Outcomes Working Group

November 2021

Ofwat

Agenda: 10 November

Aim: To understand stakeholder views, consider options and collect evidence on how ODIs should be set.

10:00 Introductions and background

10:05 Presentations on consideration of marginal cost in calculating ODI rates: Ofwat

10.20 Breakout session 1: Consideration of marginal cost in calculating ODI rates

10.40 Feedback

10.55 Presentations on Enhanced ODIs, Jon Ashley Severn Trent and Katy Long Ofwat.

11:15 Breakout session 2: Enhanced ODIs

11.35 Feedback

11.45 Plenary

11.55 Conclusions and look ahead

12:00 Close

Marginal costs and the standard ODI rate formula

The standard ODI rate formula

- The standard ODI underperformance rate formula at PR19 was based on marginal costs and marginal benefit:

$$ODI_{underperformance} = marginal\ benefit - marginal\ cost * (1 - S)$$

where S is the company's cost sharing rate

- The formula is designed so as to return the foregone marginal benefit to customers from underperformance.
- The formula is calibrated for cost sharing incentives
  - the foregone benefit returned to customers is net of customers' share of totex outperformance.
- Implicit in this formula is the assumption that underperformance is associated with totex outperformance i.e. companies avoid cost when they fail to reach their performance commitment levels
  - suggests companies consciously choose to underperform to save totex

The relationship between cost and outcomes is not straightforward

- In practice we observe some companies are outperforming on totex and outcomes.
- This suggests that outperformance can be delivered through operational efficiencies or innovations and does not always require extra investment.
- Similarly, there are some companies that are underperforming against both their totex allowances and their performance commitments.
- This suggests that managerial effectiveness plays a part in driving ODI performance, as well as investment.

Company	Total expenditure		Outcomes								
	Wholesale	Retail	Customer service[2]	Meeting performance commit-ments	Earning financial incentives	Leakage	Water use[2]	Supply interruptions	Water quality contacts	Internal sewer flooding	Pollution incidents
Better performance											
Northumbrian Water	Top 25%	Middle 50%	Top 25%	Middle 50% ▲	Middle 50%	Middle 50%	Middle 50%	Top 25% ▲	Top 25% ▲	Bottom 25%	Top 25%
Wessex Water	Top 25%	Middle 50%	Top 25%	Top 25%	Top 25% ▲	Top 25%	Middle 50%	Middle 50% ▼	Bottom 25% ▼	Top 25%	Top 25%
Bristol Water	Middle 50%	Top 25%	Middle 50%	Middle 50% ▲	Top 25% ▲▲	Top 25% ▲	Middle 50%	Middle 50% ▲	Middle 50% ▲	-	-
South Staffs Water	Top 25% ▲	Top 25%	Middle 50%	Top 25% ▲	Top 25% ▲	Bottom 25%	Top 25%	Top 25%	Middle 50%	-	-
Average performance											
Anglian Water	Top 25%	Middle 50%	Middle 50%	Middle 50% ▼	Bottom 25% ▼▼	Top 25%	Top 25%	Bottom 25% ▼	Middle 50%	Top 25%	Middle 50%
Dŵr Cymru	Bottom 25%	Bottom 25%	Top 25%	Middle 50%	Middle 50%	Middle 50%	Bottom 25%	Bottom 25%	Bottom 25%	Top 25% ▲	Top 25% ▲
Severn Trent Water[1]	Middle 50%	Top 25%	Middle 50%	Middle 50%	Top 25%	Bottom 25% ▼	Top 25%	Top 25%	Middle 50%	Middle 50%	Middle 50%
South West Water	Top 25%	Top 25%	Middle 50%	Middle 50%	Middle 50% ▼	Top 25%	Bottom 25%	Middle 50%	Bottom 25%	Middle 50% ▼	Bottom 25%
United Utilities	Bottom 25%	Middle 50%	Top 25%	Bottom 25% ▼	Middle 50% ▼	Bottom 25%	Middle 50%	Middle 50%	Bottom 25%	Middle 50%	Middle 50% ▼
Yorkshire Water	Bottom 25%	Middle 50%	Middle 50%	Top 25% ▲	Top 25%	Middle 50% ▲	Top 25%	Middle 50%	Middle 50%	Bottom 25%	Middle 50% ▲
Portsmouth Water	Middle 50%	Middle 50%	Top 25%	Top 25%	Bottom 25%	Middle 50%	Bottom 25%	Top 25%	Top 25%	-	-
South East Water	Top 25% ▲	Top 25%	Bottom 25%	Bottom 25%	Middle 50%	Middle 50% ▼	Middle 50%	Middle 50%	Middle 50%	-	-
SES Water	Middle 50%	Bottom 25%	Bottom 25%	Top 25% ▲	Middle 50%	Middle 50%	Bottom 25%	Top 25% ▲▲	Top 25%	-	-
Poorer performance											
Hafren Dyfrdwy[1]	Middle 50%	Middle 50%	Middle 50%	Bottom 25%	Bottom 25%	Top 25%	Middle 50%	Bottom 25%	Bottom 25%	Bottom 25%	Bottom 25%
Thames Water	Bottom 25%	Bottom 25%	Bottom 25%	Bottom 25%	Bottom 25%	Bottom 25%	Middle 50%	Bottom 25%	Top 25%	Middle 50%	Middle 50%
Southern Water	Middle 50% ▼	Bottom 25%	Bottom 25%	Bottom 25% ▼	Middle 50%	Middle 50%	Top 25%	Middle 50% ▼	Middle 50%	Middle 50% ▲	Bottom 25%
Affinity Water	Bottom 25% ▼	Bottom 25%	Bottom 25%	Middle 50% ▼	Bottom 25%	Bottom 25%	Bottom 25%	Bottom 25% ▼	Top 25%	-	-

The table demonstrates our overall categorisation of companies based on their in-the-round performance on relative assessments.

