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Scottish Environment Protection Agency
Buidheann Dion Àrainneachd na h-Alba

Water Use

Regulatory Method (WAT-RM-41) Derogation Determination – Improvements to the Water Environment

August 2021

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Update Summary

Version	Description
v1	First issue for Water Use reference using approved content from the following documents: *RM41 to WMfinalv2.doc*
v2	Revised guidance to accommodate change in method to determine disproportionate expense of improvements

Table of Contents

Background and Key Principles

When to use this guidance

This regulatory method (WAT-RM-41) and its accompanying supporting guidance (WAT–SG-67) and (WAT-SG-68) should be used when:

- An Operator is requesting an exemption to a proposal (either SEPA or Operator initiated) to vary an authorisation under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) in order to improve the status of the water environment and so contribute to the achievement of one or more of the Water Framework Directive's objectives referred to in points (A) to (D) of Table 1 or (E) of Table 2 below.
- SEPA is considering measures to improve the physical condition of a water body

Note

Coordinating Officers (CO) should contact the Water Unit for support when using this method. Experience gained on other cases will help the decision making process for new variations. In addition revised guidance maybe available. SEPA also has a series of sector based review groups who can also provide advice and peer review decisions. Early contact with the Water Unit is advisable if one or more of the principal objectives in 1.2 are not met.

CAR, gives SEPA powers to vary authorisations for controlled activities. SEPA is expected:

a. to exercise these powers to improve the water environment in order to contribute to the achievement of the environmental objectives of the Water Framework Directive (Directive 2000/60/EC); and
b. when exercising the powers, to have regard to the social and economic impact of the exercise of these powers; to promote sustainable flood management, and to act in the way best calculated to contribute to the achievement of sustainable development.[1]

SEPA will take account of the balancing considerations referred to in point (b) above in accordance with objective setting provisions of Article 4 of the Water Framework Directive. These provisions provide the flexibility needed to prioritise improvements over successive planning cycles whilst ensuring the pace of improvement is feasible and proportionate. The approach set out in this method takes account of European guidance on the Directive's objective setting provisions.[2]

The Regulatory Method applies only to variation conditions being proposed in order to modify a controlled activity in such a way as to reduce the adverse impact of that activity on the status of the water environment. SEPA may also propose conditions it considers necessary for other purposes (e.g. in relation to data returns etc). The regulatory method does not apply when considering objections to these latter sorts of conditions.

Return to the Process Summary

Objectives of the Water Framework Directive

The principal objectives of the Water Framework Directive are set out in Table 1 below:

Table 1: The Directive's principal objectives

A	protect, enhance or restore all bodies of surface water not designated as Heavily Modified or Artificial with the aim of achieving good surface water status by 22/12/2027;
B	protect or enhance all bodies of surface water designated as Heavily Modified or Artificial with the aim of achieving good ecological potential and good surface water chemical status by 22/12/2027;
C	protect, enhance or restore all bodies of groundwater with the aim of achieving good groundwater status in all bodies of groundwater by 22/12/2027; and
D	achieve compliance with any water-related standards or objectives for Protected Areas by 22/12/2027, unless an earlier or later date for achieving such compliance is specified in the Community legislation under which the Protected Area was established

Return to the Process Summary

The Directive permits Member States to exempt from achieving the objectives referred to in points (A) to (D) of Table 1 where certain tests are met. Where an exemption is applied, an alternative objective must be set. The Directive's alternative objective is listed in Table 2 below:

Table 2: The Directive's alternative objectives

E	achieve less stringent objectives than the objectives referred to in, as relevant, points (A), (B) or (C) in Table 1 representing the greatest improvement towards good status or good ecological potential that could reasonably be achieved.

The extended deadline provisions under article 4.4 does not apply beyond 2027 therefore every effort must be made to secure the necessary improvements to meet 3rd cycle objectives by 2027: as we reach the 2027 deadline circumstances may change and it may be possible to extend the deadline in exceptional circumstances.

Where the alternative less stringent objective referred to in point (E) of Table 2 is applied, its applicability must be reviewed in each planning cycle with the aim of securing further

environmental improvements. Less stringent objectives will be defined in terms of targets for each relevant quality element (e.g. water quality determinand, etc).

The achievement of an environmental objective such as good status may be at risk because of both the impacts of pressures which SEPA can control through the exercise of its powers under CAR and those that it cannot. SEPA will use its powers to contribute to, and enable, the achievement of the Directive's objectives by seeking to address those impacts for which controlled activities are responsible.

More generally, SEPA will use its powers to seek to resolve impacts resulting from controlled activities causing particular impacts whether or not it knows that the impact of other controlled activities or other pressures on the water body concerned will be addressed. In practice, this means that SEPA will seek improvements on a quality element (determinand) by quality element basis.

Return to the Process Summary

Handling Claims for Exemption

An operator may claim an exemption to a proposed variation where he or she considers that the improvements being proposed by SEPA are:

- technically infeasible;
- disproportionately expensive; or
- with respect to improvements to the hydromorphological characteristics of water bodies designated as heavily modified or artificial, likely to have significant adverse effects on the use for which the water body has been designated or have significant adverse impacts on the wider environment.

Where an operator makes such a claim, SEPA will normally require the operator to advertise the proposed variation and the reasons why the operator considers an exemption would be appropriate. SEPA will take account of the responses to such advertisements in determining whether an exemption should apply and hence how to vary the authorisations concerned.

SEPA will aim to ensure that the information it requires from operators, and the complexity of analysis it uses, to determine claims for exemption are proportionate to the difficulty of the decision at hand and the issues at stake. SEPA will also ensure that the reasons for its decisions are clearly set out and explained.

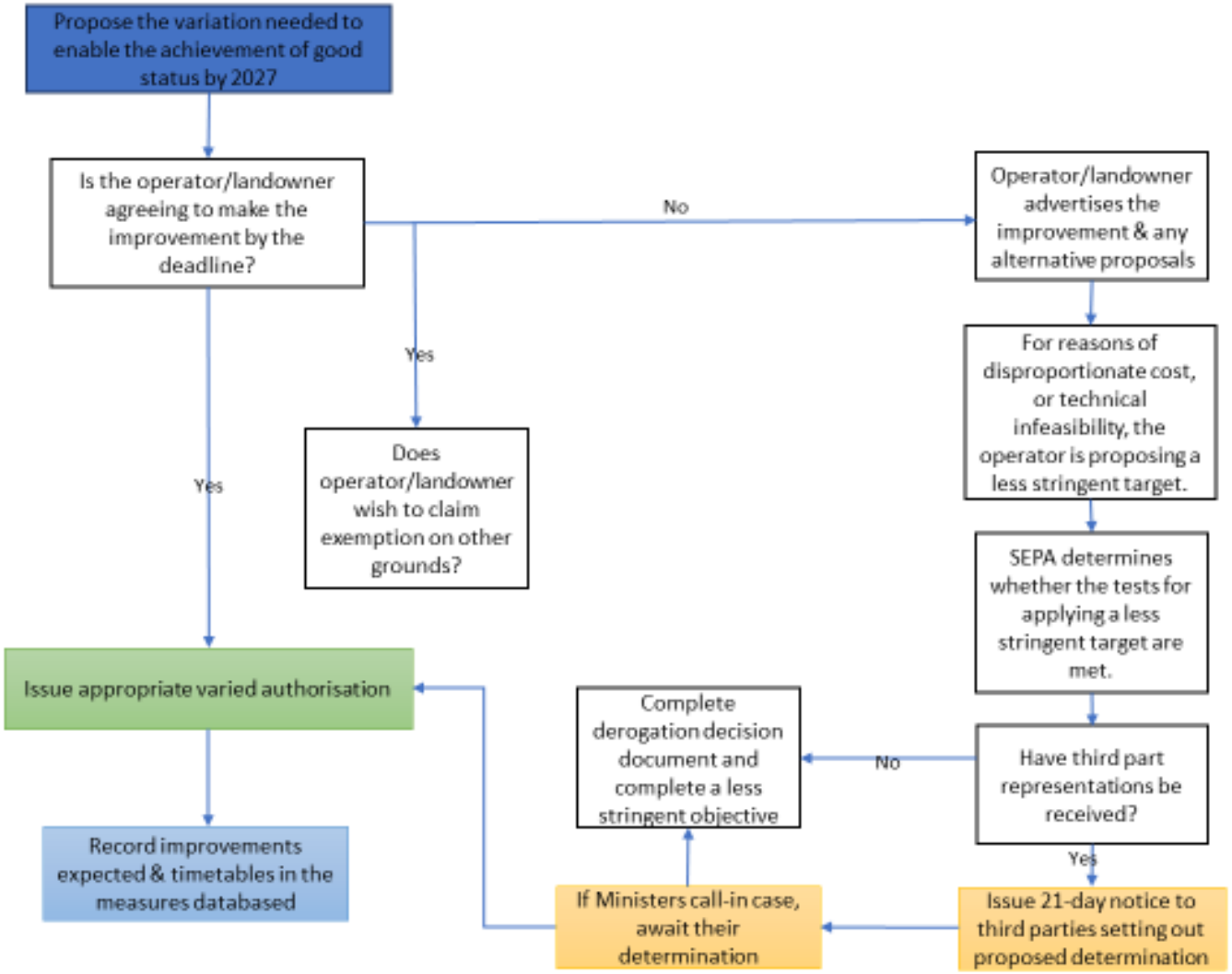
Where it considers exemptions are appropriate, SEPA will seek to provide medium to long-term certainty for operators. It will do this, in so far as is practicable, by identifying the alternative improvement targets, if any, it expects operators to make over at least the next two planning cycles. Such improvement targets may still only be sufficient to enable the achievement of a less stringent environmental objective than good status.

