

## Safe & SuRe Response to Ofwat Outcomes Framework for PR19 Consultation January 2017

This response has been compiled by the *Safe and SuRe* (reliable, resilient, sustainable water management) project research team from the **Centre for Water Systems, University of Exeter led by Professor David Butler** ([d.butler@exeter.ac.uk](mailto:d.butler@exeter.ac.uk); [safeandsure.info](http://safeandsure.info)). Due to the focus of the Safe and SuRe project, we felt it would be most appropriate to respond to the consultation section titled “Better reflecting resilience in outcomes”. Our response is as follows:

**Q8:** What is your view on our proposals for better reflecting resilience within the outcomes framework?

We welcome the addition of Measures of Resilience as one of the ten new common performance commitments. Both this and the new Customer Experience Measure are crucial to the long-term planning and success of the sector, especially as the questions for the CEM shown in Figure 7 cover vulnerability – which is often seen as the opposite to resilience (even when individual and community perspectives are being considered).

However, we see the representation of resilience within Figure 6 as being confusing. It may be better to just include ‘Future’ as the green blocks and perhaps no.10 Resilience as a separate colour – we do not think most of the items currently shown as green actually relate to resilience (i.e. a system’s recovery in relation to an extreme), most of them may simply relate to reliability (response under normal conditions), which is a precursor for resilience but not resilience itself (Ofwat still seems confused about how these differ – as we will further expand on in our response to other sections).

Across the main consultation document and Appendix 3, Ofwat refers to the following:

- Long-term resilience of the water sector
- Resilient water and wastewater services
- Network and service resilience
- Resilience of companies’ business plans

In relation to the first bullet point and a mention on pg 33 of long-term projections, we would question whether 2020-25 plus an extra 10 years is actually very long term, considering the life span of assets (which may be several decades at least) and generational bandings (a generation is now typically ~15 years e.g. generation X = 1965-79, Y = 1980-95). Customer satisfaction and engagement across generations should also be more explicitly measured and reported on, perhaps as part of the new Customer Experience Measure.

Additionally, the separate ‘types’ of resilience noted above will require monitoring and measuring in different ways and therefore a range of indicators (or a ‘basket of measures’) should be consulted upon across and external to the sector (e.g. best practice on resilience measurement in the energy sector for example – although from Appendix 3, Box 2 it is not clear whether the energy sector has resilience metrics or if Ofgem requires reporting on this – clarity on that would be useful, as only reliability is mentioned there).

We are concerned by Ofwat’s continuation of the use of the term ‘resilience risk assessments’. Resilience and risk are different things and therefore it may be more useful to talk about ‘resilience assessments’ and ‘risk assessments’. If the implication was that a water company was ‘at risk of low resilience’ then a baseline for resilience would require quantification, a preferred level adopted and then their achieved level of resilience

measured and the three compared in order to assess the risk of not meeting that desired level of performance. Either way, there are two assessments present in that example, one for resilience and one for risk. We know that due to Ofwat's influence 'resilience risk' is now a commonly used term within water companies, but it mainly serves to confuse. As these resilience risk assessments are mentioned in six out of the seven draft resilience planning principles, Ofwat should be explicit and transparent about what they are, what they look like and how water companies should report back on them.

In relation to the 7 draft resilience principles themselves we:

