

OFFICIAL

# **Tideway updated Revised Revenue Statement 2020**

**Allowed Revenue for Charging Year 2021/22**

2340-TDWAY-TTTUN-990-ZZ-ED-700071

## Updated Revised Revenue Statement - 2021/22 Allowed Revenue

Submitted to Ofwat on 18 December 2020

<i>£, nominal</i>	Year preceding Prior Charging Year 2018/19	Prior Charging Year 2019/20	Current Charging Year 2020/21	Forthcoming Charging Year 2021/22
Allowed Revenue	49,235,940	63,431,062	76,465,429	87,029,095
Amounts received from TWUL	38,387,688	57,610,001		

## RPI Updated IP Charge Notification - 2021/22

Submitted to Thames Water on 18 December 2020

IP Charge for 2021/22 (£)

87,029,095

### November 2020 RPI

293.5

Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 16 December 2020, Office for National Statistics

## Statement of calculation

## Introduction

The following section sets out how Tideway's Allowed Revenue calculation has been made for the charging year 2021/22 (Seventh Charging Year). The Licence has been written to provide the basis of a revenue submission in a typical year. A number of detailed modelling assumptions have been made in interpreting Appendix 1 of the Project Licence to ensure the mechanics of the calculation are in line with the spirit of the licence. These modelling assumptions are set out in the table below. This model, including these assumptions, as set out in the table below, has been sent to Ofwat. In an email dated 22/10/2020, Ofwat noted it is content with the resolutions described.

Sheet	Issue	Resolution
BBRA Inputs 2017, BBRA Inputs 2018, BBRA Inputs 2019, Inputs 2020	The 2014/15 RPI Adjustment Factor refers to "the percentage movement in the RPI (All Items) index as published by ONS for the period April to September in the calendar year..." However, if the index values for April and September are taken, this only picks up 5 months of inflation. Together with the other elements of the formula, this results in an underestimate of inflation for the Charging Year.	Interpret the movement for the period April to September as the movement between the March and September index values, which ensures April inflation is also picked up.
BBRA Calculation 2017, BBRA Calculation 2018, BBRA Calculation 2019, Calculation 2020	Annual Actual Project Spend for the current Charging Year (Yt-1) feeds into the calculation of RCV, which is required for the calculation of the Return on Capital and Liquidity building blocks. The licence specifies that Annual Actual Project Spend should be deflated by the Applicable Change in Cost RPI for a Charging Year, rather than the 2014/15 RPI Adjustment Factor. However, the Applicable Change in Cost RPI can only be calculated following the publication of RPI for each month of the relevant Charging Year. This information is not available for the current Charging Year at the time the Revenue Statement is prepared.	Use the 2014/15 RPI Adjustment Factor to deflate the Annual Actual Project Spend in the current Charging Year. This will be true up in next year's Revenue Statement as part of the building block reconciliation adjustment.
BBRA Calculation 2017, BBRA Calculation 2018, BBRA Calculation 2019	In order to reconcile Allowed Revenue calculated in prior years for updated inflation, it is not appropriate to use the 2014/15 RPI Adjustment Factor defined in Tideway's licence as more up to date information is available (i.e. a further year of actual inflation data which can be used to replace the forecast).	Use approach consistent with definition of 2014/15 RPI Adjustment Factor but with actual inflation used up to September of Yt. This is equivalent to applying the 2014/15 RPI Adjustment Factor values as calculated for the Seventh Charging Year Allowed Revenue calculation, and ensures the latest actual RPI data is taken into account.
Calculation 2020	One of the terms in the formula for the under/over recovered revenue adjustment (as set out in Appendix 1, Part A 7 of Tideway's licence) is "the amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of Charging Year t-2". However, the licence does not specify the time period to which this element of the calculation should relate.	Interpret "the amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of Charging Year t-2" as the amount that has been paid by Thames Water to Tideway and received in Tideway's bank account prior to the end of September of Charging Year t-1.
Calculation 2020	Appendix 1, Part A 7 of Tideway's licence requires that the under/over recovered revenue adjustment is calculated on a net present value neutral basis using the BWACC, but it does not specify the adjustment formulaically or specify the means of adjusting for inflation.	Apply a net present value adjustment in nominal terms by using (1+BWACC) as the real discount factor and adjusting for inflation using RPI. To reconcile amounts not yet received in respect of Charging Year t-2, this involves multiplying the unadjusted reconciliation amount by (1+BWACC) <sup>2</sup> and the ratio between the Applicable Change in Revenue RPI of the two charging years (to account for the two year delay in revenue receipts). A separate one-year NPV adjustment is applied to the further amounts received in respect of any Charging Year falling prior to Charging Year t-2 that have not been included in a previous revenue adjustment calculation. This is to account for the one-year delay between the collection of the original amounts and their incorporation into this revenue adjustment calculation for the forthcoming Charging Year. The adjustment involves multiplying the unadjusted reconciliation amount by (1+BWACC) and the ratio between the Applicable Change in Revenue RPI in the current and forthcoming Charging Years.
Calculation 2020	Appendix 1, Part A 8 of Tideway's licence requires a reconciliation adjustment of a number of building blocks for updated values. The licence requires that the adjustment is calculated on a net present value neutral basis using the BWACC, but it does not specify the adjustment formulaically or specify the means of adjusting for inflation.	Apply a net present value adjustment in nominal terms by using (1+BWACC) as the real discount factor and adjusting for inflation using RPI, taking into account the number of years since the Allowed Revenue for a given year was first calculated. This involves multiplying the reconciliation amount by (1+BWACC) raised to the power of the number of years since the Allowed Revenue for the relevant year was first calculated, and the ratio between the Applicable Change in Revenue RPI of the two Charging Years. The reconciliation amount is calculated relative to the value calculated in the prior year. The formulae used to perform this reconciliation are as set out in this statement of calculation.
BBRA Calculation 2017, BBRA Calculation 2018, BBRA Calculation 2019	Reconciliation Adjustment (A 8) states that the Financing Cost Adjustment should be subject to reconciliation, but none of the elements of this calculation are forecast.	Leave a placeholder for reconciliation of the Financing Cost Adjustment should this, for any reason, become relevant in future, but exclude from calculation at present.
BBRA Calculation 2017, BBRA Calculation 2018, BBRA Calculation 2019, Calculation 2020	Additional Return on Capital and Additional Liquidity Building Blocks may never become relevant (i.e. these building blocks may only become relevant if Tideway applies for an Increase in Allowed Revenue (IAR).)	Exclude calculations for Additional Return on Capital and Additional Liquidity until there is a non-negligible probability that these will be required.

## Key to Charging Years

Year	Charging Year	Full description
2015/16	Y1	First Charging Year
2016/17	Y2	Second Charging Year
2017/18	Y3	Third Charging Year
2018/19	Y4	Fourth Charging Year
2019/20	Y5	Fifth Charging Year
2020/21	Y6	Sixth Charging Year
2021/22	Y7	Seventh Charging Year
2022/23	Y8	Eighth Charging Year
2023/24	Y9	Ninth Charging Year

## Summary

Below is a high-level breakdown of the Allowed Revenue for the Seventh Charging Year, with respect to each of the building blocks involved in the calculation.

Tideway Allowed Revenue (t) =	Return on capital	+ Liquidity	+ Operating expenditure	- Financing cost adjustment	+ Tax	+ Revenue adjustment	+ Building block for reconciliation adjustment	+ Additional return on capital	+ Additional liquidity
Tideway Allowed Revenue (Seventh Charging Year)	= 78.8	+ 11.6	+ 0	- 9.9	+ 0	+ 7.1	- 0.5	0	0
	=	87.0	(£m)						

The calculation of each of these elements is described below.

## Inputs

The inputs to this calculation, and the sources of these inputs, are set out on the "Inputs 2020", "BBRA Inputs 2019", "BBRA Inputs 2018", and "BBRA Inputs 2017" sheets of this workbook. The "BBRA Inputs 2017" sheet isolates the inputs required to reconcile Allowed Revenue first calculated in 2017 (for the fourth charging year), "BBRA Inputs 2018" sheet isolates the inputs required to reconcile Allowed Revenue first calculated in 2018 and the "BBRA Inputs 2019" sheet isolates the inputs required to reconcile Allowed Revenue first calculated in 2019. All the reconciliations are for updated cost and inflation data and the inputs are consistent with those set out on "Inputs 2020". In line with Appendix 1 A8 of Tideway's licence, the Expenditure Forecast is that most recently verified by the Independent Technical Assessor (verified 13th November 2020). It represents the company's latest verified forecast of cash expenditure over 2020/21, 2021/22 and 2022/23.

## Return on Capital

The Return on Capital building block allows Tideway to earn a return on capital in relation to the forecast average RCV in the Charging Year in question. Average RCV is calculated using annual actual, estimated and forecast allowable project spend, as shown in the table below.

£m, 2014/15 prices	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8
Opening RCV	0.0	148.7	478.5	962.3	1,490.3	2,024.5	2,526.0	2,992.9
Allowable Project Spend	148.7	329.8	483.8	528.0	534.2	501.5	466.9	344.2
Closing RCV	148.7	478.5	962.3	1,490.3	2,024.5	2,526.0	2,992.9	3,337.2
Average RCV	74.4	313.6	720.4	1,226.3	1,757.4	2,275.2	2,759.5	3,165.0

For the Seventh Charging Year, this building block is calculated as follows:

Return on Capital =	Average RCV in Y7	*	Bid WACC	*	Applicable Change in Revenue RPI for the Seventh Charging Year
=	2,759.5	*	2.497%	*	$\frac{293.5}{256.7}$
=	78.8	(£m)			

## Liquidity

The Liquidity building block allows Tideway a liquidity allowance (return on capital) in relation to the incremental average RCV in the year following the Charging Year in question.

For the Seventh Charging Year, this building block is calculated as follows:

Liquidity =	(Forecast average RCV in year 8 - Average RCV in year 7) * Bid WACC * Applicable Change in Revenue RPI for the Seventh Charging Year
=	405.6 * 2.497% * $\frac{293.5}{256.7}$
=	11.6 (£m)

Operating Expenditure (opex)  
In line with Tideway's licence, the Opex building block is currently zero as all costs are accounted for as capital expenditure.

Financing Cost Adjustment  
The Financing Cost Adjustment building block is intended to protect against movements in the market cost of debt, recognising that Tideway's Bid WACC will apply for a much longer period than the standard five year control period for a WaSC or WoC.

The Financing Cost Adjustment for a given year is calculated as follows:

$$\text{Financing Cost Adjustment (t)} = (\text{Net Debt (t-2)} - \text{Net Debt (t-3)}) * \text{Market Cost of Debt Adjustment Factor (t)} * (1 + \text{BWACC})^2 * \frac{\text{Applicable Change in Revenue RPI (t)}}{\text{Applicable Change in Revenue RPI (t-2)}}$$

where

Market Cost of Debt Adjustment Factor (t) =

i) if the difference between the BRP and the ARP on any ARP Calculation Date is +/- 50 bps, the market cost of debt adjustment will be 0  
 ii) if the difference between the BRP and the ARP is between +/- 51 bps and 100 bps, the market cost of debt adjustment factor will be equal to 50% of the amount by which such difference exceeds 50bps  
 iii) if the difference between the BRP and the ARP is greater than +/- 100 bps, the market cost of debt adjustment factor will be equal to the amount by which such difference exceeds 75 bps  
 The Market Cost of Debt Adjustment Factor shall be expressed as a positive figure where the ARP exceeds the BRP, and a negative figure where the BRP exceeds the ARP.

BRP = the 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March 2015  
 ARP = the 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March of Charging Year t-2

where the Financing Cost Adjustment Index Yield =  $(1 + \text{IBox BBB UK non-financials with 10+ year maturity}) * (1 + \text{spot implied inflation rates for 10 year maturity published by the Bank of England})$

Note that where the ratio between Net Debt and Ofwat-stated RCV (current prices) is higher than the notional debt to RCV ratio, Net Debt will be deemed to equal the notional debt to RCV ratio multiplied by the Ofwat-stated RCV in current prices.

The Financing Cost Adjustment Building Block for each Charging Year is the sum of the Financing Cost Adjustment for that Charging Year and all previous Charging Years, to reflect the build-up of the market cost of debt protection over time. The table below summarises the build-up of the Financing Cost Adjustment in previous years, and details of prior years calculations are available in previous Revenue Statements (with the relevant Revenue Statement identified in the table). There was no Financing Cost Adjustment in respect of the Allowed Revenue for the First or Second Charging Years, as in both cases, Tideway did not exist in Charging Year t-2 and t-3, and so did not hold any Net Debt at this time. The Financing Cost Adjustment building block was zero in the Third Charging Year as the difference between the BRP and ARP was less than 50 bps, and therefore the Market Cost of Debt Adjustment Factor was zero.

