

Water and Sewerage Service Price Control 2013-2015

PC13 Annex E
Overall Performance Assessment

Final Determination

December 2012



Water and Sewerage Service Price Control 2013-15

Final Determination Main Report
Annex E – OPA Methodology

Contents

Executive Summary	2
1 Background Information	3
1.1 Background	3
1.2 The Localised OPA.....	3
1.3 Limitations of the Analysis	5
2 Company Proposals.....	7
2.1 Historic Performance	7
2.2 NI Water Proposals.....	7
3 Utility Regulator Views.....	9
3.1 Opinions on Proposals.....	9
3.2 Areas of Divergence	9
3.3 Proposed Scores	12
4 Pollution Incidents	14
5 Additional OPA Measures	15
6 Conclusions	17

Executive Summary

NI Water has made some significant progress in terms of OPA scores in the past few years. It is anticipated that further improvements will be made over the PC13 period.

The Utility Regulator has for the most part accepted NI Water OPA projections as set out in their Business Plan. Of the 11 measures that make up the OPA, 9 of the targeted scores have been accepted. It is believed that the company's set objectives represent a good challenge for the company over the two year period.

The exceptions are:

- 1) Drinking water quality; and
- 2) Sewage treatment work (STW) consents compliance.

Whilst the scores proposed by the company are not unreasonable, the Utility Regulator believes more can be achieved. Analysis of historic performance for drinking water and failure rates for sewage treatment works has led us to this conclusion.

The projected and determined OPA figures by individual measures are shown below:

Table A – OPA proposed and determined improvements by individual measure

Measure	NI Water Claimed 2013-14	UR Determined 2013-14	NI Water Claimed 2014-15	UR Determined 2014-15
Risk of low pressure	26	26	28	28
Unplanned Interruptions	26	26	26	26
Hosepipe restrictions	13	13	13	13
Customer contact combined	30	30	35	35
Drinking water quality	28	31	28	31
Sewage sludge disposal	13	13	13	13
Leakage assessment	13	13	13	13
Water pollution incidents (H&M)	13	13	13	13
Sewerage pollution incidents (H&M)	3	3	3	3
Sewerage pollution Incidents (Low)	7	7	7	7
STW consent breaches	25	27	30	33
Total	197	202	209	215

NOTE: Since the business plan and draft determination, NI Water and Utility Regulator projections for STW consents compliance have changed for 2013-14.

1 Background Information

1.1 Background

- 1.1.1 The OPA is a system of assessment that takes raw data on water services, sewerage services, customer service and environmental compliance, and scores the company on a scale of 0-50 points based on their performance.¹
- 1.1.2 This score out of 50 is then 'weighted' using information on consumers' views, to give a final OPA score. Achievement is published annually in the Utility Regulator's Cost and Performance Report.
- 1.1.3 Performance is compared with relative England and Wales scores as well as historic achievement.
- 1.1.4 The latest OPA score for NI Water is based on 2011-12 data where the company scored 184 out of a possible 304 points.
- 1.1.5 This score compares with a target of 161 for NI Water and the England and Wales average of 290² for the same eleven measures. NI Water has made considerable improvements to its service performance levels in recent years. The PC13 Business Plan figures proposed by NI Water predict further improvements going forward.

1.2 The Localised OPA

- 1.2.1 The Utility Regulator uses a conventional OPA model – i.e. one which closely mirrors the Ofwat OPA. The weights, ranges and calculations are exactly the same as the model used by Ofwat to assess water and sewerage companies in England and Wales.
- 1.2.2 By retaining the conventional OPA model the Utility Regulator ensures that NI Water can be benchmarked against the performance of companies in England and Wales. A consistent bank of local past scores is also maintained and can be used to analyse NI Water's improvement from baseline.
- 1.2.3 Whilst the methodology is the same, amendments have been made to reflect local circumstances.

¹ Further details can be found in the Utility Regulator's OPA Methodology document.

² Ofwat discontinued their OPA scoring exercise of the E&W industry after 2009-10. We use the 2009-10 year, "frozen in time" as the benchmark for comparing with NI Water. At the present, given the continued existence of a disparity of scores between NI Water across the rest of the industry we retain the OPA for benchmark comparison.

1.2.4 The Ofwat OPA includes 17 elements across a range of measures. The current Utility Regulator OPA only comprises 11 of these. Some measures were initially excluded due to absent, unavailable or poor quality base data.