Return to the Process Summary

Process Summary

Stage	Guidance topics [Control + Click to see]
Preparing and issuing a proposed variation	When to use WAT-RM-41 Objectives of WFD Preparing a proposed variation Information to communicate to the operator Additional considerations in preparing proposed variations when there are Multiple Contributory Pressures
Handling claims for exemption prior to making a determination	General approach to claims for exemption Requirement to advertise proposed variations Grounds on which an operator may claim exemption Exemptions specific to heavily modified & artificial water bodies
Making a proposed determination	Approach where operator is not objecting to the proposed variation Information needed to determine a claim for exemption Step-wise approach to applying the exemption tests Determining if the exemption tests are passed • Technical infeasibility test • Disproportionate expense test • Significantly better options test • Significant adverse impact test (heavily modified & artificial water bodies only) Identifying an alternative timetable Determining an appropriate timetable for improvements Determining an appropriate less stringent improvement Reviewing the level of confidence in the determination Preparing a summary report on a proposed determination Recording the outcome of a determination

Figure 1: Process Summary: Representation of the main steps in determining a derogation



Preparing and Issuing a proposed Variation

Preparing a proposed Variation

The first step in the variation procedure is to prepare a proposed variation. The proposed variation should be designed to:

a. enable the achievement of one or more of the environmental objectives in points (A), (B), (C) or (D) of Table 1;

b. enable the achievement of one of the appropriate alternative objectives listed in point (E) of Table 2 where, prior to the variation being initiated, SEPA has already assessed that the improvement needed to achieve one of the objectives listed in Table 1 would be technically infeasible or disproportionately expensive to make; or

c. bring back on track the achievement of any objective that has been agreed in the most recent version of the River Basin Management Plan

With respect to points (a) and (b) above, the date for compliance with conditions proposed to enable the achievement of the environmental objectives shall be 22/12/2027. In deciding the appropriate variation to propose, if any, the **CO** should take account the level of the confidence that there is truly an adverse impact placing the achievement of one or more of the Directive's objectives at risk; and the level of confidence in the magnitude of the action needed from the operator to achieve the objective (See Table 3).

Table 3: Taking account of confidence in deciding the appropriate variations to seek

	Scenario	Variation
1.	Low confidence that a standard needed to enable the achievement of one or more of the objectives listed in Table 1 or Table 2 is failed	Further investigation and data gathering to reduce uncertainties. Seeking a variation to reduce the pressure is not applicable in this scenario
2.	High confidence that a standard needed to enable the achievement of one or more of the objectives listed in Table 1 is failed but low confidence that measures beyond low cost/standard good practice measures would be needed to enable the objective(s) to be achieved	Seek appropriate variation based on the operator implementing the low cost/standard good practice measures
3.	High confidence that that a standard needed to enable the achievement of one or more of the objectives listed in Table 1 is failed and high confidence that measures beyond low cost measures/standard good practice	(i) Seek appropriate variation to enable the achievement of the relevant objective or objectives listed in Table 1
		(ii) Seek variation based on the operator implementing those measures that have not be

	would be needed to enable the objective(s) to be achieved	ruled out as technically infeasible or disproportionately expensive as a result of an appropriate generic assessment as may be set out in national SEPA guidance

Where multiple pressures are contributing to an adverse impact, proposed variations should reflect the cost-effective contribution to addressing the impact which SEPA considers it appropriate for each operator concerned to make. Guidance on identifying cost-effective contributions from multiple contributory pressures can be found in Annex F: Multiple Contributory Pressures.

Return to the Process Summary

Communicating a proposed Variation

The **CO** should ensure that the operator is aware (i.e. through meetings with SEPA officers) that SEPA is about to formally propose a variation, and why, before the variation is proposed in writing. The **CO** should also ensure that the operator understands the process and what will be required of them. The information in Table 4 should help explain the process.

The **CO** should ensure that a record is kept of the minutes of any meetings with the operator and of any correspondence with the operator.

Table 4: Information that should be provided to the operator at the start of the variation process

1.	Why SEPA is initiating the variation?	(i) the water body or bodies adversely impacted by the activity; (ii) the environmental standards being caused to be failed; (iii) the estimated spatial extent of the impact of the activity; and (iv) the achievement of which environmental objective or objectives the variation is intended to contribute;
2.	The conditions SEPA is proposing to vary in order to deliver the required environmental improvement	(i) the discharge limit, abstraction limit, etc which SEPA considers necessary to enable the objective to be achieved; (ii) a draft of the proposed variation; and (iii) the timetable for complying with the proposed new conditions
3.	If the operator is considering making the case to SEPA that an exemption is appropriate, what they have to do	(i) the exemption conditions that would have to be met (See Section 4); (ii) the factors SEPA will take into account in considering any claim for exemption; (iii) the information SEPA will expect the operator to provide to enable it to determine the case and an appropriate and reasonable timetable for providing that information (See Table 8);

		(iv) the requirement for any claim for exemption to be advertised; (v) the content of the advert, which will should include the reasons the operator believes that an exemption is appropriate and the alternative level of environmental improvement, if any, the operator believes would be feasible and proportionate to make and the timetable for doing so; (iv) the timetable for third parties to make representations following the placement of an advertisement and the opportunities for third parties to request that Scottish Ministers determine the case if they disagree with SEPA's proposed determination (See WAT-RM-20: Advertising and Consultation); (vii) the right of the operator to appeal to Scottish Ministers if they so wish after SEPA has determined the case and the timetable within which they must do so (i.e. within 2 months of the date of service of the notice is issued – See WAT-RM-20 and WAT-RM-09: Modifications to CAR Authorisations)
4.	How the mechanics of the process will work?	(i) the powers under which SEPA is seeking the variation; (ii) the requirements in relation to requests for information made by SEPA; (iii) the placement of information on the public register and issues of commercial confidentiality; (iv) the roles of other responsible authorities; (v) the relevant contacts on the behalf of SEPA and on the behalf of the operator; (vi) the expected timetable for the process

The **CO** should also specify in writing the period within which SEPA expects the operator to respond to the proposed variation. In identifying this period, the **CO** should aim to ensure that the operator is given a reasonable period of time to consider the implications of the proposed variation and to decide on a response to it.

Where the operator fails to respond within the period identified and does not make a reasonable case for an extension of this period, the **CO** should, following discussion with the Unit Manager, impose the variation proposed to the operator.

Return to the Process Summary

The Exemption Tests

Tests necessary to agree less stringent objectives

Note:

The extended deadline provisions under article 4.4 does not apply beyond 2027 therefore every effort must be made to secure the necessary improvements to meet 3rd cycle objectives by 2027: as we reach the 2027 deadline circumstances may change and it may be possible to extend the deadline in exceptional circumstances.

Where an operator wishes to claim an exemption from making an improvement to the water environment, SEPA will determine whether an exemption is applicable by applying the relevant exemption tests set out in paragraphs 3, 5, 8 and 9 of Article 4 of the Water Framework Directive and summarised in Table 5 below.

Table 5: The exemption test

Less stringent objective
(a) For reasons of technical infeasibility or disproportionate expense, the scale of improvements being sought cannot reasonably be achieved by 2027
(b) The environmental and socio-economic needs served by the activity cannot be achieved by other means, which are a significantly better environmental option not entailing disproportionate costs
(c) The alternative scale of improvement proposed represents the greatest improvement that could reasonably be delivered
(d) Setting a less stringent improvement target would not compromise compliance with other EU legislation (e.g. achievement of the objectives for Protected Areas)
(e) The justification for the less stringent improvement target will be reviewed in each river basin planning cycle

Return to the Process Summary

Specific exemptions for heavily modified and artificial Water Bodies

Mitigation and heavily modified and artificial water bodies

SEPA will not seek mitigation for the impacts of the modified hydromorphological characteristics of a heavily modified or artificial water body where that mitigation:

a. is impracticable given currently known techniques;

b. would have significant adverse effects on the use for which the water body was designated; or
c. would have significant adverse effects on the wider environment interests for the protection of which the body has been designated as heavily modified or artificial

However, an operator may believe that, in their particular circumstances, one or more of points a), b) or c) above applies to the mitigation SEPA is proposing. If SEPA determines that such a claim is valid, it will withdraw the proposed mitigation as, by definition, the mitigation is not required to achieve the objective of good ecological potential. No 'exemption' will therefore be needed.

Return to the Process Summary

Claims for designation of a water body as heavily modified

SEPA has already identified a number of heavily modified water bodies. Other water bodies may also qualify for designation but have not yet been designated. The information needed to decide whether designation is appropriate may only become available at the time a variation to an authorisation is being proposed. Designation may be appropriate if:

- SEPA is proposing improvements to the hydromorphological characteristics of a water body; and
- the operator claims those improvements would have significant adverse impacts on the use of the water body; or
- the improvements would have significant adverse impacts on the wider environment

For designation to be considered, the water body must be worse than good status as a result of a substantial change to its hydromorphological characteristics. A substantial change to a water body's characteristics will involve a major change in the appearance of the water body. The change will be extensive/widespread or profound. Typically it will involve substantial change to both the hydrological and morphological character of the water body. It will also be permanent rather than temporary or intermittent.