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Revenue Statement	2015	2016	2016	2017	2018	2019	2020
Base Reference Point	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%
Annual Reference Point	1.30%	1.30%	1.43%	0.35%	0.01%	0.23%	-0.47%
Market Cost of Debt Adjustment Factor	0.00%	0.00%	0.00%	-0.22%	-0.54%	-0.32%	-1.01%
Financing Cost Adjustment	0.00	0.00	0.00	0.5	-1.5	-2.2	-6.7
Financing Cost Adjustment building block (cumulative)	0.00	0.00	0.00	0.5	-1.0	-3.2	-9.9

For the Seventh Charging Year, this building block is calculated as follows:

$$\text{Financing Cost Adjustment (year 7)} = (\text{Net Debt (year 5)} - \text{Net Debt (year 4)}) * \text{Market Cost of Debt Adjustment Factor (year 7)} * (1 + \text{BWACC})^2 * \frac{\text{Applicable Change in Revenue RPI (year 7)}}{\text{Applicable Change in Revenue RPI (year 5)}}$$

$$= (1156.97 - 543.16) * -1.01\% * (1 + 0.02497)^2 * \frac{1.14}{1.11}$$

$$= -8.7 \text{ (€m)}$$

Where the Market Cost of Debt Adjustment Factor (year 7) results from the difference between the BRP and the ARP:

$$\text{BRP} - \text{ARP} = 1.30\% - -0.47\% = 1.76\%$$

a difference of 176 basis points, which falls in the greater than 100 bps band.

This leads to a Market Cost of Debt Adjustment Factor (year 7) of the amount by which this difference exceeds 75bps, or  $(1.76\% - 0.75\%) = -1.01\%$   
 (The Market Cost of Debt Adjustment Factor shall be expressed as a positive figure where the ARP exceeds the BRP, and as a negative figure where the BRP exceeds the ARP)

$$\text{Financing Cost Adjustment building block} = \text{Financing Cost Adjustment (year 1)} + \text{Financing Cost Adjustment (year 2)} + \text{Financing Cost Adjustment (year 3)} + \text{Financing Cost Adjustment (year 4)} + \text{Financing Cost Adjustment (year 5)} + \text{Financing Cost Adjustment (year 6)} + \text{Financing Cost Adjustment (year 7)}$$

$$= 0 + 0 + 0 + 0.5 + -1.5 + -2.2 + -6.7$$

$$= -9.9 \text{ (€m)}$$

Tax  
In line with Tideway's licence, the tax building block is zero as Tideway is not currently required to pay corporation tax or any other income-based tax.

Revenue Adjustment  
The revenue adjustment building block is to reconcile for under/over recovered Allowed Revenue in previous Charging Years. Appendix 1 A7 of the licence defines it as:

RA Yt = Allowed Revenue for Charging Year t-2 – (the amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of Charging Year t-2 + the amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of any Charging Year falling prior to Charging Year t-2 that has not been included in any previous RA calculation)

This building block applied for the first time in the Fourth Charging Year (2018/19). There was no revenue adjustment for the Allowed Revenue in the Third Charging Year, as Thames Water only started billing Tideway's revenue in the Second Charging Year (2016/17).

The Revenue Adjustment for the Seventh Charging Year is based on recovery of revenue for the Second, Third, Fourth and Fifth Charging Years. The Fifth Charging Year is being reconciled for the first time and the Second, Third and Fourth Charging Years are being reconciled to remove amounts that have been reconciled previously but have subsequently been recovered from Thames Water. The table below sets out the amount in respect of the IP Charge recovered by Tideway in respect of the Fifth Charging Year at the time this Revenue Statement is being prepared. This is split between 2019/20 (as reported in our 2019/20 Annual Report) and the period April to September 2020 (consistent with the assumptions set out in the table at the beginning of this statement).

Charging Year	€m	Payment received from Thames Water in period										Total	
		2016/17		2017/18		2018/19		2019/20		2020/21			
	Allowed revenue	Apr-Sep	Oct-Mar	Apr-Sep	Oct-Mar	Apr-Sep	Oct-Mar	Apr-Sep	Oct-Mar	Apr-Sep	Oct-Mar	Apr-Sep	
2015/16	11.2												11.2
2016/17	22.4	12.1	14.6	4.3	0.8	0.3	0.2	0.4	-1.1				31.7
2017/18	28.5	n/a	n/a	9.3	12.4	2.4	0.4	0.2	2.0				26.7
2018/19	49.2	n/a	n/a	n/a	16.3	18.7	10.7	1.0	1.0				46.2
2019/20	63.4	n/a	n/a	n/a	n/a	n/a	n/a	20.1	24.3				55.5

Note: The table data to the end of 2019/20 is extracted from Tideway's 2019/20 Annual Report.

Reconciliation amounts in respect of Fifth Charging Year (before NPV adjustment) = Allowed Revenue for Fifth Charging Year - Amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of Fifth Charging Year (to end of September 2020)

$$= 63.4 - 55.5$$

$$= 7.9 \text{ (€m)}$$

Reconciliation amounts in respect of Fourth Charging Year (before NPV adjustment) = Amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of the Fourth Charging Year (to end of September 2020) - Amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of Fourth Charging Year (to end of September 2019)

$$= 46.2 - 45.7$$

$$= 0.5 \text{ (€m)}$$

Reconciliation amounts in respect of Third Charging Year not previously included (before NPV adjustment) = Amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of the Third Charging Year (to end of September 2019) - Amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of Third Charging Year (to end of September 2018)

$$= 26.7 - 24.8$$

$$= 2.0 \text{ (€m)}$$

Reconciliation amounts in respect of Second Charging Year not previously included (before NPV adjustment) = Amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of the Second Charging Year (to end of September 2019) - Amount in respect of the IP Charge recovered by the Infrastructure Provider in respect of Second Charging Year (to end of September 2018)

$$= 31.7 - 32.8$$

$$= -1.0 \text{ (€m)}$$

As required by Appendix 1 A7 of the licence, the reconciliation amounts are subject to a net present value (NPV) adjustment, which is set out below. The NPV adjustments are made consistent with the assumptions set out in the table at the beginning of this statement.

Reconciliation amounts in respect of Fifth Charging Year (after NPV adjustment) = Reconciliation amounts in respect of Fifth Charging Year (before NPV adjustment) \*  $((1 + \text{BWACC})^2)$  \*  $\frac{\text{Applicable Change in Revenue RPI (year 7)}}{\text{Applicable Change in Revenue RPI (year 5)}}$

$$= 7.9 * ((1 + 0.02497)^2) * \frac{1.14}{1.11}$$

$$= 8.6 \text{ (€m)}$$

Reconciliation amounts in respect of Fourth Charging Year (after NPV adjustment) = Reconciliation amounts in respect of Fourth Charging Year (before NPV adjustment) \*  $((1 + \text{BWACC})^2)$  \*  $\frac{\text{Applicable Change in Revenue RPI (year 7)}}{\text{Applicable Change in Revenue RPI (year 6)}}$

$$= -0.5 * ((1 + 0.02497)^2) * \frac{1.14}{1.13}$$

$$= -0.5 \text{ (€m)}$$

Reconciliation amounts in respect of Third Charging Year not previously included (after NPV adjustment) = Reconciliation amounts in respect of Third Charging Year not previously included (before NPV adjustment) \*  $(1 + \text{BWACC})^2$  \*  $\frac{\text{Applicable Change in Revenue RPI (year 7)}}{\text{Applicable Change in Revenue RPI (year 6)}}$

$$= -2.0 * (1 + 0.02497)^2 * \frac{1.14}{1.13}$$

$$= -2.0 \text{ (€m)}$$

Reconciliation amounts in respect of Second Charging Year not previously included (after NPV adjustment) = Reconciliation amounts in respect of Second Charging Year not previously included (before NPV adjustment) \*  $(1 + \text{BWACC})^2$  \*  $\frac{\text{Applicable Change in Revenue RPI (year 7)}}{\text{Applicable Change in Revenue RPI (year 6)}}$

$$= 1.0 * (1 + 0.02497)^2 * \frac{1.14}{1.13}$$

$$= 1.1 \text{ (€m)}$$

Revenue Adjustment (Sixth Charging Year) (after NPV adjustment) = Reconciliation amounts in respect of Fifth Charging Year (after NPV adjustment) + Reconciliation amounts in respect of Fourth Charging Year (after NPV adjustment) + Reconciliation amounts in respect of Third Charging Year not previously included (after NPV adjustment) + Reconciliation amounts in respect of Second Charging Year not previously included (after NPV adjustment)

$$= 8.6 - 0.5 - 2.0 + 1.1$$

$$= 7.1 \text{ (€m)}$$

**Building Block Reconciliation Adjustment (BBRA)**

A reconciliation adjustment applies for the Return on Capital, Liquidity, Opex, Financing Cost Adjustment, Tax, Additional Return on Capital and Additional Liquidity building blocks. The reconciliation is calculated on a net present value neutral basis, using the Bid WACC as the discount factor. It reconciles for actual values realised since the previous calculation of the Allowed Revenue for a particular year, and updated forecasts. In practice, this means reconciling for updated expenditure and inflation. In the 2020 Revenue Statement, the building block reconciles 2020/21 Allowed Revenue for the first time and includes a further reconciliation of 2018/19 and 2019/20 Allowed Revenue. The 2018/19 Allowed Revenue is being reconciled for the first time in this 2020 Revenue Statement. This is because actual values have now been realised for all inputs to this calculation, with no forecasts that would require further reconciliation. The 2015/16, 2016/17 and 2017/18 Allowed Revenues have been fully reconciled in previous years.

	2015/16	Allowed Revenue 2016/17	2017/18	2018/19	2019/20	2020/21
Allowed Revenue - as calculated for 2015 Revenue Statement	11.2	22.4	34.0			
Allowed Revenue - as calculated for 2016 Revenue Statement	8.7	19.8	32.9	49.5	62.5	
Allowed Revenue - as calculated for 2017 Revenue Statement	8.1	18.6	31.9	48.4	62.6	74.7
Allowed Revenue - as calculated for 2018 Revenue Statement		18.2	31.7	47.7	62.0	74.9
Allowed Revenue - as calculated for 2019 Revenue Statement				47.6	62.0	74.9
Allowed Revenue - as calculated for 2020 Revenue Statement						

The table above shows the Allowed Revenue for each year as calculated/re-calculated in each Revenue Statement. The Allowed Revenue figures set out above exclude the building block reconciliation adjustment (BBRA) and revenue adjustment (RA) building blocks, which are not subject to reconciliation (and which were zero for 2015/16 and 2016/17 Allowed Revenue). The building block reconciliation is made on a net present value neutral basis using the Bid WACC as a discount factor and adjusting for inflation using RPI, which takes into account the number of years since the Allowed Revenue for a given year was first calculated. This gives the following calculation:

Building block reconciliation adjustment = (Seventh Charging Year)	=		(47.6	-	47.7)	* ((1 + 0.02497 ) <sup>3</sup> ) <sup>*</sup>		<u>1.14</u> 1.07	+	(62	-	62.6)	* ((1 + 0.02497 ) <sup>2</sup> ) <sup>*</sup>		<u>1.14</u> 1.11	+	(74.9	-	74.7 )	* ((1 + 0.02497 ) <sup>1</sup> ) <sup>*</sup>		<u>1.14</u> 1.13
	=		-0.1	+	-0.6	+		0.2														
	=		-0.5	(£m)																		

The sections below set out the recalculation of the 2018/19, 2019/20 and 2020/21 Allowed Revenue.

**Return on Capital**

Fourth Charging Year	Return on Capital =	Average RCV in Fourth Charging Year * Bid WACC * Applicable Change in Revenue RPI for the Fourth Charging Year	Fifth Charging Year	Return on Capital =	Average RCV in Fifth Charging Year * Bid WACC * Applicable Change in Revenue RPI for the Fifth Charging Year
	=	1,226.3 * 2.497% * <u>275.8</u> 256.7		=	1,757.4 * 2.497% * <u>284.6</u> 256.7
	=	32.9 (£m)		=	48.7 (£m)

**Sixth Charging Year**

Return on Capital =	Average RCV in Sixth Charging Year * Bid WACC * Applicable Change in Revenue RPI for the Sixth Charging Year
=	2,275.2 * 2.497% * <u>291.0</u> 256.7
=	64.4 (£m)

**Liquidity**

Fourth Charging Year	Liquidity =	(Forecast average RCV in year 5 - Average RCV in year 4) * Bid WACC * Applicable Change in Revenue RPI for the Fourth Charging Year	Fifth Charging Year	Liquidity =	(Forecast average RCV in year 6 - Average RCV in year 5) * Bid WACC * Applicable Change in Revenue RPI for the Fifth Charging Year
	=	531.1 * 2.497% * <u>275.8</u> 256.7		=	517.8 * 2.497% * <u>284.6</u> 256.7
	=	14.2 (£m)		=	14.3 (£m)

**Sixth Charging Year**

Liquidity =	(Forecast average RCV in year 7 - Average RCV in year 6) * Bid WACC * Applicable Change in Revenue RPI for the Sixth Charging Year
=	484.2 * 2.497% * <u>291.0</u> 256.7
=	13.7 (£m)

**Opex**  
In line with Tideway's licence, the Opex building block is zero as all costs are accounted for as capital expenditure. Therefore, no reconciliation is required.

**Financing Cost Adjustment**  
The Financing Cost Adjustment does not rely on any forecast inputs and therefore a reconciliation for actuals and updated forecasts is not required. The Financing Cost Adjustment is non-zero in the Fourth and subsequent Charging Years. Where the Financing Cost Adjustment is non-zero, it is included in both the calculation and recalculation and so nets out to zero and has no impact on the BBRA.

**Tax**  
In line with Tideway's licence, the tax building block is zero as Tideway is not required to pay corporation tax or any other income-based tax.

**Additional Return on Capital and Additional Liquidity**  
These building blocks will only apply if spend exceeds the Threshold Outturn and Tideway has made an IAR Overrun Application. Therefore this building block is zero for the purposes of this calculation.

