Responses to PR19 Consultation by A. Lambert and D Pearson, UK accompanying e-mail (with additional general comments)of 25th August 2017

Comments relating to Section 4 Content

Top of Page 51: No mention of Minimum Level of Leakage or UARL in Leakage Commitment. Any reason why it's not mentioned here?

Page 56: "Companies should expect us to incentivise measures that are the same or similar to common performance commitments". This would be a good place to mention multiple benefits of reducing excess pressure and pressure transients, and to incentivise innovative pressure management.

Page 58: Resilience metric for Water Resources: "% of population expecting supply restrictions (standpipes or rota cuts) in a 1 in 200 year drought." As an ex-president of British Hydrological Society, I would ask how are you supposed to a) define and b) simulate a 1 in 200 year drought when any historical records you have may not be valid due to climate change? And is OFWAT aware of the damage that rota cuts and standpipes cause to distribution systems – see http://www.leakssuite.com/wp-content/uploads/2016/12/The-Effect-of-Intermittent-Supply-on-Water-Distribution-Networks-Final-29Dec2016-b.pdf where intermittent supply in an advanced system in Cyprus with DMAs, pressure control etc and an ILI of 1.5 (close to best achieved in England/Wales currently) the distribution system was irreparably damaged for future years. The recommended international solution (used in the recent drought in Brazil) with pressure management is to always keep some minimal pressure in the mains, so PLEASE remove reference to rota cuts and emphasis role of pressure management. Why not base the Resilience metric for Water Resources on a measure of persistent continuous failure to meet standards of service for pressure at the delivery point, which would be more meaningful – low pressure in the mains (with standpipes, in extremis) rather than no pressure in the mains with standpipes as currently written.

Page 61: Metrics for bespoke service commitments – I assume service connection repairs per 1000 services/year is somewhere in here? In UK, component analysis consistently shows that the majority of annual leakage occurs on service connections, not mains.

Page 65: Last item on Table 4.4: implies that expert knowledge from engineering models and asset health performance only arises within UK Companies – demonstrably not true since 2000, please mention international sources also.

Responses to Section 4 Questions:

Q1: Do you agree with our proposals for common and bespoke performance commitments?

Q2: Do you agree with our proposals on setting performance commitment levels?

Yes in principle, but not in all details for Leakage. In the Box on Page 70,

- 3rd bullet point. You could improve and simplify by using more of the IWA and EU Reference document best practices here. The concept of using leakage/property or leakage/km for setting targets and tracking performance is recommended in the EU Reference Document.

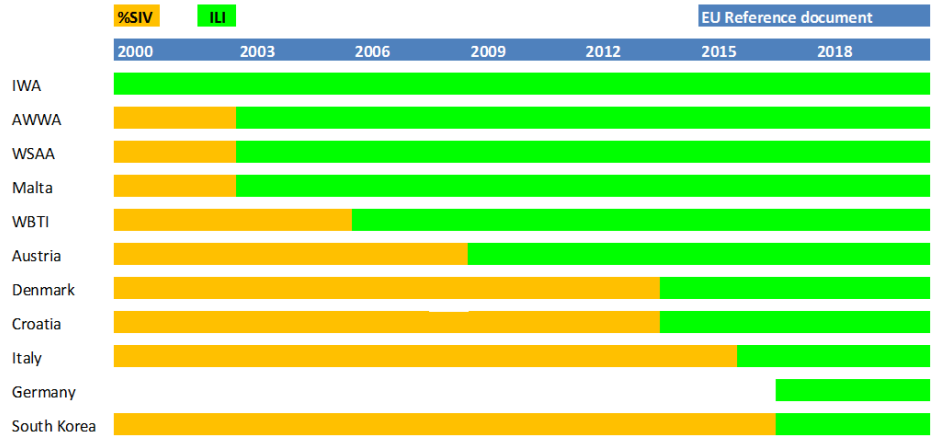
OBJECTIVE	GOOD PRACTICE PERFORMANCE INDICATOR FOR LEAKAGE, FIT FOR PURPOSE						
	Volume per year	litres/ service connection	m^3/km mains	litres/ billed property	% of System Input Volume	% of Water Supplied	Infrastructure Leakage Index, with Pressure
SET TARGETS AND TRACK PERFORMANCE, FOR AN INDIVIDUAL SYSTEM	YES, for large systems	YES*	YES*	YES (UK)	NO	NO	Only if all justifiable pressure management completed
TECHNICAL PERFORMANCE COMPARISONS OF DIFFERENT SYSTEMS	NO	NO	NO	NO	NO	NO	YES
DRAW GENERAL CONCLUSIONS FROM SINGLE OR MULTIPLE SYSTEMS	NO	NO	NO	NO	NO	NO	YES, together with other context factors
* Choose services connection density > 20/km; if not, choose mains; or base choice on country custom and practice							

However, leakage/property/day and leakage/km mains /day should only be used for tracking progress, not for comparing upper quartiles, as they don't take account of pressure (probable range 25 to 50m at Company level, even greater at range for sub-areas). Also, if you use two criteria (mains and properties) for comparing upper quartiles, what happens when a Utility beats one but fails the other?

ILI would be the recommended PI for the upper quartile approach, as it takes account of mains, service connections and pressure; but you could use leakage/property/day/metre of pressure if > 20 connections/km, when most leakage will be on services, which will apply to all of the 'whole Companies'. Use leakage/km mains/day/m of pressure only if < 20 conns/km, when most leakage will be on mains, for some rural sub-systems.