Wessex Water remains in the better performers category for a second consecutive year. **Hafren Dyfrdwy** and **Thames Water** remain in the poorer performers category for a second consecutive year.

Key			
Top 25%		Moves up a category	▲
Middle 50%		Moves up two categories	▲▲
Bottom 25%		Moves down a category	▼
		Moves down two categories	▼▼

[1] The area boundaries of Severn Trent Water and Dee Valley Water were modified on 1 July 2018, on which date, Dee Valley Water was also rebranded as Hafren Dyfrdwy and became a water and sewerage appointee. The modification also had the effect of transferring certain customers of each company to the other. A comparison with 2018-19 performance on each measure is therefore not provided for these companies.

[2] In our 2019-20 analysis of normalised performance we have used a new measure of customer service (C-MeX) and we have introduced the assessment of water use. Therefore a comparison with categorisations in 2018-19 is not provided for these measures.

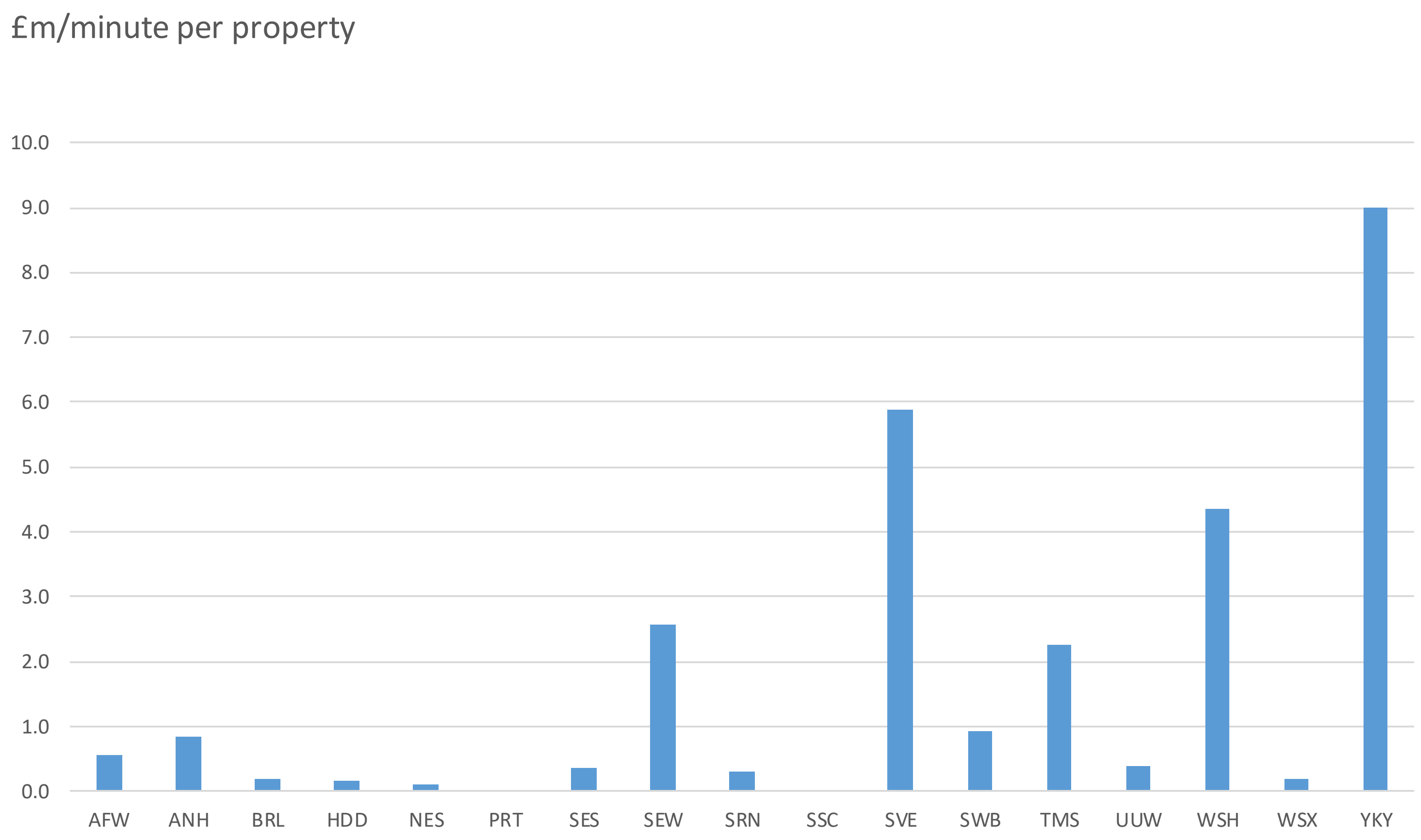
Source: [2019-20 Service Delivery Report]

