


	C	D	E	F	G														
1	Cover																		
3	<i>Model name:</i>	PR19 Bill Movement Model																	
4	<i>Version number:</i>	#N/A																	
5	<i>Filename:</i>	#N/A																	
6	<i>Date:</i>	10 Jul 2018																	
7	<i>Author:</i>	Ofwat																	
8	<i>Author contact information:</i>	pr19@ofwat.gsi.gov.uk																	
11	<i>Summary of model:</i>	<p>The model calculates the movement in average residential bill (combined bill for WaSCs). The model draws data automatically from the PR14 and PR19 models. This is the model referred to in Table 2.1 of the 'Company business plan presentation pro-forma' Follow link to pro-forma >> https://www.ofwat.gov.uk/publication/company-business-plan-presentation-pro-forma/</p>																	
16	<i>Known limitations:</i>	<p>These are listed below:</p> <table border="1"> <thead> <tr> <th>Issue</th> <th>Details</th> <th>Model link</th> </tr> </thead> <tbody> <tr> <td>Merged Companies</td> <td>The model draws inputs automatically for a single PR14 model and a single PR19 model. For companies that have merged since PR14 the model will not draw inputs automatically from multiple PR14 models. Merged companies will need to calculate appropriate PR14 values outside of this model and then enter them in the Override column on the InpAct sheet.</td> <td>Override column</td> </tr> </tbody> </table>				Issue	Details	Model link	Merged Companies	The model draws inputs automatically for a single PR14 model and a single PR19 model. For companies that have merged since PR14 the model will not draw inputs automatically from multiple PR14 models. Merged companies will need to calculate appropriate PR14 values outside of this model and then enter them in the Override column on the InpAct sheet.	Override column								
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21		<p>The model has been subject to internal Ofwat quality assurance. The model is not a policy statement. Users should refer to the "Delivering Water 2020: Our final methodology for the 2019 price review" for information on proposed policy.</p>																	
25	<i>Feedback:</i>	<p>We would welcome feedback on the PR19 bill movement model. Please send any feedback to the following email address. pr19@ofwat.gsi.gov.uk</p>																	
28	<i>Error check status:</i>	<table border="1"> <tr> <td style="background-color: #00FF00; text-align: center;">-</td> <td>No error checks</td> </tr> <tr> <td style="background-color: #FFA500; text-align: center;">91</td> <td>Output changes</td> </tr> </table>			-	No error checks	91	Output changes											
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31	<i>Instructions:</i>	<p>A model 'User guide' is present in the model to help the user in operating the model. Follow link >> Goto User Guide</p>																	
34	<i>Change log:</i>	<table border="1"> <thead> <tr> <th>Change</th> <th>Details</th> <th>Model link</th> </tr> </thead> <tbody> <tr> <td>Wastewater Network RCV additions excluded from total</td> <td>The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.</td> <td>WWN RCV additions plus indexation</td> </tr> <tr> <td>Bioresources RCV additions excluded from total</td> <td>The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.</td> <td>BR RCV additions plus indexation</td> </tr> <tr> <td>Wastewater asset life linked to water asset life</td> <td>The 'RCV Additions: Average Asset Life' for wastewater was incorrectly linked to the average asset life for water on the InpActive sheet.</td> <td>RCV Additions: Average Asset Life - Wastewater</td> </tr> <tr> <td>InpAct sheet relinked to latest financial model</td> <td>The PR19 financial model has been revised since the Bill Waterfall model was published. Some lines have moved in the financial model so the InpAct sheet of the Waterfall model has been re-linked to the correct lines in the latest financial model (version 14h).</td> <td>InpAct</td> </tr> </tbody> </table>			Change	Details	Model link	Wastewater Network RCV additions excluded from total	The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.	WWN RCV additions plus indexation	Bioresources RCV additions excluded from total	The formula to sum the RCV additions plus indexation and then index to 2017/18 FYA CPIH deflated only picked up the RCV additions indexation. The RCV additions beginning balance was missing from the sum.	BR RCV additions plus indexation	Wastewater asset life linked to water asset life	The 'RCV Additions: Average Asset Life' for wastewater was incorrectly linked to the average asset life for water on the InpActive sheet.	RCV Additions: Average Asset Life - Wastewater	InpAct sheet relinked to latest financial model	The PR19 financial model has been revised since the Bill Waterfall model was published. Some lines have moved in the financial model so the InpAct sheet of the Waterfall model has been re-linked to the correct lines in the latest financial model (version 14h).	InpAct
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42	End of sheet																		

User Guide

INTRODUCTION

This model will create a waterfall chart showing the main components causing the movement in bills between PR14 and PR19.

INITIAL SET UP

The model will automatically pick up the correct input fields when you link it to the water company financial models.

On first use of the model you will need to link to both the PR14 and PR19 financial models for your company.

- Step 1 - On the Excel menu click DATA / Edit Links
- Step 2 - Select the link to the PR19 model and click "Change Source"
- Step 3 - Navigate to the correct PR19 financial model and select it.
- Step 4 - Select the link to the PR14 model and click "Change Source"
- Step 5 - Navigate to the correct PR14 financial model and select it
- Step 6 - On the InpC sheet change cell F34 to either WaSC or WoC, as appropriate. The current value is shown below, follow the link below to change it.
[WaSC](#)
- Step 7 - **Recalculate the model. Press Ctrl + Alt + F9**

NAVIGATION

In order to navigate through the model the following key strokes will prove useful:

- To go to a sheet or row select a blue font cell and then either press CTRL+ [or double click
- To return To the last position press F5 + Enter
- In accordance with best practice, the model is saved with a "Manual Calculation" setting. To ensure a full recalculation press: Ctrl + Alt + F9

HOW TO SAVE A PDF COPY OF THE WATERFALL CHART

- Step 1 - To save the 'Waterfall' chart in PDF format, press button "Save as PDF"

- Step 2 - In the dialog box, "Enter sheet name", type Waterfall
- Step 3 - In the dialog box, "Save As" change the file name if required
- Step 4 - Press "Save" to save a Pdf copy of the sheet

HOW TO STORE TRACK IN TRACK SHEET

USING MACRO

To store Track in the Track sheet using the macro, follow the steps below:

- Step 1 - Go to the Track sheet and press the "Store Track" button to save the track for a new case
[Store Track](#)
- Step 2 - A dialog box "Enter the label for the new track column" will appear, type the new track label (for example: "version 17r"), the label will appear in row 6
- Step 3 - A dialog box "Enter the comment for the new track" will appear, write a brief description of the change. The description will be appear at the bottom of the track column
- Step 4 - Press enter, a new track column will appear before the last stored track
- Step 5 - Review the difference between stored cases and active case (col H) by selecting the stored case in cell H6.

MANUAL METHOD

To store Track in the Track sheet manually, follow the steps below:

- Step 1 - Select the column by pressing Ctrl + Spacebar and Copy (Ctrl + C). Then insert a new column after the last stored column by pressing Alt, I, E
- Step 2 - Select the newly inserted column (Ctrl + Spacebar) and delete the previously stored values from this column by pressing Delete button
- Step 3 - Go to active track column (H column). Select the range from H6 till 'do not delete row - range end' row and Copy (Ctrl + C)
- Step 4 - Paste the selected values (Alt E, S, V) in newly inserted column
- Step 5 - Update 'New track name' in row 6 of newly inserted column. Then select 'New track name' from the dropdown list present in H6.
- Step 6 - Review the difference between stored cases and active case (col H) by selecting the stored case in cell H6.

End of sheet

Map & Key

TABLE OF CONTENTS

Table of Contents				
DOCUMENTATION	MODEL INPUTS	MODEL CALCULATIONS	MODEL OUTPUTS	MODEL QA
Cover	InpC	RCV	GraphData	Track
Model cover sheet	Constants	Change due to RCV, WACC and run-off	Table of bill movements	Model changes and track records
User Guide	InpAct	Totex	Waterfall	Check
Explanation of setup and macros	All inputs to be flowed into model	Change due to PAYG Totex and rate	Graph of bill movements	Checks
Map & Key		Wholesale		
ToC and key to formatting		Change due to other wholesale items		
Model Design		Reconciliation		
Flow chart, model assumptions and key calculations		Change due to reconciliations items		
		Retail		
		Change due to cost to serve		
		Customers		
		Change due to customer No.s		
		Summary_Calc		
		Convert from £m to £ per custome		

SHEET TABS

Light Yellow	Input sheets
No colour (default Excel tab colour)	Calculation and documentation sheets
Pale Blue	Key output sheets
Turquoise	Quality control sheets
Yellow	To be completed, temporary, restructured, or deleted

COLOUR

Font colour only

Blue font	Imported from another sheet
Red font	Exported to another sheet (except from Input sheets)
Black font	Within sheet link or calculation

Font + shade combinations

Black font + Light Yellow shade	Inputs
Black font + Light Grey shade on entire row	Within-worksheet counter-flow
Blue font + Light Grey shade on entire row	Between-worksheet counter-flow
Empty Cell with Light Grey shade	Empty cells being deliberately referenced

Other

Black font + Pale Blue shade on entire row	Section separator
Light Turquoise shade	Stored/dead/hard coded outputs
Tan shade	Pre-model time line actuals
Yellow shade	Work in progress / temporary
Lime shade	Values or logic to be reviewed

Error checks & alerts

Green shade	OK
Red shade	Error
Gold shade	Alert

ABBREVIATIONS

£	Great Britain Pound
BEG	Beginning
BR	Bio resources
CALC	Calculation
CTS	Cost to serve
m	Million
na	Not available / applicable
Opex	Operating expenditure
PAYG	Pay as you go
POS	Positive
RCV	Regulatory capital value
Totex	Total expenditure
WACC	Weighted average cost of capital
WASC	Water and Sewerage company
WN	Water network
WoC	Water only company
WR	Water resources
WWN	Waste water network

LIST OF MACROS USED

Store track results

Store track results	This macro helps in storing the results/outputs after any change is made in the model on "Track" sheet. These stored results then can be used to analyse the impact of any change made in the model. Goto macro
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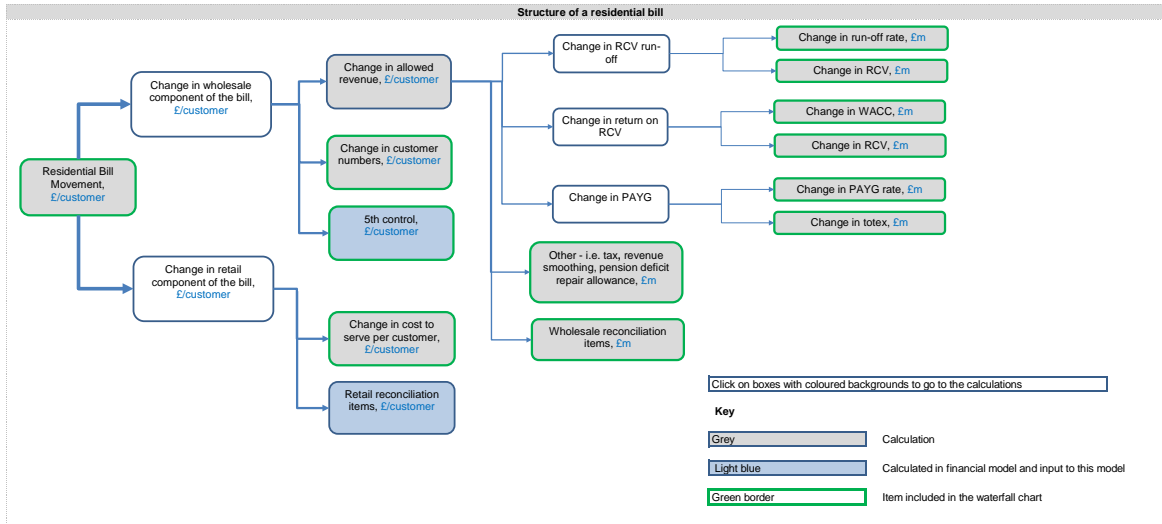
Save as PDF

Save as PDF	This macro helps in saving any worksheet or chart in PDF format.
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End of sheet

Model Design

GENERAL MODEL DESIGN



ASSUMPTIONS

Price Base:

- >>> The price base for the model is 2017/18 year average CPIH deflated
- >>> 2019/20 inputs from the PR14 model are real
In the PR14 model 'real' means 2012/13 FYA RPI deflated
In the PR14 model retail prices were not indexed (real = nominal)
- >>> 2024/25 inputs from the PR19 model can be real or nominal (they are labelled)
In the PR19 model 'real' means 2017/18 FYA CPIH deflated
In the PR19 model retail prices are indexed
- >>> All inputs are indexed to the model price base

