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NES TABLE AND MODEL COMMENTARIES

DRAFT DETERMINATION - NORTHUMBRIAN WATER REPRESENTATION NES TABLE AND MODEL COMMENTARIES

Northumbrian Water Table Commentaries on Tables & the Grants & Contributions Model for the August 2019 Representation

1 Table commentaries

All totex tables R1, WS1, WWS1, WS2, WWS2

For all totex tables, we have updated the 2018/19 values in line with the 2019 APR.

For Table R1, this is the only change we have made.

Table WS1 and Table WWS1: 2020-25

For both tables, we have updated lines 14-15 relating to enhancement capex to match the updated Table WS2/WWS2.

We have updated line 21: grants and contributions to match our resubmitted App28.

Table WS2: 2020-25

We have updated the following lines in WS2:

Line	Name	Difference from April BP £m
6	Meeting lead standards	£0.001m rounding
11	New developments	£14.399m increase as we have transferred line 25, infrastructure network reinforcement into this line
14	Resilience	£32m reduction due to scheme withdrawals
15	SEMD	£3.9m reduction to scheme withdrawals
17	WINEP / NEP ~ Drinking Water Protected Areas (schemes)	£1.3m increase due to metaldehyde re-inclusion
24	TMA - no longer used in enhancements	Zero value in representation. £11.7m reduction, of which £5.6m is instead included in the unmodelled base costs model FM_UC_TMA_DD. This is the value we have retained in Table WS5.
25	Infrastructure network reinforcement - transferred to new development	We have transferred this to line 11 to ensure that all growth costs are picked up by Ofwat in G&C modelling.
26	Strategic regional water resource solutions	This is a new line: £0.4m of totex under the Water Resource planning driver

Overall, the WS2 capex reduces by £46m compared to the April Business Plan.

Note – with the withdrawal of TMA from the enhancement tables, we have no opex in WS2.

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Table WWS2: 2020-25

Line	Name	Difference from April BP £m
25	New developments	£8.650m increase as we have transferred line 32, infrastructure network reinforcement into this line
27	Resilience	£37m reduction due to scheme withdrawals
28	SEMD	£11m reduction due to scheme withdrawals
29	Non-SEMD related security enhancement	£5m reduction due to scheme withdrawals
30	Reduce flooding risk for properties	£9m increase due to the inclusion of DWMP plans
32	Infrastructure network reinforcement - transferred to new development	£8.650m reduction as we have transferred this to line 25, new development
33	TMA charges - no longer used in enhancements	Zero value in representation. £1.6m reduction, of which £0.4m is included in the unmodelled base costs model FM_UC_TMA_DD. This is the value we have retained in Table WWS5.

Overall, the WWS2 capex reduces by £46m compared to the April Business Plan.

Note – as per our April Business Plan, we have no opex in WWS2.

App26 – RORE Scenarios

Our approach to the scenarios is largely unchanged from the business plan, but, as revenue and totex have changed, the values of the P90 and P10 variances change. We summarise the changes as follows:

Revenue variations Block A, lines 1, 4, 7, 8, 10

We have retained our assumption of a 2% revenue variation in a single year, taking into account the correction mechanism inherent in the wholesale revenue controls. As such, the only changes are applying the percentages to the level of revenue in the draft determination.

Revenue variations Block B, lines 12, 15, 18, 19, 21

The same approach is taken for downside revenue variations.

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Totex variations

We have applied percentage variations to the totex as submitted in our DD representation tables.

	Outperformance	Underperformance
	(High RORE)	(Low RORE)
Water resources	5%	-5%
Water network +	5%	-5%
Wastewater network +	5%	-10%
Bioresources	10%	0%
Retail HH	5%	-10%

We have retained our +/-5% totex variations for water wholesale, where we are very close to the DD baseline. We have increased our downside variance for wastewater network +, where we are above the DD baseline. Finally, our frontier position for bioresources means a higher 10% outperformance range is appropriate.

For Blocks E & F, Retail HH, our position above the baseline suggests a larger downside, which we have reflected.