Marginal cost data is highly variable across companies

- Even if the relationship between costs and outcomes, as assumed by the ODI rate formula, were to hold, there is scope for different approaches taken by companies towards estimating marginal costs to lead to very different estimates.
- This is because not only can the underlying costs differ between companies for a given solution, but companies can take different approaches to estimating the marginal solution.
- Ofwat has limited ability to scrutinise companies' marginal costs submissions.
- At PR19 the marginal cost data submitted was highly variable across companies (see next slide)
- The differences between companies drives unexplained variation in ODI rates

Marginal cost data is highly variable across companies

PR19 Marginal cost estimates: water supply interruptions



Modifying the standard ODI underperformance rate formula

- We therefore propose to remove the marginal cost component of the standard ODI rate formula by substituting it with marginal benefit

$$\begin{aligned} ODI_{underperformance} &= marginal\ benefit - marginal\ benefit * (1 - S) \\ &= marginal\ benefit * S \end{aligned}$$

where S is the company's cost sharing rate

  - represents situation in which marginal benefits are in the same region as marginal costs
  - moderates the impact of marginal benefit values on the amount companies must compensate customers by, reflecting uncertainties and weaknesses of WTP research.
- We propose to maintain the outperformance ODI rate as being equal to *marginal benefit x cost sharing rate*. This is set so as to incentivise companies to deliver outperformance where benefits are at least as high as costs (i.e. MB ≥ MC)
- The alternative of removing the marginal cost component from the underperformance rate completely (ie setting the underperformance rate equal to marginal benefit) would result in a marked asymmetry between the underperformance and outperformance ODI rates across PCs.
  - this could drive unintended consequences, e.g. very risk averse behaviour by companies.
  - the asymmetry in incentive structure could also result in an asymmetry in expected outcomes which could have implications for the allowed return.

Breakout group: Marginal Costs

Marginal Costs

- Do you support removing estimates of marginal cost in the calculation of ODI rates?
- If so, how should we take account of cost sharing in how we calculate ODI rates?
- If not, what could we do differently so that companies report consistent and comparable information for common PCs?