CALCULATIONS

Calculations:

wholesale components, £m

- All items on the waterfall chart are in £ per customer.
- Wholesale reconciliation items are simply calculated by subtracting the sum of PR19 items from the sum of PR14 items.
- PR19 retail reconciliation items are input as £ per customer and added when the wholesale items are converted to £ per customer (see later).
- Other wholesale items are simply calculated by subtracting the sum of PR19 items from the sum of PR14 items.
- The PR19 impact of reprofiling is directly input whereas the PR14 impact of reprofiling needs to be calculated.
- The other 6 wholesale components (run-off rate/RCV, WACC/RCV, PAYG%/totex) are all calculated using the method below for PAYG Totex.
 - Calculate the change in PAYG Totex = (PR19 PAYG Totex - PR14 PAYG Totex)
 - Calculate the PR14 PAYG Totex using the PR19 PAYG% = (PR14 Totex * PR19 PAYG%)
 - Calculate the change in PAYG Totex due to change in PAYG% = (line b) - PR14 PAYG Totex)
 - Calculate the change in PAYG Totex due to change in Totex = (line a - line c)

wholesale components, £/cust

- All items on the waterfall chart are in £ per customer.
- The wholesale components are initially calculated in £m as described above.
- The method for calculating the wholesale components in £ per customer is as follows:
 - Sum all 8 wholesale components, £m
 - For each individual wholesale component calculate its proportion of the sum, £m
 - Multiply this proportion by the Change in Allowed Revenue, £ per customer

wholesale allowed revenue

- Calculate the Change in Allowed Revenue, £ per customer, as follows:
 - Calculate the Residential Bill Movement, £ per customer
 - Calculate the Change in Retail Cost To Serve, £ per customer
 - Calculate the Change in Retail Reconciliation Items, £ per customer
 - Calculate the Change in wholesale dummy control allowed revenue
 - Calculate the Change in Customer Numbers, £ per customer
 - The Change in Allowed Revenue is (line 1 - (line 2 + line 3 + line 4 + line 5))

customer numbers

- Calculate the change in the bill due to the change in customers numbers and household apportionment, £ per customer, as follows:
 - Calculate the PR19 total households as a % of the PR14 total households
 - Calculate the PR19 household apportionment as a % of the PR14 household apportionment
 - The change due to customer numbers is ((wholesale allowed revenue * line 2 / line 1) - wholesale allowed revenue)
 - Do this separately for water and wastewater and then sum the two values

Definitions:

Title of component displayed on chart	Definition	Calculation
RCV	Change in customer bill due to a change in RCV depreciation and return on RCV caused by changing the RCV with all other components held constant.	a-> Calculate the change in RCV depreciation = (PR19 RCV depreciation - PR14 RCV depreciation) b-> Calculate the PR14 RCV depreciation using the PR19 RCV run-off rate = (PR14 Total RCV * PR19 RCV run-off rate) c-> Calculate the change in RCV depreciation due to change in RCV run-off rate = (line b - PR14 RCV depreciation) d-> Calculate the change in RCV depreciation due to change in RCV = (line a - line c) e-> Repeat for return on RCV and sum.
Totex	Change in customer bill due to a change in PAYG Totex caused by changing the Totex with all other components held constant.	a-> Calculate the change in PAYG Totex = (PR19 PAYG Totex - PR14 PAYG Totex) b-> Calculate the PR14 PAYG Totex using the PR19 PAYG% = (PR14 Totex * PR19 PAYG%) c-> Calculate the change in PAYG Totex due to change in PAYG% = (line b - PR14 PAYG Totex) d-> Calculate the change in PAYG Totex due to change in Totex = (line a - line c)
PAYG%	Change in customer bill due to a change in PAYG Totex caused by changing the PAYG% with all other components held constant.	a-> Calculate the change in PAYG Totex = (PR19 PAYG Totex - PR14 PAYG Totex) b-> Calculate the PR14 PAYG Totex using the PR19 PAYG% = (PR14 Totex * PR19 PAYG%) c-> Calculate the change in PAYG Totex due to change in PAYG% = (line b - PR14 PAYG Totex)
Run-off rate	Change in customer bill due to a change in RCV depreciation caused by changing the RCV run-off rate with all other components held constant.	a-> Calculate the change in RCV depreciation = (PR19 RCV depreciation - PR14 RCV depreciation) b-> Calculate the PR14 RCV depreciation using the PR19 RCV run-off rate = (PR14 Total RCV * PR19 RCV run-off rate) c-> Calculate the change in RCV depreciation due to change in RCV run-off rate = (line b - PR14 RCV depreciation)
WACC	Change in customer bill due to a change in the return on RCV caused by changing the WACC with all other components held constant.	a-> Calculate the change in return on RCV = (PR19 return on RCV - PR14 return on RCV) b-> Calculate the PR14 return on RCV using the PR19 WACC = (PR14 Total return on RCV * PR19 WACC) c-> Calculate the change in return on RCV due to change in WACC = (line b - PR14 return on RCV)
Other wholesale items	Change in customer bill due to a change in any other wholesale item with all other components held constant.	Calculate the PR14 impact of reprofiling and add to the other PR14 wholesale items. Subtract the PR19 wholesale items to find the change in other wholesale items.
Reconciliations items	Change in customer bill due to a change in any reconciliation items with all other components held constant.	Subtract the PR19 reconciliation items from the PR14 reconciliation items to find the change in reconciliation items.
5th control retail CTS	The PR19 5th control allowed revenue. Change in customer bill due to a change in retail CTS with all other components held constant.	There was no 5th control at PR14. If there is a 5th control at PR19 this will cause a rise in the bill. Sum the single service allowed revenue for both PR14 and PR19 to get the joint service allowed revenue. Do not index since in the PR14 model wholesale prices are indexed but retail prices are not indexed. Subtract the PR19 value from the PR14 value to find the change in retail allowed revenue.
customer numbers and residential apportionment	Change in customer bill due to a change in customer numbers and/or residential apportionment with all other components held constant.	a-> Calculate the PR19 households as a percentage of the PR14 households b-> Calculate the PR19 apportionment as a percentage of the PR14 apportionment c-> Divide apportionment by households (b divided by a) to find the percentage change in allowed revenue

End of sheet

InpC

	Constant	Unit	Value	Note
NON CHANGEABLE INPUTS				
Track Tolerance Level	0.001000	tolerance		
Check Tolerance Level	0.000000	tolerance		
Thousands in a million	1,000	thousand		
TIME				
PR14 Model period ending	31 Mar 2020	date		
PR14 Financial year ending	2020	year #		
PR19 Model period ending	31 Mar 2025	date		
PR19 Financial year ending	2025	year #		
MODEL PARAMETERS				
Model 1 label	PR14	text		
Model 2 label	PR19	text		
PR14 Company Name	SWT	text	for info only	
PR14 Company Type	WaSC	text		
PR19 Company Name	0	text	for info only	
PR19 Company Type	0	text		
Company Type	WaSC	name		
Company type switch	-		0 = WaSC, 1 = WoC	
Company Type switch check	-	check		
INDEXATION				
Inflation from 2013 FYA to 2020 FYE - RPI				
RPI: Financial year average 2012/13	244.68	index		
RPI: March 2020	269.30	index		
RPI inflate from 2013 FYA to 2020 FYE	1.1006	factor		
Deflation from 2020 FYE to 2018 FYA - CPIH				
CPIH: Financial year average 2017/18	103.11	index		
CPIH: March 2020	102.70	index		
CPIH deflate from 2020 FYE to 2018 FYA	0.9960	factor		
RPI inflate from 2013 FYA to 2020 FYE	1.1006	factor		
CPIH deflate from 2020 FYE to 2018 FYA	0.9960	factor		
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor		
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor		

End of sheet

InpAct

	Constant	Unit	Active Value	Override	Linked Value	Note
BILL						
Retail allowed revenue per customer: joint services						
PR14			£	208.52		208.52
PR14			£	296.92		296.92
PR19	-	£	-			-
PR19	-	£	467.75	467.75		454.06
CUSTOMERS						
PR14			000s	26.16		26.16
PR14			000s	36.26		36.26
PR14			000s	2.29		2.29
PR14			000s	2.46		2.46
PR14			000s	94.61		94.61
PR14			000s	590.96		590.96
PR19	-	000s	41.96	41.96		200.37
PR19	-	000s	1.95			1.95
PR19	-	000s	650.95			650.95
PR19	-	000s	29.50	29.50		72.55
PR19	-	000s	3.09			3.09
PR19	-	000s	80.86			80.86
ALLOWED REVENUE						
Retail allowed revenue per customer						
PR14			£	34.92		34.92
PR14			£	45.39		45.39
PR19	-	£	27.64	27.64		24.17
PR19	-	£	33.20	33.20		31.38
PR14			£/cust			Thames Tideway only: value in £/customer to be input
PR19	-	£	-			Thames Tideway only
Wholesale allowed revenue						
PR14			£	173.61		173.61
PR14			£	262.00		262.00
PR14			£m	178.73		178.73
PR14			£m	178.73		178.73
PR14			£m	240.58		240.58
PR14			£m	240.58		240.58
PR14			%	72.66%		72.66%
PR14			%	75.18%		75.18%
PR19	-	£m	19.09	19.09		22.46
PR19	-	£m	190.70	190.70		224.41
PR19	-	£m	254.64			254.64
PR19	-	£m	26.70			26.70
PR19	-	£m	16.57	16.57		19.49
PR19	-	£m	16.57	16.57		19.49
PR19	-	£m	-			-
PR19	-	£m	165.50	165.50		194.76
PR19	-	£m	165.50	165.50		194.76
PR19	-	£m	-			-
PR19	-	£m	220.99			220.99
PR19	-	£m	220.99			220.99
PR19	-	£m	-			-
PR19	-	£m	23.17			23.17
PR19	-	£m	23.17			23.17
PR19	-	£m	-			-

PR19	Water resources- residential apportionment CALC	-	%	72.45%	72.45%	71.17%	101.8% allocated to SWW on historical levels
PR19	Water network - residential apportionment CALC	-	%	72.45%	72.45%	71.17%	101.8% allocated to SWW on historical levels
PR19	Wastewater network - residential apportionment CALC	-	%	77.10%		77.10%	
PR19	Bio resources - residential apportionment CALC	-	%	77.10%		77.10%	

WHOLESALE

PR14	Proportion of capex that is subject to depreciation in year of acquisition		%	50.00%		50.00%	
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Totex

PR14	Totex - real - Water		£m	128.53		128.53	
PR14	Totex - real - Wastewater		£m	156.02		156.02	
PR14	PAYG Totex - real - Water		£m	80.00		80.00	
PR14	PAYG Totex - real - Wastewater		£m	94.87		94.87	

PR19	Totex - net of grants and contributions - WR (post sensi adj) - nominal	-	£m	14.33	14.33	17.03	84.15% allocated to SWW based on Totex
PR19	Totex - net of grants and contributions - WN (post sensi adj) - nominal	-	£m	156.09	156.09	185.49	84.15% allocated to SWW based on customer numbers
PR19	Totex - net of grants and contributions - WWN (post sensi adj) - nominal	-	£m	171.94		171.94	100% SWW
PR19	Totex - net of grants and contributions - BR (post sensi adj) - nominal	-	£m	22.99		22.99	100% SWW
PR19	Water resources: PAYG Totex - nominal	-	£m	10.83	10.83	13.39	80.85% allocated to SWW based on customer numbers
PR19	Water network: PAYG Totex - nominal	-	£m	83.98	83.98	103.88	80.85% allocated to SWW based on customer numbers
PR19	Wastewater network: PAYG Totex - nominal	-	£m	100.86		100.86	100% SWW
PR19	Bio resources: PAYG Totex - nominal	-	£m	16.84		16.84	100% SWW

PR19	PAYG% - water resources - active - WR	-	%	78.64%		78.64%	only used for tracking
PR19	PAYG% - water network - active - WN	-	%	56.00%		56.00%	only used for tracking
PR19	PAYG% - wastewater network - active - WWN	-	%	58.66%		58.66%	only used for tracking
PR19	PAYG% - bio resources - active - BR	-	%	73.24%		73.24%	only used for tracking

RCV depreciation

Water							
PR14	RCV as at 2015 - real - water		£m	1,025.05		1,025.05	
PR14	Depreciation of 2015 RCV - real - water		£m	(38.13)		(38.13)	
PR14	RCV Additions: Average Asset Life (to 1dp) - Water		years	25.94		25.94	
PR14	Non-PAYG Totex in year additions - real		£m	48.53		48.53	

PR14	Non-PAYG Totex - real		£m	53.80		53.80	
PR14	Non-PAYG Totex - real		£m	63.55		63.55	
PR14	Non-PAYG Totex - real		£m	68.77		68.77	
PR14	Non-PAYG Totex - real		£m	54.76		54.76	
PR14	Non-PAYG Totex balance BEG - real		£m	240.89			