1.2.5 Current measures included and excluded consist of the following:

Table 1.1 – Components of the current localised OPA model

Measured assessed in England and Wales	Used by NIAUR	Reason for initial exclusion
Properties at risk of low pressure	✓	N/A
Properties subject to unplanned interruptions	✓	N/A
Population with hosepipe restrictions	✓	N/A
Drinking water quality	✓	N/A
Sewer flooding (hydraulic incapacity)	✗	Data not complete / robust
Sewer flooding (other causes)	✗	Data not complete / robust
Properties at risk of sewer flooding	✗	DG5 register not complete/ robust
Customer service (combined contact score)	✓	N/A
Customer service (assessed score)	✗	Data not requested
Category 1 & 2 pollution incidents (sewerage)	✓	N/A
Category 3 pollution incidents (sewerage)	✓	N/A
Category 1 pollution incidents (water)	✓	N/A
Wastewater treatment works in breach of consents	✓	N/A
Sewage sludge disposal	✓	N/A
Leakage assessment	✓	N/A
Security of supply - performance against target	✗	Data not complete / robust
Security of supply - absolute performance	✗	Data not complete / robust

1.2.6 The scope of the OPA in our next price control PC15 (2015-2020) will depend upon the level and quality of information that NI Water is able to provide.

1.2.7 It was envisaged that the OPA would expand as data quality in the additional measures improved. During the period NI Water has enhanced data quality.

1.2.8 Improvements are still required, particularly with respect to properties at risk of sewer flooding. The Utility Regulator is likely to move to a 15 or 16 measure OPA by PC15.

1.3 Limitations of the Analysis

- 1.3.1 NI Water has raised a number of concerns about using the OPA as a relative benchmarking tool. The company cites lack of comparability as the main problem. In particular, the following issues have been highlighted:
- a) Drinking Water Quality – The company argues that they are not funded to target the same level of compliance as England and Wales.
 - b) Pollution Incidents – Northern Ireland Environment Agency (NIEA) and its counterpart in England/Wales use different definitions for pollution incident severity.
 - c) Unplanned Interruptions – NI Water has a comparable level of bursts as other water companies. The issue is that their long mains length per property results in more unplanned interruptions and unfair comparisons.
 - d) Customer Contact – The absence of domestic billing results in NI Water customer scores being based on the much more pro-active non-domestic consumer base.
- 1.3.2 The Utility Regulator recognises that, like any benchmarking, comparisons will not be perfect. A particular issue to note is that of scoring. As OPA scoring only occurs within a specified range, this can result in misinterpreted results.
- 1.3.3 For instance, scoring for drinking water compliance occurs between the 100% to 98.4% range. If Company A scores 50 for drinking water compliance and Company B scores 25, this does not mean Company B has 50% less compliance. It simply reflects performance against the range. This should be remembered when considering performance.
- 1.3.4 Similarly, if Company C evidences 99.1% drinking water compliance it will score OPA points between a minimum and maximum range. Company D by comparison might only achieve 98.3% compliance and hence will score at the minimum of the OPA range for this measure.
- 1.3.5 With respect to the comparability issues raised, the Utility Regulator agrees that some differences exist. However, this does not invalidate the entire analysis. Merit is still seen in making comparisons with other companies.
- 1.3.6 Addressing the individual points:
- a) Drinking Water Quality - Whilst drinking water funding is an issue, comparison of the level of service achieved is still valid. The Regulator does not expect NI Water to have the same OPA score as others. It is however important to know the scale of the existing gap.
 - b) Pollution Incidents - It is the Utility Regulator's understanding that the differences in pollution incident classification are subtle and unlikely to make much difference to OPA scores. Consideration of a revised OPA

score can be undertaken if NI Water provided evidence that classifications make a material difference.

- c) Unplanned Interruptions - There is acceptance that unplanned interruption OPA scores are likely to be lower for NI Water due to their network.
- d) Customer Contact - The profile of customer contacts will be different in Northern Ireland. The Utility Regulator does not consider this a reason to invalidate comparisons. Levels of service provided should be the same, whether domestic or non-domestic. Scores should not be detrimentally impacted by non-domestic contacts.

1.3.7 It is recognised that OPA is an imperfect tool. However, the Utility Regulator still considers the OPA a valuable method of simplifying and comparing levels of service between companies. This is especially the case when regulating a monopoly supplier in the interests of incentivising competitive style behaviours in the interests of consumers.

2 Company Proposals

2.1 Historic Performance

2.1.1 Since inception, NI Water has been on an improving trajectory of service level performance. The company faced a significant gap which it has endeavoured to reduce.

