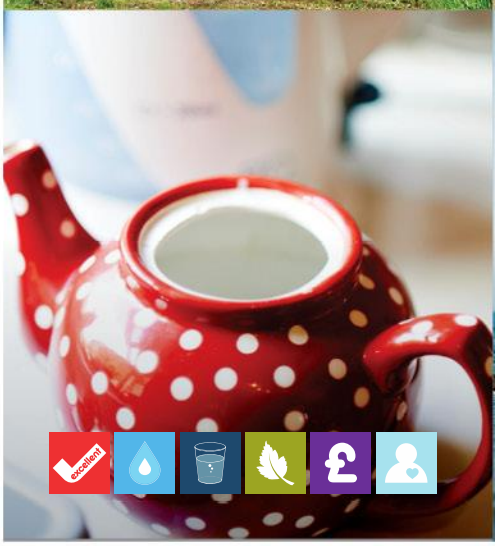
Meeting our customer promises

(Stability and Reliability Factors)

It's part of our
Blueprint for Yorkshire







YorkshireWater

1. Introduction

As part of the commitments we put in place to ensure we meet our customer promises made at the last price review we included four measures called Stability and Reliability (S&R) factors. These measures reflect our duty to provide water and waste water services and protect public health over the long and short term. They are at the core of our overall framework of incentives and our research showed that they were something our customers wanted. We need to ensure that these measures and incentives are simple to understand, transparent, and reflective of their priorities.

The four S&R factors are split into the following categories reflecting the different delivery and maintenance operations needed to deliver both clean water and waste water services:

- Water quality S&R factor – this monitors how well our water treatment works are performing.
- Water network S&R factor – this monitors how well our clean water network is performing.
- Sewer network S&R factor – this monitors how well our waste water network is performing.
- Waste water quality S&R factor – this monitors how well our waste water treatment works are performing.

The S&R factors enable us to measure how well we are looking after all of the buildings, pipes and equipment which enable us to continue to deliver our services to you. This evaluation is undertaken on an annual and also a five yearly basis to confirm whether each S&R factor should be assessed as either Improving, Stable or Deteriorating. A deteriorating assessment means that Yorkshire Water could be penalised. This assessment is a considered judgement of performance based on factors both within and outside the control of Yorkshire Water, including weather, overall business performance, legislative changes, customer views and regulators' views. To ensure transparency all assessments are confirmed through our annual reporting and are reviewed and agreed by our external assurance providers, currently Halcrow.

Each of the S&R factors are built up from several sub-measures, as shown below (for a full explanation of each of the sub-measures please see Appendix 1):

	Networks	**Quality**
Water	• The number of pipes that fail (burst) • The number of interruptions to water supplies that are more than 12 hours in duration • The number of properties experiencing persistent low water pressure • The number of customer contacts about discoloured water (number per 1,000 population) • The percentage of water quality samples taken that subsequently fail due to the presence of turbidity, iron or manganese (distribution index TIM) • The number of times we have to repair equipment on our water distribution network	• The percentage of water quality samples taken that subsequently fail due to the presence of coliforms (bacteria) at our water treatment works • The percentage of water quality samples taken that subsequently fail due to the presence of coliforms (bacteria) at our service (supply) reservoirs • The number of sample failures due to turbidity (cloudiness of water) • The number of Enforcement Actions initiated by the Drinking Water Inspectorate • The number of times we have to repair equipment on our water supply & treatment sites

	Networks	Quality
Waste	• The number of sewers that collapse • The number of pollution incidents caused by sewage escapes from our sewer network • The number of properties that experience sewer flooding due to a blockage, collapse or equipment failure (known collectively as Other Causes) • The number of properties that experience sewer flooding due to sewers having too much flow for their size (known as Overloaded Sewers; this excludes overloading due to severe rain incidents) • The number of blockages on our sewer network • The number of times we have to repair equipment on our sewer network •	• The number of sample failures showing that the effluent we discharge from our sewage treatment works is below the required standard • The percentage of sample failures showing that the effluent we discharge from our sewage treatment works is below the required standard normalised by the population served by the works • The number of times we have to repair equipment on our sewer treatment sites

2. Assessment and Valuation Process

The assessment and valuation of the S&R factors is a two-step process:

1. Firstly, to determine the overall assessment for each of the four S&R factors as either
    - Improving;
    - Stable or;
    - Deteriorating.

