

## RESERVOIR LEGISLATION IN SCOTLAND

### BASIC LEGAL FRAMEWORK

The United Kingdom comprises four regional administrations, England, Wales, Scotland and Northern Ireland.

In Scotland the Scottish Environmental Protection Agency enforces the Reservoirs (Scotland) Act 2011.

### SUMMARY OF RELEVANT SECTIONS OF THE ACT

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

#### Summary Table

Law	Applicable section(s) of Act	Topics							
		A	B	C	D	E	F	G	H
Reservoirs (Scotland) Act 2011	1 & 2: Define a controlled reservoir	✓							
	3-5: Define who is reservoir manager		✓						
	27-31: Establish engineer panels and appoint suitably competent engineers		✓						
	32-42: Define construction works and provide administrative procedure to certify such works			✓	✓				
	45 – 51: Inspection & supervision requirements for high & medium consequence reservoirs					✓			
	36, 40,48, 69,71, 74, 77 & 82: Powers to require works to a reservoir						✓		
	54-57: Other requirements - incident reports, flood plans, maintenance of records, display of emergency response information							✓	
	50: Supervision of draw down by a supervising engineer 32: Meaning of relevant works requiring commission of a construction engineer.								✓

- A. Reservoirs subject to Regulation
- B. Entities concerned
- C. Reservoir projects
- D. Construction and first filling
- E. Reservoir operation
- F. The repair of reservoirs
- G. Rules for the protection of the population
- H. Reservoir decommissioning

These topics are covered in detail below.

## RESERVOIR LEGISLATION IN SCOTLAND

### RESERVOIRS SUBJECT TO REGULATION

In Scotland, reservoirs that are capable of holding 25,000m<sup>3</sup> or more of water are regulated under the Reservoirs (Scotland) Act 2011. Managers of these reservoirs are required to register them with the Scottish Environment Protection Agency (SEPA) following which a risk designation of 'high', 'medium' or 'low' will be given. Those designated high-risk will be subject to inspection and supervision by reservoir engineers. Those designated medium risk will be subject to supervision. Low risk reservoirs must be registered but are not subject to the same degree of inspection and supervision. The Act is being implemented in a phased approach with reservoirs over 25,000m<sup>3</sup> being brought under the new regime first and the smaller reservoirs between 10,000m<sup>3</sup> and 25,000m<sup>3</sup> being brought under the Act at a later date.

### ENTITIES CONCERNED

#### *Administrative organisation*

In Scotland, SEPA monitors compliance with the Reservoirs (Scotland) Act 2011. This Act establishes panels of reservoir engineers who are suitably qualified to provide the reservoir managers with requirements and/or directions in relation to measures that should be taken to reduce the risk of dam failure. Reservoir managers are required to follow these requirements and/or directions.

SEPA ensures that the reservoir manager of a high or medium consequence reservoir commissions the correct engineer from the panels of suitably competent engineers to perform the inspection or supervision functions as required. SEPA, in conjunction with the Supervising Engineer, will also monitor compliance with the recommendations of an inspection report and where necessary take such action as necessary to ensure the recommendations are observed. To perform this role, SEPA maintains a register of controlled reservoirs and acts as a repository for the various reports and certificates that will be completed by the reservoir engineers in the execution of their functions.

#### *Owners*

In common law, the owner of a reservoir is liable for any damage caused should there be an uncontrolled release of water from a reservoir. The Reservoirs (Scotland) Act 2011 allocates responsibility for reservoir safety to a reservoir manager. The reservoir manager will be the person who controls or operates the reservoir or, if no such person exists, the owner of the reservoir. It is possible that a controlled reservoir may be managed by one reservoir manager or by more than one (multiple) reservoir managers.

The reservoir manager is responsible for day-to-day monitoring of the reservoir in line with the recommendations made by the Inspecting Engineer or the Supervising Engineer. The reservoir manager of a high or medium consequence reservoir must ensure that the reservoir is under the supervision of a Supervising Engineer at all times. Managers of high risk reservoirs are also required to commission an Inspecting Engineer from the panel of approved engineers to inspect the reservoir at intervals not exceeding 10 years. Managers of medium risk reservoirs are only required to commission an Inspecting Engineer to inspect the reservoir when recommended by the Supervising Engineer. The reservoir manager of a low consequence reservoir is not required to commission a Supervising Engineer or an Inspecting Engineer.