- 4th bullet point: no comment
- 5th bullet point: UARL and EU Ref Document not mentioned here (although it is in Appendix: I recommend you use the original version (1) of UARL formula in the Appendix, which was developed to suit UK situation of Distribution Losses and Total Losses, split at point of delivery. See http://www.leakssuite.com/ofwat-pr19-endorses-uarl/
- Last item in box , 'being informed by customer views on leakage': but not if it means the Consumer Council for Water (or other groups representing customers) using %s and muddying the waters, see http://www.leakssuite.com/interpreting-leakage-in-england-wales/ . OFWAT and Companies should be prepared to continue to repeatedly explain why %s are misleading, see http://www.leakssuite.com/kpis-fit-for-purpose/pros-abandon-percents-of-siv/
- Q3, Q4, Q5: No comment.
- Regarding UARL calculations, the Leakage Network Policy Statement which was circulated in confidence to a limited audience in September 2014 contained a significant number of errors, but I was not allowed to meet them to discuss their errors. So they were responded to, point by point, in http://www.leakssuite.com/ili-in-uk-update/ . Despite that, the Leakage Network again circulated the same statement (in 2016 I think). It would not therefore be surprising if many people within the UK water industry have a preconceived view of the 'problems' of UARL and ILI, which I am happy to discuss and explain to anyone, given the opportunity. The bar chart below shows some (not all) of the Countries and

organisations taking up ILI since it was first published in 1999, with benefit of listening and training.



- Regarding international ILIs, the most comprehensive quality controlled data sets can be found at http://www.leakssuite.com/global-ilis/ with an Overview by Country (including a limited England/Wales sample) at http://www.leakssuite.com/ili-overviews-by-country/

Responses relating to Section 5 Content

Q1. Do you agree with our resilience planning proposals?

- Basically, yes, but for Operational Resilience, pressure management gives the Utility control over leakage and (to some extent) consumption, and is fundamental to resilience in both short term (e.g. fire-fighting) and longer term operational management (including droughts, avoiding intermittent supply) – surely worth a mention?

Q1. Do you agree with our resilience planning proposals? Yes

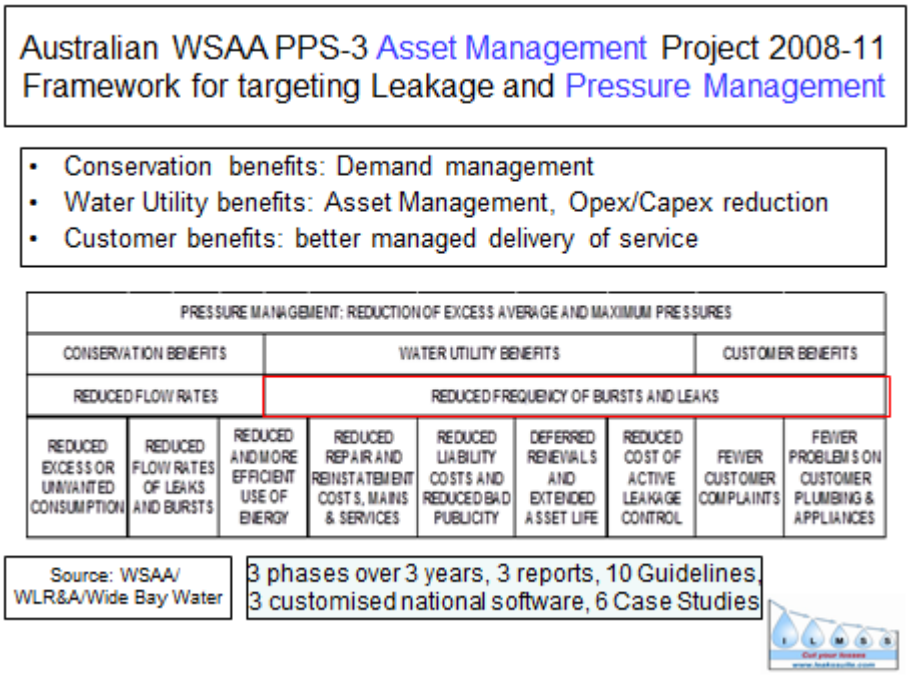
Responses relating to Section 6 Content

I would not claim to understand all the possibilities you are trying to stimulate, or cover in this Section. But I would ask you to remember that each of the larger England and Wales Water Utilities has a highly integrated group of conjunctive use sources of different types (reservoirs, rivers, groundwater) and different hydrological characteristics, so Yield – the output measure OFWAT has chosen - is not a fixed figure, it depends on the assumptions for how the sources are flexibly operated conjunctively during different types of events.

If the operation of different parts of a vertically integrated system is split between different organisations pursuing their own efficiency objectives (horizontal integration), with the worthy intention of improving efficiency and reducing costs, the law of unintended consequences may apply and the result can truly be a debacle. If you doubt this, study the separation of Water Resources, transmission mains and distribution in the Brisbane/Gold Coast system in 2010 -13, after the millennium drought. After setting up 3 organisations, with increases in staffing and costs, the ongoing disruption of day to day operations proved to be so inefficient and damaging that the original organisations had to be recreated 3 years later.

Section 7

Section 7.1, Page 137: Table 7.1, 1st item 'We want companies to focus on projects likely to deliver the greatest customer value.' The following table is relevant and a reason why the multiple benefits of pressure management are worth mentioning.



Sections 8 to 14

No comments

ENDS