of the First-tier Tribunal. The right may only be exercised with the permission of the First-tier Tribunal or the Upper Tribunal. Where permission is given, the further appeal would be made to the Upper Tribunal.

#### QUESTIONS

17. *Do you agree that it is appropriate to vest the power to hear all appeals under the 1975 Act in the First Tier Tribunal?*
18. **(on behalf of the Tribunal Procedure Committee):**  
*Do you consider that the General Regulatory Chamber Rules will suit the handling of the appeals set out above? If not, why not?*

163. Although the general provisions with respect to referees set out within the 1975 Act are not amended, it will be necessary to review the rules and procedures as set out in Section 19(5) to the 1975 Act. These currently are set out in the Reservoirs Act 1975 (Referees) (Appointment and Procedure) Rules 1986<sup>24</sup>.
164. Neither Defra nor the Welsh Government propose to make changes to the rules concerning the appointment of a referee, the investigation of complaints, or costs except as needed to reflect the general changes to legislation.

#### QUESTION:

19. *Do you agree that the current rules relating to Referees are fit for purpose? If not, why not?*

<sup>24</sup> SI 1986/467 - <http://www.legislation.gov.uk/ukSI/1986/467/contents/made>

## Section 9 – Criminal Sanctions

165. The 2010 Act includes a number of provisions that introduce new criminal liabilities for certain provisions within the 1975 Act, amend existing liabilities and introduce the possibility of Civil Sanctions:

166. These include a new criminal liability for:

- failure of an undertaker to comply with the requirement to register a reservoir in accordance with the regulations
- failure of an undertaker to carry out a recommendation as to the maintenance of a reservoir.
- failure of an undertaker to carry out a visual inspection or to notify the supervising engineer of the results
- failure of an undertaker to test a flood plan, keep a flood plan under review, or to revise a flood plan in accordance with directions.

167. The amendments for the existing criminal liabilities include:

- failure of an undertaker to observe and comply with various sections under the 1975 Act;
- failure of an undertaker to comply with a notice under various sections under the 1975 Act;
- the creation of criminal liability for the failure of an undertaker to comply with a direction to prepare a flood plan;
- failure the failure of an undertaker to comply with a notice issued under section 12B not to publish a flood plan in the interests of national security;
- creation of criminal liability for the failure of the undertaker to provide the facilities and information needed for supervision and inspections
- for the creation of criminal liability for providing false information with respect to a reservoir

168. It is the intention of Defra and the Welsh Government to implement the existing and new criminal sanctions on commencement of Phase 1.

## 9.1 New criminal liabilities

### Registration

169. New Sections 22(A1) and 22(A2) of the amended 1975 Act, set out within the 2010 Act, establish criminal liability for the failure of an undertaker to comply with the requirement to register a reservoir in accordance with the regulations.
170. Registration is a key part of the new risk-based approach to managing large raised reservoirs. It ensures that the Environment Agency knows about a reservoir and therefore can take a view on whether it needs to be designated as high risk. We believe that there are a number of large raised reservoirs currently not included on the Environment Agency's register, and it is sometimes the case that only the undertaker knows whether or not a structure is a reservoir. When smaller reservoirs are brought under the 1975 Act, there will be an even greater number of reservoirs that need to be considered for designation.
171. Creating a criminal liability for failing to register a reservoir, or failing to register it in line with the relevant Regulations, increases the likelihood that the majority of reservoirs will be registered quickly. Under the terms of the amended 1975 Act, any undertaker convicted of such an offence would be liable to a fine. The details are set out in new Sections 22(A1) and 22(A2).

### Recommendations for Maintenance

172. New Sections 22(1AA) & (1AB) of the amended 1975 Act, set out within the 2010 Act, provide for the creation of criminal liability for failure to carry out a recommendation as to the maintenance of a reservoir.
173. Under the amended 1975 Act, maintenance is recognised as a key component of competent reservoir management. Those reservoir undertakers that carry out recommended maintenance in a timely fashion are reducing the likelihood of reservoir breach and the development of more major works in the interests of safety in the future.
174. The new provisions in the amended 1975 Act place an obligation on undertakers to carry out recommended maintenance in a timely fashion and create a criminal liability for those that fail so to do. Under the terms of the amended 1975 Act, any undertaker convicted of such an offence would be liable to a fine. The details are set out in new Sections 22(1AA) and 22(1AB).