Wastewater							
PR14	RCV as at 2015 - real - Wastewater		£m	1,309.31		1,309.31	
PR14	Depreciation of 2015 RCV - real - wastewater		£m	(61.67)		(61.67)	
PR14	RCV Additions: Average Asset Life (to 1dp) - Wastewater		years	20.02		20.0	
PR14	Non-PAYG Totex in year additions - real		£m	61.16		61.16	

PR14	Non-PAYG Totex - real		£m	96.70		96.70	
PR14	Non-PAYG Totex - real		£m	96.95		96.95	
PR14	Non-PAYG Totex - real		£m	83.90		83.90	
PR14	Non-PAYG Totex - real		£m	64.92		64.92	
PR14	Non-PAYG Totex balance BEG - real		£m	342.47			

Water resources

PR19	RCV CPI(H) bf balance BEG - WR - nominal	-	£m	61.46	61.46	68.56	89.65% allocated to SWW based on 2019/20 RCV
PR19	Indexation on RCV - CPI(H) bf balance - WR - nominal	-	£m	1.24	1.24	1.38	89.65% allocated to SWW based on 2019/20 RCV
PR19	RCV - CPI(H) bf depreciation - WR - nominal	-	£m	1.58	1.58	1.76	89.65% allocated to SWW based on 2019/20 RCV
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WR - nominal	-	£m	63.73	63.73	71.09	89.65% allocated to SWW based on 2019/20 RCV
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WR - nominal	-	£m	1.91	1.91	2.13	89.65% allocated to SWW based on 2019/20 RCV
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WR - nominal	-	£m	1.65	1.65	1.85	89.65% allocated to SWW based on 2019/20 RCV

PR19	Method used to apply run off rate (straight line or reducing balance) ~ water resources - RCV additions depreciation	reducing balance	switch	for info			
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WR		%	50.00%		50.00%	
PR19	RCV additions balance BEG - WR - nominal	-	£m	15.60	15.60	17.40	89.65% allocated to SWW based on 2019/20 RCV
PR19	Indexation of RCV additions bf - WR - nominal	-	£m	0.31	0.31	0.35	89.65% allocated to SWW based on 2019/20 RCV
PR19	Water resources: Non-PAYG Totex - nominal	-	£m	3.26	3.26	3.64	89.65% allocated to SWW based on 2019/20 RCV
PR19	Run-off rate - CPI(H) - active - WR	-	%	2.52%		2.52%	only used for tracking
PR19	Run-off rate - CPI(H) + RPI wedge - active - WR	-	%	2.52%		2.52%	only used for tracking
PR19	Run-off rate - RCV additions - active - WR	-	%	4.56%		4.56%	only used for tracking

Water network

PR19	RCV CPI(H) bf balance BEG - WN - nominal	-	£m	578.19	578.19	644.94	89.65% allocated to SWW based on 2019/20 RCV
PR19	Indexation on RCV - CPI(H) bf balance - WN - nominal	-	£m	11.62	11.62	12.97	89.65% allocated to SWW based on 2019/20 RCV
PR19	RCV - CPI(H) bf depreciation - WN - nominal	-	£m	27.43	27.43	30.59	89.65% allocated to SWW based on 2019/20 RCV

PR19	RCV CPI(H) + RPI wedge bf balance BEG - WN - nominal	-	£m	599.02	599.02	668.18	89.65% allocated to SWW based on 2019/20 RCV
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WN - nominal	-	£m	17.97	17.97	20.04	89.65% allocated to SWW based on 2019/20 RCV
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WN - nominal	-	£m	29.00	29.00	32.35	89.65% allocated to SWW based on 2019/20 RCV
PR19	Method used to apply run off rate (straight line or reducing balance) – water network plus CPI(H) linked - RCV additions depreciation	reducing balance	switch	for info			
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WN	-	%	50.00%		50.00%	
PR19	RCV additions balance BEG - WN - nominal	-	£m	253.00	253.00	282.21	89.65% allocated to SWW based on 2019/20 RCV
PR19	Indexation of RCV additions bf - WN - nominal	-	£m	5.09	5.09	5.67	89.65% allocated to SWW based on 2019/20 RCV
PR19	Water network: Non-PAYG Totex - nominal	-	£m	73.17	73.17	81.62	89.65% allocated to SWW based on 2019/20 RCV
PR19	Run-off rate - CPI(H) - active - WN	-	%	4.65%		4.65%	
PR19	Run-off rate - CPI(H) + RPI wedge - active - WN	-	%	4.70%		4.70%	
PR19	Run-off rate - RCV additions - active - WN	-	%	4.65%		4.65%	

Wastewater network

PR19	RCV CPI(H) bf balance BEG - WWN - nominal	-	£m	760.79		760.79	100% SWW
PR19	Indexation on RCV - CPI(H) bf balance - WWN - nominal	-	£m	15.30		15.30	100% SWW
PR19	RCV - CPI(H) bf depreciation - WWN - nominal	-	£m	38.57		38.57	100% SWW
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WWN - nominal	-	£m	784.89		784.89	100% SWW
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WWN - nominal	-	£m	23.55		23.55	100% SWW
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WWN - nominal	-	£m	42.04		42.04	100% SWW
PR19	Method used to apply run off rate (straight line or reducing balance) – wastewater network plus CPI(H) linked - RCV additions depreciation	reducing balance	switch	for info			
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WWN	-	%	50.00%		50.00%	
PR19	RCV additions balance BEG - WWN - nominal	-	£m	326.28		326.28	100% SWW
PR19	Indexation of RCV additions bf - WWN - nominal	-	£m	6.56		6.56	100% SWW
PR19	Wastewater network: Non-PAYG Totex - nominal	-	£m	71.08		71.08	100% SWW
PR19	Run-off rate - CPI(H) - active - WWN	-	%	4.97%		4.97%	
PR19	Run-off rate - CPI(H) + RPI wedge - active - WWN	-	%	5.20%		5.20%	
PR19	Run-off rate - RCV additions - active - WWN	-	%	4.97%		4.97%	

Bio resources

PR19	RCV CPI(H) bf balance BEG - BR - nominal	-	£m	31.23		31.23	100% SWW
PR19	Indexation on RCV - CPI(H) bf balance - BR - nominal	-	£m	0.63		0.63	100% SWW
PR19	RCV - CPI(H) bf depreciation - BR - nominal	-	£m	2.92		2.92	100% SWW
PR19	RCV CPI(H) + RPI wedge bf balance BEG - BR - nominal	-	£m	32.38		32.38	100% SWW
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - BR - nominal	-	£m	0.97		0.97	100% SWW
PR19	RCV - CPI(H) + RPI wedge bf depreciation - BR - nominal	-	£m	3.06		3.06	100% SWW
PR19	Method used to apply run off rate (straight line or reducing balance) – bioresources - RCV additions depreciation	reducing balance	switch	for info			
PR19	Proportion of capex that is subject to depreciation in year of acquisition - BR	-	%	50.00%		50.00%	
PR19	RCV additions balance BEG - BR - nominal	-	£m	23.89		23.89	100% SWW
PR19	Indexation of RCV additions bf - BR - nominal	-	£m	0.48		0.48	100% SWW
PR19	Bio resources: Non-PAYG Totex - nominal	-	£m	6.15		6.15	100% SWW
PR19	Run-off rate - CPI(H) - active - BR	-	%	-		-	
PR19	Run-off rate - CPI(H) + RPI wedge - active - BR	-	%	9.18%		9.18%	
PR19	Run-off rate - RCV additions - active - BR	-	%	4.56%		4.56%	

Return on RCV

<u>Water</u>							
PR14	Average 2015 RCV - real - water		£m	1,005.99		1,005.99	
PR14	Return on 2015 RCV Bf - real - water		£m	37.22		37.22	
PR14	Average RCV; post 2015 additions - real - water		£m	241.63		241.63	
PR14	Return on RCV Additions - real - water		£m	8.94		8.94	
<u>Wastewater</u>							
PR14	Average 2015 RCV - real - Wastewater		£m	1,278.47		1,278.47	
PR14	Return on 2015 RCV Bf - real - Wastewater		£m	47.30		47.30	
PR14	Average RCV; post 2015 additions - real - Wastewater		£m	326.81		326.81	
PR14	Return on RCV Additions - real - Wastewater		£m	12.09		12.09	

Water resources

PR19	Average of RCV - CPI(H) bf - WR - nominal	-	£m	61.82	61.82	69.05	89.53% allocated to SWW based on 2019/20 Returns RCV
PR19	WACC real on RCV - CPI(H) bf and additions - WR	-	%	3.30%		3.30%	only used for tracking
PR19	Return on RCV - CPI(H) bf - WR - nominal	-	£m	2.04	2.04	2.28	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	Average of RCV - CPI(H) + RPI wedge bf - WR - nominal	-	£m	64.73	64.73	72.30	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WR	-	%	2.30%		2.30%	only used for tracking
PR19	Return on RCV - CPI(H) + RPI wedge bf - WR - nominal	-	£m	1.49	1.49	1.66	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	Average of RCV post 2020 additions - WR - nominal	-	£m	17.12	17.12	19.12	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	WACC real on RCV - CPI(H) bf and additions - WR	-	%	3.30%		3.30%	
PR19	Return on RCV additions - WR - nominal	-	£m	0.57	0.57	0.63	89.53% allocated to SWW based on 2019/20 ReturnsCV

PR19	Average of RCV - CPI(H) other adjustments balance - WR - nominal	-	£m	-		-	Non-depreciated adjustment to RCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WR	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - WR - nominal	-	-	-		-	
Water network							
PR19	Average of RCV - CPI(H) bf - WN - nominal	-	£m	575.33	575.33	642.61	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	WACC real on RCV - CPI(H) bf and additions - WN	-	%	3.30%		3.30%	only used for tracking
PR19	Return on RCV - CPI(H) bf - WN - nominal	-	£m	18.99	18.99	21.21	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	Average of RCV - CPI(H) + RPI wedge bf - WN - nominal	-	£m	601.69	601.69	672.05	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WN	-	%	2.30%		2.30%	only used for tracking
PR19	Return on RCV - CPI(H) + RPI wedge bf - WN - nominal	-	£m	13.83	13.83	15.44	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	Average of RCV post 2020 additions - WN - nominal	-	£m	287.44	287.44	321.05	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	WACC real on RCV - CPI(H) bf and additions - WN	-	%	3.30%		3.30%	
PR19	Return on RCV additions - WN - nominal	-	£m	9.49	9.49	10.60	89.53% allocated to SWW based on 2019/20 ReturnsCV
PR19	Average of RCV - CPI(H) other adjustments balance - WN - nominal	-	£m	-		-	Non-depreciated adjustment to RCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WN	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - WN - nominal	-	£m	-		-	
Wastewater network							
PR19	Average of RCV - CPI(H) bf - WWN - nominal	-	£m	756.80		756.80	100% SWW
PR19	WACC real on RCV - CPI(H) bf and additions - WWN	-	%	3.30%		3.30%	only used for tracking
PR19	Return on RCV - CPI(H) bf - WWN - nominal	-	£m	24.98		24.98	100% SWW
PR19	Average of RCV - CPI(H) + RPI wedge bf - WWN - nominal	-	£m	787.41		787.41	100% SWW
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WWN	-	%	2.30%		2.30%	only used for tracking
PR19	Return on RCV - CPI(H) + RPI wedge bf - WWN - nominal	-	£m	18.10		18.10	100% SWW
PR19	Average of RCV post 2020 additions - WWN - nominal	-	£m	359.22		359.22	100% SWW
PR19	WACC real on RCV - CPI(H) bf and additions - WWN	-	%	3.30%		3.30%	
PR19	Return on RCV additions - WWN - nominal	-	£m	11.86		11.86	100% SWW
PR19	Average of RCV - CPI(H) other adjustments balance - WWN - nominal	-	£m	-		-	Non-depreciated adjustment to RCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WWN	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - WWN - nominal	-	£m	-		-	
Bio resources							
PR19	Average of RCV - CPI(H) bf - BR - nominal	-	£m	30.39		30.39	100% SWW
PR19	WACC real on RCV - CPI(H) bf and additions - BR	-	%	3.30%		3.30%	only used for tracking
PR19	Return on RCV - CPI(H) bf - BR - nominal	-	£m	1.00		1.00	100% SWW
PR19	Average of RCV - CPI(H) + RPI wedge bf - BR - nominal	-	£m	31.82		31.82	100% SWW
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - BR	-	%	2.30%		2.30%	only used for tracking
PR19	Return on RCV - CPI(H) + RPI wedge bf - BR - nominal	-	£m	0.73		0.73	100% SWW
PR19	Average of RCV post 2020 additions - BR - nominal	-	£m	26.82		26.82	100% SWW
PR19	WACC real on RCV - CPI(H) bf and additions - BR	-	%	3.30%		3.30%	
PR19	Return on RCV additions - BR - nominal	-	£m	0.89		0.89	100% SWW
PR19	Average of RCV - CPI(H) other adjustments balance - BR - nominal	-	£m	-		-	Non-depreciated adjustment to RCV
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - BR	-	%	2.30%		2.30%	
PR19	Return on RCV - CPI(H) other adjustments - BR - nominal	-	£m	-		-	
Other wholesale items							
PR14	Tax charge - real - water	-	£m	4.26		4.26	plus this
PR14	Pension deficit repair allowance - real - water	-	£m	3.96		3.96	plus this
PR14	Other income (incl 3rd party income) - real - water	-	£m	(5.51)		(5.51)	less this
PR14	Tax charge - real - wastewater	-	£m	6.66		6.66	plus this
PR14	Pension deficit repair allowance - real - wastewater	-	£m	3.53		3.53	plus this
PR14	Other income (incl 3rd party income) - real - wastewater	-	£m	(0.51)		(0.51)	less this
PR19	Wholesale Water resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this
PR19	Total direct procurement from customers - infrastructure cost - WR - real	-	£m	-		-	plus this
PR19	Tax WR - real	-	£m	0.10	0.10	0.11	plus this - 87.76% revenue to SWW
PR19	Third party & principle service revenues - WR - real	-	£m	-		-	less this
PR19	Wholesale Water network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this
PR19	Total direct procurement from customers - infrastructure cost - WN - real	-	£m	-		-	plus this
PR19	Tax WN - real	-	£m	6.38	6.38	7.27	plus this - 87.76% revenue to SWW
PR19	Third party & principle service revenues - WN - real	-	£m	(3.77)	(3.77)	(4.29)	less this - 87.76% revenue to SWW
PR19	Wholesale Wastewater network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this