**Recalculated Allowed Revenue**  
Tideway Allowed Revenue (t) = Return on capital + Liquidity + Operating expenditure + Financing cost adjustment + Tax + Additional return on capital + Additional liquidity

(excludes the building block reconciliation adjustment and revenue adjustment building blocks, which are not subject to reconciliation) (when the financing cost adjustment is non-zero, it is included in both the calculation and the recalculation, so has no net impact on the Building Block Reconciliation Adjustment)

The calculation of these building blocks is as described above. This results in the following recalculated Allowed Revenue for 2018/19, 2019/20 and 2020/21:

Tideway Allowed Revenue (Fourth Charging Year)	=	32.9	+ 14.2	+ 0	0.5	+ 0	+ 0	+ 0
	=	47.6	(£m)					
Tideway Allowed Revenue (Fifth Charging Year)	=	48.7	+ 14.3	+ 0	-1.0	+ 0	+ 0	+ 0
	=	61.9	(£m)					
Tideway Allowed Revenue (Sixth Charging Year)	=	64.4	+ 13.7	+ 0	-3.2	+ 0	+ 0	+ 0
	=	74.9	(£m)					

**Additional Return on Capital**  
The Additional Return on Capital building block will only apply if spend exceeds the Threshold Outturn and Tideway has made an IAR Overrun Application. Therefore this building block is zero for the purposes of this calculation.

**Additional Liquidity**  
The Additional Return on Capital building block will only apply if spend exceeds the Threshold Outturn and Tideway has made an IAR Overrun Application. Therefore this building block is zero for the purposes of this calculation.

Inputs 2020

Unit	Source/notes	Inputs 2020														
		2012/13	2013/14	2014/15	First Charging Year 2015/16	Second charging year 2016/17	Third Charging Year 2017/18	Fourth Charging Year 2018/19	Fifth Charging Year 2019/20	Sixth Charging Year 2020/21	Seventh Charging Year 2021/22	Eighth Charging Year 2022/23	Ninth Charging Year 2023/24			
Year starts					01/04/2015	01/04/2016	01/04/2017	01/04/2018	01/04/2019	01/04/2020	01/04/2021	01/04/2022	01/04/2023	01/04/2024		
Year ends					31/03/2016	31/03/2017	31/03/2018	31/03/2019	31/03/2020	31/03/2021	31/03/2022	31/03/2023	31/03/2024	31/03/2025		
Year t-2					2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23		
Year t-1					2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24		
Year t					2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25		
Year t+1					2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26		
Year t+2					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26			
<b>1.1 2014/15 RPI Adjustment Factor</b>																
Forecast RPI Adjustment Factor for the calendar year in which Charging Year commences	%	Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii), (iii)										1.3%	2.2%	3.3%	3.3%	
Forecast RPI Adjustment Factor for the calendar year in which Charging Year ends	%	Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii), (iii)										1.3%	2.2%	3.3%	3.3%	3.2%
RPI, September of Charging Year					257.6	259.6	264.9	275.1	284.1	291.0	294.3					
RPI, March of Charging Year		254.8	257.1	261.1	269.3	278.3	285.1	292.6								
<b>Applicable Change in Revenue RPI</b>																
RPI (RPI for November in Charging Year Yt-1)		245.6	252.1	259.8	259.8	265.5	275.8	284.6	291.0	293.5						
Year average RPI			256.7	259.4	265.0	274.9	283.3	290.6								
<b>A.3. Return on Capital and A.4 Liquidity</b>																
Water Services Regulation Authority Stated RCV (2014/15 Prices) at 31 March	2014/15 prices, £	0	0	148,741,346	478,533,658	962,316,426	1,490,337,315	2,024,487,477								
<b>Allowable Project Spend (actual and forecast) - as at October 2020</b>																
Annual Actual Project Spend	Outturn prices, £	0	150,344,662	340,489,147	518,165,900	582,828,772	604,855,688	55,665,486								
Estimated Allowable Project Spend	Outturn prices, £	0	0	0	0	0	0	99,061,952								
Forecast Allowable Project Spend	Outturn prices, £	0	0	0	0	0	0	421,417,697	549,728,553	418,652,472						
Excluded Project Spend	Outturn prices, £			64,394,743	87,615,825	108,108,556	80,287,259	66,925,849	11,789,327							
Alliance Agreement receipts - expenditure funded by these receipts is treated as Excluded Project Spend and therefore is excluded from the Allowable spend metrics set out above	Outturn prices, £	0	0	0	0	0	0	0	0	0						
BWACC	%				2.487%											
<b>A.5. Opex</b>																
Opex forecast as at October 2020	Outturn prices, £				0	0	0	0	0	0	0	0	0	0		
<b>A.6. Financing Cost Adjustment</b>																
Financing Cost Adjustment Index Yield - 12 months trailing average at 31 March	%				1.30%	1.43%	0.35%	0.01%	0.23%	-0.47%						
Water Services Regulation Authority Adjusted RCV (Current Prices) at 31 March	Current prices at 31 March of Charging Year	0	0	0	151,310,515	502,087,458	1,043,425,953	1,655,435,722	2,307,915,724							
Net Debt at 31 March	Current prices at 31 March of Charging Year	0	0	0	-130,376,913	-315,869,558	-72,091,186	543,155,000	1,156,967,223							
Notional Debt to RCV ratio	%				62.5%											
<b>A.1.4. Tax</b>																
Tax as at October 2020	Outturn prices, £				0	0	0	0	0	0	0	0	0	0		
<b>A.7. Under/Over Recovered Revenue Adjustment - as at October 2020</b>																
Allowed Revenue (including building block reconciliation)	£				33,603,285	28,559,132	49,235,940	63,431,062	76,465,429							
Amount recovered in respect of 2016/17, 2017/18, 2018/19 and 2019/20 Allowed Revenue (to end of September 2020)	Outturn prices, £				31,725,932	26,717,565	46,217,727	55,528,169								
Amount recovered in respect of 2016/17, 2017/18 and 2018/19 Allowed Revenue (to end of September 2019)	Outturn prices, £				32,767,942	24,767,255	45,739,272									
Years of NPV adjustment					1	1	1	2								
Amounts received from TWUL in Charging Year (all years of Allowed Revenue)	Outturn prices, £				26,747,386	26,791,391	38,387,688	57,610,001								
<b>A.8. Reconciliation adjustment</b>																
Time since original calculation	Years				5	5	4	3	2	1	0					
Reconcile this year?					0	0	0	1	1	1	0					
Allowed Revenue as per most recently submitted Revenue Statement (excluding building block reconciliation and under/over recovered revenue adjustment)	£							47,743,966	62,556,010	74,678,235						
<b>A.11. Additional Return on Capital Building Block</b>																
Additional Allowable Project Spend		Not applicable at present. Inputs to be added if this building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11														

Calculation 2020

Building Block

Building Block	Unit	Notes/description	2013/14	2014/15	First Charging Year	Second Charging Year	Third Charging Year	Fourth Charging Year	Fifth Charging Year	Sixth Charging Year	Seventh Charging Year
					2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Year starts					01/04/2015	01/04/2016	01/04/2017	01/04/2018	01/04/2019	01/04/2020	01/04/2021
Year ends					31/03/2016	31/03/2017	31/03/2018	31/03/2019	31/03/2020	31/03/2021	31/03/2022
Year T-2					2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Year T-1					2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Year T					2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Year T+1					2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Year T+2					2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
1.1 2014/15 RPI Adjustment Factor		A factor calculated for each Charging Year to express costs associated with that year in a 2014/15 price base. See Project Licence, Appendix 1, 1.1									
(a) for the purposes of calculating Forecast Allowable Project Spend for Charging Year Yt+1, estimated Allowable Project Spend for the said Charging Year shall be deflated from a price base in Charging Year Yt+1 to the Base RPI Index year (2014/15), using an adjustment factor derived from multiplying the factors set out in (i), (ii), (iii) and (iv) below;											
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 commences	%	Forecast RPI - see input sheet for description of source									3.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 ends	%	Forecast RPI - see input sheet for description of source									3.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt commences	%	Forecast RPI - see input sheet for description of source									2.2%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt ends	%	Forecast RPI - see input sheet for description of source									3.3%
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt-1 commenced	%	Calculated with reference to the index values for March and September to capture April to September inflation (see detailed modelling assumptions in "Statement of calculation 2020")									0.6%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt-1 commenced	%	Forecast RPI - see input sheet for description of source									1.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt-1 ends	%	Forecast RPI - see input sheet for description of source									2.2%
Base RPI Charging Year Yt-2, or where this is on or before Base RPI Index year, 2014/15		Year average RPI for 2014/15, used as base year RPI									256.7
1.1 (i)		Year average RPI for Charging year T-2 (or 2014/15 where this is later)									290.6
1.1 (ii)		Factor used to adjust prices from Charging Year T+1 to Charging Year T									1.03
1.1 (iii)		Factor used to adjust prices from Charging Year T to Charging Year T-1									1.02
1.1 (iv)		Factor used to adjust prices from Charging Year T-1 to Charging Year T-2									1.01
1.1 (v)		Factor used to adjust prices from Charging Year T-2 to Base RPI Index year									1.13
RPI Adjustment Factor Charging Year T+1		Combines factors (i), (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T+1 to 2014/15 price base.									1.22
RPI Adjustment Factor Charging Year T		Combines factors (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T to 2014/15 price base.									1.18
RPI Adjustment Factor Charging Year T-1		Combines factors (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T-1 to 2014/15 price base.									1.15
RPI Adjustment Factor Charging Year T-2		Equal to factor (iv) above - used to adjust prices from Charging Year T-2 to 2014/15 price base.									1.13
Applicable Change in Revenue RPI		RPI in November of previous Charging Year relative to 2014/15 base year									
RPI		RPI in November of Charging Year T-1	0.96	0.98	1.01	1.01	1.03	1.07	1.11	1.13	1.14
RPIbase (Base RPI Index)		Average RPI for 2014/15	245.6	252.1	259.8	259.8	265.5	275.8	284.6	291.0	293.5
			256.7	256.7	256.7	256.7	256.7	256.7	256.7	256.7	256.7
A.1. Allowed Revenue	£	Total Allowed Revenue calculated as the total of the building blocks below, in accordance with Project Licence, Appendix 1, 1.4. See Statement of calculation 2020 for further detail.									87,029,995
A.3. Return on Capital	£	The Return on Capital building block allows the IP to earn a return on capital in relation to the forecast average RCV in the Charging Year in question. See Project Licence, Appendix 1, Part A 3									78,791,653
Offset Stated RCV for Yt-2	£, 2014/15 prices	RCV at the end of Charging Year T-2 as published by Ofwat by 1 September following the end of the Charging Year									2,024,487,477
OPRCV Yt-1	£, 2014/15 prices	Opening RCV for Charging Year T-1									2,024,487,477
2014/15 RPI Adjustment Factor Yt-1		Scalar to adjust forecast costs for Charging Year T-1 to 2014/15 price base									1.18
Annual Actual Project Spend Yt-1	£, 2014/15 prices	Allowable Project Spend (verified by the ITA) incurred in Charging Year T-1									48,452,911
Estimated Allowable Project Spend Yt-1	£, 2014/15 prices	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T-1									96,256,088
Forecast Allowable Project Spend Yt-1	£, 2014/15 prices	Allowable Project Spend forecast to be incurred in Charging Year T-1									348,314,521
OPRCV Yt	£, 2014/15 prices	Opening RCV for Charging Year T - the sum of opening RCV for Charging Year T-1 and all Allowable Project Spend in that year									2,525,981,507
2014/15 RPI Adjustment Factor Yt		Scalar to adjust forecast costs for Charging Year T to 2014/15 price base									1.18
Annual Actual Project Spend Yt	£, 2014/15 prices	Allowable Project Spend (verified by the ITA) incurred in Charging Year T									0
Estimated Allowable Project Spend Yt	£, 2014/15 prices	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T									0
Forecast Allowable Project Spend Yt	£, 2014/15 prices	Allowable Project Spend forecast to be incurred in Charging Year T									466,943,394
CPRCV Yt	£, 2014/15 prices	Closing RCV for Charging Year T - the sum of opening RCV for Charging Year T and all Allowable Project Spend in that year									2,992,924,901
YARCV Yt	£, 2014/15 prices	Year average RCV for Charging Year T									2,759,453,204
A.4. Liquidity	£	The Liquidity building block allows the IP a liquidity allowance (return on capital) in relation to the incremental average RCV in the year following the Charging Year in question. See Project Licence, Appendix 1, Part A 4									11,561,095
OPRCV Yt+1	£, 2014/15 prices	Opening RCV for Charging Year T+1									2,992,924,901
2014/15 RPI Adjustment Factor Yt+1		Scalar to adjust forecast costs for Charging Year T+1 to 2014/15 price base									1.22
Forecast Allowable Project Spend for year t+1	£, 2014/15 prices	Allowable Project Spend forecast to be incurred in Charging Year T+1									344,246,299
CPRCV Yt+1	£, 2014/15 prices	Closing RCV for Charging Year T+1									3,337,171,200
FYARCV Yt+1	£, 2014/15 prices	Average RCV for Charging Year T+1									3,165,048,050
A.5. Opex		In line with the Project Licence, the Opex building block is zero as all costs are accounted for as capital expenditure. See Project Licence, Appendix 1, Part A 5									0
A.6. Financing Cost Adjustment building block		The Financing Cost Adjustment building block is intended to protect against movements in the market cost of debt, by comparing a measure of financing costs at an annual reference point to a base reference point of March 2015. See Project Licence, Appendix 1, Part A 6									
Financing Cost Adjustment Yt						0	461,614	-1,016,891	-3,201,092	-9,948,780	
Financing Cost Adjustment Index Yield	%	See Project Licence Appendix 1, Part A 6.3				0	461,614	-1,478,505	-2,184,201	-6,747,688	
Base Reference Point (BRP)	%	The historic 12 months trailing average of the Financing Cost Adjustment Index Yield as at 31 March 2015	1.30%	1.43%	0.35%	0.01%	0.23%	-0.47%			
Annual Reference Point (ARP)	%	The historic 12 months trailing average of the Financing Cost Adjustment Index Yield as at 31 March of Charging Year Yt-2	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	
BRP-ARP	%	Difference between BRP and ARP	0.00%	0.00%	-0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	
Market Cost of Debt Adjustment Factor (absolute)	%	See Project Licence Appendix 1 Part A 6.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Market Cost of Debt Adjustment Factor (corrected sign)	%	See Project Licence Appendix 1 Part A 6.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Net Debt in Charging Year Yt-2	£, current prices (March of Charging Year T-2)	Net Debt at the end of Charging Year T-2 as defined in Project Licence Appendix 1, 1.41	0	0	-130,376,913	-315,869,558	-72,091,186	543,155,000	1,156,967,223		
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-2	£, current prices (March of Charging Year T-2)	RCV at the end of Charging Year T-2 in then current prices	0	0	151,310,515	502,087,458	1,043,425,953	1,655,435,722	2,307,915,724		
Notional Debt to RCV Ratio	%	As defined in Project Licence Appendix 1, 1.42	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%	
Notional Net Debt in Charging Year Yt-2	£, current prices (March of Charging Year T-2)	RCV multiplied by Notional Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9	0	0	94,569,072	313,804,661	652,141,221	1,034,647,326	1,442,447,327		
Net Debt in Charging Year Yt-3	£, current prices (March of Charging Year T-3)	Net Debt at the end of Charging Year T-3 as defined in Project Licence Appendix 1, 1.41	0	0	-130,376,913	-315,869,558	-72,091,186	543,155,000			
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-3	£, current prices (March of Charging Year T-3)	RCV at the end of Charging Year T-3 in then current prices	0	0	151,310,515	502,087,458	1,043,425,953	1,655,435,722			
Notional Debt to RCV Ratio	%	As defined in Project Licence Appendix 1, 1.42	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%	
Notional Net Debt in Charging Year Yt-3	£, current prices (March of Charging Year T-3)	RCV multiplied by Notional Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9	0	0	94,569,072	313,804,661	652,141,221	1,034,647,326			
Applicable Change in Revenue RPI for Charging Year Yt			1.01	1.01	1.03	1.07	1.11	1.13	1.14		
Applicable Change in Revenue RPI for Charging Year Yt-2			0.96	0.98	1.01	1.01	1.03	1.07	1.11	1.13	1.14
A.1.4. Tax	£	In line with the Project Licence, zero as the IP is not required to pay corporation tax or any other income-based tax. See Project Licence Appendix 1, Part A 1.4									0
A.7. Under/Over Recovered Revenue Adjustment	£	The revenue adjustment building block is to reconcile for under/over recovered Allowed Revenue in previous Charging Years. See Project Licence, Appendix 1, Part A.7									7,128,532
Allowed Revenue		Allowed Revenue as submitted in 2015, 2016, 2017, 2018 and 2019 updated revised Revenue Statement			33,603,285	28,559,132	49,235,940	63,431,062			
Amount recovered in respect of Allowed Revenue (to end of September 2020)		Amount collected by Thames Water and received by Tideway in respect of 2016/17, 2017/18, 2018/19, 2019/20 Allowed Revenue, prior to the end of September 2020.			31,725,932	26,717,565	46,217,727	55,528,169			
Amount recovered in respect of Allowed Revenue (to end of September 2019)		Amount collected by Thames Water and received by Tideway in respect of 2016/17, 2017/18 and 2018/19 Allowed Revenue, prior to the end of September 2019.			32,767,942	24,767,255	45,739,272				
Applicable Change in Revenue RPI		RPI in November of previous Charging Year relative to 2014/15 base year			1.01	1.03	1.07	1.11	1.13	1.14	
Years of NPV adjustment		Represents the number of years of NPV adjustment required - two years for a Charging Year being reconciled for the first time, and one year to reconcile further amounts received in respect of Charging Years already reconciled. See "Statement of Calculation 2020"			1	1	1	2			
Amounts in respect of prior Charging Years not yet reconciled (unadjusted)		Further amounts received in respect of Charging Years that have already been reconciled.			-1,042,010	1,950,310	478,456				
Reconciliation amounts - Charging Year T-2 (unadjusted)		Difference between Allowed Revenue for a Charging Year and the amount collected by Thames Water and received by Tideway in respect of that Allowed Revenue.						7,902,893			
Reconciliation amounts (NPV-adjusted)		Reconciliation amount as calculated above, NPV-adjusted for the delay between the original Charging Year and the year of reconciliation using the BWACC and Applicable Change in Revenue RPI.			1,077,204	2,016,183	494,616	8,562,126			
A.8. Reconciliation adjustment	£	Reconciliation for updated expenditure and inflation data to reflect realised actuals and updated forecasts. See Project Licence, Appendix 1, Part A 8									-523,405
Reconcile this year?	n/a	Revenue for a given Charging Year is subject to building block reconciliation adjustment where estimated or forecast expenditure or inflation inputs were used the last time that year's revenue was calculated. Defined as follows: 1 = yes, 0 = no							1	1	1
Time since original calculation	years	Represents the number of years since revenue was first calculated to feed into the NPV adjustment of the reconciliation adjustment.							3	2	1
Allowed Revenue (as at October 2020)	£	Allowed Revenue recalculated using updated expenditure and inflation data. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation. See BBRA Calculation 2017, BBRA Calculation 2018 and BBRA Calculation 2019.			47,615,449	61,978,897	74,919,422				
Allowed Revenue (as at October 2019)	£	Allowed Revenue as submitted in 2019 updated revised Revenue Statement. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation.			47,743,966	62,556,010	74,678,235				
Applicable Change in Revenue RPI (year in which original calculation was made)					1.07	1.11	1.13				
Applicable Change in Revenue RPI (current year)											1.14
Reconciliation amounts (unadjusted)	£	Adjustment calculated as difference between updated calculation and previous year's calculation, prior to NPV adjustment.			-128,516	-577,314	241,187				
Reconciliation amounts (NPV-adjusted)	£	Adjustment calculated as difference between updated calculation and previous year's calculation, post NPV-adjustment using BWACC and Applicable Change in Revenue RPI.			-147,267	-625,471	249,334				
A.11. Additional Return on Capital Building Block	£	Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11									
A.11. Additional Liquidity Building Block	£	Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11									