### Visual Inspections

175. New Sections 22(1AC) and 22(1AD) of the amended 1975 Act, set out within the 2010 Act, provide for the creation of criminal liability for the failure of an undertaker to carry out a visual inspection or to notify the supervising engineer of the results.
176. The amendments to the 1975 Act allow the supervising engineer to instruct the undertaker to provide regular feedback on matters that are important indicators of the

condition and performance of a reservoir. The supervising engineer can specify a regime of monitoring that must be reported to him/her for evaluation.

177. Under the terms of the amended 1975 Act, any undertaker convicted of such an offence would be liable to a fine. The details are set out in new Sections 22(1AC) and 22(1AD).

## Flood Plans

178. New Sections 22(1AE) and 22(1AF) of the amended 1975 Act, set out within the 2010 Act, provide for the creation of criminal liability for the failure of an undertaker/owner to test a flood plan, keep a flood plan under review, or to revise a flood plan in accordance with directions.

179. Under the terms of the amended 1975 Act, any undertaker convicted of such an offence would be liable to a fine. The details are set out in new Sections 22(1AE) and 22(1AF).

## 9.2 Existing criminal liabilities

### Statutory Provisions, Notices and Directions

180. Section 22(1) of the 1975 Act currently provides for the creation of criminal liability for the failure of an undertaker to observe or comply with any of the statutory provisions set out in the following Sections:

- 6 appointment of engineer for construction or enlargement of reservoirs
- 8(3) failure to carry out safety work
- 9(1), (2) or (3) reuse of abandoned reservoir before the issue of a certificate
- 10(1) or (6) failure to inspect a reservoir and carry out safety works
- 11 failure to record prescribed information
- 12(1) failure to appoint supervising engineer
- 13 failure to comply with discontinuance requirements
- 14(1) or (2) failure to get an engineer's report and carry out safety work where a reservoir is to be abandoned

181. Section 22(1) of the 1975 Act also provides for the creation of criminal liability for the failure of an undertaker to comply with a **notice** under the following sections;

- 8 powers of enforcement in the event of non-compliance with requirements as to construction or enlargement of reservoirs

- 9 re-use of abandoned reservoirs
- 10 periodical inspection of large raise reservoirs
- 12 supervision of large raised reservoirs
- 13 discontinuance of large raised reservoirs
- 14 abandonment of large raised reservoirs

182. Section 22(1) of the 1975 Act also provides for the creation of criminal liability for the failure of an undertaker to comply with a direction under section 12A (to prepare a flood plan).

183. The focus of these liabilities is primarily on ensuring that work needed in the interests of safety is carried out under the supervision of a qualified civil engineer, and that there is an effective plan for dealing with emergencies where these occur for whatever reason. In all cases, there is the possibility of a conviction and a fine.

### **Non-Publication of Flood Plans**

184. Section 22(1A) of the 1975 Act provides for the creation of criminal liability for failure the failure of an undertaker to comply with a notice issued under section 12B not to publish a flood plan in the interests of national security. In this case, the penalty can be imprisonment up to two years, or a fine, or both.

185. The focus of this liability is reducing terrorist threat, which is why the possible penalties include imprisonment.

### **Notification of Enforcement Authority**

186. Section 22(2) of the 1975 Act provides for the creation of criminal liability for the failure of the undertaker to notify the enforcement authority in accordance with any provision of the 1975 Act when required to do so. In this case, there is conviction and a fine not exceeding level 4 on the standard scale.

### **Supervision and Inspections**

187. Section 22(3) of the 1975 Act provides for the creation of criminal liability for the failure of the undertaker to provide the facilities and information needed for supervision and inspections. In this case, there is conviction and a fine not exceeding level 4 on the standard scale.



## False Information

188. Section 22(4) of the 1975 Act provides for the creation of criminal liability for providing false information with respect to a reservoir. In this case, there is conviction and a fine not exceeding level 5 on the standard scale.
189. The majority of these criminal liabilities result in a criminal record and a fine.

