

RESERVOIR LEGISLATION IN ENGLAND

BASIC LEGAL FRAMEWORK

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

Reservoirs in England and Wales are regulated under the Reservoirs Act 1975, as amended by the Flood and Water Management Act 2010, and this is enforced by the Environment Agency in England.

SUMMARY OF RELEVANT SECTIONS OF THE ACT

Reservoirs Act 1975, as amended by the Flood and Water Management Act 2010

Summary Table:

Law	Applicable section(s) of Act	Topics							
		A	B	C	D	E	F	G	H
Reservoirs Act 1975	A1 & 5: Define a controlled (regulated) reservoir	✓							
	1, 21 – 24: Role and responsibilities of the reservoir undertaker		✓					✓	
	4: Establish engineer panels and appoint suitably competent engineers		✓						
	6 – 9, 21: Define construction works and provide administrative procedure to certify such works			✓	✓				
	10 – 12, 19: Inspection & supervision requirements for high-risk reservoirs					✓			
	2 - 3, 15 – 18, 25 – 26: Regulatory powers and duties to require and carry out works to a reservoir		✓				✓	✓	
	12A, 12AA - 12B, 20 - 21: Other requirements, flood plans, maintenance of records, reports and incident reports							✓	
	13 - 14: Discontinuance or Abandonment								✓

- 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.

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RESERVOIRS SUBJECT TO REGULATION

In England, reservoirs that are capable of holding 25,000m³ or more of water are regulated under the Reservoirs Act 1975. The undertakers (owners or operators) of these reservoirs are required to register them with the Enforcement Authority (the Environment Agency) following which a designation of 'high-risk' or 'not high-risk' will be given. Those designated high-risk will be subject to inspection and supervision by reservoir engineers. Not high-risk reservoirs must be registered but are not subject to the same degree of inspection and supervision.

ENTITIES CONCERNED

Administrative organisation

In England the Environment Agency monitors compliance with the amended Reservoirs Act 1975. This Act establishes panels of reservoir engineers who are suitably qualified to provide the reservoir undertakers with recommendations and/or directions on actions that should be taken to reduce the risk of dam failure.

Reservoir undertakers are required to follow these recommendations and/or directions. The Environment Agency ensures that the reservoir undertakers of a high-risk reservoir commissions the correct engineer from the panels of suitably competent engineers to perform the inspection or supervision functions as required.

The Environment Agency monitors compliance with the recommendations of an inspection report and where necessary take such action as will ensure the recommendations are observed. To perform this role, the Environment Agency maintains a register of regulated 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 Act 1975 allocates responsibility for reservoir safety to a reservoir undertaker. This reservoir undertaker can be the owner, operator or a nominated representative of a group of owners or company, or other organisation. The reservoir undertaker is responsible for day to day monitoring of the reservoir in line with the recommendations made by the inspecting or the supervising engineer.

The reservoir undertaker of a high-risk reservoir must ensure that the reservoir is under the supervision of a supervising engineer at all times. They are also required to commission an inspecting engineer from the panel of approved engineers to inspect the reservoir at least every 10 years. The reservoir undertaker of a not high-risk reservoir is not required to commission a supervising or an inspecting engineer.

Reservoir Engineers

These are qualified civil engineers who are appointed by the government Department for Environment Food & Rural Affairs (Defra) as either Inspecting Engineers or Supervising Engineers to reservoir engineer panels based on recommendations, provided by the Institution of Civil Engineers, as to their suitability and competence. These 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 undertaker, encompassing the whole of the reservoir basin. These reports are copied to the Environment Agency and provide a condition assessment of the impounding structures, spillways; outlet and inlet facilities. Crucially they provide recommendations in the interests of safety and maintenance.

The supervising report or annual statement is provided by the Supervising Engineer, who is commissioned by the reservoir undertaker of a high-risk reservoir to supervise the reservoir at all times. The statement will detail the actions taken by the reservoir undertaker and compliance with any directions or recommendations given by the Supervising Engineer or the Inspecting Engineer.

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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 to the Environment Agency.

RESERVOIR PROJECTS

The Reservoirs Act 1975 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 undertaker to commission a suitably competent reservoir engineer from the panel of reservoir engineers established by the Defra where a project falls within the definition of relevant works and / or has the potential to affect the safety of the reservoir.

Any engineer who is commissioned to design and supervise the construction, alteration, repair or any other relevant works will be familiar with the latest technical guidance relating to reservoir construction as published by various professional bodies.