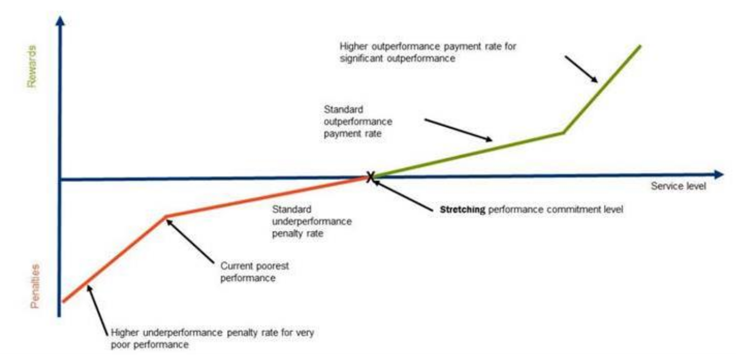
Enhanced ODIs

Ofwat outcomes working group, 10 November 2021

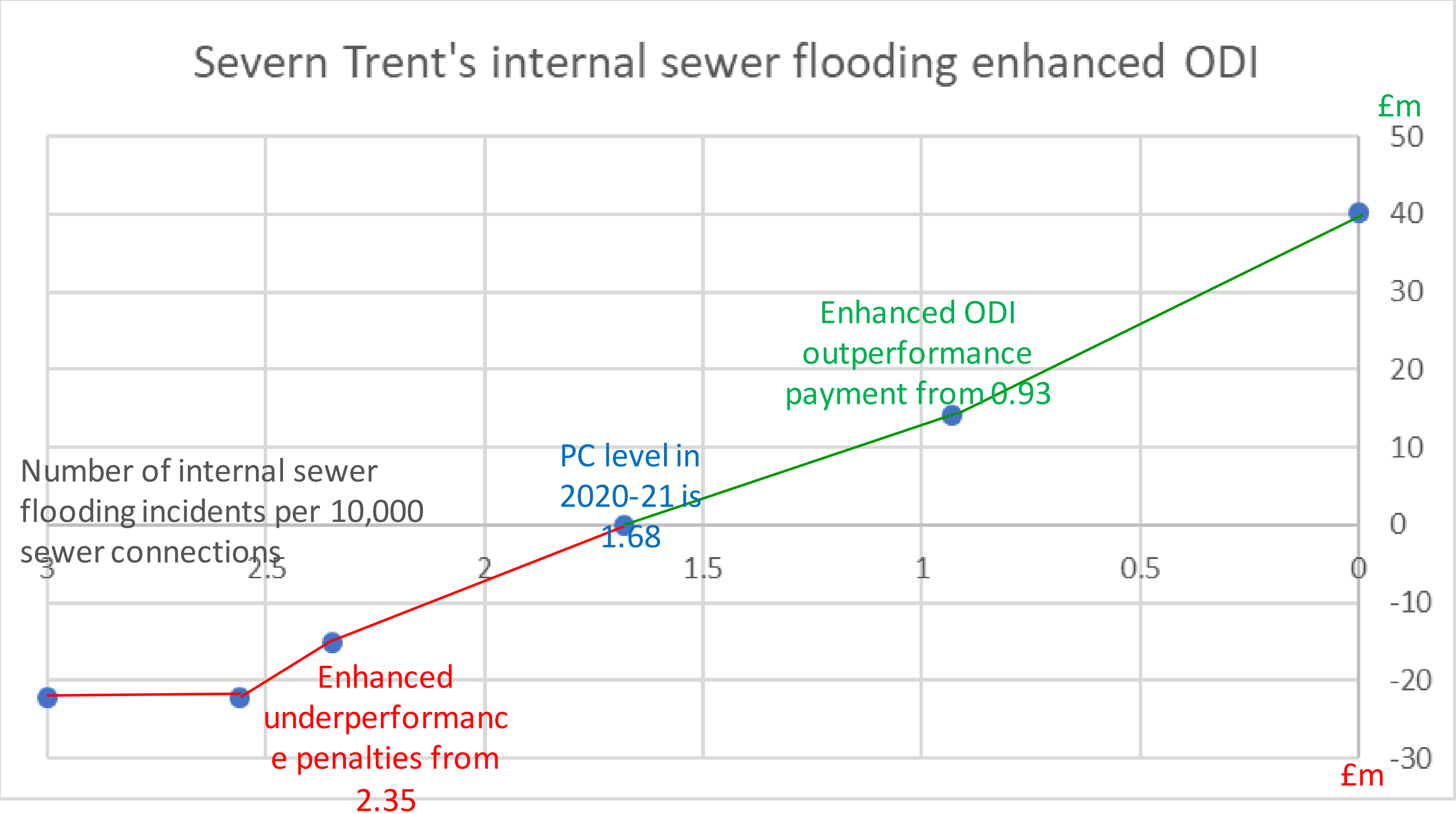
WONDERFUL ON TAP

What is an enhanced ODI?

Figure 4.2 Enhanced outperformance payments and underperformance penalties at PR19



Enhanced ODIs have incentive payments where the outperformance and underperformance rates increase at levels of performance further from the performance commitment.



Severn Trent has one enhanced ODI on internal sewer flooding. (The graph shows the thresholds in 2020-21).

The enhanced ODI rates are 50% more than the standard rates.

The standard underperformance rate is 21% more than the standard outperformance rate.

Enhanced ODIs aim to promote innovation

Ofwat’s policy aims at PR19:

Enhanced ODIs provide strong incentives to deliver major performance improvements and compensate companies for the extra effort and risk involved.

Significant changes in frontier performance through innovation not only provide direct benefits to customers of the company in question but also enable more stretching benchmarks for other companies, benefiting consumers more widely.

A reminder of Ofwat's PR19 approach to enhanced ODIs

They only apply to common performance commitments.

The enhanced underperformance penalty rate must be at least as large as the outperformance payment rate.

Ofwat calculated the enhanced outperformance payment threshold using a 2020-21 industry frontier, applied an upward shift and put in an upward profile over AMP7.

Enhanced underperformance penalties apply from the lower quartile performance level.

Receiving the enhanced outperformance payments will depend on whether the company carried out effective knowledge sharing.

Enhanced outperformance caps – Ofwat set a cap on the enhanced outperformance payments that can be earned from any one enhanced ODI in any year equal to 1% of either water or wastewater regulated equity.

Ofwat derived the enhanced outperformance rate by estimating the benefit to all customers when a company delivers performance that moves sector benchmarks (the **benchmarking externality**)

Enhanced underperformance collars – Ofwat set enhanced underperformance collars at the lower decile of actual company performance for each relevant performance commitment.

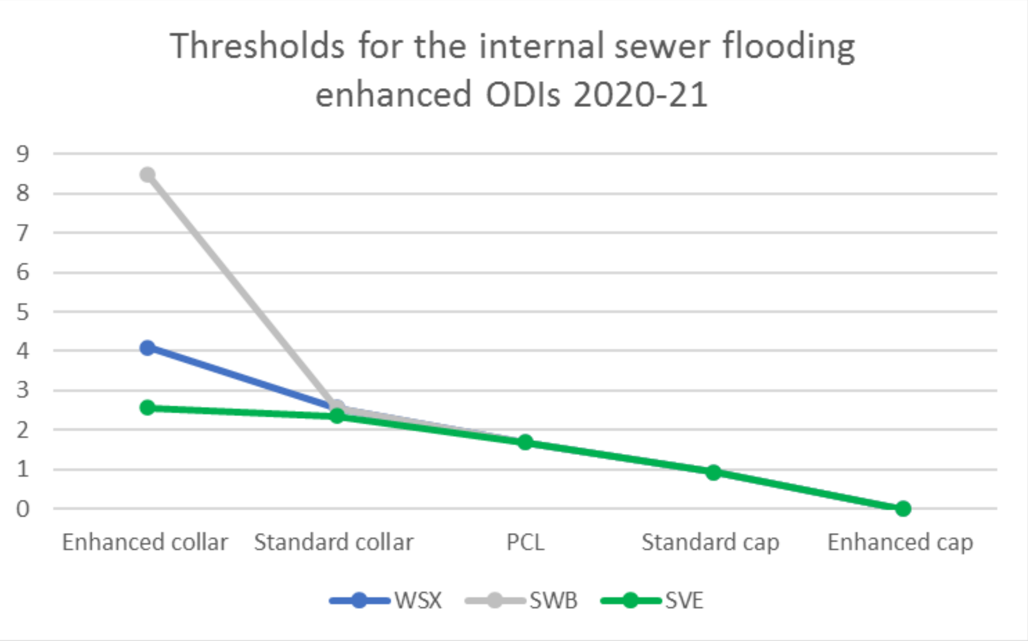
9 companies had enhanced ODIs set in Ofwat's final determination