## 9.3 The option of civil sanctions

190. There is an alternative to criminal sanctions in the form of civil sanctions. This would remove the criminal element associated with the liabilities, and could introduce a more flexible regime of financial penalties. As the amendments to the 1975 Act are designed to introduce a risk-based approach to the regulation of large raised reservoirs, so the adoption of civil sanctions as an alternative to criminal sanctions could introduce financial penalties that were proportionate to the risk.
191. The criminal sanctions set out in the 1975 Act and the proposed amendments are generally fines, linked to statutory scales. If found guilty, the undertaker also has a criminal record. In the case where national security is a consideration, there is also the option of imprisonment. For situations where the lives of people have been put at risk, many might think that the level of fines is inadequate.
192. In considering the development of a civil sanctions regime, we believe that there should be a proportionate approach that reflects both the likelihood and the magnitude of the harm that could be caused if a reservoir were to fail. The current and proposed sanctions are for failures to carry out different actions required by the legislation, generally before any failure or partial failure has occurred. Some of these failures of action could be considered directly to contribute to a future failure of a reservoir, such as not carrying out recommended safety works or maintenance, whereas for others the direct link to failure is less clear.
193. If you consider civil sanctions as alternatives for the different criminal sanctions described above (excluding that associated with national security) are preferable, we would appreciate your views on how these should be assessed. With this evidence we will be able to decide whether civil sanctions should be taken forward.

### QUESTIONS:

20. *Do you agree that the creation of the new criminal liabilities set out in the amendments to the 1975 Act are necessary? If not, which would you retain, and which would you reject, giving your reasons?*
21. *Do you agree that civil sanctions (as discussed above) are preferable, if available?*

## Section 10 – Expenses & Charging

194. The 2010 Act includes a number of provisions introduce expenses and charges in relation to certain aspects of the 1975 Act. These are:

- the provision for the Environment Agency to **recover expenses** incurred through consultation of engineers in its enforcement role;
- a charging scheme allowing the Environment Agency to **recover prescribed costs in relation to its non-enforcement role**; and
- the provision for a Category 1 responder to **charge a fee** in accordance with a **scheme prescribed by regulations**.

### 10.1 Expenses

195. Under the legislation as currently drafted, if an undertaker in England or Wales does not fulfil their requirements under the 1975 Act the Environment Agency as the enforcement authority must investigate it.

196. Investigations are generally conducted by asking the inspecting engineer who produced the most recent Section 10 Report to provide the Environment Agency with the deadlines for the completion of any outstanding measures in the interests of safety set out in the report. In some cases additional investigative work any also be required, including site visits and inspections.

197. Where costs are incurred in completing these investigations the Environment Agency meets these through its annual budget from Defra and the Welsh Government.

198. New Section 22C to the 1975 Act, set out within the 2010 Act, requires that the undertaker must pay to the Environment Agency the amount of expenses reasonably incurred in connection with the consultation of an engineer when exercising its enforcement powers under Section 8 (construction and enlargement), Section 9 (re-use of abandoned reservoirs), Section 10 (inspection) and Section 14 (abandonment) of the 1975 Act.

199. Defra and the Welsh Government are committed to implementing this requirement. However, no decision on whether to do so in Phase 1 or Phase 2 has been made.

#### QUESTION

*22. Should commencement of the provisions on expenses be undertaken in Phase 1 (from Autumn 2012) or in Phase 2 or following Phase 2?*

## 10.2 Charging

200. Under Section 41(1) of the Environment Act 1995 the Environment Agency is able to make schemes in order to recover the costs of its main regulatory services from the companies it regulates.
201. The 2010 Act includes a power for this function to be extended so that the Environment Agency is able raise charges to recover costs incurred when performing functions conferred on it by the 1975 Act. Any charging scheme will need to be agreed by the Defra and Welsh Ministers.
202. The Environment Agency could only charge for the costs of administrative activity under this provision and not its enforcement role. This administrative role mainly includes the processes put in place for the registration and monitoring of reservoirs governed by the 1975 Reservoirs Act such as:
- assisting reservoir undertakers to avoid non-compliance with the Act
  - maintaining & updating the register of reservoirs, including undertaker's details
  - monitoring reservoir undertakers compliance with the Act, reminding them when inspections are due and when engineers appointments run out
  - assisting reservoir undertakers to report any incidents at their reservoirs (when it becomes a legal requirement) to enable the industry to spot any trends
203. The registration process would include all large raised reservoirs as defined by the 1975 Act regardless as to whether they were determined as high risk or not.
204. The Environment Agency already has powers to recover its expenses where it has to use its reserve powers to step in for recalcitrant or absent undertakers and this consultation is not concerned with those provisions.
205. The Environment Agency currently operates charging schemes in respect of their other functions, enabling it to recover the costs of their main regulatory services. Under these powers people who benefit from those services are required to pay for them. Current charging schemes include charges for environmental permits covering a wide range of regimes such as installations and waste facilities and Tran frontier shipments.
206. Introducing a charging regime in respect of reservoir safety would be consistent with the approach in relation to these other areas. A charging regime will also help resource the administration of an estimated possible further 5,000 reservoirs. In doing so the Environment Agency will be helping undertakers comply with the requirements of the Act and maintain the robust safety regime for communities downstream.
207. Conversely, it is clear that introducing a charging regime will put additional costs on undertakers some of whom will also be bearing the costs of employing panel engineers where it is determined they are designated as high risk. Any charging scheme will primarily focus on regulating high-risk reservoirs and the Environment Agency's initial estimates suggest this would amount to about £100 per high risk reservoir per year. This is based on