Blocks I & J ODI Rewards & Penalties (pre tax adjustment)

We have revised a number of our P10 and P90 forecasts within our response to the draft determination. These have been updated within the draft determination representation tables.

We have applied the sensitivities delivered by the Monte Carlo @risk tool to our P10 and P90 forecasts. A full approach to this process was detailed as part of our table commentaries for our initial business plan submission (data table commentaries).

As per the guidance, the outperformance payments/underperformance penalties impact are recorded in the year in they are earned/incurred (rather than when they are paid).

App26 requires that we report the high and low RORE values in terms of £m, per year and price control. The above Monte Carlo analysis provided us with a total AMP RORE analysis.

To report the RORE in the required range, we used the App1 P10 and P90 values to total each price control per year. Against these totals we applied the Monte Carlo analysis trim down rate calculated between the summed P10 / P90 and the new Monte Carlo P10 / P90 rates.

We chose to use sensitivity 2 to calculate our scenario based high and low case RORE ranges for App26.

Blocks K, L, M & N are unchanged

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2 Developer Services Changes

App28 – Developer Services

We have resubmitted Table App28 as there is a material change to projected 2020—25 requisition charges that requires correction in Ofwat's models. We have also amended Tables WS1 and WWS1 to reflect this.

As the Grants & Contributions on App28 feed into the G&C model and the calculation of the Developer Services Model Unit Rate, it is critical for the App28 changes to be reflected in these models.

Changes to App28 – Requisition income, lines 9 & 25

In our Business Plan, our requisition income on lines 9 & 25 was shown net of a forecast income offset. Since then, Ofwat have confirmed in the Charging Rules that there is to be no income offset for requisitions from 2020 onwards.

We therefore need to restate these lines to reflect full cost recovery. The values shown match those we presented in the response to the query NES-DD-CE-003, line 7.

The increase in requisition income needs then to be fed into the following:

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2.1 Grants & Contributions Model, F Inputs tab: BC11272IN and BC11372IN

Reference	Item description	2020-21	2021-22	2022-23	2023-24	2024-25
BC11271IN	Connection charges (s45)	8.719	8.539	8.316	7.995	8.107
BC11270IN	Infrastructure charge receipts (s146)	2.719	2.719	2.719	2.719	2.719
BC11272IN	Requisitioned mains (s43, s55 & s56)	6.854	6.830	6.607	6.387	6.430
BA1086PC	Grants and contributions received ~ wholesale water service - Other contributions (price control)	0.000	0.000	0.000	0.000	0.000
BC11273IN	Diversions (s185)	0.810	0.818	0.826	0.834	0.842
BA1086NPC	Grants and contributions received ~ wholesale water service - Other contributions (non-price control)	0.895	0.904	0.912	0.922	0.931
BC11370IN	Infrastructure charge receipts (s146)	1.730	1.730	1.730	1.730	1.730
BC11372IN	Requisitioned sewers (s100)	1.720	1.720	1.720	1.720	1.720
BA2086PC	Grants and contributions received ~ wholesale wastewater service - Other contributions (price control)	0.000	0.000	0.000	0.000	0.000
BC11373IN	Diversions (s185)	0.259	0.262	0.264	0.267	0.269

Note – we make a further change to the costs used in the model later in this commentary.

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2.2 The Unit Rate Calculation

The revised developer income changes the unit rate calculated in the Developer Services Reconciliation Model (DSRM):

Water Service	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
App 28 lines 1&2 - New Connections	18,954	18,742	18,197	17,560	17,728	91,181
App28 lines 7-11	13.3	13.1	12.9	12.6	12.8	64.7
Unit Rate per Table A1	701	701	710	719	719	710
Corrected App28 following query						
App 28 lines 1&2	18,954	18,742	18,197	17,560	17,728	91,181
Revised App28 lines 7-11	19.1	18.9	18.5	17.9	18.1	92.5
Corrected Unit rate	1,008	1,009	1,015	1,021	1,021	1,015

Wastewater Services	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
App 28 lines 17&18 - New Connections	9,699	10,268	10,185	9,790	9,601	49,543
App28 lines 24-27	3.3	3.3	3.3	3.3	3.3	16.6
Unit Rate per Table A2	341	323	325	339	346	334
Corrected App28 following query						
App 28 lines 1&2	9,699	10,268	10,185	9,790	9,601	49,543
Revised App28 lines 24-27	3.7	3.7	3.7	3.7	3.7	18.6
Unit rate	382	362	365	380	387	375

We recognise that this calculation will be further amended when Ofwat applies an efficiency challenge to the revenue, as stated in the 'Supplementary information for all companies – Grants and contributions' note.