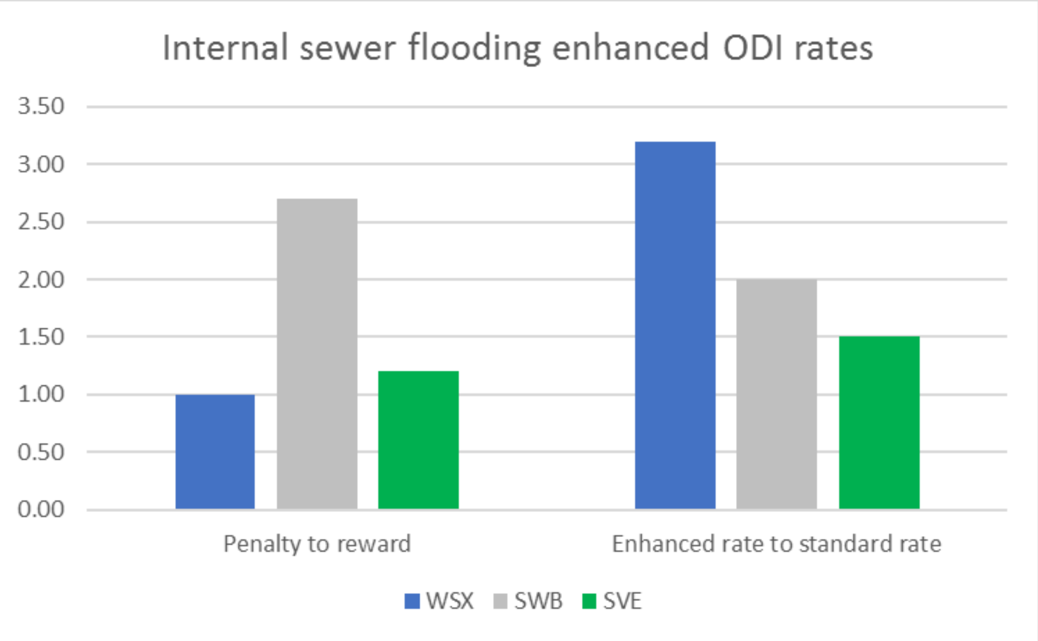
	Leakage	Supply interruptions	Pollution incidents	PCC	Internal sewer floods
YKY	1	1	1	1	
WSX	1	1	1		1
NES	2	1	1		
SES	1	1			
SWB	1				1
ANH	1				
SRN				1	
SVE					1
UU			1		

- 20 enhanced ODIs across 9 companies.
- YKY and WSX have the most with 4 enhanced ODIs.
- 6 companies have enhanced ODIs for leakage

Notes:
NES has 2 enhanced ODIs for leakage.
WSX has 5 enhanced underperformance penalties only for sewer collapses, CRI, mains bursts, PCC and treatment works compliance
The CMA in its redetermination removed enhanced leakage ODIs from ANH, NES and YKY

The design of enhanced ODIs varies between companies





PCLs, caps and collars

Three companies have enhanced ODIs for internal sewer flooding (WSX, SWB and SVE).

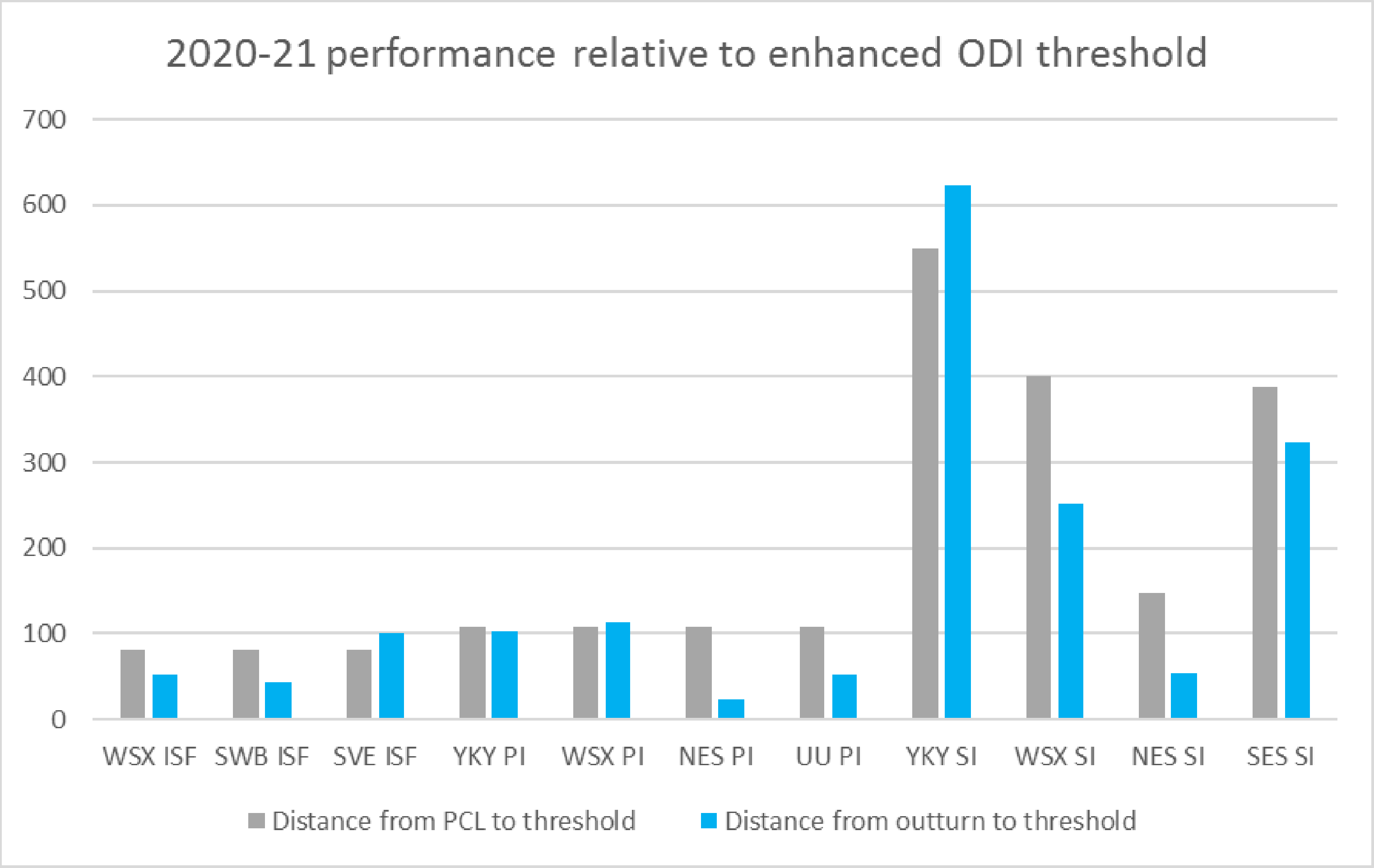
The internal sewer flooding enhanced PCs have the same PC levels and caps, but the standard collar differs slightly for SVE and the enhanced collars vary significantly across the companies.