2.1.2 Historic improvements are illustrated in the table below:

Table 2.1 – Historic OPA performance of NI Water

	2007-08	2008-09	2009-10	2010-11	2011-12
Historic OPA scores	98	103	121	131	184

2.1.3 The company has improved significantly across a variety of service areas. Main areas of improvement include low pressure, drinking water quality and customer contacts.

2.2 NI Water Proposals

2.2.1 The company does not set OPA objectives in a vacuum. Rather, the scores are built up from the forecast individual KPI components. Targeted scores are below.

Table 2.2 – NI Water proposed OPA scores for PC13

	PC10			PC13	
	2010-11	2011-12	2012-13	2013-14	2014-15
PC10 Revised Targets & NI Water Proposed OPA scores	142	161	181	197	209

Note: NI Water have supplied additional analysis to the Utility Regulator which downwardly revised their projections for WwTW non-compliance. This would have the effect of increasing their total OPA score to 197 in 2013-14, from a projection of 196 in the Business Plan.

2.2.2 Early indications are that the company is ahead of schedule in PC10. Based on *targeted* 2012-13 performance, NI Water is proposing a further 28 point rise in the OPA across PC13.

2.2.3 Broken down by component, score projections for PC13 are shown in the table below:

Table 2.3 – NI Water proposed improvements by individual measure

Measure	MAX OPA Score	Target 2012-13	NI Water 2013-14	NI Water 2014-15
Risk of low pressure	38	26	26	28
Unplanned Interruptions	38	25	26	26
Hosepipe restrictions	13	13	13	13
Customer contact combined	38	28	30	35
Drinking water quality	50	23	28	28
Sewage sludge disposal	13	13	13	13
Leakage assessment	13	13	13	13
Water pollution incidents (H&M)	13	13	13	13
Sewerage pollution incidents (H&M)	25	3	3	3
Sewerage pollution Incidents (Low)	13	7	7	7
STW consent breaches	50	17	25	30
Total	304	181	197	209

Note: 2013-14 projected score has changed slightly from NI Water's Business Plan forecasts.

- 2.2.4 For 2013-14 NI Water have downwardly revised their STW non-compliance forecasts in additional analysis submitted to the Utility Regulator subsequent to their response to the draft determination. The impact of this would be a one-point increase in the OPA score for this measure, to 25 points. This would lead to an overall OPA score of 197 (from the score of 196 set out in its business plan).
- 2.2.5 Around 50% of the increase in the OPA score from 2012-13 is attributable to improvements in sewage treatment works compliance. This has traditionally been an area where the company has lagged comparators.
- 2.2.6 Other improvements are expected for low pressure, customer contacts and drinking water quality.

3 Utility Regulator Views

3.1 Opinions on Proposals

- 3.1.1 NI Water has significantly improved its service performance over the last number of years, with a number of the responses to the PC13 draft determination noting the substantial progress NI Water has made in this regard. Going forward, the key concern of the Utility Regulator is that NI Water continues to deliver. The company must also ensure that it operates within the limitations of allowed public expenditure.
- 3.1.2 Based on performances in Scotland, it is our strong expectation that NI Water's OPA score can and will improve over the PC13 period, even where we have proposed a robust and reasonable efficiency challenge.
- 3.1.3 NI Water's projected OPA scores as set out in its Business Plan are considered by the Utility Regulator mainly to be reasonable estimates of NI Water's improvement capability, albeit somewhat conservative on some specific service areas.
- 3.1.4 In the final determination for PC13 the Utility Regulator accepted the majority of measures proposed in NI Water's Business Plan. However, on two of the eleven measures the Utility Regulator put forward arguments for higher projected OPA scores based on its analysis of historic and forecast service performance data.

3.2 Areas of Divergence

- 3.2.1 In the draft determination the Utility Regulator stated that the OPA scores should be somewhat more challenging than the proposals contained within NI Water's Business Plan. The two areas where the Utility Regulator believed there was merit in targeting greater improvement than NI Water outlined in its Business Plan, was in drinking water quality and sewage treatment work compliance.

Drinking Water Quality

- 3.2.2 Drinking water quality is scored on the basis of six measures known as OPI 6 (Operational Performance Index). After analysis of historic averages and failure rates, the Utility Regulator in its draft determination set higher values for Aluminium, Manganese and E-coli. These are outlined in Table 3.1 on the following page.
- 3.2.3 The draft determination stated that while the drinking water quality KPI would remain unchanged, the higher OPA value, by comparison, represents an expectation of what the Utility Regulator deems achievable. The OPA target was considered to be reasonable given that the projected score is the same as that achieved in 2011-12.