2. Secondly, if a factor is assessed as Deteriorating, to determine the value of the appropriate penalty to be applied.

Step 1: Overall Assessment

The first assessment is the overall status of the main S&R factor; we need to decide if it is either; Improving, Stable or Deteriorating. This assessment will be reported annually in our Annual Performance Report (APR) and confirmed formally to our regulator Ofwat every five years, based on the year five forecast outturn position.

To achieve an overall assessment we first need to look at each of the sub-measures in turn and assess them as either Stable, Improving or Deteriorating depending on their position in relation to the performance levels agreed with Ofwat and our customers. Each sub-measure has a minimum annual performance level, this is called the reference level, and a maximum or 'high' level which is used to help identify when extreme or continuous poor performance causes that sub-measure to be considered as deteriorating.

It is the cumulative performance across each group of these sub-measures which will be used to confirm the performance level of the overall S&R factor. The agreed performance levels for each of the sub-measures are provided in the table in Appendix 1.

Factors which will be taken into account when making the overall assessments include:

- Performance of the individual sub-measures.
- The number of sub-measures above the high level.
- The degree by which the sub-measure is above the high level.
- The number of sub-measures above and below the reference level.
- We use historical trends to understand our performance compared to previous years.
- Extreme events and contributing factors e.g. severe weather.

This is reported and assured annually through our regulatory reporting processes, which includes external review and challenge by our technical assurance providers, Halcrow, and Yorkshire's independent Customer Forum.

If one, or more, of the overall S&R factors are classified as 'Deteriorating' then a penalty could apply. Each of the S&R factors comes under a different outcome, that was agreed with both our customers and our regulators. For each of these outcomes we agreed a total expenditure with Ofwat as part of our Final Determination. Should a penalty be applicable for any of the S&R factors this will be between 0% and 10% of the agreed total expenditure for the outcome the S&R Factor comes under.

When deciding the value of the penalty to be applied we will take into account:

- the number of sub-measures above the high level
- whether the failing sub-measure(s) can be classed as failing over a continued period of time (categorised as a 'persistent issue')

The next section outlines in more detail the process we will follow, and the factors to be considered in how we will calculate the penalty value.

Step 2: Valuation of penalty

This step is only applicable if the overall assessment of an S&R factor made in Step 1 is 'Deteriorating'.