working out what elements of the Agency's work is chargeable (i.e. work that provides a direct service to individual charge payers and is not enforcement work), identifying how much time this work takes (and therefore costs) and dividing that figure by the estimated number of high risk reservoirs.

208. It is likely that a number of these undertakers may be small businesses. The UK Government has introduced a moratorium on new legislation which may affect micro businesses (businesses with 10 employees or less) in England, although some exceptions are possible.
209. The moratorium does not apply in Wales although the impacts from additional burdens of a charging regime would be the same.
210. Defra and the Welsh Government are not minded to implement this requirement at this time. However, it is likely that this will be implemented as part of, or shortly after Phase 2.

### 10.3 Arrangements for civil protection

211. Under Section 2(2) of the Civil Contingencies Act 2004<sup>25</sup>, Category 1 responders<sup>26</sup> are required to prepare and maintain plans in relation to emergencies. Regulation 13 of the Control of Major Accident Hazards Regulations 1999<sup>27</sup>, contains a similar power in relation to off-site emergency plans which local authorities are required to prepare under Regulation 10 of those Regulations.
212. This power allows Category 1 responders defined under the Civil Contingencies Act 2004 to charge a reservoir undertaker a fee in accordance with a scheme prescribed by Regulations made by the Minister. Any scheme would be to enable Category 1 responders to charge fees in respect of costs incurred in carrying out functions under Section 2 of the Civil Contingencies Act 2004 in connection with large raised reservoirs; this could include emergency planning and warning and informing functions.
213. During the consultation on the Draft Flood and Water Management Bill in 2009, the Environment Food and Rural Affairs Parliamentary Select Committee recommended that the UK Government should consider whether the existing Control of Major Accident Hazards Regulations might be extended to include reservoirs.
214. The main point made by respondents was that undertakers should not be required to pay for off-site planning as the costs are likely to be burdensome and out of the control of the undertaker. On the other hand local authorities were concerned that the costs of off-site planning should be fully funded either by the undertaker or Government.
215. The joint UK and Welsh Government response to the consultation on the Draft Flood and Water Management Bill set out that costs should not be met by reservoir undertakers at that time. This position was affected in part by the fact that Defra and the Welsh Government

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<sup>25</sup> Civil Contingencies Act 2004 - <http://www.legislation.gov.uk/ukpga/2004/36>

<sup>26</sup> Category 1 responders in respect of England and Wales are listed in Part 1 of Schedule 1 of the Civil Contingencies Act 2004 (<http://www.legislation.gov.uk/ukpga/2004/36>), and include local authorities, the Police and Fire Services, various public health services, the Environment Agency, and the Secretary of State/Welsh Ministers

<sup>27</sup> S.I. 1999/743 - <http://www.legislation.gov.uk/uksi/1999/743/contents/made>

have made funds available to local authorities and partner responders to assist with the off site planning in for the higher priority reservoirs in England and Wales identified as part of the Reservoir Inundation Mapping exercise.

216. Given the likely burdens on undertakers many of whom may be small businesses we intend to maintain this position although no decision has been made by Defra or Welsh Government as to whether any funding will be made available to local authorities for those high risk reservoirs identified by the Environment Agency's risk designation and those captured if the minimum capacity threshold is reduced.