#### *Reservoir Engineers*

These are qualified civil engineers who are appointed by Scottish Ministers to reservoir engineer panels based on recommendations as to their suitability and competence provided by the Institution of Civil Engineers. The reservoir engineers inspect and supervise reservoirs and where appropriate design and supervise the construction or enlargement of new or existing reservoirs or the decommissioning or abandonment of existing reservoirs.

Inspecting Engineers commissioned to perform a reservoir inspection provide inspecting reports to the reservoir manager, encompassing the whole of the reservoir basin. These reports are copied to SEPA and set out measures that must be taken in the interests of safety and maintenance and also contain recommendations on other matters.

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An annual statement is provided by the Supervising Engineer, who is commissioned by the reservoir manager of a high or medium designated reservoir to supervise the reservoir at all times. The statement will detail the actions taken by the reservoir manager and compliance with any directions or recommendations given by the Supervising Engineer or the Inspecting Engineer.

A Construction Engineer need only be commissioned where construction or alteration of a reservoir is planned. This engineer will be on the Inspecting Engineers' Panel and be responsible for safety throughout the works. He will provide certificates at various stages to permit filling of the reservoir and notify completion of works.

### **RESERVOIR PROJECTS**

The Reservoirs (Scotland) Act 2011 does not attempt to set in law such technical standards that may be liable to change as a result of research or recommendations for best practice. The Act does however require the reservoir manager to commission a suitably competent reservoir engineer from the panel of reservoir engineers established by Scottish Ministers for certain works and activities specified by law.

These engineers are familiar with the latest technical guidance relating to reservoir construction as published by various professional bodies and apply these to the reservoirs to which they are appointed.

### **CONSTRUCTION AND FIRST FILLING**

The Reservoirs (Scotland) Act 2011 requires those who wish to construct a reservoir to commission the services of a reservoir Construction Engineer from the panel of reservoir engineers established by Scottish Ministers. Once construction has advanced to a state where the reservoir can be safely filled, or partially filled; the reservoir Construction Engineer will provide a preliminary certificate which sets out the level to which the reservoir can be filled and any further recommendations in relation to the safety of the reservoir that are appropriate. This certificate can be revised and re-issued as often as the Construction Engineer considers necessary until the reservoir construction is complete.

The commission of the Construction Engineer terminates with the issue of the final certificate. This final certificate starts a two-year monitoring period, by the end of which the reservoir must have been inspected by a reservoir Inspecting Engineer. SEPA will ensure that all certificates are supplied by the Construction Engineer to the reservoir manager prior to each stage of construction and filling of the reservoir and that all safety requirements are conducted as recommended by the reservoir Construction Engineer during the two-year period following completion.

### **RESERVOIR OPERATION**

Reservoirs in Scotland are designated either; high, medium or low risk depending on the likely consequences of an uncontrolled release of water. High and medium risk reservoirs must be supervised by a reservoir Supervising Engineer at all times. The Supervising Engineer, using any recommendations that may be made by an Inspecting Engineer, will direct the reservoir manager to perform various monitoring and maintenance operations as appropriate to the reservoir. The performance of these operations is reported annually to the reservoir manager and copied to SEPA.

High risk reservoirs are also inspected by an Inspecting Engineer at intervals not exceeding ten years, but the Supervising Engineer can call for an inspection at any time. A similar inspection of a medium risk reservoir must be carried out if one is recommended by the Supervising Engineer. Low risk reservoirs are not formally monitored. The risk designation of a reservoir is reviewed at least every six years or at any time where SEPA considers the designation may have ceased to be appropriate.

### **THE REPAIR OF RESERVOIRS**

The Reservoirs (Scotland) Act 2011 recognises various types of work that may be undertaken on a reservoir:

- Construction or alteration works that reduce or enlarge the capacity of a reservoir must be undertaken under the supervision of a Construction Engineer commissioned from the approved panel of Inspecting Engineers established by Scottish Ministers. Completion of this type of work is certified by the Construction Engineer.