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The Grants and Contributions Model

Whilst the changes in App28 need to be fed into the grants and contributions model, there are other changes to the inputs to the model required:

2.3 Updated new development costs from WS2 and WWS2 that INCLUDE infrastructure network reinforcement expenditure.

In our revised WS2 and WWS2 tables, we have moved the costs relating to infrastructure network reinforcement expenditure to the new development line.

This ensures that the F-Inputs tab of the G&C model picks up the full new development costs alongside the full G&Cs proposed.

We have set out the revised new developments totex in the highlighted rows below:

		2020-21	2021-22	2022-23	2023-24	2024-25
W3009TWD	New developments - Treated water distribution	9.733	9.709	9.487	9.267	9.311
W3009CAW	New developments - Total	9.733	9.709	9.487	9.267	9.311
WS2004CAW	New connections element of new development (CPs, meters) - Total	8.718	8.540	8.316	7.995	8.108
WS2019WR	Enhancement expenditure by purpose ~ operating - New developments - Water resources	0.000	0.000	0.000	0.000	0.000
WS2019RWD	Enhancement expenditure by purpose ~ operating - New developments - Raw water distribution	0.000	0.000	0.000	0.000	0.000
WS2019WT	Enhancement expenditure by purpose ~ operating - New developments - Water treatment	0.000	0.000	0.000	0.000	0.000
WS2019TWD	Enhancement expenditure by purpose ~ operating - New developments - Treated water distribution	0.000	0.000	0.000	0.000	0.000
WS2019CAW	Enhancement expenditure by purpose ~ operating - New developments - Total	0.000	0.000	0.000	0.000	0.000
WS2020CAW	Enhancement expenditure by	0.000	0.000	0.000	0.000	0.000

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		2020-21	2021-22	2022-23	2023-24	2024-25
	purpose ~ operating - New connections element of new development (CPs, meters) - Total					
S3020CAS	New development and growth - Total	3.450	3.450	3.450	3.450	3.450
S3021CAS	Growth at sewage treatment works (excluding sludge treatment) - Total	4.105	1.950	11.712	51.857	24.735
S3023CAS	Reduce flooding risk for properties - Total	15.251	18.450	26.715	28.357	6.392
WWS2033CAS	Enhancement expenditure by purpose - operating - New development and growth - Total	0.000	0.000	0.000	0.000	0.000
WS1011CAW	Total operating expenditure - Total	201.723	199.836	198.247	196.615	195.304
WWS1011CAS	Operating expenditure - Total operating expenditure - Total	87.055	85.966	84.965	84.062	83.320
A19048WR	Water resources operating expenditure grants and contributions (price control)	0.000	0.000	0.000	0.000	0.000
A19049WR	Water resources capital expenditure grants and contributions (price control)	0.000	0.000	0.000	0.000	0.000
A19052WR	Water resources operating expenditure grants and contributions (non-price control)	0.000	0.000	0.000	0.000	0.000
A19053WR	Water resources capital expenditure grants and contributions (non-price control)	0.000	0.000	0.000	0.000	0.000
A19052WN	Water network operating expenditure grants and contributions (price control)	0.000	0.000	0.000	0.000	0.000
A19053WN	Water network capital expenditure grants and contributions (price control)	19.102	18.906	18.468	17.935	18.098