PR19	Total direct procurement from customers - infrastructure cost - WWN - real	-	£m	-		-	plus this
PR19	Tax WWN - real	-	£m	9.30		9.30	plus this - 100% SWW
PR19	Third party & principle service revenues - WWN - real	-	£m	(0.06)		(0.06)	less this - 100% SWW
PR19	Wholesale Bio resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-		-	plus this
PR19	Total direct procurement from customers - infrastructure cost - BR - real	-	£m	-		-	plus this
PR19	Tax BR - real	-	£m	0.45		0.45	plus this - 100% SWW
PR19	Third party & principle service revenues - BR - real	-	£m	-		-	less this

RECONCILIATIONS

Water

PR14	SIM adjustment (+ or -) - real - Water		£m	(1.07)		(1.07)
PR14	Opex incentive allowance (+ only) - real - Water		£m	-		-
PR14	CIS adjustment (+ or -) - real - Water		£m	-		-
PR14	RCM adjustment (+ or -) - real - Water		£m	1.17		1.17
PR14	Equity injection clawback (- only) - real - Water		£m	-		-
PR14	Tax refinancing benefit clawback (- only) - real - Water		£m	-		-
PR14	Outcome delivery incentive (+ or -) - real - Water		£m	-		-
PR14	Totex menu additional income (+ or -) - real - Water		£m	1.42		1.42
PR14	Other tax adjustments (+ or -) Value Chosen - real - Water		£m	-		-
PR14	Other adjustments (+ or -) Value Chosen - real - Water		£m	-		-

Wastewater

PR14	SIM adjustment (+ or -) - real - Wastewater		£m	(1.30)		(1.30)
PR14	Opex incentive allowance (+ only) - real - Wastewater		£m	-		-
PR14	CIS adjustment (+ or -) - real - Wastewater		£m	-		-
PR14	RCM adjustment (+ or -) - real - Wastewater		£m	(2.34)		(2.34)
PR14	Equity injection clawback (- only) - real - Wastewater		£m	-		-
PR14	Tax refinancing benefit clawback (- only) - real - Wastewater		£m	-		-
PR14	Outcome delivery incentive (+ or -) - real - Wastewater		£m	-		-
PR14	Totex menu additional income (+ or -) - real - Wastewater		£m	(0.04)		(0.04)
PR14	Other tax adjustments (+ or -) Value Chosen - real - Wastewater		£m	-		-
PR14	Other adjustments (+ or -) Value Chosen - real - Wastewater		£m	-		-

Retail

PR19	Residential retail revenue adjustment per customer - real	-	£ / cust	-		-
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Water

PR19	Water resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Water resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Water resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Water network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Water network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water network - Blind year (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Water network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-		-

Wastewater

PR19	Wastewater network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Wastewater network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Wastewater network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Wastewater network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Wastewater network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Wastewater network - Blind year (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Wastewater network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Bio resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Bio resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Bio resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Bio resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-		-
PR19	Bio resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Bio resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-		-
PR19	Bio resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-		-

End of sheet

RCV

-	Error chks
91	Track checks

Constant Unit Value Note

WHOLESALE: Change in bill due to change in RCV DEPRECIATION

This section calculates the components causing the change in RCV depreciation

Water

PR14

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	RCV as at 2015 - real - water	-	£m	1,025.05
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - water	-	£m	1,132.70
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	Depreciation of 2015 RCV - real - water	-	£m	(38.13)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Water	-	£m	(42.14)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Water POS	-	£m	42.14

Calculate depreciation on RCV additions using the equation in the PR14 model

PR14	Proportion of capex that is subject to depreciation in year of acquisition	-	%	50.00%
PR14	Non-PAYG Totex in year additions - real	-	£m	48.53
PR14	Non-PAYG Totex depreciated in year of acquisition - Water	-	£m	24.27
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	Non-PAYG Totex depreciated in year of acquisition - Water	-	£m	24.27
PR14	Non-PAYG Totex balance BEG - real	-	£m	240.89
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	293.00
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	293.00
PR14	RCV Additions: Average Asset Life (to 1dp) - Water	-	years	25.9
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Water	-	£m	11.30
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - water	-	£m	1,132.70
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	293.00
PR14	RCV - 2017/18 year average CPIH deflated - Water	-	£m	1,425.70
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Water POS	-	£m	42.14
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Water	-	£m	11.30
PR14	RCV depreciation - 2017/18 year average CPIH deflated - Water	-	£m	53.43

PR19

PR19 Water resources

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) bf balance BEG - WR - nominal	-	£m	61.46
PR19	Indexation on RCV - CPI(H) bf balance - WR - nominal	-	£m	1.24
PR19	RCV CPIH BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	54.21
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) bf depreciation - WR - nominal	-	£m	1.58
PR19	RCV CPIH depreciation - WR - 2017/18 year average CPIH deflated	-	£m	1.37
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WR - nominal	-	£m	63.73
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WR - nominal	-	£m	1.91
PR19	RCV CPIH + RPI wedge BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	56.75
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WR - nominal	-	£m	1.65
PR19	RCV CPIH + RPI wedge depreciation - WR - 2017/18 year average CPIH deflated	-	£m	1.43
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	Water resources: Non-PAYG Totex - nominal	-	£m	3.26
PR19	Water resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	2.82
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV additions balance BEG - WR - nominal	-	£m	15.60
PR19	Indexation of RCV additions bf - WR - nominal	-	£m	0.31
PR19	RCV additions BEG plus Indexation - WR - 2017/18 year average CPIH deflated	-	£m	13.76

Calculate depreciation on RCV additions using the equations in the PR19 model

PR19	Method used to apply run off rate (straight line or reducing balance) - water resources - RCV additions depre	reducing balance	switch	for info
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WR	-	%	50.00%
PR19	Water resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	2.82
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WR	-	£m	1.41
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WR	-	£m	1.41
PR19	Run-off rate - RCV additions - active - WR	-	%	4.56%
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated -WR	-	£m	0.06
PR19	RCV additions BEG plus Indexation - WR - 2017/18 year average CPIH deflated	-	£m	13.76
PR19	Run-off rate - RCV additions - active - WR	-	%	4.56%
PR19	RCV additions plus Indexation depreciation - 2017/18 year average CPIH deflated - WR	-	£m	0.63
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WR	-	£m	1.41
PR19	RCV additions BEG plus Indexation - WR - 2017/18 year average CPIH deflated	-	£m	13.76
PR19	RCV post 2020 additions plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	15.17
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated -WR	-	£m	0.06
PR19	RCV additions plus Indexation depreciation - 2017/18 year average CPIH deflated - WR	-	£m	0.63
PR19	RCV post 2020 additions plus indexation depreciation - WR - 2017/18 year average CPIH deflated	-	£m	0.69

PR19 Water network

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) bf balance BEG - WN - nominal	-	£m	578.19
PR19	Indexation on RCV - CPI(H) bf balance - WN - nominal	-	£m	11.62
PR19	RCV CPIH BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	509.944
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) bf depreciation - WN - nominal	-	£m	27.43
PR19	PR19 RCV CPIH depreciation - WN - 2017/18 year average CPIH deflated	-	£m	23.71
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WN - nominal	-	£m	599.02
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WN - nominal	-	£m	17.97
PR19	RCV CPIH + RPI wedge BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	533.446
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WN - nominal	-	£m	29.00
PR19	PR19 RCV CPIH + RPI wedge depreciation - WN - 2017/18 year average CPIH deflated	-	£m	25.07
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	Water network: Non-PAYG Totex - nominal	-	£m	73.17
PR19	Water network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	63.26
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV additions balance BEG - WN - nominal	-	£m	253.00

PR19	Indexation of RCV additions b/f - WN - nominal	-	£m	5.09
PR19	RCV additions BEG plus Indexation - WN - 2017/18 year average CPIH deflated	-	£m	223.14
Calculate depreciation on RCV additions using the equations in the PR19 model				
PR19	Method used to apply run off rate (straight line or reducing balance) – water network plus CPI(H) linked - RCV	reducing balance	switch	for info
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WN	-	%	50.00%
PR19	Water network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	63.26
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WN	-	£m	31.63
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WN	-	£m	31.63
PR19	Run-off rate - RCV additions - active - WN	-	%	4.65%
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WN	-	£m	1.47
PR19	RCV additions BEG plus Indexation - WN - 2017/18 year average CPIH deflated	-	£m	223.14
PR19	Run-off rate - RCV additions - active - WN	-	%	4.65%
PR19	RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WN	-	£m	10.38
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WN	-	£m	31.63
PR19	RCV additions BEG plus Indexation - WN - 2017/18 year average CPIH deflated	-	£m	223.14
PR19	RCV post 2020 additions - WN - 2017/18 year average CPIH deflated	-	£m	254.77
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WN	-	£m	1.47
PR19	RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WN	-	£m	10.38
PR19	RCV post 2020 additions plus indexation depreciation - WN - 2017/18 year average CPIH deflated	-	£m	11.85

Sum the components for water resources and water network

PR19	RCV CPIH BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	54.21
PR19	RCV CPIH + RPI wedge BEG plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	56.75
PR19	RCV post 2020 additions plus indexation - WR - 2017/18 year average CPIH deflated	-	£m	15.17
PR19	RCV CPIH BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	509.94
PR19	RCV CPIH + RPI wedge BEG plus indexation - WN - 2017/18 year average CPIH deflated	-	£m	533.45
PR19	RCV post 2020 additions - WN - 2017/18 year average CPIH deflated	-	£m	254.77
PR19	RCV balance - Water	-	£m	1,424.29
PR19	RCV CPIH depreciation - WR - 2017/18 year average CPIH deflated	-	£m	1.37
PR19	RCV CPIH + RPI wedge depreciation - WR - 2017/18 year average CPIH deflated	-	£m	1.43
PR19	RCV post 2020 additions plus indexation depreciation - WR - 2017/18 year average CPIH deflated	-	£m	0.69
PR19	RCV CPIH depreciation - WN - 2017/18 year average CPIH deflated	-	£m	23.71
PR19	RCV CPIH + RPI wedge depreciation - WN - 2017/18 year average CPIH deflated	-	£m	25.07
PR19	RCV post 2020 additions plus indexation depreciation - WN - 2017/18 year average CPIH deflated	-	£m	11.85
PR19	RCV depreciation - Water	-	£m	64.12

Subtract the PR19 RCV depreciation from the PR14 RCV depreciation to give the actual change in RCV depreciation

PR14	RCV depreciation - 2017/18 year average CPIH deflated - Water	-	£m	53.43
PR19	RCV depreciation - Water	-	£m	64.12
	Change in RCV depreciation - Water	-	£m	10.69

Calculate the PR14 RCV depreciation with the PR19 run-off rate (weighted average run-off rate for WR and WN)