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- Repair works recommended by an Inspecting Engineer as a result of the ten year inspection must be supervised by a Qualified Civil Engineer who will supply a certificate once satisfied that the works have been successfully completed.
- Maintenance works are supervised by the Supervising Engineer who will report on this type of work in the annual statement. This type of work is ongoing and as such does not require a completion certificate.
- Where works of any type are not undertaken as required or completed to the satisfaction of the reservoir engineer, SEPA has powers to require by notice the undertaking or completion of the works. In extreme cases, or emergency situations, SEPA can take appropriate emergency measures, under the supervision of a Qualified Civil Engineer, to ensure the safety of the reservoir.

### **RULES FOR THE PROTECTION OF THE POPULATION**

SEPA uses detailed reservoir inundation maps as part of the reservoir designation process. The Reservoirs (Scotland) Act 2011 allows the Scottish Government to make further regulations requiring the preparation of flood (emergency on-site) plans. Such plans will set out the actions to be taken by the reservoir manager in order to control or mitigate the effects of flooding likely to result from any escape of water from the reservoir.

### **RESERVOIR DECOMMISSIONING**

The Reservoir (Scotland) Act 2011, within its definition of construction or alteration of a reservoir, includes the term 'discontinuance' which is where the reservoir is altered so that it is incapable of holding 25,000m<sup>3</sup> of water. It also includes the term 'abandonment' which is where the reservoir is altered so that it is incapable of holding any water.

Such works are to be conducted under the supervision of a Construction Engineer who will certify completion as appropriate. Other approvals are required from environmental and planning authorities and the reservoir Construction Engineer is expected to be sufficiently competent and familiar with these to provide advice to their client.

**COMPARISON OF RESERVOIR LEGISLATION IN ENGLAND, WALES, SCOTLAND AND NORTHERN IRELAND.**

	<b>Reservoirs Act 1975</b>	<b>Reservoirs Act 1975 as amended for England</b>	<b>Reservoirs Act 1975 as amended for Wales</b>	<b>Reservoirs (Scotland) Act 2011</b>	<b>Reservoirs Act (Northern Ireland) 2015</b>
<b>Regulatory Authority</b>	Originally Local Authorities	Environment Agency (EA)	Natural Resources Wales (NRW)	Scottish Environment Protection Agency (SEPA)	Department of Agriculture and Rural Development (DARD). Department for Infrastructure from May 2016.
<b>Registration Threshold</b>	25,000 m <sup>3</sup>	25,000 m <sup>3</sup> (Further evidence gathering, in 2016/17, to take place before Ministers decide on any changes to this threshold and inclusion of cascades)	10,000 m <sup>3</sup> New threshold came into force 1 April 2016	10,000 m <sup>3</sup> Includes connected storages (cascades etc) but to be phased in. <u>Initially 25000m<sup>3</sup> from 1 April 2016</u> . Reservoirs over 10,000m <sup>3</sup> will be brought under regime at a later date.	10,000m <sup>3</sup> Includes connected storages (cascades etc)
<b>Fees</b>	No	Still to be determined	To be determined	Yes	Yes. While the Act makes provision for the charging of fees there is no intention to do so at present.
<b>Risk Designation</b>	No accounting for risk within legislation	High Risk only, assessed on probability of failure = 1 & consequence.	High risk only, assessed on probability of failure = 1 & consequence.	High, Medium & Low – assessed on probability of failure = 1 & consequence.	High, Medium & Low Consequence – assessed primarily on the impact of an uncontrolled release of water due to dam failure.
<b>Responsible party</b>	Undertaker	Undertaker(s)	Undertaker(s)	Reservoir Manager(s)	Reservoir Manager(s)
<b>Inspection Reports</b>	Section 10 Report	Section 10 Report	Section 10 Report	Section 47 Report	*Section 35 Report