CONSTRUCTION AND FIRST FILLING

The Reservoirs Act 1975 requires those who wish to construct a reservoir to commission the services of a reservoir Construction Engineer from the panel of Inspecting Engineers established by Defra. 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, which normally will be issued three years after the preliminary certificate. This final certificate starts a two-year monitoring period, at the end of which the reservoir must be inspected by a reservoir Inspecting Engineer.

The Environment Agency will ensure that all safety and preliminary certificates are supplied by the Construction Engineer to the reservoir undertaker prior to each stage of construction and filling of the reservoir, and that all safety monitoring operations are conducted as recommended by the reservoir Construction Engineer in the two-year period following completion.

RESERVOIR OPERATION

Reservoirs in England are designated high-risk or not high-risk based on the impacts of an uncontrolled release of water. High-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 undertaker to perform various monitoring and maintenance operations as appropriate to the reservoir.

The performance of these operations is reported annually to the reservoir undertaker and copied to the Environment Agency. High-risk reservoirs are also inspected by an Inspecting Engineer at least every ten years but the Supervising Engineer can call for such an inspection at any time. Not high-risk reservoirs are not formally monitored, but the designation can be reviewed, at any time, where the Environment Agency considers the designation may have ceased to be appropriate. All reservoir undertakers must report any incidents at their reservoirs to the Environment Agency.

THE REPAIR OF RESERVOIRS

The Reservoirs Act 1975 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 Defra. 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 (i.e. an Inspecting 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, the Environment Agency has powers to require by notice the undertaking or completion of the works. In extreme cases, or emergency situations, the Environment Agency can perform the works or take other appropriate emergency actions, under the supervision of a Qualified Civil Engineer, to ensure the safety of the reservoir.

RULES FOR THE PROTECTION OF THE POPULATION

The Environment Agency uses detailed reservoir flood maps as part of the reservoir risk designation process. These flood maps are shared with local authority emergency planners to inform their emergency (off-site) plans. The Reservoirs Act 1975 makes reference to the need for reservoir undertakers to prepare emergency (on-site) plans but this is not a legal requirement under the Reservoirs Act 1975.

Such plans will set out the actions to be taken by the reservoir undertaker in order to control or mitigate the effects of flooding likely to result from any escape of water from the reservoir. These plans will be specific to each reservoir and shared with local authority emergency planning personnel.

RESERVOIR DECOMMISSIONING

The Reservoir Act 1975, 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 25,000m³ of water. It also includes the term 'abandonment' which is where the reservoir is altered so that it is incapable of filling accidentally or naturally of 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.

	Reservoirs Act 1975	Reservoirs Act 1975 as amended for England	Reservoirs Act 1975 as amended for Wales	Reservoirs (Scotland) Act 2011	Reservoirs Act (Northern Ireland) 2015
Regulatory Authority	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.
Registration Threshold	25,000 m ³	25,000 m ³ (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 ³ New threshold came into force 1 April 2016	10,000 m ³ Includes connected storages (cascades etc) but to be phased in. <u>Initially 25000m³ from 1 April 2016</u> . Reservoirs over 10,000m ³ will be brought under regime at a later date.	10,000m ³ Includes connected storages (cascades etc)
Fees	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.
Risk Designation	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.
Responsible party	Undertaker	Undertaker(s)	Undertaker(s)	Reservoir Manager(s)	Reservoir Manager(s)
Inspection Reports	Section 10 Report	Section 10 Report	Section 10 Report	Section 47 Report	*Section 35 Report

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	Reservoirs Act 1975	Reservoirs Act 1975 as amended for England	Reservoirs Act 1975 as amended for Wales	Reservoirs (Scotland) Act 2011	Reservoirs Act (Northern Ireland) 2015
Inspecting Engineer	<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>
Supervising Statements	Section 12 Statement	Section 12 Statement	Section 12 Statement	Section 50 Statement	*Section 26 Statement
Supervising Engineer	<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 & 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 & Medium Consequence reservoirs</p> <p>12-monthly written statements produced for Reservoir Manager and copied to Department</p>

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	Reservoirs Act 1975	Reservoirs Act 1975 as amended for England	Reservoirs Act 1975 as amended for Wales	Reservoirs (Scotland) Act 2011	Reservoirs Act (Northern Ireland) 2015
On-site Plans	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.
Maintenance items	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.
Incident Reporting	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.
Enforcement Powers	Only criminal	Criminal	Criminal	Civil Sanctions & Criminal	Civil and Criminal Sanctions
Public Register	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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	Reservoirs Act 1975	Reservoirs Act 1975 as amended for England	Reservoirs Act 1975 as amended for Wales	Reservoirs (Scotland) Act 2011	Reservoirs Act (Northern Ireland) 2015
Reservoir Flood (Inundation) Maps	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 ³ 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 ³ 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**