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		2020-21	2021-22	2022-23	2023-24	2024-25
A19054WN	Water network operating expenditure grants and contributions (non-price control)	0.000	0.000	0.000	0.000	0.000
A19055WN	Water network capital expenditure grants and contributions (non-price control)	0.895	0.904	0.912	0.922	0.931
A19052WWN	Wastewater network operating expenditure grants and contributions (price control)	0.000	0.000	0.000	0.000	0.000
A19053WWN	Wastewater network capital expenditure grants and contributions (price control)	3.709	3.712	3.714	3.717	3.719
A19054WWN	Wastewater network operating expenditure grants and contributions (non-price control)	0.000	0.000	0.000	0.000	0.000
A19055WWN	Wastewater network capital expenditure grants and contributions (non-price control)	0.510	0.515	0.520	0.525	0.531

Note – alongside this change, which should be automatic, Ofwat should remove the adjustment in the NES G&C model in InpActive, line 148, which can now be set as zero, as there is now no need for manual adjustments to include infrastructure network reinforcement expenditure.

Once these changes are made, we arrive at the following F Output results for G&Cs, which we expect to be exported to the Financial Model.

Reference	Item description	2020-21	2021-22	2022-23	2023-24	2024-25
PR19GC0001	WN - Grants and contributions - capital expenditure - price control - real	19.271	19.060	18.592	18.025	18.189
PR19GC0002	WN - Grants and contributions - capital expenditure - non price control - real	0.903	0.911	0.918	0.927	0.936
PR19GC0009	WWN - Grants and contributions - capital expenditure - price control - real	1.722	1.721	1.719	1.717	1.715
PR19GC0010	WWN - Grants and contributions - capital expenditure - non price control - real	0.237	0.239	0.241	0.242	0.245

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We have provided the revised NES G&C Model alongside our representation to aid Ofwat.

2.4 Challenge to the G&C Model assumptions

The model applies efficiency challenges when calculating the appropriate G&Cs. These do not necessarily align to the new development costs, post DD baseline.

Thus, a company may find that baseline new development costs are significantly different from the projected grants and contributions. As Ofwat charging rules for new development require charges to recover costs, there is a mismatch between the assumptions in the PR19 modelling and how the charging rules will allow companies to recover costs.

For the water service, the G&C model results in G&Cs that are higher than the new development costs (due to a negative efficiency challenge). In practice, under that charging rules, NWL cannot recover more than the costs it incurs, so we will not be able to recover the projected G&Cs.

For the wastewater service, the G&C model applies a 43% efficiency. It is not clear how this is derived, we presume it includes the Ofwat challenges to 'reduced flooding risk', which is not related to new development and thus should not affect G&C calculations. The efficiency results in G&Cs for wastewater that are 50% of the projected costs. Again, this is not in line with the charging rules that require 100% of requisition costs to be charged to developers.

Note – we are not proposing an income offset for infrastructure charges, so for NWL, total new development costs should match projected income.

We recognise that Ofwat proposes addressing this for the Final Determination, with the 'Supplementary information for all companies – Grants and contributions' note stating:

The approach we implemented in the grants and contributions feeder models is not our intended approach at final determination. Our intended approach, instead, is to apply our efficiency challenge on 'modelled base plus' costs to the company proposed G&C.

We provide revised estimates of G&C (developer services revenue) and the unit rates for end-of-period true up in the tables below for wholesale water and wastewater based on our intended approach for final determination. These tables also supersede tables A1 and A2 of the developer services technical appendix titled 'PR19 draft determinations: Our proposed approach to regulating developer services'. As explained in that appendix, for Final Determinations we would apply an efficiency challenge, whereas for Draft Determinations this was not yet applied.

We note and agree that the efficiency challenges as set out above are more appropriate than the approach taken in the DD.

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3 Changes to PAYG and Opex/Capex mix

We have supplied a spreadsheet 'NES-Corrected DD Opex/Capex mix & PAYG of August 2019 DD response' with the data in sections 3.1 and 3.2, per below:

Ofwat request on PAYG rates

Several companies have raised queries about the PAYG rates we used at draft determinations, and some of these in practice relate to the assumptions we have made about how wholesale totex is split between capex and opex. At draft determinations, we used the splits from company business plans into capex and opex, except for a few adjustments.