- Suggest that if these 7 principles are to be adopted, there is 100% clarity about terms such as resilience, risk, reliability, 'resilience golden thread', 'components of resilience' (including response and recovery i.e. does this just mean terms included in Ofwat's resilience definition?), 'mitigating risk' (not necessarily the same as 'mitigating resilience'), resilience outcomes, robust. If this is not forthcoming, water companies will not be able to undertake the tasks Ofwat requires of them;
- Note the Appendix 3, p8 call: "We invite stakeholders' views on whether there is a need for the sector to have resilience planning principles." We 100% agree that guidance is needed as there still does not seem to be a clear understanding of how to measure and increase resilience, but these 7 principles are still not clear. This is the case throughout the document (e.g with measures often relating to reliability rather than resilience and the continual confusing discussion of 'resilience risk'). We reiterate our point above that unless Ofwat is 100% clear on these, water companies will suffer in their assessment and reporting of resilience. It should also be acknowledged that following a set of principles does not guarantee resilient performance – they just provide a starting point (e.g. if looking at the properties vs. performance of any kind of system).
- Caution the undertaking of Principle 2 – Customer engagement. If Ofwat and water companies are still grappling with the finer points of resilience, its metrics etc, how can customers be clearly and effectively engaged on this topic in relation to outcomes, performance commitments and ODIs? There is a lot of work still to be done to produce adequate communications to customers on most aspects of water sector functioning, let alone resilience, therefore specialist expertise will be required to ensure that appropriate aspects of resilience and suitable terminology are used so that the whole thing is not 'lost in translation'.

In relation to resilience metrics we:

- Agree that appropriate, common metrics are important to enable customers to understand water company resilience, especially considering the opening up of the retail and wholesale aspects of the business and how they might wish to choose their supplier in the future (even for household customers potentially at some point);
- Are disappointed that no academic research on resilience metrics is specifically mentioned in the list of initiatives given. There is a vast body of existing work published on these internationally. The Safe & SuRe project in particular has dedicated a lot of effort to translating research-grounded indicators into metrics more easily useable by the UK water industry. We would be happy to attend the proposed resilience event in March/April to share some of this research and would suggest that other academic representatives (e.g. Cardiff University working with Welsh Water on their resilience strategy) may have equally valuable contributions to share;

- Are not sure about the resilience metrics discussed, though we appreciate specific metrics are not being proposed at this stage. The existing ‘resilience’ metrics listed (e.g. % of protected WTW at risk of flooding) seem to relate more to reliability (properties and performance in relation to operation under normal conditions);
- Think that of the two options for developing resilience metrics being consulted on, there is little real difference between the two. Option 2, Ofwat’s preferred choice, encompasses the co-development of the metrics across the sector in order to embed them within the common resilience performance commitment, which seems like the only sensible way forward. We again provide caution, however, against Ofwat having too large an influence on the direction of this commitment/these metrics – instead, external consultation should be enlisted to ensure independent, transparent, clear and unambiguous development of the metrics/commitments.

In relation to stronger ODIs enhancing resilience we:

- Agree that aligning penalties/rewards with willingness to pay to avoid failures is sensible – however, in the context of resilience this should only be done in relation to planning for/recovering from extreme events, not normal operating conditions, otherwise Ofwat’s own definition will be breached (the example given of a drought order is thankfully valid).

**Q9:** What is your view on the options and our preferred approach to asset health outcomes?

We consider resilience to be focused on both properties and performance i.e. specified performance goals must be met, which may be achieved through manipulation of properties. Many different system properties may contribute to the resilience of a system, but any one property does not guarantee a certain level of performance. Consequently, service performance may be related to asset health, however the two are not necessarily cause and effect, for example connectivity is a system property that may be assumed to provide resilience, however, increased connectivity does not guarantee increased resilience because highly connected nodes are particularly vulnerable to a targeted attack.

With this in mind we would suggest that water mains bursts and sewer collapses are not suitable common performance commitments to be proposed for asset health, as they are both failure modes that can be caused by factors other than asset health or appropriate maintenance i.e. targeted attack or similar unknown threat or event. Consequently, asset health performance commitments should either specifically relate to failure modes caused by lack of maintenance, or, as resilience is also included here, the definition of an asset health measure widened to include other failure modes.

We support the comment regarding not asking customers to cover costs that should be associated with routine asset maintenance under the guise of resilience building expenditure. From some discussions in some water companies it seems there is a lack of clarity over the difference/relationship between the two, but also an awareness that building resilience shouldn’t be at the expense of asset maintenance.