Factors to consider once a 'Deteriorating' assessment has been made

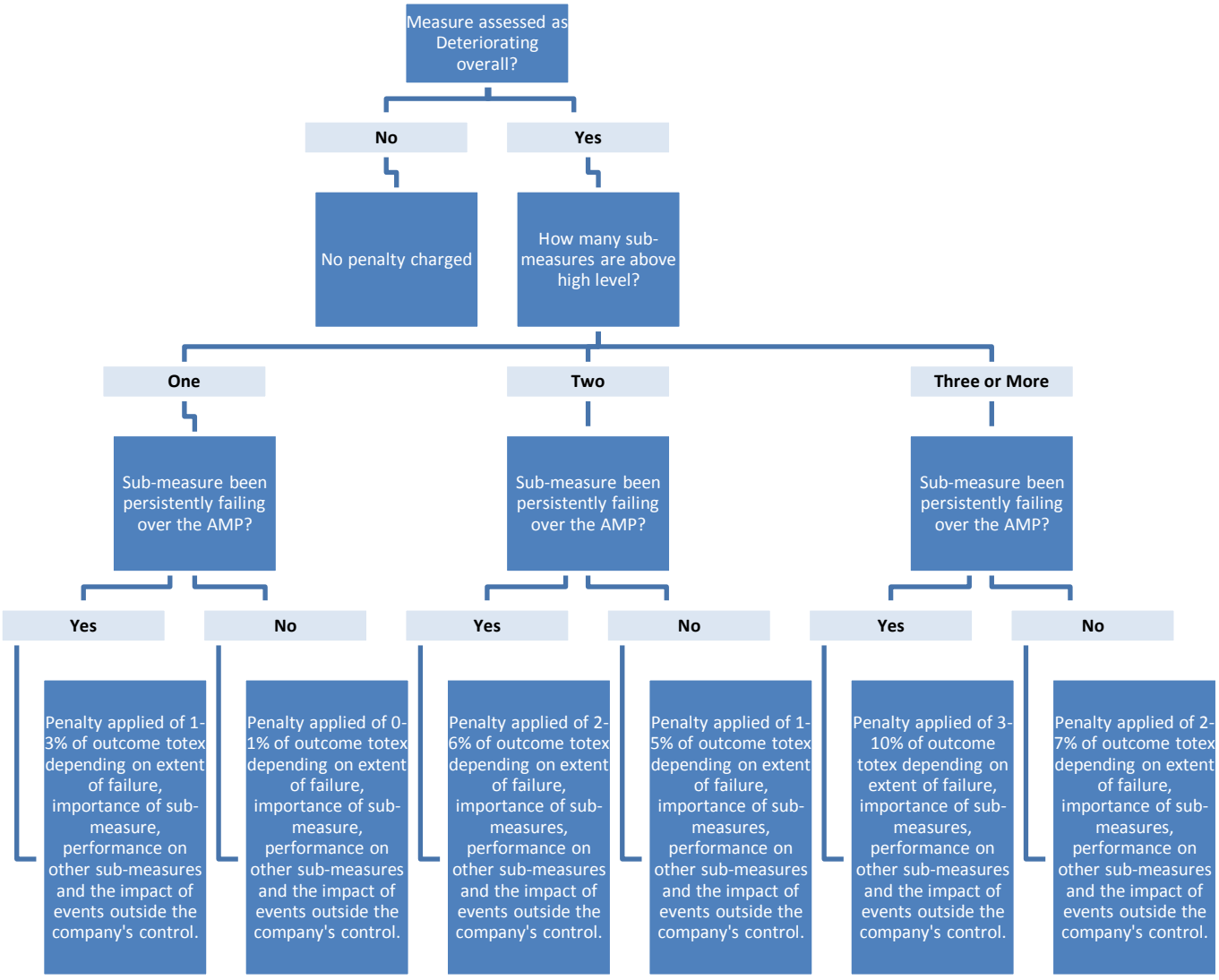
The penalty values will be based on consideration of, but not limited to, the following:

- The extent to which the measure has failed to meet the necessary performance level/under performed.
- The performance of the other sub-measures, within the same S&R factor, and whether any of these are also considered to be Deteriorating.
- The scale of poor performance compared to the amount of expenditure agreed to achieve the sub-measure.
- Whether any of our other performance commitments related to a sub-measure have also been penalised, as it was agreed with Ofwat that we would not be penalised more than once for a single failure even if this affects more than one performance commitment.
- Any direct or potential impact the poor performance could have on customers and the environment.
- Company response and actions taken to date to respond to the underperformance and the investment made to improve future performance.
- Total expenditure agreed as part of the Final Determination in the specific outcome area.
- Extreme weather events that may have contributed to the underperformance.
- Communication, transparency and reporting to our customers and stakeholders on our performance shortfalls and consideration of the feedback we receive from them.

Steps for assessing the penalty value

A flow chart is provided below which shows our penalty calculation process. This flow chart has been developed to illustrate in more detail the decision making process we will undertake when assessing and applying penalties.

A more detailed series of flow charts are also included in the appendices which summarise our penalty calculation process and the consideration and variables which need to be taken into account when undertaking this calculation.



3. Appendices

Appendix 1 - Sub-Measure Definitions and Limits

Water Quality S&R Factor

Sub-measure	Units	Definition	Reporting period	Limits	Committed performance levels (annual)
WTW coliform non-compliance	%	The number of water treatment works with determinations containing coliforms as a percentage of the number of determinations of water leaving treatment works taken at frequencies required by regulation 13 (Schedule 3, table 3, item 2), as specified in regulation 4 (schedule 1, table A, part II, item 1) of the 'Water Supply (Water Quality) Regulations 2000' (and its equivalent in Wales).	Calendar	Ref	0.04%
				High	0.07%
SRE coliform non-compliance	%	Number of service reservoirs with >5% of sample determinations containing coliforms expressed as a percentage of total number of service reservoirs.	Calendar	Ref	0%
				High	0.24%
Turbidity	Number	The number of operational potable water treatment works and sources whose turbidity 95 percentile is less than a 0.5 NTU threshold. Data from regular routine sampling of final water at water treatment works for the calendar year used to calculate the value.	Calendar	Ref	0
				High	4
Enforcements	Incidents Number	Number of enforcement actions as initiated by Drinking Water Inspectorate (DWI).	Calendar	Ref	0
				High	1
Reactive equipment failures	Number	The number of works orders created reactively for water quality assets. As a redefined measure for PR14, this will be reviewed in 2017 with further data.	Financial	Ref	6,771
				High	8,380