PR19	RCV balance - Water	-	£m	1,424.29
PR19	RCV depreciation - Water	-	£m	64.12
PR19	PR19 Weighted average run-off rate - water	-	%	4.50%
PR14	RCV - 2017/18 year average CPIH deflated - Water	-	£m	1,425.70
PR19	PR19 Weighted average run-off rate - water	-	%	4.50%
PR14	RCV depreciation with PR19 run-off rate - Water	-	£m	64.18

Subtract the 'PR14 RCV depreciation with PR19 run-off rate' from the PR14 RCV depreciation to find the change in the RCV depreciation due to the change in the run-off rate only

PR14	RCV depreciation - 2017/18 year average CPIH deflated - Water	-	£m	53.43
PR14	RCV depreciation with PR19 run-off rate - Water	-	£m	64.18
	Change in RCV depreciation due to change in run-off rate - Water	-	£m	10.75

Subtract the impact of the change in run-off rate from the actual change in RCV depreciation to find the change in RCV depreciation due to the change in RCV only

	Change in RCV depreciation - Water	-	£m	10.69
	Change in RCV depreciation due to change in run-off rate - Water	-	£m	10.75
	Change in RCV depreciation due to change in RCV - Water	-	£m	(0.06)

This section calculates the components that cause a change in the return on RCV

Wastewater

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	RCV as at 2015 - real - Wastewater	-	£m	1,309.31
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - Wastewater	-	£m	1,446.81
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	Depreciation of 2015 RCV - real - wastewater	-	£m	(61.67)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	(68.14)
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Wastewater POS	-	£m	68.14

Calculate depreciation on RCV additions using the equations in the PR14 model

PR14	Proportion of capex that is subject to depreciation in year of acquisition	-	%	50.00%
PR14	Non-PAYG Totex in year additions - real	-	£m	61.16
PR14	Non-PAYG Totex depreciated in year of acquisition - Wastewater	-	£m	30.58
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	Non-PAYG Totex depreciated in year of acquisition - Wastewater	-	£m	30.58
PR14	Non-PAYG Totex balance BEG - real	-	£m	342.47
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	412.23
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	412.23
PR14	RCV Additions: Average Asset Life (to 1dp) - Wastewater	-	years	20.0
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m	20.59
PR14	RCV as at 2015 - 2017/18 year average CPIH deflated - Wastewater	-	£m	1,446.81
PR14	Non-PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	412.23
PR14	RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	1,859.04
PR14	Depreciation of 2015 RCV - 2017/18 year average CPIH deflated - Wastewater POS	-	£m	68.14
PR14	Non-PAYG Totex depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m	20.59
PR14	RCV depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m	88.74

PR19

PR19	Wastewater network			
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) bf balance BEG - WVN - nominal	-	£m	760.79
PR19	Indexation on RCV - CPI(H) bf balance - WVN - nominal	-	£m	15.30
PR19	RCV CPIH BEG plus indexation - WVN - 2017/18 year average CPIH deflated	-	£m	670.99
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) bf depreciation - WVN - nominal	-	£m	38.57
PR19	RCV CPIH depreciation - WVN - 2017/18 year average CPIH deflated	-	£m	33.35
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) + RPI wedge bf balance BEG - WVN - nominal	-	£m	784.89
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - WVN - nominal	-	£m	23.55
PR19	RCV CPIH + RPI wedge BEG plus indexation - WVN - 2017/18 year average CPIH deflated	-	£m	698.96
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) + RPI wedge bf depreciation - WVN - nominal	-	£m	42.04
PR19	RCV CPIH + RPI wedge depreciation - WVN - 2017/18 year average CPIH deflated	-	£m	36.35

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	Wastewater network: Non-PAYG Totex - nominal	-	£m	71.08
PR19	Wastewater network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	61.45
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV additions balance BEG - WWN - nominal	-	£m	326.28
PR19	Indexation of RCV additions b/f - WWN - nominal	-	£m	6.56
PR19	RCV additions BEG plus Indexation - WWN - 2017/18 year average CPIH deflated	-	£m	287.77

Calculate depreciation on RCV additions using the equations in the PR19 model

PR19	Method used to apply run off rate (straight line or reducing balance) - wastewater network plus CPI(H) linked	reducing balance	switch	for info
PR19	Proportion of capex that is subject to depreciation in year of acquisition - WWN	-	%	50.00%
PR19	Wastewater network: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	61.45
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WWN	-	£m	30.73
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WWN	-	£m	30.73
PR19	Run-off rate - RCV additions - active - WWN	-	%	4.97%
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	1.53
PR19	RCV additions BEG plus Indexation - WWN - 2017/18 year average CPIH deflated	-	£m	287.77
PR19	Run-off rate - RCV additions - active - WWN	-	%	4.97%
PR19	RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	14.30
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - WWN	-	£m	30.73
PR19	RCV additions BEG plus Indexation - WWN - 2017/18 year average CPIH deflated	-	£m	287.77
PR19	RCV post 2020 additions plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	318.50
PR19	RCV post 2020 additions depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	1.53
PR19	RCV additions BEG plus Indexation depreciation - 2017/18 year average CPIH deflated - WWN	-	£m	14.30
PR19	RCV post 2020 additions plus indexation depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	15.83

PR19 Bio resources

PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) bf balance BEG - BR - nominal	-	£m	31.23
PR19	Indexation on RCV - CPI(H) bf balance - BR - nominal	-	£m	0.63
PR19	RCV CPIH BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	27.54
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) bf depreciation - BR - nominal	-	£m	2.92
PR19	RCV CPIH depreciation - BR - 2017/18 year average CPIH deflated	-	£m	2.53
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV CPI(H) + RPI wedge bf balance BEG - BR - nominal	-	£m	32.38
PR19	Indexation on RCV - CPI(H) + RPI wedge bf balance - BR - nominal	-	£m	0.97
PR19	RCV CPIH + RPI wedge BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	28.83
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV - CPI(H) + RPI wedge bf depreciation - BR - nominal	-	£m	3.06
PR19	RCV CPIH + RPI wedge depreciation - BR - 2017/18 year average CPIH deflated	-	£m	2.65
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	Bio resources: Non-PAYG Totex - nominal	-	£m	6.15
PR19	Bio resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	5.32
PR19	CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-
PR19	RCV additions balance BEG - BR - nominal	-	£m	23.89
PR19	Indexation of RCV additions b/f - BR - nominal	-	£m	0.48
PR19	Indexation of RCV additions b/f - BR - 2017/18 year average CPIH deflated	-	£m	21.07

Calculate depreciation on RCV additions using the equations in the PR19 model

PR19	Method used to apply run off rate (straight line or reducing balance) - biosources - RCV additions deprecia	reducing balance	switch	for info
PR19	Proportion of capex that is subject to depreciation in year of acquisition - BR	-	%	50.00%
PR19	Bio resources: Non-PAYG Totex - 2017/18 year average CPIH deflated	-	£m	5.32
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - BR	-	£m	2.66
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - BR	-	£m	2.66
PR19	Run-off rate - RCV additions - active - BR	-	%	4.56%
PR19	RCV post 2020 additions depreciation - BR	-	£m	0.12
PR19	Indexation of RCV additions b/f - BR - 2017/18 year average CPIH deflated	-	£m	21.07
PR19	Run-off rate - RCV additions - active - BR	-	%	4.56%
PR19	Indexation of RCV post 2020 additions depreciation - BR	-	£m	0.96
PR19	Non-PAYG Totex depreciated in year of acquisition - 2017/18 year average CPIH deflated - BR	-	£m	2.66
PR19	Indexation of RCV additions b/f - BR - 2017/18 year average CPIH deflated	-	£m	21.07
PR19	RCV post 2020 additions plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	23.73
PR19	RCV post 2020 additions depreciation - BR	-	£m	0.12
PR19	Indexation of RCV post 2020 additions depreciation - BR	-	£m	0.96
PR19	RCV post 2020 additions plus indexation depreciation - BR - 2017/18 year average CPIH deflated	-	£m	1.08

Sum the components for bio resources and wastewater network

PR19	RCV CPIH BEG plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	670.99
PR19	RCV CPIH + RPI wedge BEG plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	698.96
PR19	RCV post 2020 additions plus indexation - WWN - 2017/18 year average CPIH deflated	-	£m	318.50
PR19	RCV CPIH BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	27.54
PR19	RCV CPIH + RPI wedge BEG plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	28.83
PR19	RCV post 2020 additions plus indexation - BR - 2017/18 year average CPIH deflated	-	£m	23.73
PR19	RCV balance - Wastewater	-	£m	1,768.56
PR19	RCV CPIH depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	33.35
PR19	RCV CPIH + RPI wedge depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	36.35
PR19	RCV post 2020 additions plus indexation depreciation - WWN - 2017/18 year average CPIH deflated	-	£m	15.83
PR19	RCV CPIH depreciation - BR - 2017/18 year average CPIH deflated	-	£m	2.53
PR19	RCV CPIH + RPI wedge depreciation - BR - 2017/18 year average CPIH deflated	-	£m	2.65
PR19	RCV post 2020 additions plus indexation depreciation - BR - 2017/18 year average CPIH deflated	-	£m	1.08
PR19	RCV depreciation - Wastewater	-	£m	91.78

Subtract the PR19 RCV depreciation from the PR14 RCV depreciation to give the actual change in RCV depreciation

Company type switch	-	0 = WaSC, 1 = WoC	
PR14	RCV depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m 88.74
PR19	RCV depreciation - Wastewater	-	£m 91.78
	Change in RCV depreciation - Wastewater	-	£m 3.05

Calculate the PR14 RCV depreciation with the PR19 run-off rate (weighted average run-off rate for BR and WWN)

Company type switch	-	0 = WaSC, 1 = WoC	
PR19	RCV balance - Wastewater	-	£m 1,768.56
PR19	RCV depreciation - Wastewater	-	£m 91.78
PR19	Weighted average run-off rate - Wastewater	-	% 5.19%
Company type switch	-	0 = WaSC, 1 = WoC	
PR14	RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m 1,859.04
PR19	Weighted average run-off rate - Wastewater	-	% 5.19%
PR14	RCV depreciation with PR19 run-off rate - Wastewater	-	£m 96.48

Subtract the 'PR14 RCV depreciation with PR19 run-off rate' from the PR14 RCV depreciation to find the change in the RCV depreciation due to the change in the run-off rate only

Company type switch	-	0 = WaSC, 1 = WoC	
PR14	RCV depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m 88.74
PR14	RCV depreciation with PR19 run-off rate - Wastewater	-	£m 96.48
	Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m 7.74

Subtract the impact of the change in run-off rate from the actual change in RCV depreciation to find the change in RCV depreciation due to the change in RCV only

Company type switch	-	0 = WaSC, 1 = WoC	
Change in RCV depreciation - Wastewater	-	£m	3.05
Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m	7.74
Change in RCV depreciation due to change in RCV - Wastewater	-	£m	(4.70)

Summary

Gather together the components of the change in RCV depreciation for water and wastewater.

Change in RCV depreciation due to change in run-off rate - Water	-	£m	10.75	
Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m	7.74	
Change in RCV depreciation due to change in run-off rate		£m	18.49	2017/18 year average CPIH deflated
Change in RCV depreciation due to change in RCV - Water	-	£m	(0.06)	
Change in RCV depreciation due to change in RCV - Wastewater	-	£m	(4.70)	
Change in RCV depreciation due to change in RCV		£m	(4.76)	2017/18 year average CPIH deflated

Checks

PR19 RCV depreciation - Water	-	£m	64.12	
PR14 RCV depreciation - 2017/18 year average CPIH deflated - Water	-	£m	53.43	
Change in RCV depreciation due to change in run-off rate - Water	-	£m	10.75	
Change in RCV depreciation due to change in RCV - Water	-	£m	(0.06)	
Change in Water RCV depreciation check		check		
Company type switch	-	0 = WaSC, 1 = WoC		
PR19 RCV depreciation - Wastewater	-	£m	91.78	
PR14 RCV depreciation - 2017/18 year average CPIH deflated - Wastewater	-	£m	88.74	
Change in RCV depreciation due to change in run-off rate - Wastewater	-	£m	7.74	
Change in RCV depreciation due to change in RCV - Wastewater	-	£m	(4.70)	
Change in Wastewater RCV depreciation check		check		

Change in bill due to change in RETURN ON RCV

This section calculates the components that cause a change in the return on RCV

Water

This section calculates the components that cause a change in the return on RCV

Wastewater

Gather together the components of the change in return on RCV for water and wastewater.