ODI rates

The penalty rates are equal to the outperformance rates for WSX, are 1.21x higher for SVE and 2.70x higher for SWB.

The enhanced rates are 3.19x higher than the standard rates for WSX, 2x higher for SWB and 1.5x higher for SVE.

How close were companies to enhanced rewards in Year 1?

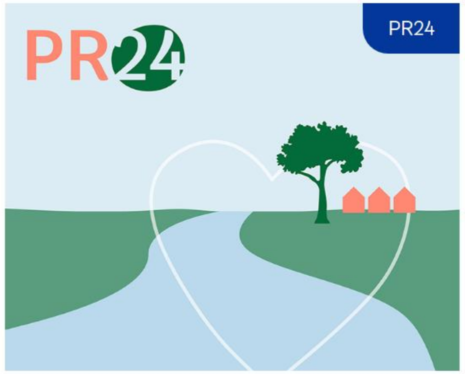


The grey columns show the %age difference between the PC level and the enhanced ODI threshold. The higher orange columns show where the change needed to get the enhanced ODI threshold is the largest. Leakage is not on this slide because many of the improvements needed are very large (up to x40).

The **blue** columns show the %age difference between the 2021-22 outturn and the enhanced ODI threshold.

NES was closest to the enhanced ODI threshold of any company for any PC, being 23% away on pollution incidents in 2020-21.

Some thoughts about enhanced ODIs for PR24



Creating tomorrow, together

It's only year 1 of AMP7 and you'd expect it to take time for companies to shift their performance enough to earn enhanced outperformance payments.

Ofwat is focussing more on common PCs at PR24 and enhanced ODIs will increase the incentive to deliver frontier-shifting performance in those common ODIs.

The reasons underpinning Ofwat's introduction of enhanced ODIs still stand – that they stimulate innovation and deliver benefits for customers across the whole sector.

Realistic thresholds for achieving enhanced outperformance payments are needed to make sure they do actually change company behaviour.