**QUESTION**

*23. Do you agree that undertakers for high risk reservoirs should not be required to fund the emergency planning and warning and informing functions? If not why not?*

## Section 11 – Other matters

### Further Amendments

217. Paragraphs 40(1)&(2) of Schedule 4 to the 2010 Act provides a power for the Minister to amend the 1975 Act further where it is necessary or desirable in consequence of the amendments made by the 2010 Act. This power is subject to the approval of either Parliament or the National Assembly for Wales.

#### QUESTION

*24. Do you believe any further changes to the Reservoirs Act 1975 are required, and why?*

### Regulatory Impact Assessment

218. Paragraph 41 of Schedule 4 to the 2010 Act requires the Minister to carry out a review of the burden of complying with the amended 1975 Act on undertakers of large raised reservoirs.

219. This clearly is necessary once all specified measures have been commenced, but may not be appropriate if there is a phased introduction of measures.

220. If commencement is carried out in two phases, with a first phase retaining the reservoir capacity of 25,000 cubic metres as at present, it has been argued in the approved Impact Assessment that the burdens on undertakers already subject to the provisions of the 1975 Act should be reduced overall.

221. A review of the Phase 1 scenario may not be useful when the main objective of the review is to understand the new burdens (if any) on the new group of undertakers of reservoirs in the range 10,000 to 25,000 cubic metres (or any other range substituted by the Minister). The new burdens on this group will only be known after full commencement of any second phase and completion by the Environment Agency of the process of designation as high risk.

#### QUESTION

*25. Do you agree that the proposed review should only be initiated once full implementation of the specified amendments has been made and the Environment Agency has completed the high risk designation process? If not, why not?*

## Cross Border England-Scotland Reservoirs

222. Paragraph 43 of Schedule 4 to the 2010 Act brings in measures to deal with cross-border England-Scotland reservoirs. There are currently no cross-border England-Scotland reservoirs. However, it is the intention of Defra to commence these provisions within Phase 1 and these measures will then apply to any new reservoirs planned.

### QUESTION

*26. Do you agree that this measure should be commenced in Phase 1? If not, why not?*

## **Annex 1 – Schedule of Questions**

### **Question 1 (page 10)**

*Do you agree that road and rail embankments should be excluded from the Act, unless they are deliberately used for storing water?*

### **Question 2 (page 10)**

*Do you agree that the definition of “capable of storing” should not include the blocked spillway scenario?*

### **Question 3 (page 11)**

*Do you agree with the proposed approach to the calculation of capacity? If not, how would you calculate capacity?*

### **Question 4 (page 13)**

*Do you agree with the proposed approach to reservoirs in cascade?*

### **Question 5 (page 13)**

*Do you have any additional recommendations for deciding whether reservoirs should be considered to be in a cascade?*

### **Question 6 (page 13)**

*Do you agree with the proposal that all undertakers of reservoirs in cascade should be required to register their reservoirs based on a reduced threshold capacity? If so, how would you assess the reduction?*

### **Question 7 (page 14)**

*Do you agree with the proposed exemptions?*

### **Question 8 (page 14)**

*Are there any other structures or areas that you would consider exempting and why would you consider doing so?*

### **Question 9 (page 17)**

*Do you agree with the proposed approach to registration?*

### **Question 10 (page 17)**

*Do you agree with the proposed approach to the provision of information or a change of information with regards to the registration of a large raised reservoir?*

### **Question 11 (page 17)**

*Do you agree with the list of information to be provided?*

### **Question 12 (page 19)**

*Do you believe that guidance on supervision of high risk reservoirs and the performance of supervising engineers is required?*

### **Question 13 (page 20)**

*Do you agree with the proposed approach to statutorily required inspections?*



**Question 14 (page 21)**

*Do you support longer inspection periods in certain exceptional circumstances?*

**Question 15 (page 24)**

*Do you agree with the proposals for abandonment and bringing back into use?*

**Question 16 (page 29)**

*Do you agree with the proposal to require a specified person to report to the Environment Agency on any incident of a specified kind which affected or could have affected the safety of a large raised reservoir?*

**Question 17 (page 32)**

*Do you agree that it is appropriate to vest the power to hear all appeals under the 1975 Act in the First Tier Tribunal?*