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<b>Inspecting Engineer</b>	<p>All sites</p> <p>No time limit on production of report</p> <p>Report only copied to Enforcement Authority when MIoS contained in report</p> <p>No time limits on MIoS</p>	<p>High risk sites</p> <p>Inspection report to be sent within 6 months of inspection date to Undertaker</p> <p>All reports copied to EA</p> <p>Time limits on MIoS</p>	<p>High risk reservoirs</p> <p>Inspection report to be sent within 6 months of inspection date to Undertaker</p> <p>All reports copied to NRW</p> <p>Time limits on MIoS</p>	<p>High risk sites</p> <p>Medium risk sites, only when requested by supervising engineer</p> <p>Inspection report to be sent within 9 months of inspection date to Reservoir Manager All reports copied to SEPA within 28 days of sending to Reservoir Manager</p> <p>Time limits on MIoS</p>	<p>High and Medium Consequence reservoirs.</p> <p>Inspection report to be sent within 6 months of inspection date to Reservoir Manager.</p> <p>All reports copied to the Department within 28 days.</p> <p>Time limits on MIoS</p>
<b>Supervising Statements</b>	Section 12 Statement	Section 12 Statement	Section 12 Statement	Section 50 Statement	*Section 26 Statement
<b>Supervising Engineer</b>	<p>All sites</p> <p>Not required to send statement to Enforcement Authority</p>	<p>High risk sites</p> <p>12-monthly written statements produced for undertaker and all copied and sent to EA</p>	<p>High risk reservoirs</p> <p>12-monthly written statements produced for undertaker and all copied and sent to NRW</p>	<p>High &amp; Medium risk sites</p> <p>12-monthly written statements produced for reservoir manager and all copied and sent to SEPA within 28 day of sending to reservoir manager.</p>	<p>High &amp; Medium Consequence reservoirs</p> <p>12-monthly written statements produced for Reservoir Manager and copied to Department</p>

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<b>On-site Plans</b>	No	Termed 'flood plan' in Act - Minister has powers to make this a statutory requirement by issuing further regulations	Termed 'flood plan' in Act - Minister has powers to make this a statutory requirement by issuing further regulations  - No intention to make further regulations at this time	-Termed 'flood plan' in Act , Scottish Ministers have powers to make this a statutory requirement by issuing further regulations	Yes – termed 'flood plan' in the Act.
<b>Maintenance items</b>	Not statutory	Statutory – included in Inspecting engineer reports	Statutory – included in Inspecting engineer reports	Statutory – will be included in Inspecting engineer reports	Yes statutory. Works will be included in Inspecting engineer reports.
<b>Incident Reporting</b>	Voluntary	Statutory	Statutory	Scottish Ministers have powers to make this a statutory requirement by issuing further regulations.	Statutory, details will be set out in regulations.
<b>Enforcement Powers</b>	Only criminal	Criminal	Criminal	Civil Sanctions & Criminal	Civil and Criminal Sanctions
<b>Public Register</b>	Yes - limited	Yes – expanded requirements. All engineer reports, certificates & written statements to be included, as well as outline inundation map for each reservoir	Yes – expanded requirements. All engineer reports, certificates & written statements to be included.	Yes – expanded requirements. All engineer reports, certificates & written statements to be included, as well as outline inundation map for each reservoir	Yes – extent to be specified by regulations.

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<b>Reservoir Flood (Inundation) Maps</b>	No	Yes. EA currently updating maps (produced in 2009) to reflect new legislation requirements	Yes. EA produced them for all sites covered by 1975 Act as registered in 2009.  'New' reservoirs between 10,000 and 25,000m <sup>3</sup> to be mapped by NRW to inform risk designation and emergency planning	Yes. SEPA has produced them for all sites covered by 1975 Act and will do so in due course for existing sites over 10,000 m <sup>3</sup> when the Act applies to such reservoirs. Reservoir Managers of new sites will be required to produce them & supply them as part of registration requirement.	Yes. The publication of reservoir flood maps will be consistent with the terms of the National Protocol.

**\*Northern Ireland: It should be noted that Sections 26 and 35 of the Reservoirs Act (Northern Ireland) 2015 have not yet been commenced**