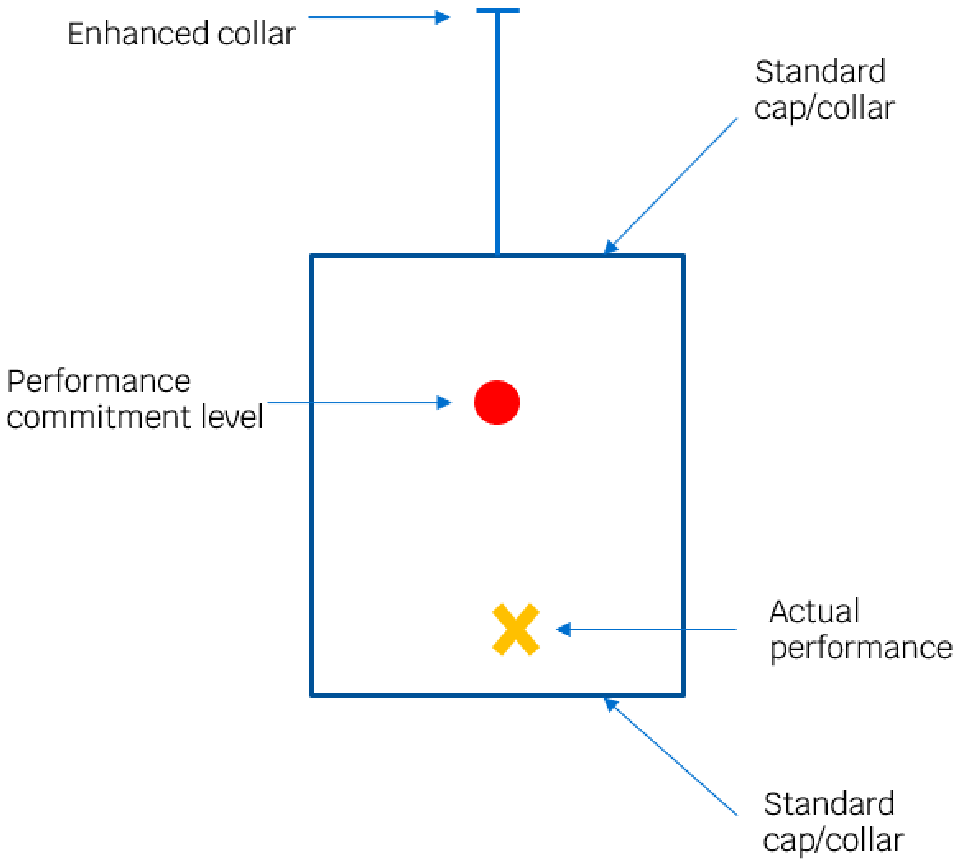
Enhanced ODIs

Ofwat

Enhanced Outcome Delivery Incentives

- Eight companies have enhanced ODIs for the 2020-25 period, covering 5 PCs (leakage, per capita consumption, water supply interruptions and internal sewer flooding).
- In the 2020-21 reporting year no company earned enhanced incentives.
- We have undertaken an evaluation to see if companies with enhanced ODIs performed better at these PCs than companies without enhanced incentives.
- A difference-in-difference analysis found no statistically significant impact of enhanced ODIs on company performance.
- This conclusion is supported by eyeballing the performance data for 2020-21 (see following slides)
- We are eager the hear from companies how enhanced ODIs have affected their strategy, planning, operations.

Interpreting the charts



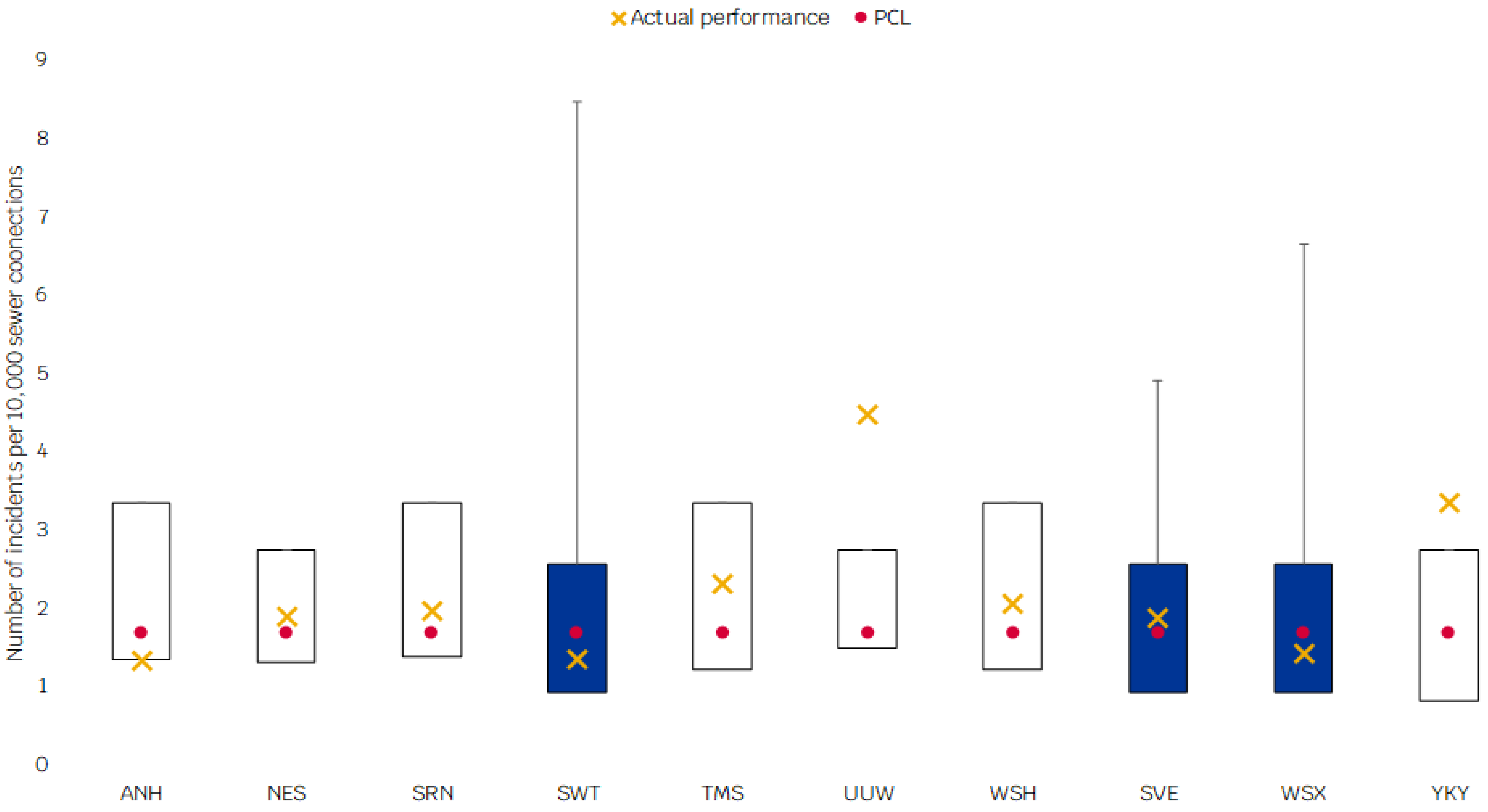
N.B. Enhanced caps have not been shown in this work as they are calculated as a % of regulated equity.

