

UKTAG – Updated Recommendations on Environmental Standards

General Comments

Scottish Water is committed to the protection and enhancement of the water environment. We believe this should be underpinned by robust science to ensure proportionate and sustainable measures are taken to address pollution.

The report is not clear in explaining how the proposed environmental conditions were developed. We support the approach of providing supporting documents but the key points have not been captured in the consultation document.

Timescales

Additionally, given the quantity of information which is required to be reviewed in order to make an informed response, we are very disappointed that the consultation period set by UKTAG was so short. These are complex and technical issues with potentially major implications to operators. In future, consultation periods must be an adequate timescale, for example a minimum of 3 months.

It must be recognised that planning for investment by water companies is a very complex process, and companies require to plan investment some 5-10 years ahead of delivery. We cannot be the only sector that has to operate in this way and it would be beneficial if the timeline from standards being set through bringing into force, planning and implementation is considered.

For example, Scottish Water will publish its Strategic Projections in September 2012. This will set out our views of the key issues facing Scottish Water over the next 25 years. Clearly, supporting objectives set out within the Water Framework Directive will be one of these key issues.

The review considers whether measures are clearly evidenced by water quality downgrading and whether delivery will have a measurable environmental benefit. Where the impact of a pressure or the success of implementation is unclear, we will look to undertake studies before committing to delivery.

Once the list of measures is agreed, we will work with SEPA to prioritise delivery. In doing so we will take into account the plans of other stakeholders and other demands on Scottish Water resources. This process should deliver a clear programme of measures for inclusion in the 2nd (2015 – 2021) and 3rd (2021 – 2027) River Basin Management Plans (RBMP) to support Scotland's WFD objectives.

Sources of Pollutants

A critical point we wish to emphasise is that wastewater treatment works (WwTWs) are not **sources** of pollutants as is stated throughout the document. WwTWs are **pathways**.

The **true sources** of pollutants are the drainage areas that supply WwTWs. Wastewater networks are open systems providing a vital function to ensure safe

sanitation and drainage. It is imperative that we recognise the best means to control these substances in a sustainable manner, is to prevent their release into sewers. To focus on wastewater risks drives very costly and carbon intense approaches to environmental protection and is not consistent with the polluter pays principle.

Safety factors

We note that in the vast majority of cases, large safety factors have been built into the proposed standards for specific pollutants. This is despite the fact that rigorous scientific analysis has identified concentrations for each pollutant, at which there is ***no observable effect on the environment or its inhabitants***.

If safety factors are built into the standards, they will result in highly costly investment in energy intense treatment, for which there would appear to be no need, and no environmental benefit will be observed. Further, there may not be the technologies to support such standards.

We strongly disagree with this approach as it goes against the premise of the Water Framework Directive. If the confidence in a proposed standard is low enough to warrant the need for a safety factor, the proposed standard should not be used when determining programmes of measures since they could unnecessarily drive excessive cost.

Confidence Levels

Scottish Water believes that in order to fully justify expenditure there must be a very high degree of confidence that the water body is impacted by Scottish Water's activities and that the investment measure is necessary to achieve good status. We propose that this confidence should be greater than 95%.

In the absence of such confidence, additional monitoring must be clearly seen as the most appropriate measure to be implemented in the River Basin Management Plan.

River Basin Planning

Scottish Water would like clarification as to which standards will be applicable to the second River Basin Management Plans. Scottish Water would also like to have confidence with regard to which intercalibration parameter will be available. This is essential to allow planning within investment periods to tie in with the phasing of improvements through the RBMP.

In addition, it is imperative that river basin planners have a full understanding of the issue of confidence and applicability of standards, particularly where they are recommended from indirect models. This needs to be considered when addressing programmes of measures to ensure that a balance between the requirement for more monitoring and the clear need for action is met.

