



Water Use

Supporting Guidance (WAT-SG-47)

Levels of Authorisation and Charging Guidance for Flood Alleviation Schemes

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Update Summary

Version	Description
v1.0	First issue for Water Use reference using approved content from the following documents: <i>Flood Alleviation Schemes.doc</i>
v2.0	New base template applied, links to docs revised for new SEPA website, Nov 2008
v3.0	Remove inference that SEPA regulates flood management (Sect 2&3), doc links redirected to QP
v4.0	Reference to old charging scheme removed and links updated

Notes:

References: Linked references to other documents have been disabled in this web version of the document. See the References section for details of all referenced documents.

Printing the Document: This document is uncontrolled if printed and is only intended to be viewed online. If you do need to print the document, the best results are achieved using Booklet printing or else double-sided, Duplex (2-on-1) A4 printing (both four pages per A4 sheet).

Always refer to the online document for accurate and up-to-date information.

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1. Key Points

SEPA is consulted on Flood Prevention Schemes through the development control and flood prevention order process. *Policy 41: Development at Risk of Flooding: Advice and Consultation* sets out SEPA's position with respect to providing advice to planning authorities for development at risk of flooding. Under the *Water Environment (Controlled Activities)(Scotland) Regulations (Controlled Activities Regulations)* SEPA is required to meet additional responsibilities regarding Flood Prevention Schemes and other flood management works and is required to issue CAR authorisations to cover any relevant river engineering, abstraction and impoundment activities. SEPA also has a duty to promote sustainable flood management under Section 2(4) of the *Water Environment and Water Services (Scotland) Act 2003 (WEWS)*.

By their nature, Flood Prevention Schemes and other flood management works tend to involve a number of complex issues, which require consideration at the catchment scale and are often inter related. The purpose of this guidance is to provide guidelines for SEPA staff at the pre application stage to enable a consistent approach in identifying the correct level of authorisation and application process with regard to applications received under the *Controlled Activities Regulations* for Flood Prevention Schemes and other flood management works involving engineering works, abstractions and impoundments. This guidance does not provide details on good practice with respect to flood risk management.

2. Authorisation Requirements under CAR

The majority of flood alleviation schemes will require authorisation under the *Controlled Activities Regulations*. There are some flood prevention measures which do not involve the impoundment or abstraction of water and are suitably set back from the water environment so as not to pose a direct risk. Appendix V of *WAT-RM-02: Regulation of Licence-level Engineering Activities* provides further guidance on what activities in the vicinity of the water environment should be regulated through the engineering regime.

Depending on the components of a scheme, they may require assessment under various regimes, namely engineering, abstraction and impoundment. A key principle when regulating flood alleviation schemes is that the scheme should be looked at as a whole. SEPA will be required to assess all components of a proposal to ensure protection of the water environment. The following sections describe various types of flood management measures and how they should be authorised under the *Controlled Activities Regulations*.

2.1 On-line Flood Storage

2.1.1 What is on-line flood storage?

On-line flood storage uses impoundments to hold back flow in wetlands, rivers, lochs and estuaries. They consequently affect downstream water flows, the movement of sediment and migration of fish and other aquatic species. On-line flood storage enables flood waters to be stored by means of a suitably designed impoundment structure, thereby reducing the magnitude of flood peaks downstream.

On-line flood storage can be divided into 2 distinct categories:

- **Intermittent on-line flood storage** - the impoundment structure is designed only to hold back flows during a flood, otherwise the river flow is unaffected.
- **Continuous on-line flood storage** - the impoundment structure is designed to hold back river flows of all magnitudes creating an artificial flow regime downstream of the structure at all times.

2.1.2 How should on-line flood storage be regulated?

On-line flood storage impoundments are authorised under the impoundments regime.

2.1.3 How should on-line flood storage be charged?

Application Fee

On-line flood storage structures will be charged under the impoundments section of the *Environmental Regulation (Scotland) Charging Scheme*. They

should not incur any application charges under the abstraction or engineering regime. To calculate the application fee it is necessary to determine which level of authorisation the impoundment structure resulting in the on-line flood storage falls under. If it is less than 1m high and does not affect the passage of salmon or sea trout, then it comes under a simple licence and should be charged accordingly. All other new impoundments will require a complex licence and should be charged accordingly.

Subsistence Fee

Intermittent on-line flood storage is not liable to subsistence charges under the impoundments regime as long as the impoundment structure only affects downstream water flows, sediment transport and migration of fish during peak flood flows. For further guidance on flood flows, contact hydrology.

Continuous on-line flood storage will be charged subsistence fees under the impoundments regime.

2.2 Off-line Flood Storage

2.2.1 What is off-line flood storage?

Off-line flood storage collects water during flood conditions and then releases this water when river levels fall. Flood waters are stored off-line, typically in floodplain areas and therefore do not normally impact on the low flow regime of the water environment.

Embankments or flood walls are used to contain the water and water can be diverted into the storage area and released back into the river via a number of means including sluice gate, side weirs, drainage channels and gravity.

Off-line flood storage can also include the construction of an impoundment within the channel in the vicinity of the off-take to control water flow into the storage area.