Change in Return on RCV due to change in WACC - Water	-	£m	(11.23)	
Change in Return on RCV due to change in WACC - Wastewater	-	£m	(14.39)	
Change in return on RCV due to change in WACC		£m	(25.62)	2017/18 year average CPIH deflated
Change in Return on RCV due to change in RCV - Water	-	£m	0.34	
Change in Return on RCV due to change in RCV - Wastewater	-	£m	(1.48)	
Change in return on RCV due to change in RCV		£m	(1.14)	2017/18 year average CPIH deflated

Checks

PR19 Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	40.12	
PR14 Total Return on RCV - 2017/18 year average CPIH deflated - Water	-	£m	51.01	
Change in Return on RCV due to change in WACC - Water	-	£m	(11.23)	
Change in Return on RCV due to change in RCV - Water	-	£m	0.34	
Change in Water RCV depreciation check		check		
Company type switch	-	0 = WaSC, 1 = WoC		
PR19 Return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	49.76	
PR14 Total return on RCV - 2017/18 year average CPIH deflated - Wastewater	-	£m	65.63	
Change in Return on RCV due to change in WACC - Wastewater	-	£m	(14.39)	
Change in Return on RCV due to change in RCV - Wastewater	-	£m	(1.48)	
Change in Wastewater return on RCV check		check		

End of sheet

Totex

Error chks
91 Track checks

	Constant	Unit	Value	Note
WHOLESALE: Change in bill due to change in PAYG TOTEX				
This section calculates the components causing the change in PAYG Totex				
Water				
PR14				
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-	
PR14 Totex - real - Water	-	£m	128.53	
PR14 Totex - 2017/18 year average CPIH deflated - Water		£m	142.03	
PR14 PAYG Totex - real - Water				
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-	
PR14 PAYG Totex - real - Water	-	£m	80.00	
PR14 PAYG Totex - 2017/18 year average CPIH deflated - Water		£m	88.40	
PR19				
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-	
PR19 Totex - net of grants and contributions - WR (post sensi adj) - nominal	-	£m	14.33	
PR19 Totex - net of grants and contributions - WR (post sensi adj) - 2017/18 year average CPIH deflated		£m	12.39	
PR19 Water resources: PAYG Totex - 2017/18 year average CPIH deflated				
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-	
PR19 Water resources: PAYG Totex - nominal	-	£m	10.83	
PR19 Water Resources: PAYG Totex - 2017/18 year average CPIH deflated		£m	9.36	
PR19 Water Network: PAYG Totex - 2017/18 year average CPIH deflated				
PR19 CPI(H): Fin year average - inflate from base year 2017-18 average	1.1566	factor	-	
PR19 Totex - net of grants and contributions - WN (post sensi adj) - nominal	-	£m	156.09	
PR19 Totex - net of grants and contributions - WN (post sensi adj) - 2017/18 year average CPIH deflated		£m	134.96	
PR19 Water Network: PAYG Totex - 2017/18 year average CPIH deflated				
PR19 Water network: PAYG Totex - nominal	-	£m	83.98	
PR19 Water Network: PAYG Totex - 2017/18 year average CPIH deflated		£m	72.61	
PR19 Water Resources: PAYG Totex - 2017/18 year average CPIH deflated				
PR19 Totex - net of grants and contributions - WR (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	12.39	
PR19 Totex - net of grants and contributions - WN (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	134.96	
PR19 Totex - net of grants and contributions - Water (post sensi adj) - 2017/18 year average CPIH deflated		£m	147.34	
PR19 Water Network: PAYG Totex - 2017/18 year average CPIH deflated				
PR19 Water Resources: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	9.36	
PR19 Water Network: PAYG Totex - 2017/18 year average CPIH deflated	-	£m	72.61	
PR19 PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated		£m	81.97	
Subtract the PR19 PAYG Totex from the PR14 PAYG Totex to give the actual change in PAYG Totex				
PR14 PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	88.40	
PR19 PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	81.97	
Change in PAYG Totex - Water		£m	(6.43)	
Calculate the PR14 PAYG Totex with PR19 PAYG% (weighted average PAYG% for WR and WN)				
PR19 Totex - net of grants and contributions - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	147.34	
PR19 PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	81.97	
PR19 Weighted average PAYG% - active - Water		%	55.63%	
PR14 PAYG Totex with PR19 PAYG% - Water				
PR14 Totex - 2017/18 year average CPIH deflated - Water	-	£m	142.03	
PR19 Weighted average PAYG% - active - Water	-	%	55.63%	
PR14 PAYG Totex with PR19 PAYG% - Water		£m	79.02	
Subtract the 'PR14 PAYG Totex with PR19 PAYG%' from the PR14 PAYG Totex to find the change in the PAYG Totex due to the change in the PAYG% only				
PR14 PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	88.40	
PR14 PAYG Totex with PR19 PAYG% - Water	-	£m	79.02	
Change in PAYG Totex due to change in PAYG% - Water		£m	(9.38)	
Subtract the impact of the change in PAYG% from the actual change in PAYG Totex to find the change in PAYG totex due to the change in Totex only				
Change in PAYG Totex - Water	-	£m	(6.43)	
Change in PAYG Totex due to change in PAYG% - Water	-	£m	(9.38)	
Change in PAYG Totex due to change in Totex - Water		£m	2.96	
This section calculates the components causing the change in PAYG Totex				
Wastewater				
Summary				
Gather together the components of the change in PAYG Totex for water and wastewater.				
Change in PAYG Totex due to change in PAYG% - Water	-	£m	(9.38)	
Change in PAYG Totex due to change in PAYG% - Wastewater	-	£m	(0.73)	
Change in PAYG Totex due to change in PAYG%		£m	(10.11)	2017/18 year average CPIH deflated
Change in PAYG Totex due to change in Totex - Water	-	£m	2.96	
Change in PAYG Totex due to change in Totex - Wastewater	-	£m	(2.34)	
Change in PAYG Totex due to change in Totex		£m	0.61	2017/18 year average CPIH deflated
Checks				
PR14 PAYG Totex - 2017/18 year average CPIH deflated - Water	-	£m	88.40	
PR19 PAYG Totex - Water (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	81.97	
Change in PAYG Totex due to change in PAYG% - Water	-	£m	(9.38)	
Change in PAYG Totex due to change in Totex - Water	-	£m	2.96	
Change in Water PAYG Totex check		check	-	
Company type switch				
PR14 PAYG Totex - 2017/18 year average CPIH deflated - Wastewater	-	£m	104.83	
PR19 PAYG Totex - wastewater (post sensi adj) - 2017/18 year average CPIH deflated	-	£m	101.76	
Change in PAYG Totex due to change in PAYG% - Wastewater	-	£m	(0.73)	
Change in PAYG Totex due to change in Totex - Wastewater	-	£m	(2.34)	
Change in Wastewater PAYG Totex check		check	-	

End of sheet

Wholesale

-	Error chks
91	Track checks

	Constant	Unit	Value	Note
WHOLESALE: Change in bill due to change in OTHER ITEMS				
Change in revenue re-profiling				
PR14 Revenue requirement including tax charge - real - water	-	£m	178.73	
PR14 Phase 9: Re-profited allowed revenue - real - water	-	£m	178.73	
PR14 Impact of re-profiling of revenue requirement - real - water	-	£m	-	
PR14 Revenue requirement including tax charge - real - wastewater	-	£m	240.58	
PR14 Phase 9: Re-profited allowed revenue - real - wastewater	-	£m	240.58	
PR14 Impact of re-profiling of revenue requirement - real - wastewater	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - WR - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - WN - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - WWN - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - BR - real	-	£m	-	
PR19 Impact of re-profiling of allowed revenue - real	-	£m	-	
Change in bill due to change in other wholesale items				
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1,1050	factor	-	
PR14 Tax charge - real - water	-	£m	4.26	
PR14 Pension deficit repair allowance - real - water	-	£m	3.96	
less PR14 Other income (incl 3rd party income) - real - water	-	£m	(5.51)	
PR14 Tax charge - real - wastewater	-	£m	6.66	
PR14 Pension deficit repair allowance - real - wastewater	-	£m	3.53	
less PR14 Other income (incl 3rd party income) - real - wastewater	-	£m	(0.51)	
PR14 Impact of re-profiling of revenue requirement - real - water	-	£m	-	
PR14 Impact of re-profiling of revenue requirement - real - wastewater	-	£m	-	
PR14 Total of Other Wholesale Items - 2017/18 year average CPIH deflated	-	£m	13.69	
PR19 Tax WR - real	-	£m	0.10	
PR19 Wholesale Water resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - WR - real	-	£m	-	
less PR19 Third party & principle service revenues - WR - real	-	£m	-	
PR19 Tax WN - real	-	£m	6.38	
PR19 Wholesale Water network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - WN - real	-	£m	-	
less PR19 Third party & principle service revenues - WN - real	-	£m	(3.77)	
PR19 Other Wholesale Items - Water - real	-	£m	2.71	
Company type switch	-	0 = WaSC, 1 = WoC		
PR19 Tax WWN - real	-	£m	9.30	
PR19 Wholesale Wastewater network service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - WWN - real	-	£m	-	
less PR19 Third party & principle service revenues - WWN - real	-	£m	(0.06)	
PR19 Tax BR - real	-	£m	0.45	
PR19 Wholesale Bio resources service defined benefit pension deficit recovery per IN13/17 - real	-	£m	-	
PR19 Total direct procurement from customers - infrastructure cost - BR - real	-	£m	-	
less PR19 Third party & principle service revenues - BR - real	-	£m	-	
PR19 Other Wholesale Items - Wastewater - real	-	£m	9.69	
PR19 Other Wholesale Items - Water - real	-	£m	2.71	
PR19 Other Wholesale Items - Wastewater - real	-	£m	9.69	
PR19 Impact of re-profiling of allowed revenue - real	-	£m	-	
PR19 Total of Other Wholesale Items - real	-	£m	12.40	
PR14 Total of Other Wholesale Items - 2017/18 year average CPIH deflated	-	£m	13.69	
PR19 Total of Other Wholesale Items - real	-	£m	12.40	
Change in other wholesale items	-	£m	(1.29)	2017/18 year average CPIH deflated

End of sheet

Reconciliation

-	Error chks
91	Track checks

	Constant	Unit	Value	Note
WHOLESALE: Change in bill due to change in RECONCILIATION ITEMS				
Sum the PR14 wholesale reconciliation items (there are no retail reconciliation items for PR14)				
PR14 Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-	
PR14 SIM adjustment (+ or -) - real - Water	-	£m	(1.07)	
PR14 Opex incentive allowance (+ only) - real - Water	-	£m	-	
PR14 CIS adjustment (+ or -) - real - Water	-	£m	-	
PR14 RCM adjustment (+ or -) - real - Water	-	£m	1.17	
PR14 Equity injection clawback (- only) - real - Water	-	£m	-	
PR14 Tax refinancing benefit clawback (- only) - real - Water	-	£m	-	
PR14 Outcome delivery incentive (+ or -) - real - Water	-	£m	-	
PR14 Totex menu additional income (+ or -) - real - Water	-	£m	1.42	
PR14 Other tax adjustments (+ or -) Value Chosen - real - Water	-	£m	-	
PR14 Other adjustments (+ or -) Value Chosen - real - Water	-	£m	-	
PR14 SIM adjustment (+ or -) - real - Wastewater	-	£m	(1.30)	
PR14 Opex incentive allowance (+ only) - real - Wastewater	-	£m	-	
PR14 CIS adjustment (+ or -) - real - Wastewater	-	£m	-	
PR14 RCM adjustment (+ or -) - real - Wastewater	-	£m	(2.34)	
PR14 Equity injection clawback (- only) - real - Wastewater	-	£m	-	
PR14 Tax refinancing benefit clawback (- only) - real - Wastewater	-	£m	-	
PR14 Outcome delivery incentive (+ or -) - real - Wastewater	-	£m	-	
PR14 Totex menu additional income (+ or -) - real - Wastewater	-	£m	(0.04)	
PR14 Other tax adjustments (+ or -) Value Chosen - real - Wastewater	-	£m	-	
PR14 Other adjustments (+ or -) Value Chosen - real - Wastewater	-	£m	-	
PR14 PR14 reconciliation items - 2017/18 year average CPIH deflated		£m	(2.39)	
Sum the PR19 wholesale reconciliation items (the retail SIM adjustment is dealt with on sheet 'Summary_Calc')				
PR19 Water resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Water resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Water resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Water network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Water network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water network - Blind year (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Water network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Wastewater network - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Wastewater network - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - Blind year (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Wastewater network - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - End of Period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - In period ODIs (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - Totex (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Bio resources - WRFIM (+ or -) Value Chosen - active - adjusted - real	-	£m	-	
PR19 Bio resources - Residential retail mechanism (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - Blind year (+ or -) Value Chosen - active - real	-	£m	-	
PR19 Bio resources - Water trading incentive (+ or -) Value Chosen - active - real	-	£m	-	
PR19 PR19 wholesale reconciliation items - real		£m	-	
PR14 PR14 reconciliation items - 2017/18 year average CPIH deflated	-	£m	(2.39)	
PR19 PR19 wholesale reconciliation items - real	-	£m	-	
Change in wholesale reconciliation items		£m	2.39	2017/18 year average CPIH deflated