Alternative Objectives

It is essential that the disproportionate cost and technical feasibility tests in Article 4 of the WFD are fully and robustly applied to ensure that (a) objectives / alternative objectives for water bodies are correctly established in the second RBMPs and (b)

any further investment in treatment for such substances does not increase the carbon footprints of companies, for what will be marginal (if any) real and measurable benefit to the environment.

The use of alternative objectives is important in allowing enough time to monitor a risk properly where confidence is low to allow appropriate spending of public money and this is essential to deliver the aims of the Directive in the most cost effective manner.

Where good status is unlikely to be achieved over a single RBMP cycle (e.g. on cost, complexity of impacts, practicality etc), then alternative objectives to include a phased investment over successive river basin management cycles is the best way forward.

Diffuse Pollution

As outlined above, it is imperative that it is recognised that the best means to control substances in a sustainable manner, is through source control. This is true of the release of substances into sewers as well as from diffuse sources to the water environment. Where source control alone does not result in the required level of protection, there may be a case for discussions on alternative methods of protection such as treatment. In such cases, source control may result in significant reductions to the required level of treatment.

Diffuse pollution represents one of the greatest obstacles to achievement of Good Status. It is of concern that, throughout the report, no reference is made to how diffuse source pollution will specifically be managed. Diffuse pollution is often driven by a combination of land use activity and rainfall events. The damaging effects of diffuse pollution can therefore take place over a relatively short space of time. Without significant improvements in monitoring regimes, many diffuse pollutants may well go undetected and be able to impact stream ecology. If monitoring does not pick up on these short lived pollution events and there are other sources of the pollutant in the catchment, these other sources may be over regulated. For example, catchment monitoring we have undertaken shows that high loads of phosphorus can run off from farmland into water courses to which wwtw also discharge relatively low loads of phosphorus. If the high loads of phosphorus running off farm land are undetected by regulatory monitoring but cause significant damage to the biota in water courses, an assumption may be made that the phosphorus discharged by the wwtw caused the damage to biota. This would result in over regulation of wwtw.

Relationship between standards and licence conditions

The report does not adequately describe the interface between in-river standards (as proposed) and licence conditions, particularly the apportionment of the standard between multiple dischargers of a pollutant / specific pollutant. Further, as a consequence of this lack of clarity, it is not clear how, when a new application for a discharge of a pollutant is made, how will this affect existing dischargers where results show that the pollutant is at or near the standard in that water body?

Similarly, if a standard in a river is already exceeded for a specific pollutant (i.e. failure of good ecological status), and the agencies receive an application for a new

discharge of this pollutant – what will be the response to the application?

In the past, discharge compliance monitoring for List I and List II substances made up a significant element of the charging schemes operated by the agencies. We need to understand what the relationship will be between charging schemes and specific pollutants and other categories of pollutant. We expect a full regulatory impact assessment to be carried out.

Detailed Response

1	<i>Is the report clear in explaining how we have developed the proposed environmental standards and conditions?</i>
The report is not clear in explaining how the proposed environmental conditions were developed. We support the approach of providing supporting documents but the key points have not been captured in the consultation document.	
2	<i>The report defines the environmental standards and conditions required for the water framework directive. The purpose of the stakeholder review is to seek views on how the environmental standards have been developed by the UK. With this in mind, do you think that the approach we have taken, as identified in the report and supporting documents:</i> <div style="margin-left: 40px;"> <i>a) Identifies the environmental standards and conditions required to achieve the objectives of the Water Framework Directive?</i> <i>b) Uses the best information currently available?</i> </div>
See comments below.	
3	<i>Are there any other issues in relation to UKTAG's approach to developing UK environmental standards and conditions that you wish to comment on?</i>
See comments below.	

Specific Comments

<i>Chapter 2: Standards for specific pollutants</i>
For metals, which are largely ubiquitous in the environment, it is essential that every practicable step is taken to reduce loads entering the environment at source (whether this is through IPPC, trade effluent control or product substitution) before any end of pipe treatment investment is made. Our view for metals is that removal at source, combined with pollution prevention mechanisms, should be applied as a matter of principle. Control through end of pipe solutions that are economically and environmentally unsustainable must be avoided.