2.2.2 How will off-line flood storage be regulated?

Off-line flood storage areas will not be assessed under the impoundments regime. However, any in-channel impoundments (weirs) to control the off-take point should be assessed using the impoundments regime. Regulation and control of off-line flood storage structures (embankments) will therefore take place primarily under the engineering regime. Off-line flood storage normally does not operate during low flow conditions (see *WAT-RM-01: Regulation of Abstractions and Impoundments* for guidance on low flows). However, where low flows are affected, then it should also be assessed using the abstraction regime.

2.2.3 How will off-line flood storage be charged?

Application Fee

Off-line flood storage areas will be charged under the engineering regime. The floodwalls or embankments and off-takes will not incur any application charges under the abstraction regime, **unless they require assessment due to impacts on low flows.**

The application fee for any associated weir should be assessed through the impoundment regime.

The total length of embankments or floodwalls required for the offline storage area is used to assess level of authorisation and this criteria used in the calculation of the application fee. Any structure required for the operation of the storage area such as an intake or return will not be charged for separately but will be included in the authorisation as a dependant activity.

Subsistence Fee

Off-line flood storage areas will be charged under the engineering regime. Off-takes, floodwalls, embankments or in-channel weirs will not incur any abstraction or impoundment subsistence fees provided they are solely for the purpose of flood management.

An engineering subsistence fee will only be charged if SEPA deems that the works require environmental monitoring and the works fall into the thresholds for charging, refer to *IPM-WG-10: Monitoring and Risk Assessment Guidance for Engineering Activities*.

2.3 Flood Bypass Channels & Flood Relief Culverts

2.3.1 What is a flood bypass channel?

Flood bypass channels are constructed to take away high flows from an area at risk of flooding. The flows are typically returned downstream of any flood risk area. The bypass channels can be open channels or closed culverts.

2.3.2 How will flood bypass channels be regulated?

Flood bypass channels will not normally be assessed or regulated under the impoundment or abstraction regime. Regulation and control of flood by-pass channels will therefore take place primarily under the engineering regime. However, where the low flow regime of the associated watercourse is affected by the bypass (e.g. if the bypass operates during all flow conditions – see *WAT-RM-01: Regulation of Abstractions and Impoundments* for further information on low flows), assessment against water quantity standards and impacts on other water users should be assessed.

Careful consideration should also be given if flood water is transferred to a different watercourse or catchment via the by-pass channel.

As with off-line flood storage, the by-pass channel may have a weir constructed in the main watercourse to control water off-take. This should be regulated under the impoundments regime.

2.3.3 How will flood bypass channels be charged?

Application Fee

Flood bypass channels will be charged under the engineering regime. The off-take and outfall and any associated embankments will not incur any charges under the abstraction or impoundment regimes, provided low flows are not affected. Any in-channel weirs associated with the intake should be charged under the impoundments regime. If low flows are affected, then an abstraction application fee should apply.

If the water is being diverted from a river that is less than 3m wide (measured across the bed or “active channel” of the watercourse), then the by-pass channel falls into the simple licence category.

If the water is being diverted from a river greater than 3m wide (measured across the bed or “active channel” of the watercourse), then the bypass channel falls into the complex licence category.

Subsistence Fees

Flood by-pass channels will be charged under the engineering regime. They will not incur any abstraction or impoundment subsistence fees.

An engineering subsistence fee will only be charged if SEPA deems that the works require environmental monitoring refer to *IPM-WG-10: Monitoring and Risk Assessment Guidance for Engineering Activities*.

2.4 Other Flood Prevention Measures

Other flood prevention measures which do not involve the diversion or impoundment of water will be regulated and charged through the engineering regime. Such measures may include floodwalls, embankments, channelisation and dredging.

3. Assessment Procedure

Assessment of flood alleviation projects will rely on different types of SEPA expertise (ecology, geomorphology, hydrology and planning). SEPA Flood Risk Hydrologists may be consulted on flood alleviation schemes, and have a vital role in assessing their justification if environmental harm is likely. The earlier the hydrologists can be involved the better, particularly at the pre-application discussion phase, to enable critical issues to be identified and evaluated.

The Scottish Executive Flood Issues Advisory Committee (FIAC) (previously National Technical Advisory Group (NTAG)) are in the process of producing guidance for local authorities on how to bring forward flood prevention schemes that will include advice on sustainable flood management. Details of this guidance and other relevant material can be found on the *Flooding* pages of the Scottish Government website.

References

NOTE: Linked references to other documents have been disabled in this web version of the document See the Water >Guidance pages of the SEPA website for Guidance and other documentation (<http://www.sepa.org.uk/regulations/water/engineering/engineering-guidance/>). All references to external documents are listed on this page along with an indicative URL to help locate the document. The full path is not provided as SEPA can not guarantee its future location.

Water Manual References

- *WAT-RM-01: Regulation of Abstractions and Impoundments*
- *WAT-RM-02: Regulation of Licence-level Engineering Activities*
- *IPM-WG-10: Monitoring and Risk Assessment Guidance for Engineering Activities*

External References

- *Policy 41: Development at Risk of Flooding: Advice and Consultation* (www.sepa.org.uk)
- *Water Environment and Water Services (Scotland) Act 2003 NetRegs* (www.netregs.gov.uk)
- *Environmental Regulation (Scotland) Charging Scheme* (www.sepa.org.uk)
- *Water Environment (Controlled Activities)(Scotland) Regulations* (www.sepa.org.uk/regulations/water/)
- *Flooding* Scottish Government (www.gov.scot)

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