**Question 18 (page 32)**

*Do you consider that the General Regulatory Chamber Rules will suit the handling of the appeals set out above? If not, why not?*

**Question 19 (page 32)**

*Do you agree that the current rules relating to Referees are fit for purpose? If not, why not?*

**Question 20 (page 37)**

*Do you agree that the creation of the new criminal liabilities set out in the amendments to the 1975 Act are necessary? If not, which would you retain, and which would you reject, giving your reasons?*

**Question 21 (page 37)**

*Do you agree that civil sanctions (as discussed above) are preferable, if available?*

**Question 22 (page 38)**

*Should commencement of the provisions on expenses be undertaken in Phase 1 (from Autumn 2012) or in Phase 2 or following Phase 2?*

**Question 23 (page 41)**

*Do you agree that undertakers for high risk reservoirs should not be required to fund the emergency planning and warning and informing functions? If not why not?*

**Question 24 (page 42)**

*Do you believe any further changes to the Reservoirs Act 1975 are required, and why?*

**Question 25 (page 42)**

*Do you agree that the proposed review should only be initiated once full implementation of the specified amendments has been made and the Environment Agency has completed the high risk designation process? If not, why not?*

**Question 26 (page 43)**

*Do you agree that this measure should be commenced in Phase 1? If not, why not?*

## **Annex 2 – Schedule of Relevant Documents**

### **Legislation:**

The Mines and Quarries (Tips) Act 1929

The Reservoirs (Safety Provisions) Act 1930

The Reservoirs Act 1975 <http://www.legislation.gov.uk/ukpga/1975/23>

The Reservoirs Act 1975 (Registers, Reports and Records) Regulations 1985, SI 1985/177  
<http://www.legislation.gov.uk/uksi/1985/177/contents/made>

The Reservoirs Act 1975 (Registers, Reports and Records) (Amendment) Regulations 1985, SI 1985/548 <http://www.legislation.gov.uk/uksi/1985/548/contents/made>

The Reservoirs Act 1975 (Referees) (Appointment and Procedure) Rules 1986, SI 1986/467  
<http://www.legislation.gov.uk/uksi/1986/467/contents/made>

The Reservoirs Act 1975 (Certificates, Reports and Prescribed Information) Regulations 1986, SI 1986/468 <http://www.legislation.gov.uk/uksi/1986/468/contents/made>

The National Assembly for Wales (Transfer of Functions) Order 1999, SI 1999/672  
<http://www.legislation.gov.uk/uksi/1999/672/contents/made>

The Control of Major Accident Hazards Regulations 1999, SI 1999/743  
<http://www.legislation.gov.uk/uksi/1999/743/contents/made>

Civil Contingencies Act 2004 <http://www.legislation.gov.uk/ukpga/2004/36>

The Flood and Water Management Act 2010 <http://www.legislation.gov.uk/ukpga/2010/29>

Reservoirs (Scotland) Act 2011 <http://www.legislation.gov.uk/asp/2011/9>

### **Tribunal legislation:**

The Tribunal Procedure (First-tier Tribunal) (General Regulatory Chamber) Rules 2009, SI 2009/1976 (L. 20) <http://www.legislation.gov.uk/uksi/2009/1976/contents/made>

The Tribunal Procedure (Amendment) Rules 2010, SI 2010/43 (L. 1)  
<http://www.legislation.gov.uk/uksi/2010/43/contents/made>

The Tribunal Procedure (Amendment No. 3) Rules 2010, SI 2010/2653 (L. 16)  
<http://www.legislation.gov.uk/uksi/2010/2653/contents/made>

The Tribunal Procedure (Amendment) Rules 2011, SI 2011/651 (L. 6)  
<http://www.legislation.gov.uk/uksi/2011/651/contents/made>

Department for Environment, Food and Rural Affairs  
Welsh Government

The Tribunal Procedure (First-tier Tribunal) (General Regulatory Chamber) Rules 2009, CONSOLIDATED VERSION incorporating SI 2010/43 (L. 1), SI 2010/2653 (L. 16), and SI 2011/651 (L. 6) <http://www.justice.gov.uk/downloads/guidance/courts-and-tribunals/tribunals/general/consolidated-tpft-grc-rules-2009.pdf>

**Consultation:**

Environment Agency “Consultation on high risk reservoirs in England and Wales”  
<https://consult.environment-agency.gov.uk/portal/ho/flood/reservoir/risk>