End of sheet

Retail

-	Error chks
91	Track checks

	Constant	Unit	Value	Note
RETAIL: Change in bill due to change in COST TO SERVE				
Change in bill due to change in retail CTS				
Note: In the PR14 model wholesale prices are indexed but retail prices are not indexed.				
Company type switch				
	-	0 = WaSC, 1 = WoC		
PR14 Retail allowed revenue per customer: single service	-	£	34.92	
PR14 Retail allowed revenue per customer: joint services	-	£	45.39	
PR14 Retail allowed revenue per customer		£	45.39	
Company type switch				
	-	0 = WaSC, 1 = WoC		
PR19 Retail allowed revenue per customer: single service - real	-	£	27.64	
PR19 Retail allowed revenue per customer: joint service - real	-	£	33.20	
PR19 Retail allowed revenue per customer		£	33.20	
PR14 Retail allowed revenue per customer	-	£	45.39	
PR19 Retail allowed revenue per customer	-	£	33.20	
Change in retail CTS		£	(12.19)	2017/18 year average CPIH deflated
End of sheet				

Customers

Error chks
91 Track checks

	Constant	Unit	Value	Note
WHOLESALE: Change in bill due to change in CUSTOMER NUMBERS and APPORTIONMENT				
Change in bill due to change in customer numbers				
This section calculates the PR14 customer numbers and indexes the allowed revenue				
PR14				
This section calculates the PR19 customer numbers and indexes the nominal revenue requirement				
PR19				
This section calculates the change in the bill due to the change in customer numbers and apportionment				
Water				
Calculate the weighted average apportionment for water (water resources and water network)				
PR19 Total revenue requirement - water - 2017/18 year average CPIH deflated	-	Em	161.38	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WR - 2017/18 year average CPIH deflated	-	Em	16.50	
PR19 Water resources- residential apportionment CALC	-	%	72.45%	
PR19 Revenue requirement with impact of reprofiling excl. tax charge - WN - 2017/18 year average CPIH deflated	-	Em	164.88	
PR19 Water network - residential apportionment CALC	-	%	72.45%	
PR19 Weighted average residential apportionment - Water	-	%	72.45%	
Calculate the % change in customer numbers and apportionment combined				
PR14 Total households - Water	-	000s	747.98	
PR19 Total households - Water	-	000s	803.28	
PR19 households as a % of PR14 households - Water	-	000s	107.39%	
PR14 Wholesale Water - household apportionment calculated	-	%	72.66%	
PR19 Weighted average residential apportionment - Water	-	%	72.45%	
PR19 apportionment as a % of PR14 apportionment - Water	-	000s	99.72%	
PR19 households as a % of PR14 households - Water	-	000s	1.07	
PR19 apportionment as a % of PR14 apportionment - Water	-	000s	1.00	
PR19 customer numbers and apportionment as a % of PR14 customer numbers and apportionment	-	%	92.86%	
PR14 Wholesale water allowed revenue per customer - 2017/18 year average CPIH deflated - water	-	Em	191.84	
PR19 customer numbers and apportionment as a % of PR14 customer numbers and apportionment	-	%	92.86%	
Change in wholesale water allowed revenue per customer due to change in customer numbers and apportionment	-	Em	(13.70)	
This section calculates the change in the bill due to the change in customer numbers and apportionment				
Wastewater				
Sum the change due to customer numbers for water and wastewater.				
Change in wholesale water allowed revenue per customer due to change in customer numbers and apportionment	-	Em	(13.70)	
Change in wholesale wastewater allowed revenue per customer due to change in customer numbers and apportionment	-	Em	(11.36)	
Change in customer numbers and residential apportionment	-	£	(25.06)	2017/18 year average CPIH deflated
End of sheet				

Summary_Calc

Error chks
91 Track checks

Constant	Unit	Value	Note
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SUMMARY OF COMPONENTS CAUSING CHANGE IN BILL

Note: In the PR14 model wholesale prices are indexed but retail prices are not indexed.

Deflate the wholesale allowed revenue, then add to the real retail allowed revenue to calculate the combined bill

PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	Wholesale water allowed revenue per customer excluding capital connection charges, other income and operating income	-	£	173.61
PR14	Wholesale water allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	191.84
PR14	Adjustment from 2012/13 year average RPI to 2017/18 year average CPIH deflated	1.1050	factor	-
PR14	Wholesale Wastewater allowed revenue per customer excluding capital connection charges, other income and operating income	-	£	262.00
PR14	Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	289.52
	Company type switch	-	0 = WaSC, 1 = WoC	-
PR14	Retail allowed revenue per customer: single service	-	£	34.92
PR14	Wholesale water allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	191.84
PR14	Retail allowed revenue per customer: joint services	-	£	45.39
PR14	Wholesale Wastewater allowed revenue per customer - 2017/18 year average CPIH deflated	-	£	289.52
PR14	Average combined bill - 2017/18 year average CPIH deflated	-	£	526.75
	Company type switch	-	0 = WaSC, 1 = WoC	-
PR19	WoC average bill - real	-	£	-
PR19	WaSC average bill - real	-	£	467.75
PR19	Average bill - real	-	£	467.75
PR14	Average combined bill - 2017/18 year average CPIH deflated	-	£	526.75
PR19	Average bill - real	-	£	467.75
	Change in average combined bill	-	£	(59.00)
PR14	Wholesale dummy control allowed revenue - real	-	£/cust	-
PR19	Wholesale dummy control allowed revenue (excluding capital connection charges, other income and operating income) per residential customer - real	-	£	-
	Change in wholesale dummy control allowed revenue	-	£	-
***** Calculate the change in the bill due to all other wholesale components, £ per customer *****				
	Change in average combined bill	-	£	(59.00)
	Change in customer numbers and residential apportionment	-	£	(25.06)
	Change in retail CTS	-	£	(12.19)
PR19	Residential retail revenue adjustment per customer - real	-	£ / cust	-
	Change in wholesale dummy control allowed revenue	-	£	-
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)

Wholesale components have been calculated as £m, apportion them to get £ per customer

	Change in PAYG Totex due to change in PAYG%	-	£m	(10.11)
	Change in PAYG Totex due to change in Totex	-	£m	0.61
	Change in RCV depreciation due to change in run-off rate	-	£m	18.49
	Change in RCV depreciation due to change in RCV	-	£m	(4.76)
	Change in return on RCV due to change in WACC	-	£m	(25.62)
	Change in return on RCV due to change in RCV	-	£m	(1.14)
	Change in other wholesale items	-	£m	(1.29)
	Change in wholesale reconciliation items	-	£m	2.39
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in PAYG Totex due to change in PAYG%	-	£m	(10.11)
	Change in PAYG% (per customer)	-	£	(10.26)
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in PAYG Totex due to change in Totex	-	£m	0.61
	Change in Totex (per customer)	-	£	0.62
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in RCV depreciation due to change in run-off rate	-	£m	18.49
	Change in Run-off rate (per customer)	-	£	18.77
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in RCV depreciation due to change in RCV	-	£m	(4.76)
	Change in RCV depreciation due to change in RCV (per customer)	-	£	(4.83)
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in return on RCV due to change in WACC	-	£m	(25.62)
	Change in WACC (per customer)	-	£	(26.01)
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in return on RCV due to change in RCV	-	£m	(1.14)
	Change in Return on RCV due to change in RCV (per customer)	-	£	(1.16)
	Change in RCV depreciation due to change in RCV (per customer)	-	£	(4.83)
	Change in Return on RCV due to change in RCV (per customer)	-	£	(1.16)
	Change in RCV (per customer)	-	£	(5.99)
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in other wholesale items	-	£m	(1.29)
	Change in Other wholesale items (per customer)	-	£	(1.31)
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers	-	£m	(21.43)
	Change in wholesale reconciliation items	-	£m	2.39
	Change in Wholesale reconciliations items (per customer)	-	£	2.42
	Change in Wholesale reconciliations items (per customer)	-	£	2.42
PR19	Residential retail revenue adjustment per customer - real	-	£ / cust	-
	Change in Reconciliations items (per customer)	-	£	2.42
	Change in wholesale dummy control allowed revenue	-	£	-
	Change in 5th control	-	£	-
	Change in RCV	-	£	(5.99)
	Change in Totex	-	£	0.62
	Change in PAYG%	-	£	(10.26)
	Change in Run-off rate	-	£	18.77
	Change in WACC	-	£	(26.01)
	Change in Other wholesale items	-	£	(1.31)
	Change in Reconciliations items	-	£	2.42
	Change due to all wholesale changes except customer numbers (per customer)	-	£	(21.75)
	Change due to all wholesale changes except customer numbers (per customer)	-	£	(21.75)
	Change due to changes in the components of wholesale allowed revenue (per customer)	-	£	(21.75)
	Sum of wholesale items after apportionment equals change in customer bill less retail items	-	check	(21.75)

End of sheet

GraphData

[Do not insert rows or columns anywhere on this sheet]

DATA FOR BRIDGE CHART

Price base is 2017/18 year average CPIH deflated

Change in average residential bill (combined for WaSCs), £

	Values	Ends	Blank	Up > 0	Up < 0	Down > 0	Down < 0
2019/20 average residential bill	526.7	527					
Change in RCV	(6.0)		521	-	-	6	-
Change in Totex	0.6		521	1	-	-	-
Change in PAYG%	(10.3)		511	-	-	10	-
Change in Run-off rate	18.8		511	19	-	-	-
Change in WACC	(26.0)		504	-	-	26	-
Change in Other wholesale items	(1.3)		503	-	-	1	-
Change in Reconciliations items	2.4		503	2	-	-	-
Change in 5th control	-		505	-	-	-	-
Change in retail CTS	(12.2)		493	-	-	12	-
Change in customer numbers and residential apportionment	(25.1)		468	-	-	25	-
2024/25 average residential bill		468					

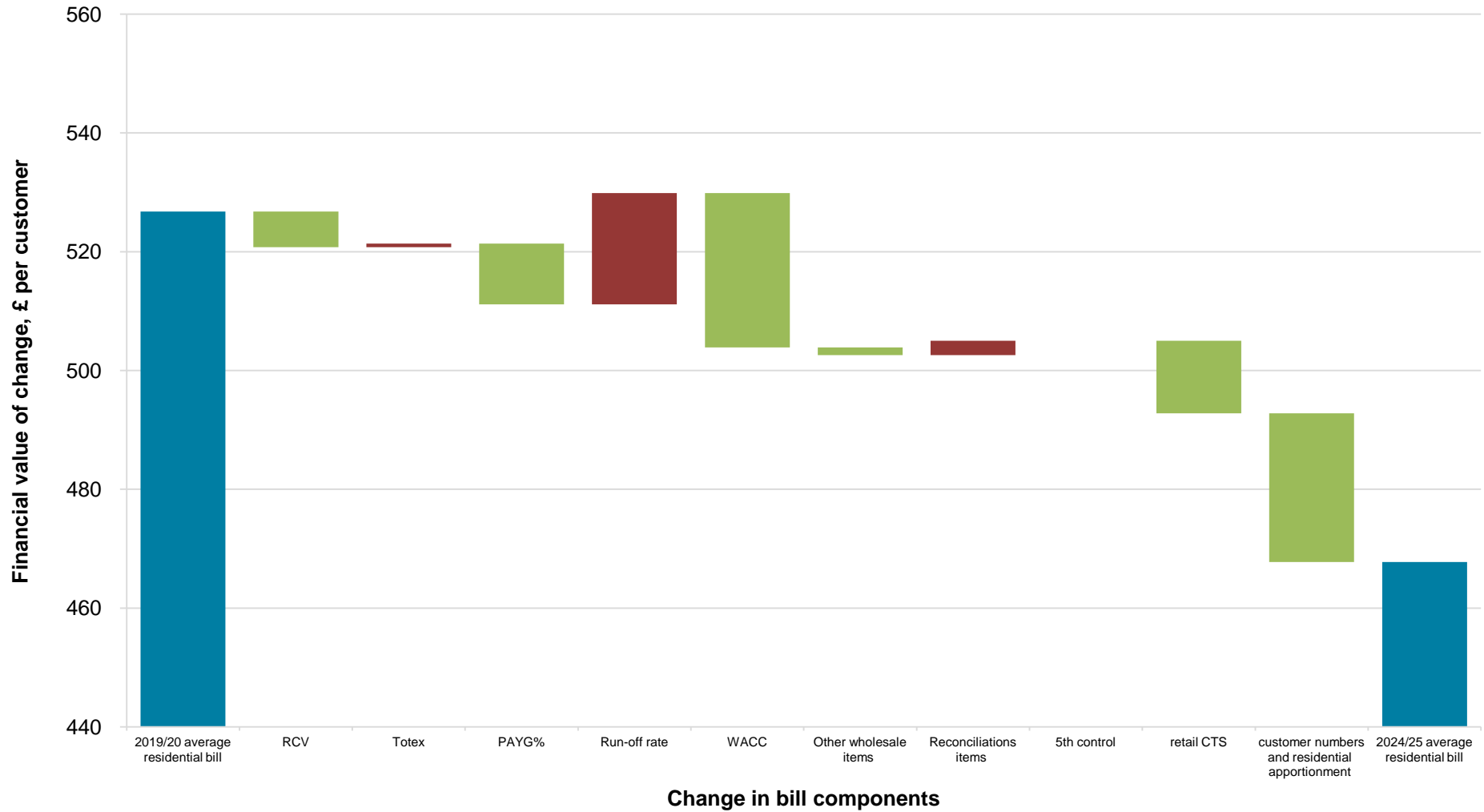
* Ofwat calculates the return on RCV using a real WACC. Ofwat used a WACC expressed in real RPI terms for PR14 returns, while it is using a WACC expressed in real CPIH terms for PR19 calculations. The use of the real CPIH terms WACC reduces the fall in bills at PR19 from lowering the nominal WACC. This is because the real CPIH terms WACC is around one percent higher than the WACC expressed in real RPI terms.