Table 3.1 – OPI 6 projected and determined figures

Measure	NI Water		Utility Regulator	
	2013-14	2014-15	2013-14	2014-15
Trihalomethanes (THM's)	99.00%	99.00%	99.29%	99.29%
Iron	97.86%	97.86%	97.86%	97.86%
Aluminium	99.00%	99.00%	99.17%	99.17%
Manganese	99.60%	99.60%	99.75%	99.75%
Turbidity	99.83%	99.83%	99.83%	99.83%
E-coli	99.90%	99.90%	99.93%	99.93%

- 3.2.4 In their response to the PC13 draft determination, NI Water expressed the concern that the Utility Regulator's view may be unrealistic as the proposed OPA scores are based on targets for aluminium, manganese and e-coli which are higher than the levels needed to achieve the PC13 target for Mean Zonal Compliance.
- 3.2.5 NI Water also stated that due to the water distribution system's poor condition, they already believe that the 2012 projected levels of compliance will not be met on iron and turbidity. In addition NI Water stated that NI Water will not meet its projected compliance levels for e-coli and Trihalomethanes for 2012 (as at end of August).
- 3.2.6 Overall, as a result, NI Water stated that they believe that the Utility Regulator's proposed OPA scores for drinking water quality presents an unrealistic target and introduce an unreasonably high risk of failure.
- 3.2.7 Although the Utility Regulator notes NI Water's representations, we consider these targets to be reasonable but challenging. The targets are based upon an analysis of central estimate average failure rates for a number of years. The fact that latest compliance data suggests a short term underperformance should not result in objectives being revised downward for PC13 since they are based upon averages.

Sewage Treatment Work Compliance

- 3.2.8 Within the draft determination, sewage treatment work compliance was the second and final area of divergence from NI Water's Business Plan OPA projections.
- 3.2.9 Although the company is projecting improving performance year-on-year, the Utility Regulator considers that more can be achieved. The historic rate of sewage treatment work non-compliance is illustrated in Table 3.2.

Table 3.2 – Historic sewage treatment work consents non-compliance

Measure	Historic performance				
	2007-08	2008-09	2009-10	2010-11	2011-12
WwTW % Non-Compliance	15.49%	9.55%	7.50%	4.63%	3.56%

- 3.2.10 In the draft determination the Utility Regulator assessed the works projected to fail in PC13 and made a determination on the company views. This analysis resulted in an amended compliance rate as a differing view was taken for overall compliance forecasts.
- 3.2.11 The rates of projected non-compliance as set out in the draft determination are shown in Table 3.3. The Utility Regulator generated a compliance range within which it expects the company to perform. The determined figures in the table represent the mid-point between NI Water projections and the Regulator's best case scenario.

Table 3.3 – Sewage treatment work consents non-compliance projected figures

Measure	NI Water (Business Plan)		Utility Regulator (Draft Determination)	
	2013-14	2014-15	2013-14	2014-15
WwTW % Non-Compliance	2.80%	2.22%	2.42%	1.82%

- 3.2.12 As part of the company consultation response, NI Water submitted revised compliance figures. These included updated figures for population equivalents of works and a revised view on performance. The result was to reduce non-compliance further than Business Plan projections (as illustrated by Table 3.4).
- 3.2.13 The Utility Regulator considered the updated data and revised views on treatment work performance. Whilst taking a different view in certain instances, the result was a projected increase in the non-compliance rate of the best case scenario.
- 3.2.14 Using the same methodology as before, a mid-point between NI Water and Utility Regulator views was chosen as the OPA target.
- 3.2.15 A summary of NI Water's revised calculations can be seen in Table 3.4 below. The Utility Regulator's final determination on what it believes is likely to be achievable in NI Water's OPA score for sewage treatment work consent non-compliance is also shown.
- 3.2.16 The revised figures reduce the OPA target by one point for 2013-14. No change is seen in the 2014-15 target of 215 OPA points.