Water Network S&R Factor

Sub-measure	Units	Definition	Reporting period	Limits	Committed performance levels (annual)
Total bursts	Number	Mains bursts include all physical repair work to mains from which water is lost which is attributable to pipes, joints or joint material failures or movement, or caused or deemed to be caused by conditions or original pipe laying or subsequent changes in ground conditions (such as changes to a road formation, loading, etc. where the costs of repair cannot be recovered from a third party).	Financial	Ref	6,000
				High	7,710
Interruptions >12 hours	Number	The number of properties affected by unplanned supply interruptions, of more than twelve hours' duration.	Financial	Ref	220
				High	659
DG2 low pressure	Number	The total number of properties in the company area of water supply which, at the end of the year, have received and are likely to continue to receive a pressure of less than 10m head (or a flow of less than 9l/min at 10m head).	Financial	Ref	15
				High	67
Customer contacts for discolouration	Number per 1000 population	Number of customer contacts regarding discolouration divided by 1000 population.	Calendar	Ref	1.18
				High	1.57
Distribution index TIM (100 - mean zonal compliance)	%	The arithmetic mean of the zonal compliance values for Yorkshire Water zones and supply pipes for turbidity, iron and manganese only (as 100-mean zonal compliance).	Calendar	Ref	0.2
				High	0.34
Reactive equipment failures	Number	The number of works orders created reactively for water network assets and also including pumping stations. As a redefined measure for PR14, this will be reviewed in 2017 with further data.	Financial	Ref	1,825
				High	2,261

Waste Water Network S&R Factor

Sub-measure	Units	Definition	Reporting period	Limits	Committed performance levels (annual)
Sewer collapses	Number	Number of repairs to gravity sewer collapses.	Financial	Ref	255
				High	369
Pollution incidents (CSO, RM, FS and SPS)	Number	The number of category 1-3 unconsented and consented pollution incidents on combined sewage overflow, foul / combined sewer, foul manhole, foul rising mains, sewage pipe bridges, syphons and sewage pumping stations. Pollution incidents caused by third parties (including power outages) outside of YW control will not be included.	Calendar	Ref	203
				High	251
Properties flooded due to other causes	Number	The number of properties affected by flooding incidents from equipment failures, blockages or collapses (collectively grouped as other causes). This includes properties where an uninhabited cellar is the only part affected by the flooding. All properties flooded due to other causes are included where the flooding incident was caused by factors beyond the company's control (third party damage or "customer abuse"). A property affected by more than one incident under this definition is reported as one property.	Financial	Ref	302
				High	379
Properties flooded overloaded sewers, excluding severe weather	Number	The number of properties affected by flooding incidents due to overloaded sewers in rainfall events occurring more frequently than or equal to 1 in 20 years. The reported number excludes flooding in rainfall events less frequent than 1 in 20 and flooding incidents via the sewers caused by high river levels, inundation due to surface run-off or overflowing watercourses.	Financial	Ref	72
				High	110
Sewer blockages	Number	Number of sewer blockages cleared. . As a redefined measure for PR14, this will be reviewed in 2017 with further data.	Financial	Ref	20,695
				High	22,936
Reactive equipment failures	Number	The number of works orders created reactively for sewerage network assets including sewage pumping stations. As a redefined measure for PR14, this will be reviewed in 2017 with further data.	Financial	Ref	5,869
				High	7,282