What is this analysis showing?

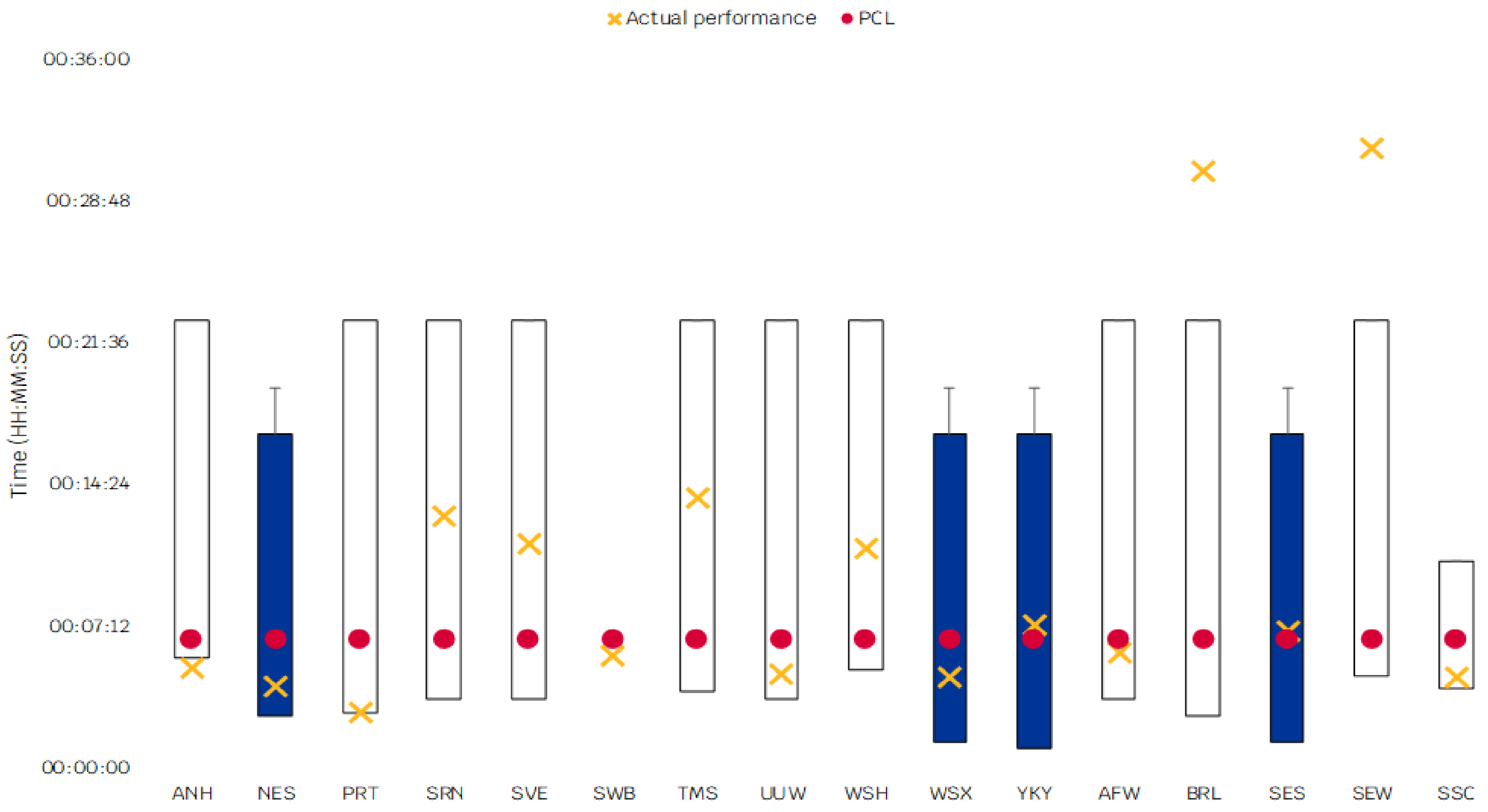
Using box and whisker plots, this analysis gives a visual representation of how companies are performing against their performance commitment levels and in relation to their caps and collars.

Box and whisker plots in blue indicate companies with an enhanced ODI.

Enhanced ODIs: Internal sewer flooding



Enhanced ODIs: Water supply interruptions



Breakout group: Enhanced ODIs

Enhanced ODIs

- If you are from a company that has enhanced ODIs what difference has this made?

- What are you views on whether we should retain enhanced ODIs in the future?

Look ahead

We suggest the following dates and draft subjects, although this is subject to change.

8 December	Issues raised by Ofwat's forthcoming November paper on common PCs
13 January	ODIs – Approach where we do not have meaningful valuations of marginal benefit
10 February	Measuring outcome risk – options
10 March	Caps and collars