Many alterations to the hydrological characteristics of water bodies, such as abstractions and discharges, are not associated with morphological changes, and, therefore, may be relatively easily reversible, temporary or short-term. Consequently, such alterations would not constitute substantial changes in the character of a water body and designation would not be appropriate. In contrast, water bodies that are failing to achieve good status because

of major impounding works will tend to be substantially changed in character and therefore potentially heavily modified water bodies.

Where a water body is potentially heavily modified, SEPA will apply the designation tests set out in Table 4 to determine whether designation is appropriate. If designation is appropriate, SEPA will withdraw any proposed improvements to the hydromorphological characteristics of the water body which are unnecessary for the achievement of good ecological potential. Further guidance on mitigation measures for the classification of ecological potential is available in Guidance for defining Good Ecological Potential (WFDUK).

Table 6: Heavily modified water body designation tests

(a)	the hydromorphological alterations needed to achieve good status would have significant adverse effects on: • the wider environment; • navigation, including port facilities; • recreation; • drinking water supply, power generation, irrigation or other activities for which water is stored; flood protection • land drainage; or other sustainable development activities
(b)	the benefits dependent on the modified hydromorphological characteristics cannot, for reasons of technical feasibility or disproportionate costs, be provided by other means which are a significantly better environmental option; and
(c)	the improvements are not necessary to comply with other Community legislation (e.g. failing to make the improvement would not compromise the achievement of an objective for a Protected Area)

Return to the Process Summary

Stepwise consideration of exemption tests

Where it is unclear which alternative objective could be applicable, SEPA will use the step-wise procedure set out in Table 7 below to determine which, if any, alternative objective is appropriate.

Table 7: Step-wise consideration of exemption tests

	Step-wise tests	Key
1.	Is mitigation being sought for the impacts of the hydromorphological alterations for which a	YES -go to step 10
		NO - go to step 2

	water body has been designated as heavily modified?	
2.	Ignoring issues relating to the time needed for implementation and the costs, is there a known technique that could, in principle, deliver the scale of improvement being sought?	If 'yes', go to step 3 if 'no', go to step 8
		NO - go to step 8
3.	For reasons of technical infeasibility due to constraints governing the time needed to implement a technique (which are not to do with costs), would the scale of improvement being sought require a longer timescale to deliver than 2027? For example the requirement to obtain other permissions such as planning consent or landowner access permissions etc.	YES - go to step 4
		NO - go to step 5
4.	Can the technical constraints referred to in step 3 reasonably be overcome by 2027?	YES - the exemption tests are failed and exemption is not applicable
		NO - go to step 8
5.	Could the scale of improvement being sought be made by 2027 without disproportionate expense?	YES - the exemption tests are failed and exemption is not applicable
		NO - go to step 6
6.	Is the greatest improvement that could reasonably be achieved without disproportionate expense being proposed?	YES - go to step 7
		NO - exemption cannot be granted until such improvement is proposed
7.	Would the scale of improvement proposed, if any, enable compliance with other relevant EU legislation?	YES - go to step 8
		NO - exemption cannot be granted until such improvement is proposed
8.	Could the environmental and socio-economic needs served by the activity be delivered by other means, which are a significantly better environmental option not entailing disproportionate costs?	YES - the exemption tests are failed and exemption is not applicable
		NO - the exemption tests are passed and an exemption to the proposed less stringent improvement (if any at all) is applicable
9.	Ignoring issues relating to the time needed for implementation and the costs, in the particular circumstances is there a known technique that could, in principle, deliver the mitigation being sought?	YES - go to step 10
		NO - exemption is needed and the request for mitigation should be withdrawn as the mitigation is not practicable and therefore not required to achieve the objective of good ecological potential
10.	In the particular circumstances, would the mitigation measure have a significant adverse impact on the use, or the wider environment interest, which is the reason behind the designation of the water body as heavily modified?	YES -no exemption is needed and the request for mitigation should be withdrawn as the mitigation is not compatible with the reason for designation and therefore not required to achieve the objective of good ecological potential
		NO - go to step 3

Return to the Process Summary

Making a proposed determination

Determination procedure where an operator does not object to a proposed variation

If the operator does not object to the proposed variation, the CO should issue the variation as proposed. The CO should do this by serving notice (under Regulation 23) on the operator of the variations being made to the authorisation and the date on which those variations will take effect. In such cases, SEPA will not normally have required advertisement of the proposed variation. Refer to WAT-RM-20: Advertising and Consultation for guidance on advertising and consultation.

On issuing the variation, the CO must ensure that the appropriate changes are made to CLAS and the relevant information describing the measures and the environmental improvement expected of the measures is entered into the Measures Database (See Section 5.4).

Return to the Process Summary

Information necessary to determine a claim for exemption

Where an operator has notified SEPA that they wish to object to a proposed variation, the CO should review the information provided by the operator and by third parties in response to the advertisement of the proposed variation (See WAT-RM-20).The aim of the review should be to identify whether additional information is needed from the operator or from third parties in order to reach a judgement on whether an exemption is applicable. Table 8 below outlines the information likely to be needed from operators.

If the CO identifies that further information is needed from the operator or from third parties to determine the case, the CO should request that further information using a Regulation 14 information notice.

The notice should specify the date by which SEPA expects the operator or third party to provide the information requested in the notice. This date should provide for a period of time which the CO, having discussed the matter with the operator or third party, considers reasonable for the operator or third party to collect and collate the requested information. The CO should ensure that SEPA does not demand more information than it reasonably needs from any operator or third party.

The CO should not seek information unless he or she is of the view that the information will facilitate the decision at hand. Information requests should be targeted at obtaining information that will help SEPA better assess issues that are likely to be decisive or otherwise influential in the determination of the case. The level of detail requested should be reasonable and proportionate to the difficulty of the decision, the likely added value of the information and the implications of a wrong decision.

If a Responsible Authority or other public body has suggested that further information be obtained from an operator and the CO is unsure whether it is reasonable to request such information, the CO should contact the relevant Responsible Authority or other public body and discuss the matter before issuing an information notice.

If an operator or third party fails to provide the requested information within a reasonable timescale, despite appropriate reminders from SEPA, the CO should make a proposed determination based on the information that is available.

Table 8: Information required from the operator to determine whether an exemption is applicable

1.	The reasons why the operator is objecting to the proposed variation,	The reasons should be: (i) one or more of the reasons given in point (a) or in point (d) of Table 3; or (ii) one or more of the reasons given in Section 4.2 (or Section 4.3 if applicable) with respect to a heavily modified or artificial water body
2.	The information needed to evaluate the operator's case that these reasons referred to in point (1) above apply	(i) A report on the appraisal of the options for making the improvements that were considered by the operator (See Annex A) And, as relevant, the reasons why the operator considers that complying with the proposed variation would be: (ii) technical infeasible (See Annex B:) (iii) disproportionately expensive (See Annex C); or (iv) have a significant adverse impact on the use of a heavily modified or artificial water body or on the wider environment interest for the protection of which a water body is designated heavily modified (See Annex E)
3.	Information relevant to determining if the exemption tests listed in points (b) and (c) in Table 5, as relevant, are met]	(i) information on why there are no environmentally significantly better means of providing the benefits served by the activity (See Annex D); and (ii) if there are environmentally significantly better means, why these would entail disproportionate costs

Return to the Process Summary

Determining whether an exemption is appropriate

Where an operator is objecting to a proposed variation, the CO should use WAT-FORM-28 to help structure and record the results of his or her determination of whether the tests for exemption (See Section 4) are passed. Please contact the Water Unit to discuss the form. Guidance on applying the exemption tests can be found in:

- Annex B: Technical Infeasibility Test
- Annex C: Disproportionate Expense Test
- Annex D: Significantly better environmental options test
- Annex E: Significant Adverse Impact Test

In making a proposed determination, the CO should take as balanced and as objective a view as possible. The basis for the proposed determination must be clear and defensible. If the CO considers that an exemption is appropriate, he or she should aim to identify the alternative improvements (if any) expected of the operator in the current and subsequent planning cycles.

Return to the Process Summary

1.1.1. Determining an appropriate less stringent improvement

An operator may propose to make less ambitious improvements than those initially proposed by SEPA. If the CO believes that there may be grounds for such less stringent improvements, he or she should determine whether the level of improvement (if any) being proposed by the operator is reasonable.

Where necessary to make this determination, the CO should ask operators to explain why improvements additional to those which they are proposing would be technically infeasible or disproportionately expensive. Such requests should be made using a Regulation 14 Information Notice.

To pass the exemption tests, any alternative less stringent improvement must represent the greatest improvement to each quality element affected by the activity which it is technically feasible and not disproportionately expensive to make. This may mean, for example, that the improvements are sufficient to achieve 'good' for some (but not all) of the quality elements affected by the activity.