Waste Water Quality S&R Factor

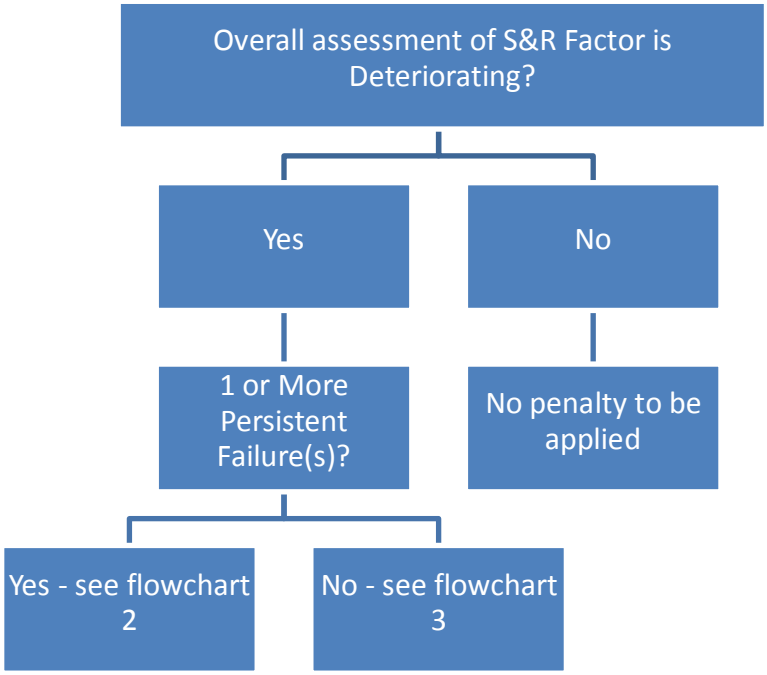
Sub-measure	Units	Definition	Reporting period	Limits	Committed performance levels (annual)
Sewage Treatment Works non-compliance	Number	The number of discharges failing upper tier, non-sanitary and look up table (LUT) consents. .	Calendar	Ref	0
				High	8
Population equivalent non-compliance	%	The population equivalent of the discharges failing look up table (LUT) consents.	Calendar	Ref	0%
				High	0.6%
Reactive equipment failures	Number	The number of works orders created reactively for waste water quality assets.	Financial	Ref	15,651
				High	20,848

Appendix 2 – Penalty Assessment Flowcharts

A series of flow charts are also provided below which summarise our penalty calculation process and the consideration and variables which need to be taken into account when undertaking this calculation

These flow charts have been developed to illustrate in more detail the determining factors and decision making process we will undertake when assessing and applying penalties.

Flowchart 1 – Will a Penalty Apply?



Factors to Consider When Assessing Penalty

Key

Materiality Factors

Materiality Factors (Persistent Failures Only)

Exculpatory Contributory Factors

Mitigations

Action Plan Adequacy

Limiting Factors

High Importance

Proportionate Degree of Failure

Scale of Effect on Customers

Willingness to Pay Information (if available)

Weather Events

Actions Taken to Date

Other S&R Sub-measures below Lower Reference

Adequacy of Recovery Plans & Expenditure

Overlapping ODIs with Greater Penalty

Totex allowed for outcome

Medium Importance

Other S&R Sub-measures above Upper Reference (non-persistent)