BBRA Inputs 2019

	Unit	Source/notes	2012/13	2013/14	2014/15	First Charging Year 2015/16	Second charging year 2016/17	Third Charging Year 2017/18	Fourth Charging Year 2018/19	Fifth Charging Year 2019/20	Sixth Charging Year 2020/21	Seventh Charging Year 2021/22	Eighth Charging Year 2022/23	Ninth Charging Year 2023/24
Year starts						01/04/2015	01/04/2016	01/04/2017	01/04/2018	01/04/2019	01/04/2020	01/04/2021	01/04/2022	01/04/2023
Year ends						31/03/2016	31/03/2017	31/03/2018	31/03/2019	31/03/2020	31/03/2021	31/03/2022	31/03/2023	31/03/2024
Year t-2						2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Year t-1						2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Year t						2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Year t+1						2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Year t+2						2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
<b>1.1 2014/15 RPI Adjustment Factor</b>														
Forecast RPI Adjustment Factor for the calendar year in which Charging Year commences	%	UPDATED FOR RECONCILIATION Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii)									1.3%	2.2%	3.3%	3.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year ends	%	UPDATED FOR RECONCILIATION Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii)									2.2%	3.3%	3.3%	3.2%
RPI, September of Charging Year		UPDATED FOR RECONCILIATION Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 21 October 2020, Office for National Statistics. Required by Project Licence Appendix 1, 1.1 (ii)			257.6	259.6	264.9	275.1	284.1	291.00	294.30			
RPI, March of Charging Year		UPDATED FOR RECONCILIATION Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 17 June 2020, Office for National Statistics Required by Project Licence Appendix 1, 1.1 (ii)	254.8	257.1	261.1	269.3	278.3	285.10	292.60					
<b>Applicable Change in Revenue RPI</b>														
RPI (RPI for November in Charging Year Yt-1)		Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 16 December 2020, Office for National Statistics. Required by Project Licence Appendix 1, Part A 3, 4 and 6 Note: for both First and Second Charging years, stated RPI is for November 2015, as Allowed Revenue for both these years is being calculated together	245.6	252.1	259.8	259.8	265.5	275.8	284.6	291.0				
Year average RPI		UPDATED FOR RECONCILIATION Source: Calculated from RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 17 June 2020 Office for National Statistics Required by Project Licence Appendix 1, Part A 3, 4 and 6 and Appendix 1, 1.1 (iv)		256.7	259.4	265.0	274.9	283.3	290.6					
<b>A.3. Return on Capital and A.4 Liquidity</b>														
Water Services Regulation Authority Stated RCV (2014/15 Prices) at 31 March	2014/15 prices, £	Source: "Copy-of-RCV-Bazalgette-2020-publ.xlsx", https://www.ofwat.gov.uk/publication/regulatory-capital-values-bazalgette-tunnel-limited-tideway-2/ Zero prior to licence award Required by Project Licence Appendix 1, Part A 3	-	-	148,741,346	478,533,658	962,316,426	1,490,337,315						
<b>Allowable Project Spend (actual and forecast) - as at October 2020</b>														
Annual Actual Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "Allowable Project Spend Verification No. 45", Mott MacDonald: Thames Tideway ITA Required by Project Licence Appendix 1, Part A 3	-	-	150,344,662	340,489,147	518,165,900	582,828,772	604,855,688	55,665,486				
Estimated Allowable Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "Regulation Reporting Sep 20" Required by Project Licence Appendix 1, Part A 3	-	-	-	-	-	-	-	99,061,952				
Forecast Allowable Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "2020 Revenue Statement - ITA Q2 2020-21 Expenditure Forecast Review - Rev 001 - Issued" - for full-year 2020/21, 2021/22 and 2022/23 forecast. The 2020/21 figure is net of expenditure already realised (April to September) Required by Project Licence Appendix 1, Part A 3, 4	-	-	-	-	-	-	-	421,417,697	549,728,553			
Excluded Project Spend	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".												
Alliance Agreement receipts - expenditure funded by these receipts is treated as Excluded Project Spend and therefore is excluded from the Allowable spend metrics set out above	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".												
BWACC	%	Source: Project Licence, Appendix 1, 1.18 Required by Project Licence Appendix 1, Part A 3, 4, 6, 7, 8				2.497%								
<b>A.5. Opex</b>														
Opex forecast as at October 2020	Outturn prices, £	Note: In line with the Project Licence, zero as all expenditure treated as capex. Required by Project Licence Appendix 1, Part A 5				-	-	-	-	-	-			
<b>A.6. Financing Cost Adjustment</b>														
Financing Cost Adjustment Index Yield - 12 months trailing average at 31 March	%	Source: "FCA yield calculator.xlsx" Calculated with reference to iBoxx BBB data from Lloyds Bank and spot implied inflation rates for 10 year maturity from Bank of England Required by Project Licence Appendix 1, Part A 6				1.3%	1.4%	0.4%	0.0%	0.2%				
Water Services Regulation Authority Adjusted RCV (Current Prices) at 31 March	Current prices at 31 March of Charging Year	Source: "Copy-of-RCV-Bazalgette-2020-publ.xlsx", https://www.ofwat.gov.uk/publication/regulatory-capital-values-bazalgette-tunnel-limited-tideway-2/ Zero prior to licence award Required by Project Licence Appendix 1, Part A 3	-	-	-	151,310,515	502,087,458	1,043,425,953	1,655,435,722					
Net Debt at 31 March	Current prices at 31 March of Charging Year	Source: Tideway financial statements as at 31 March 2020 Required by Project Licence Appendix 1, Part A 6	-	-	-	130,376,913	315,869,558	72,091,186	543,155,000					
Notional Debt to RCV ratio	%	Source: Project Licence Appendix 1, 1.42 Required by Project Licence Appendix 1, Part A 6			62.5%									
<b>A 1.4. Tax</b>														
Tax as at October 2020	Outturn prices, £	In line with the Project Licence, zero as the IP is not required to pay corporation tax or any other income-based tax. See Project Licence Appendix 1, Part A 1.4				-	-	-	-	-	-			
<b>A.7. Under/Over Recovered Revenue Adjustment - as at October 2019</b>														
Allowed Revenue	£	Data removed as not required for reconciliation purposes. See "Inputs 2020".												
Amount recovered in respect of 2016/17, 2017/18 and 2018/19 Allowed Revenue (to end of September 2019)	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".												
Amount recovered in respect of Allowed Revenue (to end of September 2018)	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".												
Years of NPV adjustment		Data removed as not required for reconciliation purposes. See "Inputs 2020".												
Amounts received from TWUL in Charging Year (all years of Allowed Revenue)	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".												
<b>A.8. Reconciliation adjustment</b>														
Time since original calculation	Years	See Project Licence, Appendix 1, Part A 8 Data removed as not required for reconciliation purposes. See "Inputs 2020".												
Reconcile this year?		Data removed as not required for reconciliation purposes. See "Inputs 2020".												
Allowed Revenue as per most recently submitted Revenue Statement (excluding building block reconciliation and under/over recovered revenue adjustment)	£	Data removed as not required for reconciliation purposes. See "Inputs 2020".												
<b>A.11. Additional Return on Capital Building Block</b>														
Additional Allowable Project Spend		Not applicable at present. Inputs to be added if this building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11												
<b>A 1.6.4. Net Present Value Adjustment</b>														
End of first charging year		Last day of the First Charging Year				31/03/2016								
Licence Award		Date of Licence award				24/08/2015								