Return to the Process Summary

1.1.2. Reviewing the level of confidence in the determination

Before making a recommended determination, the CO should assess how confident he or she is in the results of the key assessments that have been made in relation to the tests applied. The key assessments are those on which the decision is likely to hinge.

If a decision is particularly sensitive to the results of a particular assessment and there is significant uncertainty about whether that assessment is correct, the CO should decide whether further information could reasonably be obtained that would significantly increase confidence in the results of the assessment. If so, the CO should seek to obtain that information before making a recommendation on the case.

If confidence in the results of a key assessment is low and cannot reasonably be improved, the CO should highlight that this is the case, and why, when making his or her recommendation.

Return to the Process Summary

1.1.3. Preparing a summary report on a proposed determination

COs should prepare a summary of the reasons for his or her proposed determination. The summary should include the following:

- the improvement to the water environment that will be delivered, and the timetable for its delivery, should the CO's recommendation stand;
- a copy of the proposed variation notice, as revised following consideration of the applicability of the exemption tests (the date for compliance with the varied conditions should be specified)[3]
- a summary of the changes to the proposed variation notice compared with SEPA's original proposals
- a summary which sets out the CO’s judgement on each of the relevant exemption tests; and
- Annexes which provide sufficient further detail to make clear the basis on which the judgements referred to in point (d) were reached and references to the detailed sources of the information used.

Return to the Process Summary

Recording the outcome of a determination

Once a determination has been made, the CO must ensure that the following information is recorded:

- the water bodies that will be affected by the variation;
- for each affected water body, the status expected to be achieved for the water quality, water resource or morphological quality elements improved by the variation (e.g. ammonia expected to improve to good);
- by which update of the River Basin Management Plan (i.e. before 2027; etc); the improvements referred to in point (b) will be delivered;
- the estimated length/area of improvement in each affected water body;
- a summary of the measures expected to be used to deliver the improvement (e.g. reduce discharge by increasing treatment); and
- where an exemption has been applied, a summary of the reasons justifying the application of an exemption

Return to the Process Summary

Annexes

Annex A: Using options appraisal to apply exemption tests to appropriate measures

Before determining whether the exemption tests are met, SEPA will normally expect operators claiming exemption to demonstrate that they have considered and appraised relevant options for complying with the proposed variation.

An options appraisal is necessary because some options may be:

- technically infeasible whereas others would not be; and
- significantly less expensive, less carbon intensive or more effective than others

If an inappropriately narrow range of options is considered, the disproportionate expense test could be applied to an option which was far more costly or carbon intensive than other lower cost options and the conclusion wrongly drawn that making the improvement would be disproportionately expensive.

SEPA will not require operators to undertake an options appraisal where:

- the improvements are expected to be delivered as a result of standard good practice water use efficiency measures expected of operators in the sector concerned; or
- it is clear to the CO which option would be most cost-effective (e.g. based on past experience of similar circumstances)

Where an options appraisal is required, SEPA will expect the operator to appraise the appropriate options, or combinations of options, listed in Table 9 and to provide a report describing, in so far as is relevant:

a. why the operator considers particular options to be technically infeasible; and
b. the relative cost-effectiveness of different options and combinations of options the operator considers technically feasible

For the purposes of point (b) above, the CO should request the information indicated in Table 10.

Table 9: Types of generic options to be considered before an exemption can be applied

	Improvement required	Potential options for mitigation
1.	Reduce impact of point source discharge	a. Improve treatment b. Reduce at source (e.g. waste minimisation; substitution) c. Relocate discharge to another location (with available carrying capacity)

		d. Change timing of discharge (e.g. discharging at certain states of the tide)
2.	Reduce impact of abstraction	a. Reduce leakage b. Reduce usage (e.g. reduce demand by increasing use efficiency, etc) c. Use water from an alternative source d. Change timing of abstraction
3.	Reduce impact of maintenance engineering works	a. Cease maintenance works to allow natural recovery b. Use 'softer' maintenance techniques in place of 'hard' engineering techniques

Deciding whether one option is more cost-effective than another is a matter of judgement based on experience and information on the relative magnitude of the costs of different options. The CO should note that the aim of an options appraisal is only to make sure that claims of technical infeasibility have not ignored options that would be feasible and that claims of disproportionate expense or significant adverse impact have not ignored options that have significantly lower costs/adverse impacts. The aim is not to dictate the choice of option on the basis of minor differences in costs and effectiveness.

In some cases, an options appraisal may involve trade-offs between reducing costs at the expense of a loss of effectiveness (i.e. the likelihood the improvement will be delivered) (See Table 16 in Annex F).

Operators will usually have a far greater knowledge than SEPA of the techniques that could feasibly be used to reduce the impact of their controlled activities, including the costs of those techniques. The focus of the CO should be to make sure there is evidence that:

- the operator has appraised a reasonable range of different options;
- options that SEPA is aware have been used in similar circumstances are included in the appraisal;
- where the costs of an option appear unusually high (e.g. compared with information held in the cost-database[4]; experience from other cases; information provided in representations from third parties), reasons are given why this is the case

Table 10: Summary information expected in a report on an options appraisal

	Option A	Option B	Option C
Summary description			
financial costs to operator[5]	**£s**	**£s**	**£s**
Any significant differences in negative impacts on the factors listed in Table 13	Use supporting guidance WAT-SG-67		
Any significant positive side-effects on the factors listed in Table 13 that may off-set differences in financial costs or other negative impacts	Use supporting guidance WAT-SG-67		
Effectiveness* (i.e. likelihood that the option will be effective in making the required improvement)	High Medium Low	High Medium Low	High Medium Low
Option considered most cost-effective and the reasons why			

Notes

* The effectiveness rating refers to the confidence that the option will deliver the required improvement in the required timescale. This confidence will depend on the extent of past experience of the environmental effectiveness of the option; the ability to predict the potential effect of any differences in the circumstances under which the option will operate compared to those under which it has been used before; and the margin of potential overshoot designed into the option to account for uncertainties

Return to the Process Summary

Annex B: Technical Infeasibility Test

Annex C: Disproportionate Expense Test

Annex E: Significant Adverse Impact Test

Annex B: Technical infeasibility test

SEPA will expect any operator claiming an exemption on the grounds of technical infeasibility to have considered all potential options for making the environmental improvement and established that none of the options would be technically feasible (See Annex A on options appraisals). SEPA will not grant an exemption on the grounds of technical infeasibility unless an appropriate options appraisal has been undertaken.

Only practical issues of a technical nature should be taken into account in applying the technical infeasibility test. In some cases, there may be no known practical techniques for making the changes to the activity that would be required to comply with the proposed variation. In these circumstances, it is clearly technically infeasible for the operator to deliver the environmental improvements being sought. This means that:

- an exemption to an alternative, less stringent objective should be applied; or
- if the variation or a part thereof was designed to improve the hydromorphological characteristics of a heavily modified or artificial water body, the variation or relevant part thereof should be appropriately modified or withdrawn (See Section 4.2).

In other cases, there may be practical techniques which, in principle, could be used to comply with the proposed variation but would be technically infeasible to put in place in time. In this context, practical constraints relating to the time needed to design, gain permissions for, commission, construct and bring into operation, any capital works are relevant in deciding whether or not making the improvements would be technically infeasible. In contrast, any cost-related benefits that may accrue to an operator (or third party) should be taken into account in determining whether complying with a proposed variation would be disproportionately expensive and not whether it is technically infeasible (See Annex C).

The deadline for making measures operational (i.e. for compliance with varied authorisation conditions) for the third river basin management plan is 22nd December 2027. This is the deadline which should take account when determining if an exemption on the grounds of technical infeasibility is warranted.

Table 11 sets out the different reasons why it may be technically infeasible for an operator to make the improvements being sought by SEPA.

SEPA will expect operators to demonstrate that they have made reasonable and proportionate efforts to overcome the technical constraints which they claim are preventing

the timely delivery of the environmental improvements sought by SEPA. The bigger the potential benefits of these improvements, the greater SEPA will expect the operators' effort to be.

Table 11: Reasons why making an improvement may be technically infeasible

	Reason for infeasibility
(a)	for practical reasons of a technical nature, a technique necessary to make the improvement cannot reasonably be made operational by the deadline required
(b)	for practical reasons of a technical nature, it is sensible to implement a technique in phases as the appropriate design of successive phases depends on knowledge of the effectiveness of earlier phases
(c)	there is currently no known practical technique for making the improvement required or
(d)	the cause of the adverse impact on the status of the water environment is not yet known and consequently a technique necessary to address the impact cannot be identified

Return to the Process Summary

Annex C: Disproportionate expense test

General Principles

Before considering a claim for exemption on the grounds of disproportionate expense, SEPA will require operators to demonstrate that they have:

a. considered the potential options available to them for making the improvements being sought by SEPA;
b. identified which of the options would be the most cost-effective and why; and
c. estimate the costs[1] associated with the option referred to in point (b) above

Guidance on options appraisal is provided in Annex A. SEPA will not grant an exemption on the grounds of disproportionate expense unless an appropriate options appraisal has been undertaken.