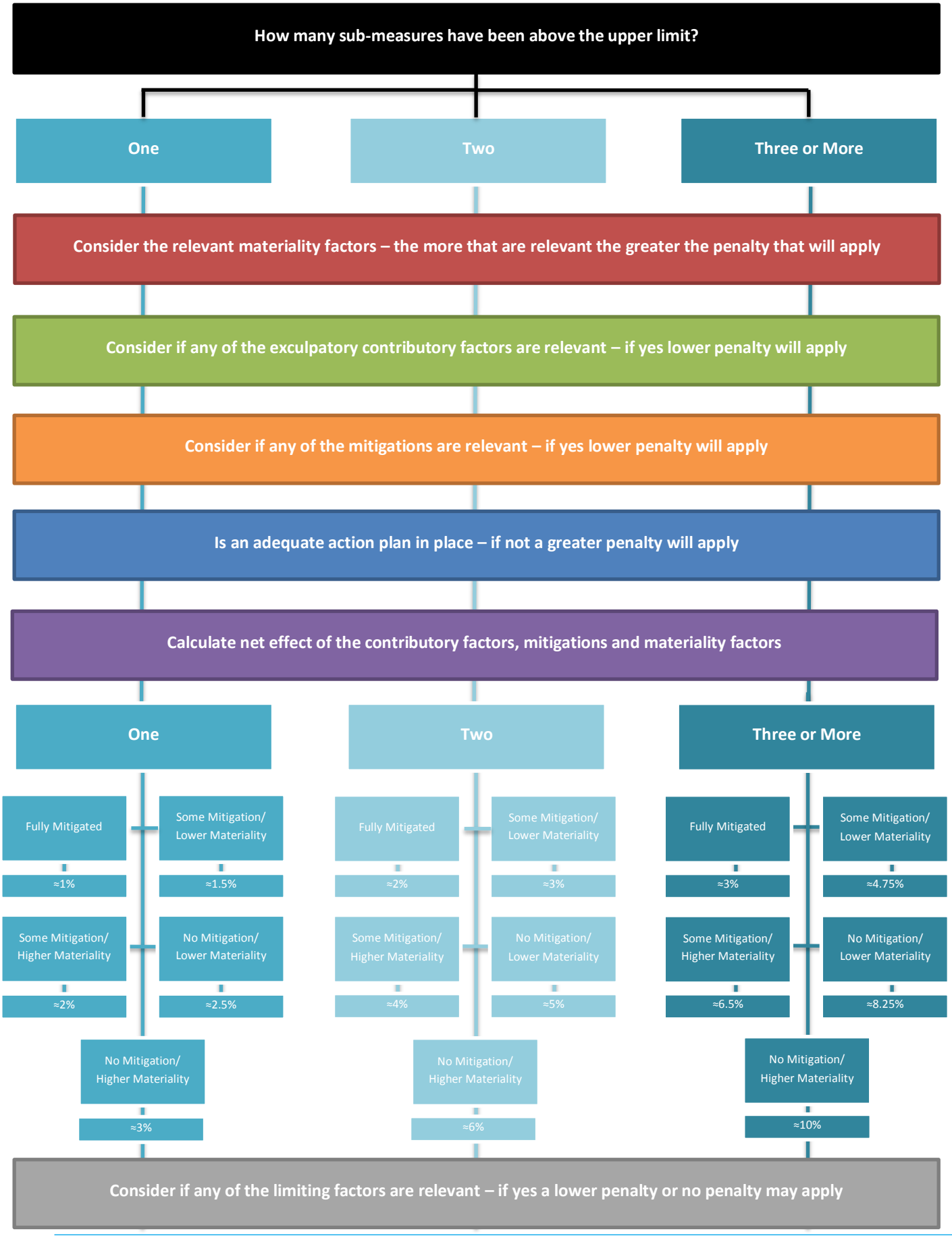
Transfer of other assets into YW control