BBRA Calculation 2019

Building Block

Unit	Notes/description	2013/14	2014/15	First Charging	Second Charging	Third Charging Year	Fourth	Fifth	Sixth
				Year	Year	Year	Charging Year	Charging Year	Charging Year
Year starts				2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Year ends				01/04/2015	01/04/2016	01/04/2017	01/04/2018	01/04/2019	01/04/2020
Year 1-2				31/03/2016	31/03/2017	31/03/2018	31/03/2019	31/03/2020	31/03/2021
Year 1-1				2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Year 1				2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Year 1+1				2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Year 1+2				2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Year 1+2				2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
1.1 2014/15 RPI Adjustment Factor	A factor calculated for each Charging Year to express costs associated with that year in a 2014/15 price base. See Project Licence, Appendix 1, 1.1								
(a) for the purposes of calculating Forecast Allowable Project Spend for Charging Year Yt+1, estimated Allowable Project Spend for the said Charging Year shall be deflated from a price base in Charging Year Yt+1 to the Base RPI Index year ([2014/15]), using an adjustment factor derived from multiplying the factors set out in (i), (ii), (iii) and (iv) below:									
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 commences	%								2.2%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 ends	%								3.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt commences	%								1.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt ends	%								2.2%
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt+1 commenced	%								
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt commenced	%								0.6%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 commenced	%								
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 ends	%								
Base RPI	Year average RPI for 2014/15, used as base year RPI								256.7
Charging Year Yt-2, or where this is on or before Base RPI Index year, 2014/15	Year average RPI for Charging Year T-2 (or 2014/15 where this is later)								263.3
Charging Year Yt-1	NEW ROW ADDED FOR RECONCILIATION Year average RPI for Charging Year T-1								295.6
1.1 (i)	Factor used to adjust prices from Charging Year T-1 to Charging Year T								1.02
1.1 (ii)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T to Charging Year T-1								1.01
1.1 (iii)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T-1 to Charging Year T-2								1.03
1.1 (iv)	Factor used to adjust prices from Charging Year T-2 to Base RPI Index year								1.10
RPI Adjustment Factor Charging Year T+1	Combines factors (i), (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T+1 to 2014/15 price base.								1.18
RPI Adjustment Factor Charging Year T	Combines factors (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T to 2014/15 price base.								1.15
RPI Adjustment Factor Charging Year T-1	Combines factors (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T-1 to 2014/15 price base.								1.13
RPI Adjustment Factor Charging Year T-2	Equal to factor (iv) above - used to adjust prices from Charging Year T-2 to 2014/15 price base.								1.10
Applicable Change in Revenue RPI	RPI in November of previous Charging Year relative to 2014/15 base year								
RPI	RPI in November of Charging Year T-1	0.96	0.98	1.01	1.01	1.03	1.07	1.11	1.13
RPIbase (Base RPI Index)	Average RPI for 2014/15	245.6	252.1	259.8	259.8	265.5	275.8	284.6	291.0
		256.7	256.7	256.7	256.7	256.7	256.7	256.7	256.7
A.1. Allowed Revenue	Total Allowed Revenue calculated as the total of the building blocks below, in accordance with Project Licence, Appendix 1, 1.4. See Statement of calculation 2020 for further detail.								74,919,422
A.3. Return on Capital	The Return on Capital building block allows the IP to earn a return on capital in relation to the forecast average RCV in the Charging Year in question. See Project Licence, Appendix 1, Part A 3								64,412,213
Onset Stated RCV for Yt-2	RCV at the end of Charging Year T-2 as published by Ofwat by 1 September following the end of the Charging Year								1,490,337,315
OPRCV Yt-1	Opening RCV for Charging Year T-1								1,490,337,315
2014/15 RPI Adjustment Factor Yt-1	Scalar to adjust forecast costs for Charging Year T-1 to 2014/15 price base								7.13
Annual Actual Project Spend Yt-1	Allowable Project Spend (verified by the ITA) incurred in Charging Year T-1								534,150,162
Estimated Allowable Project Spend Yt-1	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T-1								-
Forecast Allowable Project Spend Yt-1	Allowable Project Spend forecast to be incurred in Charging Year T-1								0
OPRCV Yt	Opening RCV for Charging Year T - the sum of opening RCV for Charging Year T-1 and all Allowable Project Spend in that year								2,024,487,477
2014/15 RPI Adjustment Factor Yt	Scalar to adjust forecast costs for Charging Year T to 2014/15 price base								1.18
Annual Actual Project Spend Yt	Allowable Project Spend (verified by the ITA) incurred in Charging Year T								48,452,911
Estimated Allowable Project Spend Yt	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T								55,215,498
Forecast Allowable Project Spend Yt	Allowable Project Spend forecast to be incurred in Charging Year T								356,314,821
OPRCV Yt	Closing RCV for Charging Year T - the sum of opening RCV for Charging Year T and all Allowable Project Spend in that year								2,525,981,507
YARCV Yt	Year average RCV for Charging Year T								2,275,234,492
A.4. Liquidity	The Liquidity building block allows the IP a liquidity allowance (return on capital) in relation to the incremental average RCV in the year following the Charging Year in question. See Project Licence, Appendix 1, Part A 4								13,708,301
OPRCV Yt+1	Opening RCV for Charging Year T+1								2,525,981,507
2014/15 RPI Adjustment Factor Yt+1	Scalar to adjust forecast costs for Charging Year T+1 to 2014/15 price base								1.18
Forecast Allowable Project Spend for year t+1	Allowable Project Spend forecast to be incurred in Charging Year T+1								466,943,294
OPRCV Yt+1	Closing RCV for Charging Year T+1								2,992,924,801
FYARCV Yt+1	Average RCV for Charging Year T+1								2,759,453,284
A.5. Opex	In line with the Project Licence, the Opex building block is zero as all costs are accounted for as capital expenditure. See Project Licence, Appendix 1, Part A 5								0
A.6. Financing Cost Adjustment building block	The Financing Cost Adjustment building block is intended to protect against movements in the market cost of debt, by comparing a measure of financing costs at an annual reference point to a base reference point of March 2015. See Project Licence, Appendix 1, Part A 6								-3,201,092
Financing Cost Adjustment Yt									-2,184,201
Financing Cost Adjustment Index Yield	See Project Licence Appendix 1, Part A 6.3	1.30%	1.43%	0.35%	0.07%	0.23%			
Base Reference Point (BRP)	The historic 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March 2015	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%
Annual Reference Point (ARP)	The historic 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March of Charging Year Yt-2	1.30%	1.30%	1.43%	0.35%	0.07%	0.23%	0.01%	0.23%
BRP-ARP	Difference between BRP and ARP	0.00%	0.00%	-0.13%	0.95%	1.29%	0.54%	0.01%	0.67%
Market Cost of Debt Adjustment Factor (absolute)	See Project Licence Appendix 1 Part A 6.7	0.00%	0.00%	0.00%	0.00%	0.22%	0.54%	0.54%	0.52%
Market Cost of Debt Adjustment Factor (corrected sign)	See Project Licence Appendix 1 Part A 6.7	0.00%	0.00%	0.00%	0.00%	-0.22%	-0.54%	-0.54%	-0.32%
Net Debt in Charging Year Yt-2	E. current prices (March of Charging Year T-2) Net Debt at the end of Charging Year T-2 as defined in Project Licence Appendix 1, 1.41	0	0	-130,376,913	-315,869,558	-72,091,186			543,155,000
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-2	E. current prices (March of Charging Year T-2) RCV at the end of Charging Year T-2 in then current prices	0	0	151,310,515	502,087,458	1,043,425,953			1,655,435,722
Notional Debt to RCV Ratio	% As defined in Project Licence Appendix 1, 1.42	62.5%	62.5%	62.5%	62.5%	62.5%			62.5%
Notional Net Debt in Charging Year Yt-2	E. current prices (March of Charging Year T-2) RCV multiplied by Notional Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9	0	0	94,569,072	313,804,661	652,141,221			1,034,647,328
Net Debt in Charging Year Yt-3	E. current prices (March of Charging Year T-3) Net Debt at the end of Charging Year T-3 as defined in Project Licence Appendix 1, 1.41	0	0	0	-130,376,913	-315,869,558			-72,091,186
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-3	E. current prices (March of Charging Year T-3) RCV at the end of Charging Year T-3 in then current prices	0	0	0	151,310,515	502,087,458			1,043,425,953
Notional Debt to RCV Ratio	% As defined in Project Licence Appendix 1, 1.42	62.5%	62.5%	62.5%	62.5%	62.5%			62.5%
Notional Net Debt in Charging Year Yt-3	E. current prices (March of Charging Year T-3) RCV multiplied by Notional Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9	0	0	0	94,569,072	313,804,661			652,141,221
Applicable Change in Revenue RPI for Charging Year Yt		1.01	1.01	1.03	1.07	1.11			1.13
Applicable Change in Revenue RPI for Charging Year Yt-2		0.96	0.98	1.01	1.01	1.03			1.07
A.14. Tax	In line with the Project Licence, zero as the IP is not required to pay corporation tax or any other income-based tax. See Project Licence Appendix 1, Part A 1.4								0
A.7. Under/Over Recovered Revenue Adjustment	REMOVED FROM THIS RECONCILIATION SHEET AS RECONCILED SEPARATELY, AS UNDER/OVER RECOVERED REVENUE IN RELATION TO ALL APPLICABLE CHARGING YEARS IS RECONCILED IN CALCULATION 2020. The revenue adjustment building block is to reconcile for under/over recovered revenue in previous Charging Years. See Project Licence, Appendix 1, Part A 7								
Allowed Revenue	Amount collected by Thames Water and received by Tideway in respect of 2016/17, 2017/18 and 2018/19 Allowed Revenue, prior to the end of September 2019.								
Amount recovered in respect of Allowed Revenue (to end of September 2019)	Amount collected by Thames Water and received by Tideway in respect of 2016/17 and 2017/18 Allowed Revenue, prior to the end of October 2018. The cut-off is the same as that used for the 2018 Revenue Statement ensuring that the amounts received are treated consistently between Revenue Statements.								
Amount recovered in respect of Allowed Revenue (to end of September 2018)	RPI in November of previous Charging Year relative to 2014/15 base year								
Applicable Change in Revenue RPI	Represents the number of years of NPV adjustment required - two years for a Charging Year being reconciled for the first time, and one year to reconcile further amounts received in respect of Charging Years already reconciled. See "Statement of Calculation 2020"								
Years of NPV adjustment	Further amounts received in respect of Charging Years that have already been reconciled.								
Amounts in respect of prior Charging Years not yet reconciled (unadjusted)	Difference between Allowed Revenue for a Charging Year and the amount collected by Thames Water and received by Tideway in respect of that Allowed Revenue.								
Reconciliation amounts - Charging Year T-2 (unadjusted)	Reconciliation amount as calculated above, NPV-adjusted for the delay between the original Charging Year and the year of reconciliation using the BWACC and Applicable Change in Revenue RPI.								
Reconciliation amounts (NPV-adjusted)	REMOVED FROM THIS RECONCILIATION SHEET AS RECONCILED SEPARATELY IN BBRA CALCULATION. Reconciliation for updated expenditure and inflation data to reflect realised actuals and updated forecasts. See Project Licence, Appendix 1, Part A 8								
A.8. Reconciliation adjustment	Revenue for a given Charging Year is subject to building block reconciliation adjustment where estimated or forecast expenditure or inflation inputs were used the last time that year's revenue was calculated. Defined as follows: 1 = yes, 0 = no								
Reconcile this year?	Represents the number of years since revenue was first calculated to feed into the NPV adjustment of the reconciliation adjustment.								
Time since original calculation	Allowed Revenue recalculated using updated expenditure and inflation data. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation. See BBRA Calculation 2016, BBRA Calculation 2017 and BBRA Calculation 2018.								
Allowed Revenue (as at October 2020)	Allowed Revenue as submitted in 2019 updated revised Revenue Statement. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation.								
Allowed Revenue (as at October 2018)	Adjustment calculated as difference between updated calculation and previous year's calculation, prior to NPV adjustment.								
Applicable Change in Revenue RPI (year in which original calculation was made)	Adjustment calculated as difference between updated calculation and previous year's calculation, post NPV-adjustment using BWACC and Applicable Change in Revenue RPI.								
Applicable Change in Revenue RPI (current year)	Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11								
Reconciliation amounts (unadjusted)	Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11								
Reconciliation amounts (NPV-adjusted)									
A.11. Additional Return on Capital Building Block									
A.11. Additional Liquidity Building Block									