In determining whether making an environmental improvement would be disproportionately expensive, SEPA will take into account whether or not:

a. on the basis of the balance of costs and benefits involved, making the improvement would be worthwhile in principle; and
b. requiring the operator to make the improvement would impose unfair and unjustified burdens

The burdens referred to in point (b) above are relevant to deciding if the pace of improvement is proportionate (e.g. can we afford to do it now without imposing an unfair burden?) rather than deciding whether the ultimate goal is worthwhile. An improvement may be determined to be disproportionately expensive on the basis that it is not worthwhile in principle [point (a)] or because making it would impose unfair burdens [point (b)]. These issues should not be seen as entirely independent. For example, if substantial benefits are expected from a proposed variation, SEPA will take this into account in determining whether the burdens referred to in (b) are sufficient to justify postponing the proposed variation, and if so, how long a postponement would be acceptable. All other things being equal, if the benefits are large, a shorter postponement may be justified on the grounds given in point (b) than would be the case if the benefits were relatively small.

[1] Cost should be expressed in 40 year NPV terms

Fig 2: Outline of the disproportionate cost assessment process

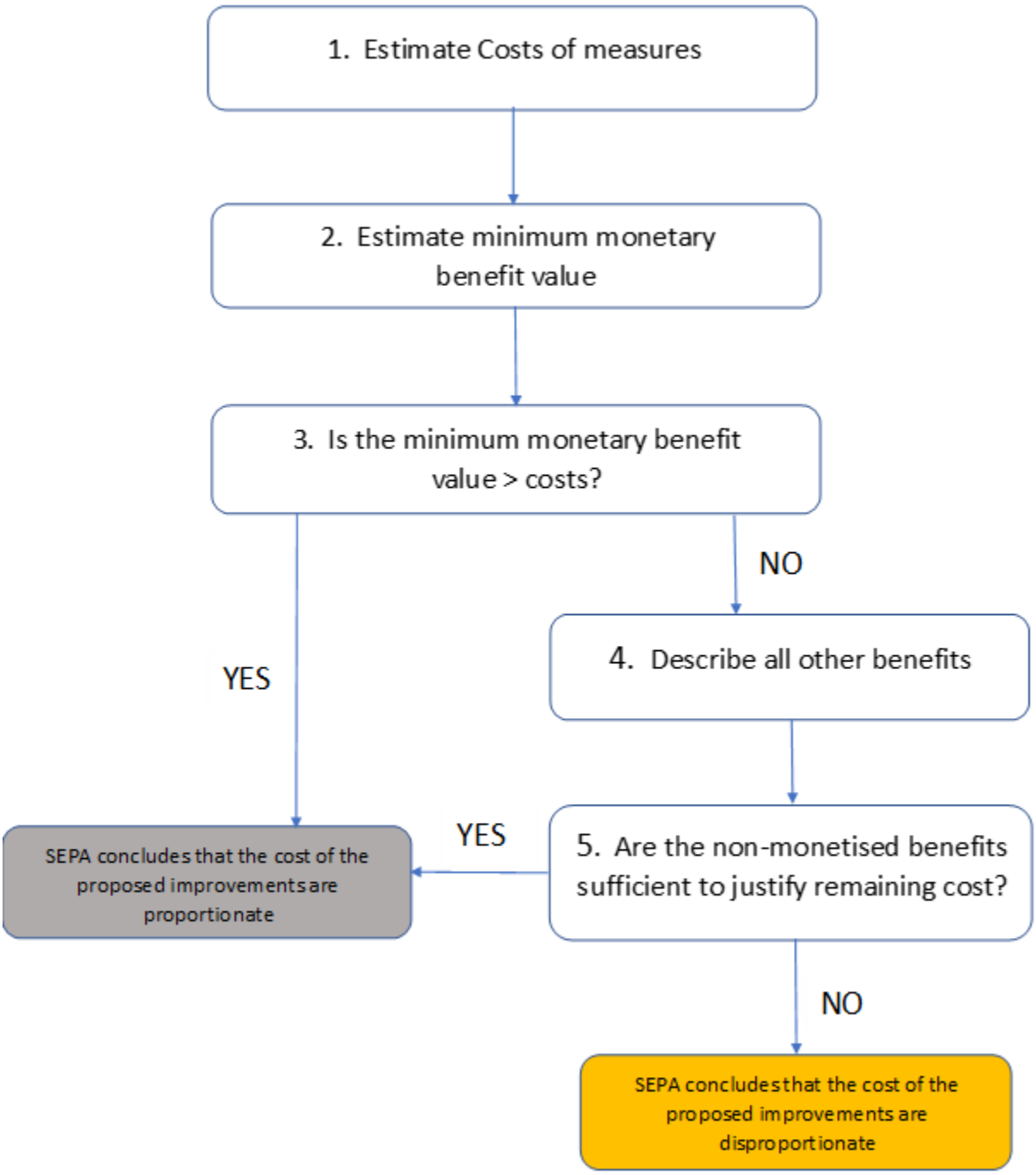


Table 12 outlines the information the CO should collect in order to carry out the disproportionate cost assessment.

Table 12: Information Required for Disproportionate Cost Assessment

General Water Body Information Required	**Where to Obtain Information**
Overall Status	Water environment hub
Pressures on the water body	
Specific to Disproportionate Cost Assessment	
Cost estimate for improvement	Operator
Minimum monetised benefit value	Annex Ci

Estimation of Costs and Benefits[6]

SEPA has derived minimum monetised values for the benefits associated with improving the water environment in Scotland. These values are used to estimate a monetary value for the proposed improvement to the environment (see Annex C(i)) and are based on improving the overall ecological status, or potential, of waterbodies. For the detailed methodology on how these values were derived, refer to: Estimating monetary values for improvements to the Scottish water environment).

Step 1: Estimate costs to improve the overall status of the water body

When carrying out the comparison of the improvement costs against the benefit value the CO must also identify all other pressures are on the water body and include cost estimates to resolve those pressures. This is to ensure that the cost and benefit values are comparable (the benefit values are for improving the OVERALL water body status which may require resolution of additional pressures as well as the one being considered for derogation). To aid the process of estimating overall improvement costs for the water body, SEPA has prepared a costs as a benchmark guide (annex Ci).

Step 2: Identify the minimum value for the benefits associated with improving the water body status

1. Identify the catchment
2. Add the monetary values for the present values relating to the class(es) uplift expected from the improvement. For example, if the water body is at poor status and the improvement will lead to good status, then add the values together for poor to moderate and moderate to good

3. Multiply the figure obtained above by the length[2] or area of water body that will be improved.

Step 3: Is the minimum benefit value > costs?

Divide the present value for costs by the present value for benefits of improving overall status/potential. A cost benefit ratio of 1 or less means the improvement(s) are proportionate and greater than 1 indicates that you need to consider the benefit that will be delivered by an improvement in more detail for a proportionality decision to be made (this is described in step 4 but the derogation support group should be contacted at this stage).

Step 4: Describe all other benefits[3]

1. Using local information note all additional benefits anticipated to arise from the proposed improvement. The significance of these benefits are then determined using the guidance in WAT-SG-67.

Determining, if, in principle an environmental improvement is worth making

In determining whether the cost of an improvement is proportionate or disproportionate, SEPA will take account of the financial cost of the improvement and the positive and negative impacts on the factors listed in Table 13. Please see WAT-SG-67: Assessing the Significance of Impacts - Social, Economic, Environmental for more detail.

Table 13: Factors taken into account in disproportionate cost assessments

Economic impacts	Social impacts	Environmental impacts
Scottish Economy	Health	Water environment
Third party businesses	Safety	Biodiversity
	Recreation	Landscape
	Nuisance	Green house gas emissions
	Vulnerable/disadvantaged groups	Built heritage
		Earth heritage
		Waste and resource use

[2] Length improved i.e. length to which fish will have access taking account of natural barriers.
[3] This step is not required if the cost benefit ratio is <or=1

SEPA will use the screening criteria illustrated in Table 13 when judging whether the scale of the financial costs mean that an improvement is:

- unlikely to be disproportionate on cost verses benefit grounds;
- likely to be disproportionate on cost verses benefit grounds; or
- the judgement is dependent on a more detailed assessment of the factors referred to in Table 13.

For guidance on weighing up positive and negative impacts on the factors listed in Table 13, the **CO** should refer to supporting guidance WAT-SG-67. The **CO** should also take account of this supporting guidance when identifying the information needed from the operator or from other public bodies in order to make a determination.

It may be unclear on the basis of the information available whether or not making an improvement would be disproportionate. In such circumstances, the **CO** should contact the Water Unit for advice. Where the judgement is difficult and the consequences of the decision potentially controversial, the Water Unit will provide direct support to the **CO**. This will include advising the **CO** on the information needed from the operator and third parties, helping to analyse the information and structuring the presentation of the results of the analysis.

SEPA will not normally expect non-monetary costs and benefits (e.g. impacts on biodiversity, landscape, etc) to be assigned a monetary value for the purposes of judging whether making an improvement would be disproportionately expensive or not. If an operator wishes to provide monetised information to support his or her case for exemption, the **CO** should seek advice from the Water Unit in order to identify:

- whether or not any delay in determining the variation associated with the production of such information would be justified by the contribution the information might make to facilitating the decision, taking into account the difficulty in making the decision and the implications of a wrong decision; and
- if relevant, the advice to give to the operator on the methods that should be used to monetise costs and benefits

Determining if requiring an environmental improvement would impose unfair burdens and hence be disproportionate

A proposed variation may impose unfair burdens on the operator if:

a. the contribution of the proposed variation to remedying an adverse impact on the water environment would represent more than the operator's contribution to that impact (i.e. deviate from the polluter pays principle);
b. complying with that variation would not be reasonably affordable; or
c. complying with the proposed variation would require the operator to make significant investment in a part of their operation in which they have already invested at SEPA's request within the last five years

With respect to point (a) above, SEPA will normally consider an improvement disproportionate if an operator would have to address more than 130 % of his or her contribution to the impact. Where there is no additional cost to the operator for addressing more than 130 %, this rule shall not apply (See also Annex F).