**Strategy Documents:**

**Defra and the Environment Agency:** The national flood and coastal erosion risk management strategy for England <http://www.official-documents.gov.uk/document/other/9780108510366/9780108510366.pdf>

**Welsh Government:** National Strategy for Flood and Coastal Erosion Risk Management  
<http://wales.gov.uk/topics/environmentcountryside/epq/waterflooding/flooding/nationalstrategy/;jsessionid=QrW0PWzL1hyJ7wLYGpjtWQgcXbnQnHRGnnyRGC10GqNCq40hBZp7!-1747186160?lang=en>

## Annex 3 – Glossary of Terms

**Abandonment** – a large raised reservoir is abandoned if measures have been taken to ensure that it is incapable of filling accidentally or naturally with water above the natural level of any part of the land adjoining the reservoir or is only capable of doing so to an extent that does not constitute a risk, and a certificate from a qualified civil engineer has been issued confirming that the necessary works in the interests of safety have been completed.

**Bringing back into use** – a large raised reservoir that previously has been abandoned may only be brought back into use if a qualified civil engineer has been employed to inspect the reservoir and make a report on it, and to supervise the reservoir until a final certificate is issued for the works associated with bringing it back into use, including those necessary for its safety.

**Cascade reservoirs** – a reservoir is in a cascade if all of its contents would flow into another reservoir if it were to breach.

**Channel or watercourse invert** – the lowest bed level of a channel or watercourse at the location under consideration.

**Crest of a dam or reservoir embankment** – the top elevation of a dam or reservoir embankment over which water would flow if there were no spillway provided and if the spillway capacity is exceeded. Where a spillway is located on the face of a dam or reservoir embankment, and the length of the spillway crest is a significant proportion of the length of the top of the dam or embankment, the crest of the spillway will be taken as the crest of the dam or reservoir embankment.

**Culvert** – a pipe or conduit under an embankment provided to drain water from one side of the embankment to the other.

**Dam** – a reservoir structure that blocks a watercourse to create a water storage area on its upstream side.

**Discontinuance** – a large raised reservoir is discontinued if measures have been taken to render it incapable of holding more than the threshold volume of water above the natural level of any part of the surrounding land and a certificate from a qualified civil engineer has been issued confirming that the necessary works in the interests of safety have been completed.

**Escapable contents** – the water that can flow freely from a reservoir over natural land in the event of a full breach of a reservoir.

**Impounding reservoir** – a reservoir that is filled either partially or fully by natural inflow from a watercourse or adjacent land.

**Inundation** – being covered by flood water, i.e. flooding. In the context of reservoir safety, this can include flooding from water that is flowing from the failure of a reservoir dam, flooding from flows over a reservoir spillway during a major storm, or by some other release of water from a reservoir. Such flooding will have varying depth and velocity depending on its location in the area flooded by the event.

**Inundation map** – in the context of reservoirs safety, a map showing the outline of land that could be flooded in the event of a reservoir failure.

**Natural land** – land that has not been worked by humans,

**Non-impounding reservoir** – a reservoir that is filled by water delivered to it through pipes or other conduits and receives no natural inflow directly from a watercourse or adjacent land.

**Large raised reservoir** – a reservoir which is designed to hold or capable of holding a specified volume of water, set out in the Reservoirs Act 1975, above the natural level of the adjoining ground. For Phase 1 amendments to the 1975 Act, the volume is 25,000 cubic metres.

**Reservoir breach** – the failure of a reservoir structure allowing all or part of the reservoir contents to be released uncontrollably.

**Reservoir undertaker** – for other than the Environment Agency or a water undertaker, this is the person(s) carrying out the undertaking(s) for which the reservoir is used, and where there is no such undertaking, it is the owners or lessees of the reservoir.

**Spillway** – a channel provided for the escape of excess water from a reservoir that is constructed to minimise the hazard to the integrity and safety of the reservoir from the escaping water. A spillway can be provided with control facilities, such as gates or siphons, that manage the flow of escaping water. The crest of a spillway is at the highest point of the spillway channel invert and is generally at an elevation below the crest of the reservoir structure it protects. Where spillway gates are closed, any excess water will flow over the next lowest point of the reservoir, which may be the top of the spillway gates.