## BBRA Inputs 2018

	Unit	Source/notes	2012/13	2013/14	2014/15	First Charging Year 2015/16	Second charging year 2016/17	Third Charging Year 2017/18	Fourth Charging Year 2018/19	Fifth Charging Year 2019/20	Sixth Charging Year 2020/21	Seventh Charging Year 2021/22	Eighth Charging Year 2022/23
						01/04/2015 31/03/2016	01/04/2016 31/03/2017	01/04/2017 31/03/2018	01/04/2018 31/03/2019	01/04/2019 31/03/2020	01/04/2020 31/03/2021	01/04/2021 31/03/2022	01/04/2022 31/03/2023
Year starts													
Year ends													
Year t-2						2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Year t-1						2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Year t						2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Year t+1						2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Year t+2						2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>1.1 2014/15 RPI Adjustment Factor</b>													
Forecast RPI Adjustment Factor for the calendar year in which Charging Year commences	%	UPDATED FOR RECONCILIATION Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii), (iii)									1.3%	2.2%	3.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year ends	%	UPDATED FOR RECONCILIATION Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii), (iii)									2.2%	3.3%	3.3%
RPI, September of Charging Year		UPDATED FOR RECONCILIATION Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 21 October 2020, Office for National Statistics. Required by Project Licence Appendix 1, 1.1 (iii)			257.6	259.6	264.9	275.1	284.1	291.0	294.3		
RPI, March of Charging Year		UPDATED FOR RECONCILIATION Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 17 June 2020, Office for National Statistics Required by Project Licence Appendix 1, 1.1 (iii)	254.8	257.1	261.1	269.3	278.3	285.1	292.6				
<b>Applicable Change in Revenue RPI</b>													
RPI# (RPI for November in Charging Year Yt-1)		Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 16 December 2020, Office for National Statistics. Required by Project Licence Appendix 1, Part A 3, 4 and 6 Note: for both First and Second Charging years, stated RPI is for November 2015, as Allowed Revenue for both these years is being calculated together	245.6	252.1	259.8	259.8	265.5	275.8	284.6				
Year average RPI		UPDATED FOR RECONCILIATION Source: Calculated from RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 17 June 2020 Office for National Statistics Required by Project Licence Appendix 1, Part A 3, 4 and 6 and Appendix 1, 1.1 (iv)		256.7	259.4	265.0	274.9	283.3	290.6				
<b>A.3. Return on Capital and A.4 Liquidity</b>													
Water Services Regulation Authority Stated RCV (2014/15 Prices) at 31 March	2014/15 prices, £	Source: "Copy-of-RCV-Bazalgette-2020-publ.xlsx", https://www.ofwat.gov.uk/publication/regulatory-capital-values-bazalgette-tunnel-limited-tideway-2/ Zero prior to licence award Required by Project Licence Appendix 1, Part A 3	0	0	148,741,346	478,533,658	962,316,426						
<b>Allowable Project Spend (actual and forecast) - as at October 2020</b>													
Annual Actual Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "Allowable Project Spend Verification No. 45", Mott MacDonald: Thames Tideway ITA Required by Project Licence Appendix 1, Part A 3	0	150,344,662	340,489,147	518,165,900	582,828,772	604,855,688	55,665,486				
Estimated Allowable Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "Regulation Reporting Sep 20" Required by Project Licence Appendix 1, Part A 3	0	0	0	0	0	0	99,061,952				
Forecast Allowable Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "2020 Revenue Statement - ITA Q2 2020-21 Expenditure Forecast Review - Rev 001 - Issued" - for full-year 2020/21, 2021/22 and 2022/23 forecast. The 2020/21 figure is net of expenditure already realised (April to September) Required by Project Licence Appendix 1, Part A 3, 4	0	0	0	0	0	0	421,417,697				
Excluded Project Spend	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".											
Alliance Agreement receipts - expenditure funded by these receipts is treated as Excluded Project Spend and therefore is excluded from the Allowable spend metrics set out above	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".											
BWACC	%	Source: Project Licence, Appendix 1, 1.18 Required by Project Licence Appendix 1, Part A 3, 4, 6, 7, 8				2.497%							
<b>A.5. Opex</b>													
Opex forecast as at October 2020	Outturn prices, £	Note: In line with the Project Licence, zero as all expenditure treated as capex. Required by Project Licence Appendix 1, Part A 5	0	0	0	0	0	0	0	0	0	0	0
<b>A.6. Financing Cost Adjustment</b>													
Financing Cost Adjustment Index Yield - 12 months trailing average at 31 March	%	Source: "FCA yield calculator.xlsx" Calculated with reference to iBoxx BBB data from Lloyds Bank and spot implied inflation rates for 10 year maturity from Bank of England Required by Project Licence Appendix 1, Part A 6	1.30%	1.43%	0.35%	0.01%							
Water Services Regulation Authority Adjusted RCV (Current Prices) at 31 March	Current prices at 31 March of Charging Year	Source: Regulatory Capital Values - Bazalgette Tunnel Limited (Tideway), 1 August 2018 Required by Project Licence Appendix 1, Part A 3	0	0	0	151,310,515	502,087,458	1,043,425,953					
Net Debt at 31 March	Current prices at 31 March of Charging Year	Source: Tideway financial statements as at 31 March 2018 Required by Project Licence Appendix 1, Part A 6	0	0	0	-130,376,913	-315,869,558	-72,091,186					
Notional Debt to RCV ratio	%	Source: Project Licence Appendix 1, 1.42 Required by Project Licence Appendix 1, Part A 6			62.5%								
<b>A 1.4. Tax</b>													
Tax as at October 2020	Outturn prices, £	In line with the Project Licence, zero as the IP is not required to pay corporation tax or any other income-based tax. See Project Licence Appendix 1, Part A 1.4	0	0	0	0	0	0	0	0	0	0	0
<b>A.7. Under/Over Recovered Revenue Adjustment - as at October 2018</b>													
Allowed Revenue	£	Data removed as not required for reconciliation purposes. See "Inputs 2020".											
Amount recovered in respect of Allowed Revenue (to end of September 2018)	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".											
Years of NPV adjustment		Data removed as not required for reconciliation purposes. See "Inputs 2020".											
Amounts received from TWUL in Charging Year (all years of Allowed Revenue)	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".											
<b>A.8. Reconciliation adjustment</b>													
Time since original calculation	Years	See Project Licence, Appendix 1, Part A 8											
Reconcile this year?		Data removed as not required for reconciliation purposes. See "Inputs 2020".											
Allowed Revenue as per most recently submitted Revenue Statement (excluding building block reconciliation)	£	Data removed as not required for reconciliation purposes. See "Inputs 2020".											
<b>A.11. Additional Return on Capital Building Block</b>													
Additional Allowable Project Spend		Not applicable at present. Inputs to be added if this building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11											
<b>A 1.6.4. Net Present Value Adjustment</b>													
End of first charging year		Last day of the First Charging Year				31/03/2016							
Licence Award		Date of Licence award				24/08/2015							

BBRA Calculation 2018

Building Block

Unit	Notes/description	2013/14	2014/15	First Charging	Second Charging	Third Charging	Fourth	Fifth	2019/20
				Year	Year	Year	Charging Year	Charging Year	
Year starts				2015/16	2016/17	2017/18	2018/19	2019/20	
Year ends				01/04/2015	01/04/2016	01/04/2017	01/04/2018	01/04/2019	
Year t-2				31/03/2016	31/03/2017	31/03/2018	31/03/2019	31/03/2020	
Year t-1				2013/14	2014/15	2015/16	2016/17	2017/18	
Year t				2014/15	2015/16	2016/17	2017/18	2018/19	
Year t+1				2015/16	2016/17	2017/18	2018/19	2019/20	
Year t+2				2016/17	2017/18	2018/19	2019/20	2020/21	
				2017/18	2018/19	2019/20	2020/21	2021/22	
1.1 2014/15 RPI Adjustment Factor	A factor calculated for each Charging Year to express costs associated with that year in a 2014/15 price base. See Project Licence, Appendix 1, 1.1								
(a) for the purposes of calculating Forecast Allowable Project Spend for Charging Year Yt+1, estimated Allowable Project Spend for the said Charging Year shall be deflated from a price base in Charging Year Yt+1 to the Base RPI Index year (2014/15), using an adjustment factor derived from multiplying the factors set out in (i), (ii), (iii) and (iv) below:									
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 commences	%								1.3%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 ends	%								2.2%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt commences	%								
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt ends	%								
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt-1 commenced	%								
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt commenced	%								
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt+1 commenced	%								0.6%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt-1 commenced	%								
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt-1 ends	%								
Base RPI	Year average RPI for 2014/15, used as base year RPI								256.7
Charging Year Yt-2, or where this is on or before Base RPI Index year, 2014/15	Year average RPI for Charging Year T-2 (or 2014/15 where this is later)								274.9
Charging Year Yt-1	NEW ROW ADDED FOR RECONCILIATION Year average RPI for Charging Year T-1								283.3
Charging Year Yt	NEW ROW ADDED FOR RECONCILIATION Year average RPI for Charging Year T								290.6
1.1 (i)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T+1 to Charging Year T								1.01
1.1 (ii)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T to Charging Year T-1								1.03
1.1 (iii)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T-1 to Charging Year T-2								1.07
1.1 (iv)	Factor used to adjust prices from Charging Year T-2 to Base RPI Index year								1.11
RPI Adjustment Factor Charging Year T+1	Combines factors (i), (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T+1 to 2014/15 price base.								1.15
RPI Adjustment Factor Charging Year T	Combines factors (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T to 2014/15 price base.								1.13
RPI Adjustment Factor Charging Year T-1	Combines factors (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T-1 to 2014/15 price base.								1.10
RPI Adjustment Factor Charging Year T-2	Equal to factor (iv) above - used to adjust prices from Charging Year T-2 to 2014/15 price base.								1.07
Applicable Change in Revenue RPI	RPI in November of previous Charging Year relative to 2014/15 base year	0.96	0.98	1.01	1.01	1.03	1.07		1.11
RPI	RPI in November of Charging Year T-1	245.6	252.1	259.8	259.8	265.5	275.8		284.6
RPIbase (Base RPI Index)	Average RPI for 2014/15	256.7	256.7	256.7	256.7	256.7	256.7		256.7
A.1. Allowed Revenue	Total Allowed Revenue calculated as the total of the building blocks below, in accordance with Project Licence, Appendix 1, 1.4. See Statement of calculation 2020 for further detail.								61,979,697
A.3. Return on Capital	The Return on Capital building block allows the IP to earn a return on capital in relation to the forecast average RCV in the Charging Year in question. See Project Licence, Appendix 1, Part A 3								48,658,381
Ofwat Stated RCV for Yt-2	RCV at the end of Charging Year T-2 as published by Ofwat by 1 September following the end of the Charging Year								962,316,426
OPRCV Yt-1	Opening RCV for Charging Year T-1								962,316,426
2014/15 RPI Adjustment Factor Yt-1	Scalar to adjust forecast costs for Charging Year T-1 to 2014/15 price base								1.13
Annual Actual Project Spend Yt-1	Allowable Project Spend (verified by the ITA) incurred in Charging Year T-1								528,020,889
Estimated Allowable Project Spend Yt-1	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T-1								0
Forecast Allowable Project Spend Yt-1	Allowable Project Spend forecast to be incurred in Charging Year T-1								0
OPRCV Yt	Opening RCV for Charging Year T - the sum of opening RCV for Charging Year T-1 and all Allowable Project Spend in that year								1,490,337,315
2014/15 RPI Adjustment Factor Yt	Scalar to adjust forecast costs for Charging Year T to 2014/15 price base								1.13
Annual Actual Project Spend Yt	Allowable Project Spend (verified by the ITA) incurred in Charging Year T								534,150,162
Estimated Allowable Project Spend Yt	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T								0
Forecast Allowable Project Spend Yt	Allowable Project Spend forecast to be incurred in Charging Year T								0
CPRCV Yt	Closing RCV for Charging Year T - the sum of opening RCV for Charging Year T and all Allowable Project Spend in that year								2,024,487,477
YARCV Yt	Year average RCV for Charging Year T								1,757,412,396
A.4. Liquidity	The Liquidity building block allows the IP a liquidity allowance (return on capital) in relation to the incremental average RCV in the year following the Charging Year in question. See Project Licence, Appendix 1, Part A 4								14,337,207
OPRCV Yt+1	Opening RCV for Charging Year T+1								2,024,487,477
2014/15 RPI Adjustment Factor Yt+1	Scalar to adjust forecast costs for Charging Year T+1 to 2014/15 price base								1.15
Annual Actual Project Spend for year Yt+1	NEW ROW ADDED FOR RECONCILIATION Allowable Project Spend (verified by the ITA) incurred in Charging Year T+1								48,452,910.90
Estimated Allowable Project Spend for year Yt+1	NEW ROW ADDED FOR RECONCILIATION Allowable Project Spend (not verified by the ITA) incurred in Charging Year T+1								86,226,496.30
Forecast Allowable Project Spend for year t+1	Allowable Project Spend forecast to be incurred in Charging Year T+1								306,814,621
CPRCV Yt+1	Closing RCV for Charging Year T+1								2,525,981,507
FYARCV Yt+1	Average RCV for Charging Year T+1								2,275,234,492
A.5. Opex	In line with the Project Licence, the Opex building block is zero as all costs are accounted for as capital expenditure. See Project Licence, Appendix 1, Part A 5								0
A.6. Financing Cost Adjustment building block	The Financing Cost Adjustment building block is intended to protect against movements in the market cost of debt, by comparing a measure of financing costs at an annual reference point to a base reference point of March 2015. See Project Licence, Appendix 1, Part A 6								0
Financing Cost Adjustment Yt									461,614
Financing Cost Adjustment Index Yield	See Project Licence Appendix 1, Part A 6.3								-1,016,891
Base Reference Point (BRP)	The historic 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March 2015								0
Annual Reference Point (ARP)	The historic 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March of Charging Year Yt-2								0
BRP-ARP	Difference between BRP and ARP								0
Market Cost of Debt Adjustment Factor (absolute)	See Project Licence Appendix 1 Part A 6.7								0
Market Cost of Debt Adjustment Factor (corrected sign)	See Project Licence Appendix 1 Part A 6.7								0
Net Debt in Charging Year Yt-2	Net Debt at the end of Charging Year T-2 as defined in Project Licence Appendix 1, 1.41								0
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-2	RCV at the end of Charging Year T-2 in then current prices								0
National Debt to RCV Ratio	As defined in Project Licence Appendix 1, 1.42								62.5%
National Net Debt in Charging Year Yt-2	RCV multiplied by National Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9								62.5%
Net Debt in Charging Year Yt-3	Net Debt at the end of Charging Year T-3 as defined in Project Licence Appendix 1, 1.41								0
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-3	RCV at the end of Charging Year T-3 in then current prices								0
National Debt to RCV Ratio	As defined in Project Licence Appendix 1, 1.42								62.5%
National Net Debt in Charging Year Yt-3	RCV multiplied by National Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9								62.5%
Applicable Change in Revenue RPI for Charging Year Yt									1.01
Applicable Change in Revenue RPI for Charging Year Yt-2									0.96
A.1.4. Tax	In line with the Project Licence, zero as the IP is not required to pay corporation tax or any other income-based tax. See Project Licence Appendix 1, Part A 1.4								0
A.7. Under/Over Recovered Revenue Adjustment	REMOVED FROM THIS RECONCILIATION SHEET AS RECONCILED SEPARATELY, AS UNDER/OVER RECOVERED REVENUE IN RELATION TO ALL APPLICABLE CHARGING YEARS IS RECONCILED IN CALCULATION 2020. The revenue adjustment building block is to reconcile for under/over recovered Allowed Revenue in previous Charging Years. See Project Licence, Appendix 1, Part A 7								0
Allowed Revenue	Allowed Revenue as submitted in 2016 updated revised Revenue Statement								0
Amount recovered in respect of Allowed Revenue (to end of September 2018)	Amount collected by Thames Water and received by Tideway in respect of 2016/17 and 2017/18 Allowed Revenue, prior to the end of September 2018.								0
Amount recovered in respect of Allowed Revenue (to end of September 2017)	Amount collected by Thames Water and received by Tideway in respect of 2016/17 Allowed Revenue, prior to the end of September 2017.								0
Applicable Change in Revenue RPI	RPI in November of previous Charging Year relative to 2014/15 base year								62.5%
Years of NPV adjustment	Represents the number of years of NPV adjustment required - two years for a Charging Year being reconciled for the first time, and one year to reconcile further amounts received in respect of Charging Years already reconciled. See "Statement of Calculation 2018"								62.5%
Amounts in respect of prior Charging Years not yet reconciled (unadjusted)	Further amounts received in respect of Charging Years that have already been reconciled.								0
Reconciliation amounts - Charging Year T-2 (unadjusted)	Difference between Allowed Revenue for a Charging Year and the amount collected by Thames Water and received by Tideway in respect of that Allowed Revenue.								0
Reconciliation amounts (NPV-adjusted)	Reconciliation amount as calculated above, NPV-adjusted for the delay between the original Charging Year and the year of reconciliation using the BWACC and Applicable Change in Revenue RPI.								0
Allowed Revenue	Allowed Revenue as submitted in 2016 updated revised Revenue Statement								0
Amount recovered in respect of Allowed Revenue (to end of September 2018)	Amount collected by Thames Water and received by Tideway in respect of 2016/17 and 2017/18 Allowed Revenue, prior to the end of September 2018.								0
Amount recovered in respect of Allowed Revenue (to end of September 2017)	Amount collected by Thames Water and received by Tideway in respect of 2016/17 Allowed Revenue, prior to the end of September 2017.								0
Applicable Change in Revenue RPI	RPI in November of previous Charging Year relative to 2014/15 base year								62.5%
Years of NPV adjustment	Represents the number of years of NPV adjustment required - two years for a Charging Year being reconciled for the first time, and one year to reconcile further amounts received in respect of Charging Years already reconciled. See "Statement of Calculation 2018"								62.5%
Amounts in respect of prior Charging Years not yet reconciled (unadjusted)	Further amounts received in respect of Charging Years that have already been reconciled.								0
Reconciliation amounts - Charging Year T-2 (unadjusted)	Difference between Allowed Revenue for a Charging Year and the amount collected by Thames Water and received by Tideway in respect of that Allowed Revenue.								0
Reconciliation amounts (NPV-adjusted)	Reconciliation amount as calculated above, NPV-adjusted for the delay between the original Charging Year and the year of reconciliation using the BWACC and Applicable Change in Revenue RPI.								0
A.8. Reconciliation adjustment	REMOVED FROM THIS RECONCILIATION SHEET AS RECONCILED SEPARATELY IN BBRA CALCULATION 2016 Reconciliation for updated expenditure and inflation data to reflect realised actuals and updated forecasts. See Project Licence, Appendix 1, Part A 8								0
Reconcile this year?	Revenue for a given Charging Year is subject to building block reconciliation adjustment where estimated or forecast expenditure or inflation inputs were used the last time that year's revenue was calculated. Defined as follows: 1 = yes, 0 = no								0
Time since original calculation	Represents the number of years since revenue was first calculated to feed into the NPV adjustment of the reconciliation adjustment.								0
Allowed Revenue (as at October 2018)	Allowed Revenue recalculated using updated expenditure and inflation data. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation. See BBRA Calculation 2015, BBRA Calculation 2016 and BBRA Calculation 2017.								0
Allowed Revenue (as at October 2017)	Allowed Revenue as submitted in 2017 updated revised Revenue Statement. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation.								0
Applicable Change in Revenue RPI (year in which original calculation was made)									1.01
Applicable Change in Revenue RPI (current year)									0.96
Reconciliation amounts (unadjusted)	Adjustment calculated as difference between updated calculation and previous year's calculation, prior to NPV adjustment.								0
Reconciliation amounts (NPV-adjusted)	Adjustment calculated as difference between updated calculation and previous year's calculation, post NPV-adjustment using BWACC and Applicable Change in Revenue RPI.								0
A.11. Additional Return on Capital Building Block	Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IRR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11								0