With respect to point (b), the **CO** should take account of the considerations outlined in Table 14 when deciding if making an improvement would not be reasonably affordable.

Table 14 Considerations relevant to deciding if an improvement would be disproportionate on affordability grounds

	Considerations	Guidance notes
1.	Have other similar sized businesses within the sector implemented similar compliance measures or different compliance measures with similar costs?	Subject to considerations 2, 3 and 4 in column 1 of this Table, a compliance measure is unlikely to be unaffordable if: (i) it has been implemented elsewhere in the sector by similar sized businesses; or (ii) its costs are not significantly greater than other compliance measures that have been implemented elsewhere in the sector by similar sized businesses.
2.	Would the costs of compliance for the operator concerned be significantly higher than the typical costs of compliance for other businesses within the sector?	Subject to considerations 3 and 4 in column 1 of this Table, a compliance measure is unlikely to be unaffordable if: (i) the cost of the measure to the operator is reasonably comparable with (or less than) the cost to other similar sized businesses within the sector that have already implemented the measure; or (ii) its costs are not significantly greater than other compliance measures that have been implemented elsewhere in the sector by similar sized businesses.
3.	Is the sector widely acknowledged as experiencing a particularly difficult period?	During periods in which a sector is experiencing unusually difficulties in terms of economic viability, the costs of complying with proposed variations may impose unaffordable additional burdens on operators and hence be disproportionate.

4.	Has the operator concerned had to make an unusually large investment in recent years?	Where an operator has had to make unusually large investment in recent years (e.g. to comply with other environmental legislation), additional investment in the short-term may be unaffordable for the operator.
5.	Is the operator proposing an alternative timetable for complying with the proposed variation?	Where operators are proposing alternative timetables for complying with a proposed variation, this should be taken into account in determining if the claim for exemption on the grounds of affordability is fair and reasonable

The deadline for making measures operational (i.e. for compliance with varied authorisation conditions) for the third river basin management plan is 22nd December 2027. SEPA will take into account whether requiring compliance with a proposed variation by this deadline would impose unfair and unjustified burdens.

Reviewing exemptions granted on the grounds of disproportionate expense

The basis for an improvement being considered disproportionately expensive may change over time. Where these changes can be predicted in advance, the deadline for complying with a proposed variation should be appropriately post-dated. Where they cannot, reviews of the objectives set for water bodies should be undertaken in each planning cycle (See Section 1.2). Table 15 provides examples of future changes in circumstance that may affect whether or not making an environmental improvement remains disproportionately expensive

Table 15: Examples of changes in circumstances which may affect whether an improvement is disproportionately expensive

1.	There is a reduction in the financial costs of making the improvements	(i) the improvement is timed to coincide with the normal maintenance or replacement of a capital asset so reducing its cost; (ii) the cost of a technique for making the improvement reduces; (iii) a lower cost technique for making the improvement becomes available
2.	The improvement can now be afforded without unfair burden	(i) the operator has had time to plan and phase the investment, including appropriate financing arrangements; (ii) a reasonable period has elapsed significant investment has been required of the operator; (iii) the sector is no longer experiencing an unusually difficult period in terms of economic viability
3.	There is reduction in adverse impacts on factors listed in Table 12	(i) a technique becomes available that could deliver the improvements with reduced adverse economic, environmental or social consequences; or

		(ii) the importance or sensitivity of environmental or social factors that would be adversely affected by the improvement has reduced or the factors are no longer relevant
4.	There is an increase in the expected environmental, social or economic benefits	(i) the social, environmental or economic benefits were contingent on other improvements to the water environment being made (e.g. minewater remediation) and those other improvements have now being made; or (ii) the expected benefits increase because of other social or environmental changes to the area (e.g. wider regeneration initiatives or other developments; increased demand for uses of the affected waters)

Return to the Process Summary

Annex Ci: Water environment benefit values for Scottish catchments (expressed as 40 year present values in 2018 prices)

General Principles

Catchment	Population density estimate (people/ha)	Population density category	Rivers (000£/km)			Lochs and TraCs (000£/km)		
			Bad to poor	Poor to moderate	Moderate to good	Bad to poor	Poor to moderate	Moderate to good
Aberdeen South Coastal	12.0	very high	450	500	550	150	150	150
Abhainn Ghriomarstaidh	0.1	low	250	250	300	50	100	100
Allan Water	0.6	medium	250	300	350	100	100	100
Appin Coastal	0.1	low	250	250	300	50	100	100
Ardgour Coastal	0.1	low	250	250	300	50	100	100
Ardnamurchan Coastal	0.1	low	250	250	300	50	100	100
Arran Coastal	1.6	medium	250	300	350	100	100	100
Banff Coastal	0.4	medium	250	300	350	100	100	100
Beauly Coastal	0.1	low	250	250	300	50	100	100
Benbecula Coastal	0.1	low	250	250	300	50	100	100
Berriedale Water	0.1	low	250	250	300	50	100	100
Bervie Water	0.4	medium	250	300	350	100	100	100
Berwick Coastal	0.2	low	250	250	300	50	100	100
Black Cart Water	6.6	high	350	350	400	100	100	150
Brora Coastal	0.1	low	250	250	300	50	100	100
Buchan Coastal	1.1	medium	250	300	350	100	100	100
Cowal / Clyde Sealochs Coastal	0.1	low	250	250	300	50	100	100

Cromarty Coastal	0.1	low	250	250	300	50	100	100
Dighty Water	0.5	medium	250	300	350	100	100	100
Dornoch Coastal	0.1	low	250	250	300	50	100	100
Dumfries Coastal	0.2	low	250	250	300	50	100	100
Dunbeath Water	0.1	low	250	250	300	50	100	100
Dundee Coastal	0.4	medium	250	300	350	100	100	100
Earn Coastal	0.3	low	250	250	300	50	100	100
East Lothian Coastal	1.5	medium	250	300	350	100	100	100
Edinburgh Coastal	12.6	very high	450	500	550	150	150	150
Etive Coastal	0.1	low	250	250	300	50	100	100
Eye Water	0.5	medium	250	300	350	100	100	100
Forss Water	0.1	low	250	250	300	50	100	100
Forth Estuary (South) Coastal	3.5	high	350	350	400	100	100	150
Galloway Coastal	0.2	low	250	250	300	50	100	100
Glasgow Coastal	17.4	very high	450	500	550	150	150	150
Gretna Coastal	0.2	low	250	250	300	50	100	100
Gruinard River	0.1	Low	250	250	300	50	100	100
Halladale River	0.1	low	250	250	300	50	100	100
Hoy Coastal	0.2	low	250	250	300	50	100	100
Inverclyde Coastal	3.9	high	350	350	400	100	100	150
Inverness Coastal*	0.1	medium	250	300	350	100	100	100
Island of Bute Coastal	0.1	low	250	250	300	50	100	100
Island of Mull Coastal	0.1	low	250	250	300	50	100	100
Islay Coastal	0.1	low	250	250	300	50	100	100
Isle of Skye Coastal	0.1	low	250	250	300	50	100	100
Jura Coastal	0.1	low	250	250	300	50	100	100
Kincardine and Angus Coastal	0.4	medium	250	300	350	100	100	100
Kintyre Coastal	0.1	low	250	250	300	50	100	100
Knapdale Coastal	0.1	low	250	250	300	50	100	100
Lewis and Harris Coastal	0.1	low	250	250	300	50	100	100
Loch Fyne Coastal	0.1	low	250	250	300	50	100	100
Loch of Stenness	0.2	low	250	250	300	50	100	100
Lochar Water	0.2	low	250	250	300	50	100	100
Lunan Water	0.5	medium	250	300	350	100	100	100
Minch Coastal	0.1	low	250	250	300	50	100	100
Moray Coastal	0.4	medium	250	300	350	100	100	100
Muckle Burn	0.25	low	250	250	300	50	100	100
no data	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
North Ayrshire Coastal	1.3	medium	250	300	350	100	100	100
North Fife Coastal	2.8	high	350	350	400	100	100	150
North Uist Coastal	0.1	low	250	250	300	50	100	100
Orkney Coastal	0.2	low	250	250	300	50	100	100