New substances

Benzyl butyl phthalate and 3,4-dichloroaniline: UKTAG has not presented evidence as to the sources of benzyl butyl phthalate and 3,4-dichloroaniline, nor has an analysis of the potential implications of the proposed standards been made. In the case of benzyl butyl phthalate, the assessment of 58 sites across Scotland is not adequate and no sites have been assessed for 3,4-dichloroaniline.

Without further studies, to identify distribution in the environment and associated implications of the proposed standards, we do not support the inclusion of these substances in the second cycle of RBMP.

Manganese: Manganese is ubiquitous in the environment and accordingly we detect it in water sources across Scotland, including upland catchments. Correspondingly, we disagree strongly with the comment in the consultation documents stating that the predominant source of manganese in the environment is mine water.

Additionally, we currently analyse for total manganese rather than dissolved and therefore we cannot determine the implications of the proposed standard.

The UKTAG consultation document states that only 78 sites across Scotland were assessed. We believe this is inadequate to determine presence in the environment and associated compliance.

Triclosan: As part of the chemical investigation programme (CIP), an UKWIR project which aims to investigate the management and control of priority substances, Scottish Water has conducted detailed analysis of triclosan concentrations in final effluents and subsequently modelled predicted environmental concentrations.

The results indicate that despite the fact that incidental removal of triclosan during treatment processes can be up to 80%, the concentrations identified in final effluents and subsequently following dilution in the water environment may result in significant failure rates at the proposed standard.

In light of this, and the fact that triclosan is widely used in the home and industry, control through end of pipe solutions that are economically and environmentally unsustainable must be avoided. Further to this, we do not agree with the incorporation of the high safety factors of 5 and 10.

An additional comment we would like to make is that the "long term study" was only conducted over a 3 day period. We do not consider this study adequate to develop a long term standard to prevent environmental damage and on which to base highly costly investment.

Tetrachloroethane: We do not currently carry out monitoring for tetrachloroethane and note that UKTAG has not provided adequate information on the prevalence of this substance in the environment.

Consequently, we cannot infer the implications of the proposed standard. Without this information, we do not support the inclusion of the proposed standard for this substance in the second cycle of RBMP.

Revised standards for existing specific pollutants

Copper: No background documents have been provided for copper in fresh water so we are unable to comment on the evidence base for determining environmental harm. Additionally, due to the added complexity of the proposed standard for bioavailability, we are unable to assess the associated implications.

Dichlorophenol: We note that there is a strong evidence base for a tighter standard for 2,4-dichlorophenol and therefore see no need for an additional high safety factor of 10.

Iron: We strongly disagree with the proposed standard for iron. The current standard takes into account that only dissolved iron is available to organisms and therefore can lead to harm. Whilst the evidence presented suggests that particulate iron may also cause environmental damage through mechanisms such as smothering, it does not take into account natural background levels, which are often higher than the proposed standard. Any iron standard should therefore be reflected as a concentration above natural background levels as is the case with zinc.

No evidence has been presented to show that the current standard is insufficient in protecting invertebrates or other species from harm. We therefore question the need for a more stringent standard.

Phosphorus: The proposed standard for iron will further limit water companies' abilities to remove phosphorus from wastewater to achieve an end of pipe standard, particularly given the tighter phosphorus standards which are expected to be proposed later in 2012. This highlights the importance of the need for UKTAG to consider implementation of proposed standards prior to recommendations being made to the devolved administrations. The link between phosphorus and iron also further highlights the need for source control as a primary measure.

Permethrin: The UKTAG background documentation shows that significant scientific analysis was carried out to determine a proposed long term standard of 0.03µg/l permethrin in fresh water.