A.11. Additional Liquidity Building Block

£ *Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11*

## BBRA Inputs 2017

	Unit	Source/notes	2012/13	2013/14	2014/15	First Charging Year 2015/16	Second charging year 2016/17	Third Charging Year 2017/18	Fourth Charging Year 2018/19	Fifth Charging Year 2019/20	Sixth Charging Year 2020/21	Seventh Charging Year 2021/22
						01/04/2015 31/03/2016	01/04/2016 31/03/2017	01/04/2017 31/03/2018	01/04/2018 31/03/2019	01/04/2019 31/03/2020	01/04/2020 31/03/2021	01/04/2021 31/03/2022
Year starts												
Year ends												
Year t-2						2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Year t-1						2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Year t						2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Year t+1						2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Year t+2						2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
<b>1.1 2014/15 RPI Adjustment Factor</b>												
Forecast RPI Adjustment Factor for the calendar year in which Charging Year commences	%	UPDATED FOR RECONCILIATION Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii)									1.3%	2.2%
Forecast RPI Adjustment Factor for the calendar year in which Charging Year ends	%	UPDATED FOR RECONCILIATION Source: Average independent new forecasts for RPI, Table M3, "Forecasts for the UK economy: a comparison of independent forecasts", HM Treasury, August 2020 Required by Project Licence Appendix 1, 1.1 (i), (ii)									2.2%	3.3%
RPI, September of Charging Year		UPDATED FOR RECONCILIATION Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 21 October 2020, Office for National Statistics. Required by Project Licence Appendix 1, 1.1 (ii)			257.6	259.6	264.9	275.1	284.1	291.0	294.3	
RPI, March of Charging Year		UPDATED FOR RECONCILIATION Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 17 June 2020, Office for National Statistics Required by Project Licence Appendix 1, 1.1 (ii)	254.8	257.1	261.1	269.3	278.3	285.1	292.6			
<b>Applicable Change in Revenue RPI</b>												
RPI (RPI for November in Charging Year Yt-1)		Source: RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 16 December 2020, Office for National Statistics. Required by Project Licence Appendix 1, Part A 3, 4 and 6 Note: for both First and Second Charging years, stated RPI is for November 2015, as Allowed Revenue for both these years is being calculated together	245.6	252.1	259.8	259.8	265.5	275.8				
Year average RPI		UPDATED FOR RECONCILIATION Source: Calculated from RPI (All Items) index, Consumer Price Inflation Reference Tables, Table 36, 17 June 2020 Office for National Statistics Required by Project Licence Appendix 1, Part A 3, 4 and 6 and Appendix 1, 1.1 (iv)		256.7	259.4	265.0	274.9	283.3	290.6			
<b>A.3. Return on Capital and A.4 Liquidity</b>												
Water Services Regulation Authority Stated RCV (2014/15 Prices) at 31 March	2014/15 prices, £	Source: "Copy-of-RCV-Bazalgette-2020-publ.xlsx", https://www.ofwat.gov.uk/publication/regulatory-capital-values-bazalgette-tunnel-limited-tideway-2/ Zero prior to licence award Required by Project Licence Appendix 1, Part A 3	0	0	148,741,346	478,533,658						
<b>Allowable Project Spend (actual and forecast) - as at October 2020</b>												
Annual Actual Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "Allowable Project Spend Verification No. 45", Mott MacDonald: Thames Tideway ITA Required by Project Licence Appendix 1, Part A 3	0	150,344,662	340,489,147	518,165,900	582,828,772	604,855,688				
Estimated Allowable Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "Regulation Reporting Sep 20" Required by Project Licence Appendix 1, Part A 3	0	0	0	0	0	0				
Forecast Allowable Project Spend	Outturn prices, £	UPDATED FOR RECONCILIATION Source: "2020 Revenue Statement - ITA Q2 2020-21 Expenditure Forecast Review - Rev 001 - Issued" - for full-year 2020/21, 2021/22 and 2022/23 forecast. The 2020/21 figure is net of expenditure already realised (April to September) Required by Project Licence Appendix 1, Part A 3, 4	0	0	0	0	0	0				
Excluded Project Spend	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".										
Alliance Agreement receipts - expenditure funded by these receipts is treated as Excluded Project Spend and therefore is excluded from the Allowable spend metrics set out above	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".										
BWACC	%	Source: Project Licence, Appendix 1, 1.18 Required by Project Licence Appendix 1, Part A 3, 4, 6, 7, 8				2.497%						
<b>A.5. Opex</b>												
Opex forecast as at October 2020	Outturn prices, £	Note: In line with the Project Licence, zero as all expenditure treated as capex. Required by Project Licence Appendix 1, Part A 5	0	0	0	0	0	0				
<b>A.6. Financing Cost Adjustment</b>												
Financing Cost Adjustment Index Yield - 12 months trailing average at 31 March	%	Source: "FCA yield calculator.xlsx" Calculated with reference to iBoxx BBB data and spot implied inflation rates for 10 year maturity from Bank of England. Required by Project Licence Appendix 1, Part A 6	1.30%	1.43%	0.35%							
Water Services Regulation Authority Adjusted RCV (Current Prices) at 31 March	Current prices at 31 March of Charging Year	Source: Regulatory Capital Values - Bazalgette Tunnel Limited (Tideway), Ofwat, 14 July 2017 Required by Project Licence Appendix 1, Part A 3	0	0	0	151,310,515	502,087,458					
Net Debt at 31 March	Current prices at 31 March of Charging Year	Source: Tideway financial statements as at 31 March 2017 Required by Project Licence Appendix 1, Part A 6	0	0	0	-130,376,913	-315,869,558					
Notional Debt to RCV ratio	%	Source: Project Licence Appendix 1, 1.42 Required by Project Licence Appendix 1, Part A 6			62.5%							
<b>A 1.4. Tax</b>												
Tax as at October 2020	Outturn prices, £	In line with the Project Licence, zero as the IP is not required to pay corporation tax or any other income-based tax. See Project Licence Appendix 1, Part A 1.4	0	0	0	0	0	0	0	0	0	0
<b>A.7. Under/Over Recovered Revenue Adjustment - as at October 2017</b>												
Allowed Revenue (including building block reconciliation)	£	Data removed as not required for reconciliation purposes. See "Inputs 2020".										
Amount recovered in respect of 2016/17 Allowed Revenue (to end of September 2017)	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".										
Amounts received from TWUL in Charging Year (all years of Allowed Revenue)	Outturn prices, £	Data removed as not required for reconciliation purposes. See "Inputs 2020".										
<b>A.8. Reconciliation adjustment</b>												
Time since original calculation	Years	See Project Licence, Appendix 1, Part A 8 Data removed as not required for reconciliation purposes. See "Inputs 2020".										
Reconcile this year?		Data removed as not required for reconciliation purposes. See "Inputs 2020".										
Allowed Revenue as per most recently submitted Revenue Statement (excluding building block reconciliation)	£	Data removed as not required for reconciliation purposes. See "Inputs 2020".										
<b>A.11. Additional Return on Capital Building Block</b>												
Additional Allowable Project Spend		Not applicable at present. Inputs to be added if this building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11										
<b>A 1.6.4. Net Present Value Adjustment</b>												
End of first charging year		Last day of the First Charging Year				31/03/2016						
Licence Award		Date of Licence award				24/08/2015						