Legislative Changes

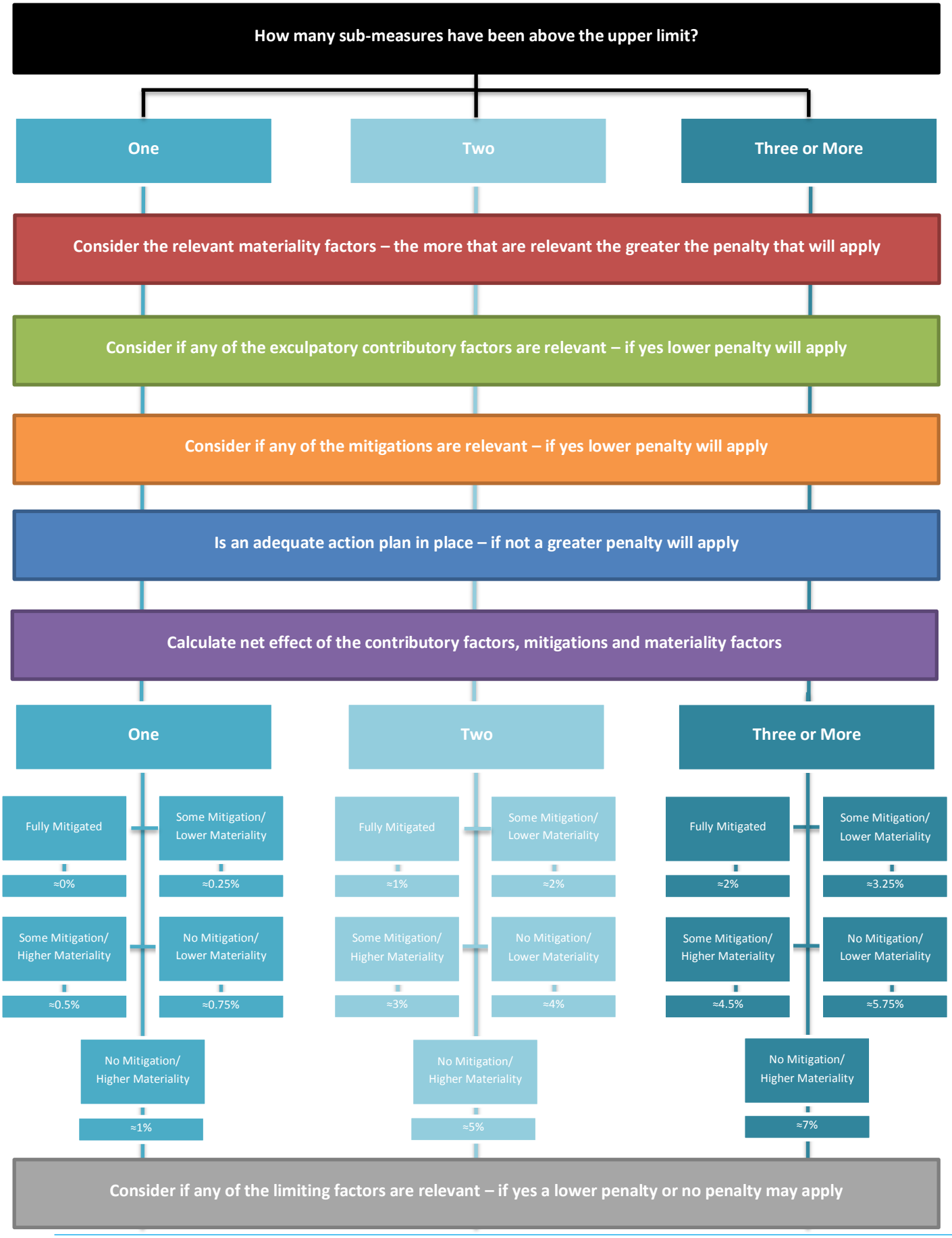
Low Importance

Reporting/Process Changes (back-casting may be required)

Flowchart 2 – Persistent Failures



Flowchart 3 – Non-Persistent Failures



4. Glossary

Term	Definition
AMP	Asset Management Plan. The water industries' five yearly planning and investment cycle. Also known as our Business Plan.
Assurance	Assurance is about providing confidence, and a level of certainty that a piece of information or data is correct.
Customer Forum	Independent group of domestic customer, business customer and environmental representatives, to ensure that we continue to be held to account for delivering our commitments and meeting the promises we made to our customers.
Deteriorating	An overall determination of poor/failing performance assessment of an S&R factor based on the assessment of a number of indicators.
Final Determination	The outcome of a price review setting out water companies' price limits that will operate for a five-year period and the specific outputs that they will have to deliver. The last Final Determination was made in 2014 for 2015-2020.
Halcrow	Yorkshire Waters external assurance providers for non-financial information between 2015-2020.
High level	The maximum yearly performance level for each sub-measure as agreed with Ofwat.
Improving	An overall determination of performance for the S&R factors based on the assessment of a number of indicators and sub-measures which confirms that the agreed annual Ofwat performance level has been substantially exceeded over a continued period of time.
Ofwat	The Office of Water Services, which is the economic regulator of water services in England and Wales.
Outcome totex	The total expenditure (totex) we can invest between 2015 – 2020 allocated between each of our seven customer outcomes.
Penalty value	The amount of outcome totex (see above) the company is required to pay if one or more of the S&R Factors is assessed as deteriorating based on our agreed penalty process.
Persistent	Where a sub-measure has been recognised as failing over a continued period of time.
PR14	Periodic Review 2014; the Ofwat periodic review of price limits to be completed in 2014 to set prices for 2015-2020.
PR19	Periodic Review 2019; the Ofwat periodic review of price limits to be completed in 2019 to set prices for 2020-20215.
Reference level	The minimum yearly performance level expected for each sub-measure as agreed with Ofwat.
S&R Factor	The 4 stability and reliability measures agreed with our customers and regulator, Ofwat, to determine our ability to deliver our core water and wastewater services and protect public health.
S&R sub-measure	The individual measures on which each S&R Factor is based.
Stable	An overall determination of performance for the S&R factors based on the assessment of a number of indicators and sub measures which confirm the agreed annual Ofwat performance levels are being consistently met over a continued period of time.

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