The waterfall chart reads the axes extents from this block

Axis	X	Y	Rounding
Maximum bill, rounded up to nearest 40		560.00	40
Minimum bill, rounded down to nearest 40		440.00	40
Tick	1	1	

End of sheet

Bill movement between PR14 and PR19



* Ofwat calculates the return on RCV using a real WACC. Ofwat used a WACC expressed in real RPI terms for PR14 returns, while it is using a WACC expressed in real CPIH terms for PR19 calculations. The use of the real CPIH terms WACC reduces the fall in bills at PR19 from lowering the nominal WACC. This is because the real CPIH terms WACC is around one percent higher than the WACC expressed in real RPI terms.

Track



-	Checks	91
91	Track chgs	

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Comparison column label [do not delete row]		Unit	Nil inputs	2	Difference	Diff %	Nil inputs
INPUTS							
Retail							
PR19	Retail allowed revenue per customer: single service - real	- £	27.64	1	27.64	-	-
Customer Numbers and apportionment							
PR19	Households connected for water only - unmetered	- 000s	29.50	1	29.50	-	-
PR19	Households connected for water only - metered	- 000s	41.96	1	41.96	-	-
PR19	Households connected for sewerage only - unmetered	- 000s	1.95	1	1.95	-	-
PR19	Households connected for sewerage only - metered	- 000s	3.09	1	3.09	-	-
PR19	Households connected for water and sewerage - unmetered	- 000s	80.86	1	80.86	-	-
PR19	Households connected for water and sewerage - metered	- 000s	650.95	1	650.95	-	-
PR19	Water resources- residential apportionment CALC	- %	72.45%	1	72.45%	-	-
PR19	Water network - residential apportionment CALC	- %	72.45%	1	72.45%	-	-
PR19	Wastewater network - residential apportionment CALC	- %	77.10%	1	77.10%	-	-
PR19	Bio resources - residential apportionment CALC	- %	77.10%	1	77.10%	-	-
Totex							
PR19	Totex - net of grants and contributions - WR (post sensi adj) - nominal	- £m	14.33	1	14.33	-	-
PR19	Totex - net of grants and contributions - WN (post sensi adj) - nominal	- £m	156.09	1	156.09	-	-
PR19	Totex - net of grants and contributions - WWN (post sensi adj) - nominal	- £m	171.94	1	171.94	-	-
PR19	Totex - net of grants and contributions - BR (post sensi adj) - nominal	- £m	22.99	1	22.99	-	-
PR19	PAYG% - water resources - active - WR	- %	78.64%	1	78.64%	-	-
PR19	PAYG% - water network - active - WN	- %	56.00%	1	56.00%	-	-
PR19	PAYG% - wastewater network - active - WWN	- %	58.66%	1	58.66%	-	-
PR19	PAYG% - bio resources - active - BR	- %	73.24%	1	73.24%	-	-
RCV depreciation							
PR19	RCV CPI(H) bf balance BEG - WR - nominal	- £m	61.46	1	61.46	-	-
PR19	Water resources: Non-PAYG Totex - nominal	- £m	3.26	1	3.26	-	-
PR19	RCV CPI(H) bf balance BEG - WN - nominal	- £m	578.19	1	578.19	-	-
PR19	Water network: Non-PAYG Totex - nominal	- £m	73.17	1	73.17	-	-
PR19	RCV CPI(H) bf balance BEG - WWN - nominal	- £m	760.79	1	760.79	-	-
PR19	Wastewater network: Non-PAYG Totex - nominal	- £m	71.08	1	71.08	-	-
PR19	RCV CPI(H) bf balance BEG - BR - nominal	- £m	31.23	1	31.23	-	-
PR19	Bio resources: Non-PAYG Totex - nominal	- £m	6.15	1	6.15	-	-
PR19	Run-off rate - CPI(H) - active - WR	- %	2.52%	1	2.52%	-	-
PR19	Run-off rate - CPI(H) + RPI wedge - active - WR	- %	2.52%	1	2.52%	-	-
PR19	Run-off rate - RCV additions - active - WR	- %	4.56%	1	4.56%	-	-
PR19	Run-off rate - CPI(H) - active - WN	- %	4.65%	1	4.65%	-	-
PR19	Run-off rate - CPI(H) + RPI wedge - active - WN	- %	4.70%	1	4.70%	-	-
PR19	Run-off rate - RCV additions - active - WN	- %	4.65%	1	4.65%	-	-
PR19	Run-off rate - CPI(H) - active - WWN	- %	4.97%	1	4.97%	-	-
PR19	Run-off rate - CPI(H) + RPI wedge - active - WWN	- %	5.20%	1	5.20%	-	-
PR19	Run-off rate - RCV additions - active - WWN	- %	4.97%	1	4.97%	-	-
PR19	Run-off rate - CPI(H) - active - BR	- %	-	1	-	-	-
PR19	Run-off rate - CPI(H) + RPI wedge - active - BR	- %	9.18%	1	9.18%	-	-
PR19	Run-off rate - RCV additions - active - BR	- %	4.56%	1	4.56%	-	-
Retrun on RCV							
PR19	Average of RCV - CPI(H) bf - WR - nominal	- £m	61.82	1	61.82	-	-
PR19	Average of RCV post 2020 additions - WR - nominal	- £m	17.12	1	17.12	-	-
PR19	Average of RCV - CPI(H) bf - WN - nominal	- £m	575.33	1	575.33	-	-
PR19	Average of RCV post 2020 additions - WN - nominal	- £m	287.44	1	287.44	-	-
PR19	Average of RCV - CPI(H) bf - WWN - nominal	- £m	756.80	1	756.80	-	-
PR19	Average of RCV post 2020 additions - WWN - nominal	- £m	359.22	1	359.22	-	-
PR19	Average of RCV - CPI(H) bf - BR - nominal	- £m	30.39	1	30.39	-	-
PR19	Average of RCV post 2020 additions - BR - nominal	- £m	26.82	1	26.82	-	-
PR19	Return on RCV - CPI(H) bf - WR - nominal	- £m	2.04	1	2.04	-	-
PR19	Return on RCV - CPI(H) + RPI wedge bf - WR - nominal	- £m	1.49	1	1.49	-	-
PR19	Return on RCV additions - WR - nominal	- £m	0.57	1	0.57	-	-
PR19	Return on RCV - CPI(H) bf - WN - nominal	- £m	18.99	1	18.99	-	-
PR19	Return on RCV - CPI(H) + RPI wedge bf - WN - nominal	- £m	13.83	1	13.83	-	-
PR19	Return on RCV additions - WN - nominal	- £m	9.49	1	9.49	-	-
PR19	Return on RCV - CPI(H) bf - WWN - nominal	- £m	24.98	1	24.98	-	-
PR19	Return on RCV - CPI(H) + RPI wedge bf - WWN - nominal	- £m	18.10	1	18.10	-	-
PR19	Return on RCV additions - WWN - nominal	- £m	11.86	1	11.86	-	-
PR19	Return on RCV - CPI(H) bf - BR - nominal	- £m	1.00	1	1.00	-	-
PR19	Return on RCV - CPI(H) + RPI wedge bf - BR - nominal	- £m	0.73	1	0.73	-	-
PR19	Return on RCV additions - BR - nominal	- £m	0.89	1	0.89	-	-
PR19	WACC real on RCV - CPI(H) bf and additions - WR	- %	3.30%	1	3.30%	-	-
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WR	- %	2.30%	1	2.30%	-	-
PR19	WACC real on RCV - CPI(H) bf and additions - WN	- %	3.30%	1	3.30%	-	-
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WN	- %	2.30%	1	2.30%	-	-
PR19	WACC real on RCV - CPI(H) bf and additions - WWN	- %	3.30%	1	3.30%	-	-
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - WWN	- %	2.30%	1	2.30%	-	-
PR19	WACC real on RCV - CPI(H) bf and additions - BR	- %	3.30%	1	3.30%	-	-
PR19	WACC on RCV - CPI(H) + RPI wedge bf and additions - BR	- %	2.30%	1	2.30%	-	-
Component Movement Summary							
	Change in customer numbers and residential apportionment	- £	(25.06)	1	(25.06)	-	-
	Change in retail CTS	- £	(12.19)	1	(12.19)	-	-
	Change in PAYG Totex due to change in PAYG%	- £m	(10.11)	1	(10.11)	-	-
	Change in PAYG Totex due to change in Totex	- £m	0.61	1	0.61	-	-
	Change in RCV depreciation due to change in run-off rate	- £m	18.49	1	18.49	-	-
	Change in RCV depreciation due to change in RCV	- £m	(4.76)	1	(4.76)	-	-
	Change in return on RCV due to change in WACC	- £m	(25.62)	1	(25.62)	-	-
	Change in return on RCV due to change in RCV	- £m	(1.14)	1	(1.14)	-	-
	Change in other wholesale items	- £m	(1.29)	1	(1.29)	-	-
	Change in wholesale reconciliation items	- £m	2.39	1	2.39	-	-
	Change in 5th control	- £	-	1	-	-	-
	Residential retail revenue adjustment per customer - real	- £ / cust	-	1	-	-	-
	Change due to all wholesale changes except customer numbers	- £m	(21.43)	1	(21.43)	-	-
Bill Summary							
PR14	Average combined bill - 2017/18 year average CPIH deflated	- £	526.75	1	526.75	-	-
PR19	Average bill - real	- £	467.75	1	467.75	-	-
Bill Movement Summary							
	Change in average combined bill	- £	(59.00)	1	(59.00)	-	-
	Change in customer numbers and residential apportionment	- £	(25.06)	1	(25.06)	-	-
	Change in retail CTS	- £	(12.19)	1	(12.19)	-	-
	Change in RCV depreciation due to change in RCV (per customer)	- £	(4.83)	1	(4.83)	-	-
	Change in Return on RCV due to change in RCV (per customer)	- £	(1.16)	1	(1.16)	-	-
	Change in PAYG%	- £	(10.26)	1	(10.26)	-	-
	Change in Totex	- £	0.62	1	0.62	-	-
	Change in Run-off rate	- £	18.77	1	18.77	-	-

Change in RCV	- £	(5.99)	1	(5.99)	-	-
Change in WACC	- £	(26.01)	1	(26.01)	-	-
Change in Other wholesale items	- £	(1.31)	1	(1.31)	-	-
Change in Reconciliations items	- £	2.42	1	2.42	-	-

INFO ONLY

Date	06 Sep 2018				04 Apr 2018	
Time	15:18:32				14:18:10	
File	20180715 Bill-Waterfall-Model_SWW.xism				BillModel_v0.0.xism	

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Comment: Key input and logic changes	Nil inputs
Comment: Key result changes	

End of sheet

Check

-	Checks
91	Track chgs
Constant	Unit

CHECK SUMMARY

MODEL INTEGRITY CHECKS

	Total model integrity checks	-
[do not delete row]		
General	Company Type switch check	-
RCV	Change in Water RCV depreciation check	-
	Change in Wastewater RCV depreciation check	-
	Change in Water RCV depreciation check	-
	Change in Wastewater return on RCV check	-
Totex	Change in Water PAYG Totex check	-
	Change in Wastewater PAYG Totex check	-
Summary	Sum of wholesale items after apportionment equals change in customer bill less retail items	-
[do not delete row]		
	Total track changes	91
End of sheet		