Table 3.4 – Sewage treatment work consents non-compliance projected and determined figures

Year	NI Water (Revised Figures)		Utility Regulator (Final Determination)	
	2013-14	2014-15	2013-14	2014-15
WwTW % Non-Compliance	2.76%	2.18%	2.51%	1.91%

3.3 Proposed Scores

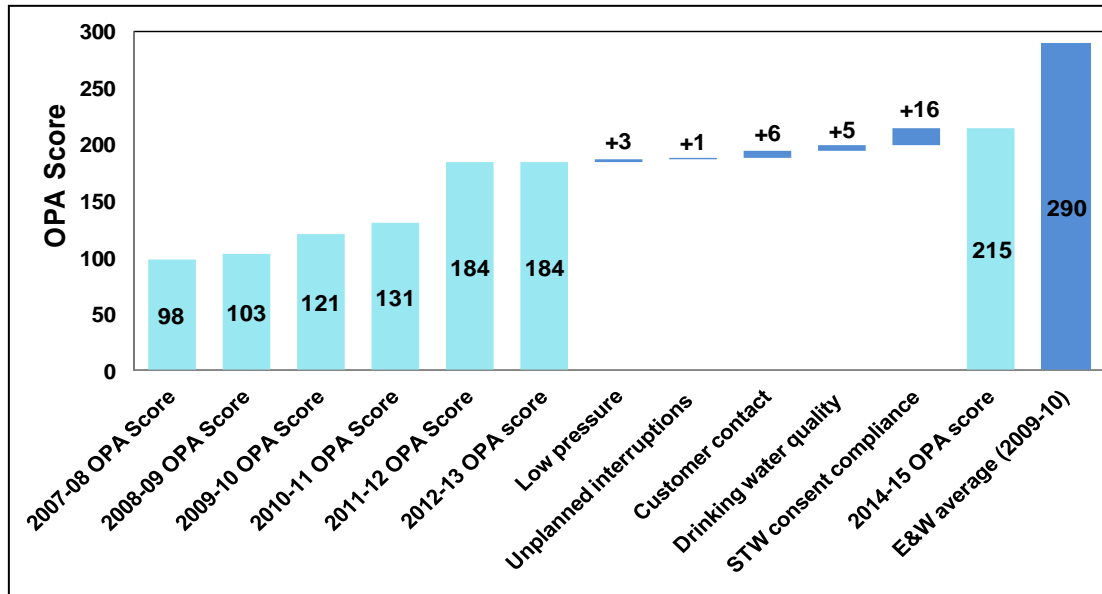
- 3.3.1 For the final determination the Utility Regulator has kept 9 of the 11 measures the same as NI Water submitted in its Business Plan. Different compliance figures for the drinking water quality and sewage treatment works result in the following OPA scores as set out in Table 3.5 below.

Table 3.5 – OPA scores by individual measure (final determination)

Measure	MAX OPA Score	Target 2012-13	Determined OPA Score 2013-14	Determined OPA Score 2014-15
Risk of low pressure	38	26	26	28
Unplanned Interruptions	38	25	26	26
Hosepipe restrictions	13	13	13	13
Customer contact combined	38	28	30	35
Drinking water quality	50	23	31	31
Sewage sludge disposal	13	13	13	13
Leakage assessment	13	13	13	13
Water pollution incidents (H&M)	13	13	13	13
Sewerage pollution incidents (H&M)	25	3	3	3
Sewerage pollution Incidents (Low)	13	7	7	7
STW consent breaches	50	17	27	33
Total	304	181	202	215

- 3.3.2 By the end of PC13 it is anticipated that the gap in service levels will be further reduced as evidenced below:

Figure 3.1 – Proposed improvements to NI Water OPA scores in PC13



4 Pollution Incidents

- 4.1.1 Pollution incidents from sewage is an area where scope for improvement exists.
- 4.1.2 The pollution incidents fall under three categories within the OPA: water pollution incidents (High and Medium), sewage pollution incidents (High and Medium) and sewage pollution incidents (Low).

Table 4.1 – NI Water pollution incidents OPA scores

Measure	Forecast 2012-13 OPA Score	PC13 2013-14 OPA Score	PC13 2014-15 OPA Score
Water pollution incidents (High & Medium)	13	13	13
Sewage pollution incidents (High & Medium)	3	3	3
Sewage pollution incidents (Low)	7	7	7

- 4.1.3 NI Water's performance in water pollution incidents (high and medium) is good and we welcome that the company intends to achieve a full OPA score for this measure by the end of PC10 and maintain this through PC13.
- 4.1.4 High and medium sewage incidents is the only OPA measure where NI Water is not within the scoring range. The company would require significant improvements in this area in order to get within the range. The low sewage pollution incidents measure also has some potential for improvement.
- 4.1.5 To get within the high and medium sewage pollution incidents OPA scoring range, the company would need to reduce the number of incidents by 33 (using 2010-11 as base year). This requires a reduction to 12 incidents per year. It is understood that the company may not be able to reduce the incidents to this level. Pollution incidents is however an area where further progress should be targeted.