Perth Coastal	0.3	low	250	250	300	50	100	100
River Add	0.1	low	250	250	300	50	100	100
River Aline	0.1	low	250	250	300	50	100	100
River Almond	6.1	high	350	350	400	100	100	150
River Alness	0.1	low	250	250	300	50	100	100
River Annan	0.2	low	250	250	300	50	100	100
River Avon	5.0	high	350	350	400	100	100	150
River Awe	0.1	low	250	250	300	50	100	100
River Ayr	1.0	medium	250	300	350	100	100	100
River Beauly	0.1	low	250	250	300	50	100	100
River Bladnoch	0.2	low	250	250	300	50	100	100
River Borgie	0.1	low	250	250	300	50	100	100
River Broom	0.1	low	250	250	300	50	100	100
River Brora	0.1	low	250	250	300	50	100	100
River Carron (Falkirk)	3.2	high	350	350	400	100	100	150
River Carron (Sutherland)	0.1	low	250	250	300	50	100	100
River Carron (Wester Ross)	0.1	low	250	250	275	50	100	100
River Cassley	0.1	low	250	250	300	50	100	100
River Clyde	4.3	high	350	350	400	100	100	150
River Conon	0.1	low	250	250	300	50	100	100
River Cree	0.3	low	250	250	300	50	100	100
River Dee (Grampian)	1.6	medium	250	300	350	100	100	100
River Dee (Solway)	0.2	low	250	250	300	50	100	100
River Deveron	0.4	Medium	250	300	350	100	100	100
River Devon	3.1	high	350	350	400	100	100	150
River Don	1.9	medium	250	300	350	100	100	100
River Doon	1.0	medium	250	300	350	100	100	100
River Eachaig	0.1	low	250	250	300	50	100	100
River Earn	0.3	low	250	250	300	50	100	100
River Eden	2.8	high	350	350	400	100	100	150
River Esk (Lothian)	2.2	high	350	350	400	100	100	150
River Esk (Solway)	0.2	low	250	250	300	50	100	100
River Etive	0.1	low	250	250	300	50	100	100
River Ewe	0.1	low	250	250	300	50	100	100
River Findhorn	0.2	low	250	250	300	50	100	100
River Fleet	0.1	low	250	250	300	50	100	100
River Forth	0.4	medium	250	300	350	100	100	100
River Garnock	2.4	High	350	350	400	100	100	150
River Glass	0.1	low	250	250	300	50	100	100
River Gryfe	6.0	high	350	350	400	100	100	150
River Helmsdale	0.1	low	250	250	300	50	100	100
River Hope	0.1	low	250	250	300	50	100	100

River Inver	0.1	low	250	250	300	50	100	100
River Irvine	2.7	High	350	350	400	100	100	150
River Kelvin	7.3	high	350	350	400	100	100	150
River Kirkaig	0.1	low	250	250	300	50	100	100
River Laxford	0.1	low	250	250	300	50	100	100
River Leven (Fife)	2.3	high	350	350	400	100	100	150
River Leven (Loch Lomond)	1.8	medium	250	300	350	100	100	100
River Leven (Lochaber)	0.1	low	250	250	300	50	100	100
River Ling	0.1	low	250	250	300	50	100	100
River Lochy	0.1	low	250	250	300	50	100	100
River Lossie	0.4	medium	250	300	350	100	100	100
River Morar	0.1	low	250	250	300	50	100	100
River Nairn	0.1	low	250	250	300	50	100	100
River Naver	0.1	Low	250	250	300	50	100	100
River Ness	0.1	low	250	250	300	50	100	100
River Nith	0.4	medium	250	300	350	100	100	100
River North Esk (Tayside)	0.5	medium	250	300	350	100	100	100
River Oykel	0.1	low	250	250	300	50	100	100
River Shiel	0.1	low	250	250	300	50	100	100
River Shin	0.1	low	250	250	300	50	100	100
River South Esk (Tayside)	0.5	medium	250	300	350	100	100	100
River Spey	0.2	low	250	250	300	50	100	100
River Stinchar	0.9	medium	250	300	350	100	100	100
River Strathy	0.1	low	250	250	300	50	100	100
River Tay	0.3	low	250	250	300	50	100	100
River Thurso	0.1	low	250	250	300	50	100	100
River Tweed	0.3	low	250	250	300	50	100	100
River Tyne	1.5	medium	250	300	350	100	100	100
River Ugie	0.4	medium	250	300	350	100	100	100
River Ythan	0.4	medium	250	300	350	100	100	100
Rousay Coastal	0.2	low	250	250	300	50	100	100
Rum Coastal	0.1	low	250	250	300	50	100	100
Shetland Coastal	0.2	low	250	250	300	50	100	100
Sounds Coastal	0.1	low	250	250	300	50	100	100
South Ayrshire Coastal	0.9	medium	250	300	350	100	100	100
South Fife Coastal	2.8	high	350	350	400	100	100	150
South Uist Coastal	0.1	low	250	250	300	50	100	100
Spey Bay Coastal	0.4	medium	250	300	350	100	100	100
Stewartry Coastal	0.2	Low	250	250	300	50	100	100
Stirling Coastal	2.4	high	350	350	400	100	100	150
Thurso Coastal	0.1	low	250	250	300	50	100	100
Tiree Coastal	0.1	low	250	250	300	50	100	100

Tongue Coastal	0.1	low	250	250	300	50	100	100
Torridon Coastal	0.1	low	250	250	300	50	100	100
Unst Coastal	0.2	low	250	250	300	50	100	100
Urr Water	0.2	low	250	250	300	50	100	100
Water of Girvan	0.9	medium	250	300	350	100	100	100
Water of Leith	11.7	very high	450	500	500	150	150	150
Water of Luce	0.2	low	250	250	300	50	100	100
White Cart Water	19.6	very high	450	500	550	150	150	150
Whiteadder Water	0.6	medium	250	300	350	100	100	100
Wick Coastal	0.1	low	250	250	300	50	100	100
Wick River	0.1	low	250	250	300	50	100	100
Yell Coastal	0.2	low	250	250	300	50	100	100
*Adjusted value for Inverness Coastal catchment due to higher population density (see note above)								

Annex Cii: Example of disproportionate cost calculation

Example:-

Values for benefits of a waterbody in a low value catchment (see values in Annex C(i))

Population density in catchment	Ecological status change		
	Bad to poor	Poor to moderate	Moderate to good
Low	220,000	220,000	275,000

The above values are multiplied by the length of improvement e.g. in this case we will assume an improvement of 5.65km

Population density in catchment	Ecological status change		
	Bad to poor	Poor to moderate	Moderate to good
Low	1,243,000	1,243,000	1,553,750

For overall improvement values take the current overall water body status and the improved overall water body status i.e. if the current status is poor and the improvement will achieve good overall status add the value of poor to moderate (£1,243,000) to the value of moderate to good (£1,553,750). The cost benefit value for improvement in this case would be ≤£2,796,750 without being disproportionate.

Annex D: Significantly better environmental options test

The significantly better environmental options test must be applied where an operator is:

a. claiming exemption from making the improvements needed to achieve an objective listed in point A, B or C of Table 1.; or

b. claiming that the relevant water body or water bodies should be designated as heavily modified ((See Section 4.3) and point (b) of Table 4)

The **CO** should refer to supporting guidance WAT-SG-68: Assessing Significantly Better Environmental Options to help identify the information required of the operator and other public bodies in order to apply the test and for guidance on applying the test.

Return to the Process Summary

Annex E: Significant adverse impact test

The 'significant adverse impact test' should be applied where an operator is claiming that:

- a proposed improvement to the hydromorphological characteristics of a heavily modified water or artificial body or group of bodies would have significant adverse impacts on the designated use of the body or group of bodies or on the wider environment interest for the protection of which the body has been designated (See Section 4.2); or
- the relevant water body or group of water bodies should be designated as heavily modified because the proposed improvement to
  the hydromorphological characteristics of the body or group of bodies would have a significant adverse impact on the use of the water body or on a wider environment interest which depends on the physical modifications that are affecting status of the body or group of bodies (See Section 4.3);

Before applying the test, SEPA will expect the operator to provide an options appraisal demonstrating that the improvements sought could not be delivered using other options that would have lesser adverse impacts. Guidance on options appraisal is provided in Annex A.

A significant adverse effect on the **wider environment** means a significant effect on an environmental interest such as biodiversity, landscape or built heritage which is dependent on the hydromorphological characteristics of the water body rather than on the use being made of the body. For example, a reservoir may be designated as a Special Protection Area under the Birds Directive. Removal of the reservoir dam would be likely to have a significant adverse impact on the biodiversity conservation interest. The **CO** should refer to the supporting guidance WAT-SG-67 for guidance on determining the significance of impacts on wider environment factors.

Some objectives may impact on the generation of hydroelectricity. Delivering improvements may require changes to the volume of water available for generation so we will strike the right balance between supporting renewable energy generation and improving the water environment. The Scottish Government has provided a clear policy steer to allow SEPA to determine whether an improvement would be considered to have a significant adverse impact on use.

A significant adverse effect on a **use** means a significant adverse impact on the benefits provided to the environment and society by the use or uses being made of a body. Only uses which rely on the body's hydromorphological characteristics are relevant. For

example, the removal of a dam would prevent the operation of hydropower scheme reliant on water stored behind the dam. This would significantly affect the scheme's contribution to renewable energy generation. The financial cost of an improvement is not relevant to determining whether making an improvement would have significant adverse effects

The significance of an adverse effect should be judged at the appropriate scale or scales. For example, the reduction in renewable energy output attributed to mitigation at a particular hydropower scheme may be insignificant in the context of total renewable electricity generation across Scotland. However, if a similar reduction was made at a large number of hydropower schemes across Scotland, the cumulative impact on Scotland's renewable energy output might be very significant[7]. Where there is potential for such cumulative impacts, SEPA will prioritise where improvements are sought. In doing this, it will take account of the magnitude of the environmental benefits that would result from the improvements. The **CO** should refer to the supporting guidance WAT-SG-67 for help in determining the significance of impacts on uses such as renewable energy generation, recreation, flood defence and drinking water supply.

