Leakage Routemap – Phase 4 Information

Workstream definitions and scope

Workstream 1 Quantification – Dene Marshallsay

The choice of adaptive pathway is very sensitive to the level of background leakage. Further consideration is required about what to do regarding background leakage and whether asset renewal is required. It is not always clear what is background and what are customer side losses and whether these customer losses are outside or inside the property. This in turn will affect whether Customer Supply Pipe (CSP) adoption and/or universal metering should be pursued. Understanding these components is critical to achieving longer term targets. The results from trials of AMI will inform the outputs of this workstream

Workstream 2 Asset Maintenance – Jo Parker

Work on the actual pipe network has often been overlooked in previous leakage action plans – the leakage heat map highlighted the current lack of innovation in this area. However, repairs account for around 75% of the cost of reducing leakage by ALC and the industry needs to develop and adopt solutions which reduce costs, disruption and the carbon footprint. However, repairs cannot be pursued to the exclusion of renewal. The benefit of mains renewal can be seen in Holland and Japan but in the UK the rate is < 0.3%/year. It is essential that any mains renewal is properly targeted and it should be remembered that it has a high carbon footprint. Finally we need to ensure that new pipes does not increase the problem.

Workstream 3 ALC and managing the network – Joe Sanders

A number of water companies and their contractors are reporting difficulty in recruiting and retaining trained ALC technicians. It is also essential that ALC activities are as efficient as possible and the costs and benefits of the various organizational and contract options should be understood. In addition, the future costs of ALC resource is a significant uncertainty. The large amount of insight that will be gathered from smart networks means that ALC technicians will potentially become more effective but must be more technology literate. Technology that assists with detection continues to be developed, also assisting with these activities. ALC and repair is the main method of controlling leakage and it is likely that it will continue to be important. Therefore these activities must be seen as a priority.

Workstream 4 Calm and optimised networks – Glen Mountfort

Reducing the water pressure in a network reduces the flow rate of any leaks. The pressure in the network may need to be further reduced from current levels and better managed. New pressure reducing valves may need to be installed, as well as existing DMAs and pressure management schemes being fully optimised. A culture of calm networks will need to be adopted so that fewer issues are caused by operations on the network that lead to leaks. A number of water companies have trialed or implemented smart networks, which typically combine high frequency data with predictive modeling. However, the full benefits to leakage and pressure management are not fully

understood. The trials of the smart networks are still relativity new, hence the true asset life of the sensors and associated assets are not yet fully known.

Workshop outlines

Each of the workstreams will hold a full day in-person meeting (with the ability to log in remotely if needed) as a way of kicking off the workstream. In these workshops the following will be discussed

- Outline the scope of the workstream
- Agree prioritises of the workstream
- Share existing knowledge and areas of best practice
- Highlighting knowledge gaps

The workshops will follow a process used by RPS and Watershed Associates in a recent UKWIR project assisted in highlighting existing areas of good practice and where the industry required further work. We propose to use a methodology similar to the governments "What Works"[1] method to assist the running of these workshops.

The workshop participants for some of the workstreams are unlikely to be members of the traditional leakage community even if their job role in the water company interact and work with the leakage functions, for instance the network maintenance teams and regulations teams. We will ensure that these individuals are able to fully contribute, so that the 360 perspectives can be achieved. Industry experts from consultancies and academia will also be invited to provide a supply chain perspective and a future horizon scan. We anticipate that each workshop will have 30-40 participants.

A draft agenda for the workshop is below –

09.45 – Intro to workstream and Ice Breaker

10.15 – Intro to "What Works"

10.30 – Breakouts – "What doesn't work now"

11.15 – Breakouts – "What works 1"

12.00 – Lunch

12.45 – Morning learning recap

13.00 - Breakouts – "What works 2"

13.45 – Breakouts – "What works 3"

14.15 – Breakouts – "Priorities"

14.45 – Summaries and next steps

This will be similar to the workshop recently held by the FWA on Customer Supply Pipe Leakage.

[1] https://www.gov.uk/government/publications/what-works-evidence-for-decision-makers