Following this, a high safety factor of 10 was incorporated to give a standard of 0.003µg/l. We believe that if a long term standard is to be proposed, it should be 0.03µg/l, and not 0.001µg/l, which was arbitrarily derived from the existing short term standard.

Zinc: We are generally supportive of the approach taken to deriving proposed standards for zinc, where rigorous scientific analysis has been carried out in relation to the potentially harmful effects of zinc and the resulting proposed standard has no built in safety factor. However, our data indicates that the proposed standard may generate significant investment. This is a further example of the need for source control. A full regulatory impact assessment must be carried out.

Chapter 3: Groundwater

Change in nitrate threshold and application to groundwater abstracted for human consumption

We understand that this change has been brought about to introduce consistency in the nitrate threshold value across the UK and that the initial 31mg/l may have been very conservative due to limited long-term representative groundwater sampling for WFD purposes.

However, once a groundwater body has been impacted by nitrate pollution, in general, the water body takes a long time to recover. With regard to the WFD requirement to prevent deterioration in water body status, we believe there must be an early warning system in place in the form of a trigger value, to highlight where nitrate levels may be increasing. Work could then be undertaken to avoid a future breach of the 50mg/l standard. We consider that a trigger value of 37.5 mg/l is too high since at this stage, significant pollution of water bodies may have occurred.

Threshold value for risks to associated surface waters

In line with the above comments, we support the greater level of protection that this will offer given that issues will be identified at an earlier stage.

Chapter 4: Alien species

We are in agreement with the UKTAG recommendation to base listings of alien species on the results of risk assessments carried out by the GBNNSS. However, we recommend that GBNNSS should be encouraged to carry out updated risk assessments that are outstanding.

We also support the creation of an 'alert' list of alien species that are not yet listed but may pose a significant risk to the water environment. A list could inform contingency plans for dealing with potential threats, the lag phase prior to non-native species becoming invasive is not easy to predict and in any case rapid response is key to control and management. So identifying and setting out measures to deal with a potential threat makes sense.

The concept of "locally absent" species and their impact on specific species, habitats or wider ecosystem is established in terrestrial environment e.g. hedgehogs or mink in the Hebrides. It is clear that such events can have a high impact at a local level.

Chapter 5: River flows

Changes to Environmental Standards for MID-HIGH flows of Water Bodies at MODERATE or POOR ecological status.

We are supportive of the proposed amendments to environmental standards for river flows, as well as the UKTAG position that costly action is not appropriate for waters classed as moderate on the basis of river flows unless there is corroborating

evidence of ecological damage.

Chapter 6: Water levels in lakes

Replacement of existing standards (all classifications) based on loch outflows to standards based on changes in lake area of habitat.

We support the proposed amendments, which offer a general improvement in the relationship between change in water levels and water body status. Without comparative assessment we cannot state the impact that the changes will have on our existing source designations and on future proposals, but note that UKTAG state:

- if the new standards were to be applied, there would be a small reduction in the number of lakes classed as worse than good and, of those that are worse than, considerably fewer would be classed as poor and bad,
- for new abstractions, an expected outcome is that more water could be abstracted before the standards are breached.

We are, however, concerned by the additional complexity involved in assessing compliance with the standards and the increased investment that this may drive.

The definition of lake surface area within Table 17 is not readily understandable and we are therefore unclear on how this would be calculated. We support the approach to screening using the current methodology, to assess whether extra information is required.

Chapter 7: Intermittent discharges

We are supportive of the existing 90-percentile for River Ecosystem (RE) being adjusted slightly for the new Directive and its typologies however an Environmental Impact Assessment would need to be undertaken to allow the implications of the proposed changes for intermittent and continuous discharges to be fully understood.

Scottish Water believes that in order to fully justify expenditure there must be a very high degree of confidence that the water body is impacted and that the investment measure is necessary to achieve good status. On this basis, it is encouraging to note that action will only be taken where there is 95% confidence of failure of the standard.

Chapter 8: Standards for acidification in rivers

We have no comments at this time.