Return to the Process Summary

Annex F: Multiple contributory pressures

Before proposing any variation, SEPA should identify:

- the estimated scale of the environmental improvement that would be required to achieve the desired environmental objective; and
- the pressure, or pressures, that would have to be addressed in order to deliver such improvements.

This section provides general guidance on what to do if several pressures are found to be contributing to a particular adverse impact (e.g. a failure of an environmental standard needed for good status). The Coordinating Officer (**CO**) should aim to decide the appropriate contribution with respect to each contributory pressure as part of the review process leading up to the initiation of one or more variations. Situations in which multiple pressures contribute to failure of an environmental standard can occur, for example, in rivers used intensively for irrigation and in waters receiving significant loads of point and diffuse source nutrients.

For the purposes of this guidance, pressures are contributory where:

a. they contribute to the failure of a particular environmental standard in a particular part of a water body and that failure would have to be resolved to improve the status of a water body; and
b. their relative contribution to the failure is more than very minor

To apply, the condition referred to in point (i) above must be the case even if all failures[8] for which any pressure is solely responsible (e.g. a failure upstream of the stretch in which other pressures contribute to failure) were addressed

Note

Decisions relating to the contribution to improvements expected from the agriculture sector and Scottish Water in water bodies impacted by nutrients will continue to be made nationally. SEPA will input to the relevant national planning processes at the appropriate time. SEPA will not use its regulatory powers to seek a greater contribution to environmental improvements from Scottish Water than those agreed as part of the Quality and Standards process.

When multiple pressures are contributing to the failure of a standard, the starting point should be to consider reductions in direct proportion to each pressure's relative contribution to the failure. However, in certain circumstances, it may be more cost-effective (i.e. cheaper

overall) to seek greater reductions than a pressure's actual contribution to the failure of the environmental standard (See Figure 2).

SEPA should only seek improvements that are not in direct proportion to the contribution made by a pressure to the failure of a standard where:

a. the operators of the contributory pressures have reached an agreement between each other; or
b. one operator is responsible for all the contributory pressures and wishes to make the overall reduction required in a particular way; or
c. doing so would significantly reduce the overall social, economic or environmental costs of delivering the improvement; or
d. doing so would significantly increase the likelihood of an objective being achieved (i.e. because of differences in the effectiveness of the techniques, including their likelihood of being implemented)

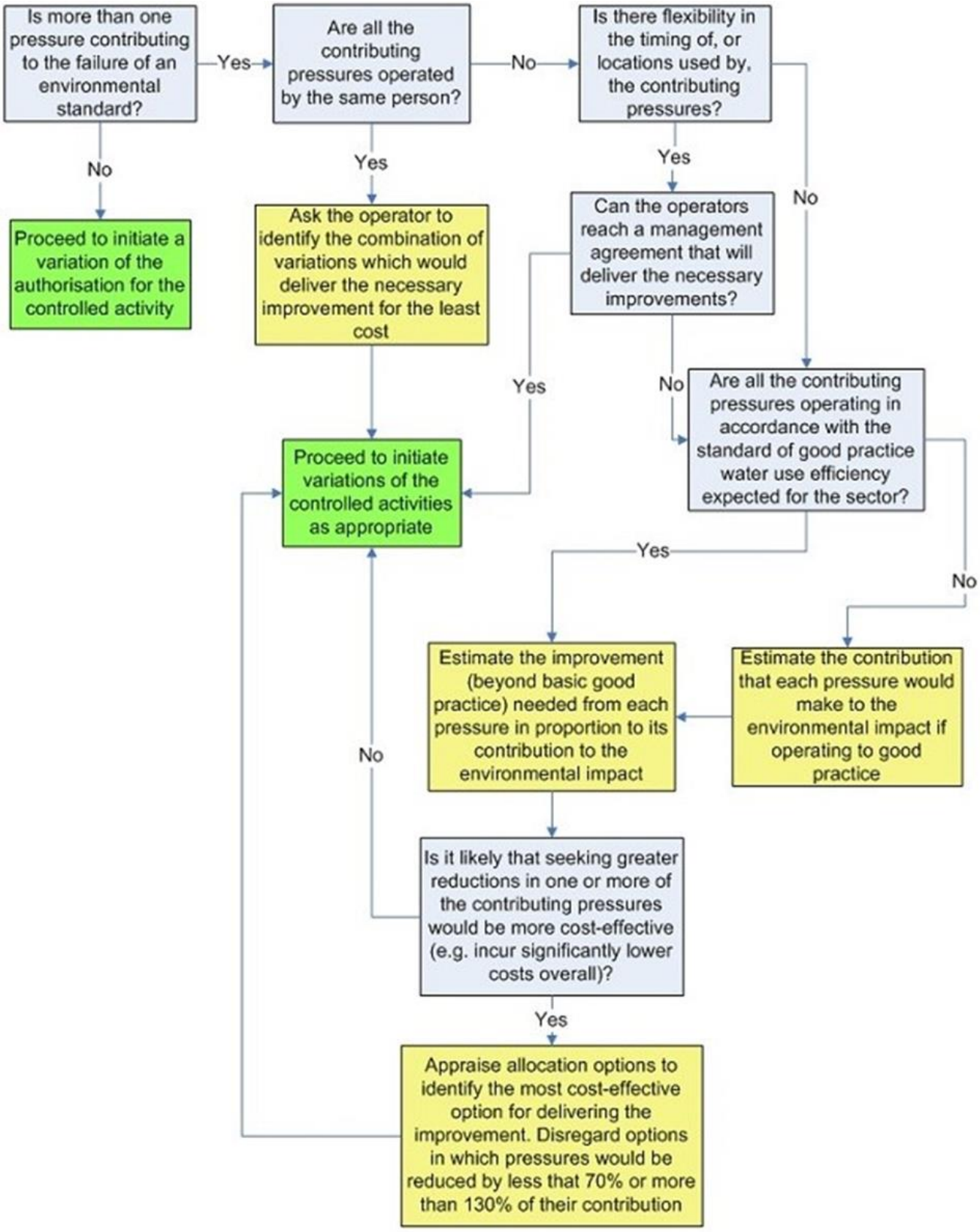
Except where (a) or (b) apply, SEPA will not normally require an operator to address less than 70 % or more than 130 % of their contribution to the failure.

With respect to point (c), the overall 'cost' of one option may be significantly less than another because the measures a particular operator would use have significant social, economic or environmental benefits that help off-set its higher financial costs. For example, the measures might, as a side-effect, help address another adverse impact on a water body. The CO should use (WAT-SG-67) to help assess the significance of any non-financial costs and benefits associated with different options.

Examples of situations in which it may be more cost-effective for one or more operators to contribute relatively more to the improvement than their contribution to the failure include situations where:

- there would be little additional cost associated with the extra improvement because of expenditure already required for other reasons; or
- other contributions are relatively small and either difficult to address effectively or addressing them would incur significantly greater social, economic or environmental costs

Figure 2: Identifying the appropriate improvement to seek from each pressure contributing to a failure of an environmental standard



Deciding whether one option is more cost-effective than another is a matter of judgement based on an assessment of the relative magnitude and significance of the financial costs and other positive and negative impacts of the different options. In some cases, it may also involve trade-offs between reducing costs and losing effectiveness (i.e. the likelihood the improvement will be delivered and maintained). Such trade-offs are illustrated in Table 16.

Table 16 Indicative guide to assessing cost effectiveness

Which of the two options, A or B, is likely to be more cost-effective than the other? (*The larger the font size, the greater the likelihood that the option indicated is the most cost-effective option*)

Difference in effectiveness	**Difference in the relative magnitude of financial costs and other significant social, economic or environmental impacts**				
	Costs of option B significantly lower	Costs of option B less but only moderately so	Little or no difference in costs	Costs of option A less but only moderately so	Costs of option A significantly lower
Option A much more effective	**A**	**A**	**A**	**A**	**A**
Option A moderately more effective	**B**	**B**	**A**	**A**	**A**
No or only slight difference in effectiveness	**B**	**B**	**Equivalent**	**A**	**A**
Option B moderately more effective	**B**	**B**	**B**	**A**	**A**
Option B much more effective	**B**	**B**	**B**	**B**	**B**

Return to the Process Summary

References

SEPA Documents

- WAT-RM-09: Modifications to CAR Authorisations
- WAT-RM-20: Advertising and Consultation
- WAT-SG-67: Assessing the Significance of Impacts - Social, Economic, Environmental
- WAT-SG-68: Assessing Significantly Better Environmental Options
- WAT-SG-89: Improving the Water Environment without Significant Impact on Storage Hydropower Schemes

External Documents

- Guidance for defining Good Ecological Potential (WFDUK)
- Water Environment and Water Services (Scotland) Act 2003 (www.netregs.org.uk)
- Environmental Objectives Under Water Framework Directive (EC/CIRCABC 20/06/2005)

End of Document