We have already asked companies to provide their revised view of costs with their representations, including the split between capex and opex. If companies do not agree with the split of opex and capex we used at the draft determinations, we would also like companies to provide their view of what capex and opex should have been given the totex we allowed at draft determinations. These should sum to the totex in Table 3.2 of the draft determinations, so should include everything except pension deficit recovery.

3.1 Detailed Analysis of the corrected Opex/Capex split of the Draft Determination totex

Ofwat have asked companies to supply their views of the correct balance of DD opex and capex given the cost challenges in the Draft Determination.

Reference		20-21	21-22	22-23	23-24	24-25	20-25
DD Ofwat							
WS1011WR	Water Res Opex	52.2	52.0	51.8	51.6	51.4	258.9
WS1011RWD+WS 1011WT+WS1011T WD	Water Net + Opex	138.6	137.0	135.7	134.4	133.3	679.0
WWS1011SC+WW S1011ST	Wastewater Net + Opex	65.7	64.8	64.1	63.4	62.8	320.8
WWS1011STP+W WS1011SDT+WW S1011SDD	Bioresources Opex	10.4	10.2	10.1	10.0	9.9	50.7
	Total DD opex	267	264	262	259	258	1,310
WS1019WR	Water Res Capex	6.9	6.9	5.4	4.0	4.0	27.2
WS1019RWD+WS 1019WT+WS1019T WD	Water Net + Capex	136.6	156.1	151.1	132.0	109.6	685.4
WWS1019SC+WW S1019ST	Wastewater Net + Capex	78.9	100.8	121.9	174.6	130.3	606.6

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Reference		20-21	21-22	22-23	23-24	24-25	20-25
WWS1019STP+W WS1019SDT+WW S1019SDD	Bioresources Capex	14.8	14.8	14.7	14.7	14.6	73.7
	Total DD Capex	237	279	293	325	259	1,393
	DD TOTEX	504.1	542.7	554.9	584.7	516.1	2,702.4
Revised DD							
WS1011WR	Water Res Opex	52.5	52.3	52.1	51.9	51.7	260.3
WS1011RWD+WS 1011WT+WS1011T WD	Water Net + Opex	148.4	146.7	145.4	143.9	142.8	727.2
WWS1011SC+WW S1011ST	Wastewater Net + Opex	73.7	72.8	71.9	71.2	70.5	360.1
WWS1011STP+W WS1011SDT+WW S1011SDD	Bioresources Opex	10.4	10.2	10.1	10.0	9.9	50.7
	Revised DD Opex	285	282	279	277	275	1,398
WS1019WR	Water Res Capex	6.6	6.5	5.1	3.8	3.8	25.8
WS1019RWD+WS 1019WT+WS1019T WD	Water Net + Capex	127.0	145.1	140.5	122.7	101.9	637.2
WWS1019SC+WW S1019ST	Wastewater Net + Capex	73.8	94.3	114.0	163.3	121.9	567.4
WWS1019STP+W WS1019SDT+WW S1019SDD	Bioresources Capex	14.8	14.8	14.7	14.7	14.6	73.7
	Revised DD Capex	222	261	274	305	242	1,304
	DD TOTEX	507.2	542.8	553.9	581.5	517.2	2,702.4

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3.2 Amended PAYG rates based on August 2019 resubmitted totex in WS1 & WWS1.

Ofwat have also asked for the updated PAYG rates associated with the totex in the August 2019 DD Response

Based on the natural rates mix of opex and capex in the resubmitted WS1 and WWS1, we have amended our company PAYG rates for our DD response as:

		2020-21	2021-22	2022-23	2023-24	2024-25
WR40019	Water resources	87.32%	87.36%	90.10%	92.64%	92.65%
WN40019	Water network +	54.08%	51.04%	52.39%	56.11%	59.55%
WWN60019	Wastewater network +	47.38%	41.39%	36.29%	27.70%	33.75%
BIO50019	Bioresources	41.16%	40.93%	40.77%	40.61%	40.46%