5 Additional OPA Measures

- 5.1.1 The Ofwat OPA contains seventeen measures. Currently within the Utility Regulator OPA there are eleven measures.
- 5.1.2 The final determination anticipates that at PC15 the Utility Regulator will further examine the possibility of introducing additional measures to our OPA for NI Water.
- 5.1.3 The tables below (Tables 5.1 – 5.5) show the additional measures that we are proposing to introduce and the confidence grades associated with them. It can be seen that in recent years NI Water has significantly improved the confidence grading of the additional OPA measures from what was the case at PC10, where data was either of poor quality or not available.

Table 5.1 – Confidence grades for sewer flooding (overload) data

Sewer Flooding (overload)	AIR 11	E&W High	E&W Low
Total flooding incidents (overloaded sewers)	B3	A1	A4
Flooding incidents (overloaded sewers due to severe weather)	B3	A2	BX
Total domestic properties (sewerage)	C2	A1	B2

Table 5.2 – Confidence grades for sewer flooding (other causes) data

Sewer Flooding (Other causes)	AIR 11	E&W High	E&W Low
Flooding incidents (equipment failure)	B3	A2	AX
Flooding incidents (blockages)	B3	A2	B3
Flooding incidents (collapses)	B3	A2	BX
Total domestic properties (sewerage)	C2	A1	B2

Table 5.3 – Confidence grades for sewer flooding (at risk) data

Sewer Flooding (at risk)	AIR 11	E&W High	E&W Low
2 in 10 register at year end	B4	A2	B4
Removed by company action	B4	A1	B2
1 in 10 register at year end	B4	A2	B4
Total domestic properties (sewerage)	C2	A1	B2

Table 5.4 – Confidence grades for security of supply (absolute performance) data

	AIR 08	AIR 09	AIR 10	AIR 11
Security of supply - absolute performance	n/a	B4	A3	A2

Table 5.5 - Confidence grades for security of supply (performance against target) data

	AIR 08	AIR 09	AIR 10	AIR 11
Security of supply - performance against target	n/a	B4	A3	A2

- 5.1.4 In their PC13 draft determination response, NI Water stated that they accept that the on-going development of the flooding (DG5) at risk registers prohibits the inclusion of the Sewer Flooding (at risk) OPA measure.
- 5.1.5 The company however, saw no reason for the exclusion of the other measures of sewer flooding (overload), sewer flooding (other causes), security of supply (absolute performance) and security of supply (performance against target).
- 5.1.6 NI Water stated that the high confidence grades for the security of supply measures and with the confidence grades for the two sewer flooding measures comparable to England and Wales companies suggested that their inclusion was warranted. The addition of these four measures, NI Water argued, would improve the relevance and comprehensiveness of the OPA.
- 5.1.7 The Utility Regulator has considered NI Water's response on this issue and notes the improvement the company has made to the quality of the data. The Utility Regulator agrees that the four additional measures should be included in an expanded OPA assessment. However, to allow comparability and consistency over time the Utility Regulator considers it better to incorporate all 16 measures at once. This avoids moving to a 15 measure indicator for a few years and then focusing on the full 16 measure OPA after this.
- 5.1.8 The Utility Regulator will re-consider all these issues as part of the comprehensive review of consumer measures to inform the next price control covering 2015-21, PC15. This will allow additional time for NI Water to enhance the robustness of the DG5 'at risk' register data. The Utility Regulator will continue to use the 11 measure OPA for the purposes of this PC13 price control. During the PC13 period, the Utility Regulator will continue to monitor NI Water's performance in improving the data for the sewer flooding (at risk) measure.

6 Conclusions

- 6.1.1 The Utility Regulator acknowledges the challenges that lie ahead of NI Water for the PC13 period and beyond.
- 6.1.2 We are encouraged by NI Water's positive individual OPA performances to date, and the commitment to service progress that these represent.
- 6.1.3 However, the overall level of service provided is lower than that provided by other companies in the industry which, while not without cause, is unacceptable for local consumers.
- 6.1.4 It is the Utility Regulator's strong expectation that the foundation laid by NI Water's levels of capital spend to date, and its stated commitment to service improvements going forward will increase their OPA scores over PC13 and beyond.
- 6.1.5 It is also expected that NI Water will continue to progress with the quality of data it supplies for the OPA so additional measures can be included in future years.