BBRA Calculation 2017

Building Block

Unit	Notes/description	2013/14	2014/15	First Charging	Second	Third Charging	Fourth Charging Year
				Year	Charging Year	Year	Year
				2015/16	2016/17	2017/18	2018/19
Year starts				01/04/2015	01/04/2016	01/04/2017	01/04/2018
Year ends				31/03/2016	31/03/2017	31/03/2018	31/03/2019
Year t-2				2013/14	2014/15	2015/16	2016/17
Year t-1				2014/15	2015/16	2016/17	2017/18
Year t				2015/16	2016/17	2017/18	2018/19
Year t+1				2016/17	2017/18	2018/19	2019/20
Year t+2				2017/18	2018/19	2019/20	2020/21
1.1 2014/15 RPI Adjustment Factor	A factor calculated for each Charging Year to express costs associated with that year in a 2014/15 price base. See Project Licence, Appendix 1, 1.1						
(a) for the purposes of calculating Forecast Allowable Project Spend for Charging Year Yt+1, estimated Allowable Project Spend for the said Charging Year shall be deflated from a price base in Charging Year Yt+1 to the Base RPI Index year ([2014/15]), using an adjustment factor derived from multiplying the factors set out in (i), (ii), (iii) and (iv)	NOT USED FOR RECONCILIATION Forecast RPI - see input sheet for description of source						
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 commences	NOT USED FOR RECONCILIATION Forecast RPI - see input sheet for description of source						
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt+1 ends	NOT USED FOR RECONCILIATION Forecast RPI - see input sheet for description of source						
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt commences	NOT USED FOR RECONCILIATION Forecast RPI - see input sheet for description of source						
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt ends	NOT USED FOR RECONCILIATION Forecast RPI - see input sheet for description of source						
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt-1 commenced	NOT USED FOR RECONCILIATION Calculated with reference to the index values for March and September to capture April to September inflation (see "Statement of calculation 2018")						
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt commenced	NOT USED FOR RECONCILIATION Calculated with reference to the index values for March and September to capture April to September inflation (see "Statement of calculation 2018")						
Percentage movement in the RPI (All Items) index as published by Office for National Statistics for the period April to September in the calendar year in which Charging Year Yt+1 commenced	NOT USED FOR RECONCILIATION Calculated with reference to the index values for March and September to capture April to September inflation (see "Statement of calculation 2018")						
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt-1 commenced	NOT USED FOR RECONCILIATION Forecast RPI - see input sheet for description of source						
Forecast RPI Adjustment Factor for the calendar year in which Charging Year Yt-1 ends	NOT USED FOR RECONCILIATION Forecast RPI - see input sheet for description of source						
Base RPI	Year average RPI for 2014/15, used as base year RPI						256.7
Charging Year Yt-2, or where this is on or before Base RPI Index year, 2014/15	Year average RPI for Charging year T-2 (or 2014/15 where this is later)						265.0
Charging Year Yt-1	NEW ROW ADDED FOR RECONCILIATION Year average RPI for Charging Year T-1						274.9
Charging Year Yt	NEW ROW ADDED FOR RECONCILIATION Year average RPI for Charging Year T						283.3
Charging Year Yt+1	NEW ROW ADDED FOR RECONCILIATION Year average RPI for Charging year T+1						290.6
1.1 (i)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T-1 to Charging Year T						1.03
1.1 (ii)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T-1 to Charging Year T-1						1.03
1.1 (iii)	CALCULATION ALTERED FOR RECONCILIATION Factor used to adjust prices from Charging Year T-1 to Charging Year T-1						1.04
1.1 (iv)	Factor used to adjust prices from Charging Year T-2 to Base RPI Index year						1.03
RPI Adjustment Factor Charging Year T+1	Combines factors (i), (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T+1 to 2014/15 price base.						1.13
RPI Adjustment Factor Charging Year T	Combines factors (ii), (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T to 2014/15 price base.						1.10
RPI Adjustment Factor Charging Year T-1	Combines factors (iii) and (iv) above to calculate factor used to adjust prices from Charging Year T-1 to 2014/15 price base.						1.07
RPI Adjustment Factor Charging Year T-2	Equal to factor (iv) above - used to adjust prices from Charging Year T-2 to 2014/15 price base.						1.03
Applicable Change in Revenue RPI	RPI in November of previous Charging Year relative to 2014/15 base year	0.96	0.98	1.01	1.01	1.03	1.07
RPIt	RPI in November of Charging Year T-1	245.6	252.1	259.8	259.8	265.5	275.8
RPIbase (Base RPI Index)	Average RPI for 2014/15	256.7	256.7	256.7	256.7	256.7	256.7
A.1. Allowed Revenue	Total Allowed Revenue calculated as the total of the building blocks below, in accordance with Project Licence, Appendix 1, 1.4. See Statement of calculation 2020 for further detail.						47,615,449
A.3. Return on Capital	The Return on Capital building block allows the IP to earn a return on capital in relation to the forecast average RCV in the Charging Year in question. See Project Licence, Appendix 1, Part A 3						32,904,067
Owat Stated RCV for Yt-2	RCV at the end of Charging Year T-2 as published by Owat by 1 September following the end of the Charging Year						478,533,658
OPRCV Yt-1	Opening RCV for Charging Year T-1.						478,533,658
2014/15 RPI Adjustment Factor Yt-1	Scalar to adjust forecast costs for Charging Year T-1 to 2014/15 price base						1.07
Annual Actual Project Spend Yt-1	Allowable Project Spend (verified by the ITA) incurred in Charging Year T-1						483,782,768
Estimated Allowable Project Spend Yt-1	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T-1						0
Forecast Allowable Project Spend Yt-1	Allowable Project Spend forecast to be incurred in Charging Year T-1						0
OPRCV Yt	Opening RCV for Charging Year T - the sum of opening RCV for Charging year T-1 and all Allowable Project Spend in that year						962,316,426
2014/15 RPI Adjustment Factor Yt	Scalar to adjust forecast costs for Charging Year T to 2014/15 price base						1.10
Annual Actual Project Spend Yt	Allowable Project Spend (verified by the ITA) incurred in Charging Year T						528,020,889
Estimated Allowable Project Spend Yt	Allowable Project Spend (not verified by the ITA) incurred in Charging Year T						0
Forecast Allowable Project Spend Yt	Allowable Project Spend forecast to be incurred in Charging Year T						0
CPRCV Yt	Closing RCV for Charging Year T - the sum of opening RCV for Charging Year T and all Allowable Project Spend in that year						1,490,337,315
YARCV Yt	Year average RCV for Charging Year T						1,226,326,870
A.4. Liquidity	The Liquidity building block allows the IP a liquidity allowance (return on capital) in relation to the incremental average RCV in the year following the Charging Year in question. See Project Licence, Appendix 1, Part A 4						14,249,768
OPRCV Yt+1	Opening RCV for Charging Year T+1						1,490,337,315
2014/15 RPI Adjustment Factor Yt+1	Scalar to adjust forecast costs for Charging Year T+1 to 2014/15 price base						1.13
Annual Actual Project Spend for year Yt+1	NEW ROW ADDED FOR RECONCILIATION Allowable Project Spend (verified by the ITA) incurred in Charging Year T+1						534,150,162
Estimated Allowable Project Spend for year Yt+1	NEW ROW ADDED FOR RECONCILIATION Allowable Project Spend (not verified by the ITA) incurred in Charging Year T+1						0
Forecast Allowable Project Spend for year t+1	Allowable Project Spend forecast to be incurred in Charging Year T+1						0
CPRCV Yt+1	Closing RCV for Charging Year T+1						2,024,487,477
FYARCV Yt+1	Average RCV for Charging Year T+1						1,757,412,396
A.5. Opex	In line with the Project Licence, the Opex building block is zero as all costs are accounted for as capital expenditure. See Project Licence, Appendix 1, Part A 5						0
A.6. Financing Cost Adjustment building block	The Financing Cost Adjustment building block is intended to protect against movements in the market cost of debt, by comparing a measure of financing costs at an annual reference point to a base reference point of March 2015. See Project Licence, Appendix 1, Part A 6						461,614
Financing Cost Adjustment Yt				0	0	0	461,614
Financing Cost Adjustment Index Yield	See Project Licence Appendix 1, Part A 6.3			1.30%	1.43%	0.35%	
Base Reference Point (BRP)	The historic 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March 2015			1.30%	1.30%	1.30%	1.30%
Annual Reference Point (ARP)	The historic 12 months' trailing average of the Financing Cost Adjustment Index Yield as at 31 March of Charging Year Yt-2			1.30%	1.30%	1.43%	0.35%
BRP-ABP	Difference between BRP and ABP			0.0%	0.0%	-0.1%	0.9%
Market Cost of Debt Adjustment Factor (absolute)	See Project Licence Appendix 1 Part A 6.7			0.0%	0.0%	0.0%	0.2%
Market Cost of Debt Adjustment Factor (corrected sign)	See Project Licence Appendix 1 Part A 6.7			0.0%	0.0%	0.0%	-0.2%
Net Debt in Charging Year Yt-2	Net Debt at the end of Charging Year T-2 as defined in Project Licence Appendix 1, 1.41			0	0	-130,376,913	-315,869,558
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-2	RCV at the end of Charging Year T-2 in then current prices			0	0	151,310,515	502,087,458
Notional Debt to RCV Ratio	As defined in Project Licence Appendix 1, 1.42			62.5%	62.5%	62.5%	62.5%
Notional Net Debt in Charging Year Yt-2	RCV multiplied by Notional Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9			0	0	94,569,072	313,304,661
Net Debt in Charging Year Yt-3	Net Debt at the end of Charging Year T-3 as defined in Project Licence Appendix 1, 1.41			0	0	0	-130,376,913
Water Services Regulation Authority Adjusted RCV (Current Prices) in Charging Year Yt-3	RCV at the end of Charging Year T-3 in then current prices			0	0	0	151,310,515
Notional Debt to RCV Ratio	As defined in Project Licence Appendix 1, 1.42			62.5%	62.5%	62.5%	62.5%
Notional Net Debt in Charging Year Yt-3	RCV multiplied by Notional Debt to RCV ratio. See Project Licence Appendix 1 Part A 6.9			0	0	0	94,569,072
Applicable Change in Revenue RPI for Charging Year Yt				1.01	1.01	1.03	1.07
Applicable Change in Revenue RPI for Charging Year Yt-2				0.96	0.98	1.01	1.01
A.1.4. Tax	In line with the Project Licence, zero as the IP is not required to pay corporation tax or any other income-based tax. See Project Licence Appendix 1, Part A 1.4						0
A.7. Under/Over Recovered Revenue Adjustment	REMOVED FROM THIS RECONCILIATION SHEET AS RECONCILED SEPARATELY, AS UNDER/OVER RECOVERED REVENUE IN RELATION TO ALL APPLICABLE CHARGING YEARS IS RECONCILED IN CALCULATION 2020. The revenue adjustment building block is to reconcile for under/over recovered Allowed Revenue in previous Charging Years. See Project Licence, Appendix 1, Part A 7						
Allowed Revenue	Allowed Revenue as submitted in 2015 updated revised Revenue Statement						
Amount recovered in respect of 2016/17 Allowed Revenue (to end of September 2017)	Amount collected by Thames Water and received by Tideway in respect of 2016/17 Allowed Revenue, prior to the end of September 2017.						
Applicable Change in Revenue RPI (year in which original calculation was made)							
Applicable Change in Revenue RPI (current year)							
Reconciliation amounts (unadjusted)	Difference between Allowed Revenue for a Charging Year and the amount collected by Thames Water and received by Tideway in respect of that Allowed Revenue.						
Reconciliation amounts (NPV-adjusted)	Reconciliation amount as calculated above, NPV-adjusted for the delay between the original Charging Year and the year of reconciliation using the BWACC and Applicable Change in Revenue RPI.						
A.8. Reconciliation adjustment	REMOVED FROM THIS RECONCILIATION SHEET AS RECONCILED SEPARATELY IN BBRA CALCULATION 2016 Reconciliation for updated expenditure and inflation data to reflect realised actuals and updated forecasts. See Project Licence, Appendix 1, Part A 8						
Reconcile this year?	Revenue for a given Charging Year is subject to building block reconciliation adjustment where estimated or forecast expenditure or inflation inputs were used the last time that year's revenue was calculated. Defined as follows: 1 = yes, 0 = no						
Time since original calculation	Represents the number of years since revenue was first calculated to feed into the NPV adjustment of the reconciliation adjustment.						
Allowed Revenue (as at October 2017)	Allowed Revenue recalculated using updated expenditure and inflation data. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation. See BBRA Calculation 2015 and BBRA Calculation 2016						
Allowed Revenue (as at October 2016)	Allowed Revenue as submitted in 2016 updated revised Revenue Statement. Excludes the under/over recovered revenue adjustment and the reconciliation adjustment building blocks, as these building blocks are not subject to reconciliation.						
Applicable Change in Revenue RPI (year in which original calculation was made)							
Applicable Change in Revenue RPI (current year)							
Reconciliation amounts (unadjusted)	Adjustment calculated as difference between updated calculation and previous year's calculation, prior to NPV adjustment.						
Reconciliation amounts (NPV-adjusted)	Adjustment calculated as difference between updated calculation and previous year's calculation, post NPV-adjustment using BWACC and Applicable Change in Revenue RPI.						
A.11. Additional Return on Capital Building Block	Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11						
A.11. Additional Liquidity Building Block	Not applicable. To be added to calculation if building block becomes relevant (i.e. if Tideway makes an IAR Overrun Application to increase Allowable Project Spend above the Threshold Outturn). See Project Licence, Appendix 1, Part A 11						