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Green economic recovery: Draft decisions

Dear Tim,

Thames Water is committed to playing our part in supporting the Green Economic Recovery. Uniquely positioned to create job opportunities in the London/Thames Valley area as the country recovers from the economic impact of the pandemic, and to supporting government targets in achieving demand reduction and protecting the environment, we have carefully considered your Draft Decision on our proposal to bring forward our smart metering proposal.

We are pleased to respond with an adapted proposal, which retains much of the benefits of our initial proposal while reconciling the cost differences highlighted in your draft decision with a financially viable proposal. Our adapted scope will focus on extending the reach of our smart meters across Thames Valley, converting previously unmetered customers. This will allow us to derive the benefits of demand reduction associated with our initial proposal, supporting bill reductions for our customers while improving water supply resilience and generating associated benefits for chalk stream abstraction.

Our package will create around 150 jobs and includes the roll out of 200,000 new smart meters in Thames Valley and 4,700 installations of bulk and non-household replacements, representing an investment of £93 million, with no bill impact for our customers this AMP. We set out the details of our proposal in the Appendix.

We consider this an initial tranche of a wider programme, which we could build on as we realise additional efficiencies and are keen to work with you to retain the option to deliver additional benefits as opportunities arise.

Yours sincerely,



Nicola Cocks
Regulation Director

Introduction

Thames Water is pleased to be able to support the Green Economic Recovery (GER) with an adapted proposal to bring forward our smart metering programme which, in addition to supporting economic activity in the London/Thames Valley area, will help lower water demand and support bill reduction, reduce abstraction from sensitive chalk streams and contribute over 21k tonnes of CO2e savings against the UK's carbon reduction targets.

We set out in Section 1 below an adapted GER programme, which remains focused on delivering the economic and environmental benefits of our initial proposal with consideration to Ofwat's assessment in its Draft Decision. We set out the cost considerations for our programme in Section 2, addressing points raised in Ofwat's Draft Decision. The benefits of our programme are detailed in Section 3 and our assessment of the conditions contained in the Draft Decision is set out in Section 4. Section 5 addresses the financeability considerations associated with our programme.

Section 1: Adapted Proposal

Our adapted GER programme retains the focus of continuing the rollout of smart water meters and optimises the benefits of the new scope by prioritising unmeasured households and targeting installations that benefit chalk stream areas. The adapted plan will deliver:

- 200,000 smart meter installations on unmeasured household properties in Thames Valley
- 3,000 smart meters on non-household (NHH) properties in London and Thames Valley
- 1,500 smart meters on small bulk sites in London and Thames Valley
- 200 smart meters on large bulk sites in London and Thames Valley
- Approximately 34,000 Smarter Home Visits on newly smart metered households in the Thames Valley
- The same level of communications coverage (e.g. fixed network coverage) as per our original GER programme

Table 1: Breakdown of our adapted GER programme

Adapted GER Programme	No. of Installs	Demand Reduction		Cost (£m)
		Usage (MI/d)	Leakage (MI/d)	TW GER Proposal (£m)
New meters	200,000	11.86	3.26	£69.47
HH Replacements	0	0.00	0.00	£0.90
NHH Replacements	3,000	0.00	0.00	
Small bulk meters	1,500	0.00	0.05	£1.56
Large bulk meters	200	0.00	0.50	
Fixed Network	0	0.00	0.00	£12.77

Adapted GER Programme	No. of Installs	Demand Reduction		Cost (£m)
		Usage (MI/d)	Leakage (MI/d)	TW GER Proposal (£m)
Cex Recharge	0	0.00	0.00	£3.50
SMOC	0	0.00	0.00	£3.50
Portal	0	0.00	0.00	£0.00
Metering Totals	204,700	11.86	3.81	£91.70
Water Efficiency	34,000	3.00	0.00	£1.80
TOTALS		14.86	3.81	£93.50

The change in GER programme scope is driven by the following principles:

- Enable ambitious efficiency initiatives to reduce the cost gap between requested funding (based on actual current and projected costs) and the levels of funding recovery allowance outlined in the GER Draft Decision, to acceptable levels
- Deferring the replacement meter installations to PR24
- Focus on meter installations that increase meter penetration levels in Thames Valley
- Focus on meter installations that deliver the greatest demand reduction benefit at individual property levels (i.e. converting unmeasured households to metered)
- Focus on new meter installations that benefit chalk stream areas and key water resource zones in the Thames Valley
- Include enough NHH and Bulk meter installations to fulfil the water use data requirements of AMP7 annual water balance modelling

Our adapted meter installation programme will deliver the following GER benefits.

- Deliver 14.86 MI/d in customer usage reduction
- Deliver 3.81 MI/d in leakage reduction
- Create around 150 new jobs

Whilst our adapted GER programme delivers fewer meter installations (204k) than the original GER submission (810k), we would seek allowance to continue with meter installation beyond the 204k volume, should any cost and logistics efficiencies enable greater installations volumes to be undertaken within the AMP7 timeframe. This would be a slight change from the Draft Decision which uses an 'up to a maximum number of meters' approach¹.

The agreed allowance for each meter unit-rate (unit-rates) would still apply to any additional installations that could be made beyond the our adapted GER proposal. This method would potentially enable a consistent sized workforce to be maintained from AMP7 to AMP8, which would prevent any demobilisation and remobilisation cost impact on customers.

¹ Ofwat, Green Economic Recovery: Draft Decisions (May 2021). Section 8

We will deliver approximately 34,000 Smarter Home Visits (SHV) to newly smart metered households in the Thames Valley. Our SHVs will focus on households with high usage and/or continuous flow, to maximise demand reductions and reduce the risk of high-bills and customer-side leakage before they occur. This volume of SHVs (34k) represents 17% of the household customer base that will receive a new smart meter, which is a proportion consistent with AMP6 and AMP7 year 1 smart meter data and SHV delivery. Customers will benefit from water efficiency and customer support improvements made to the SHV initiative, which recently won the Water Industry Awards 2021 for Water Efficiency Project of the Year and Overall Winner.

Section 2: Cost assessment

We are seeking review of the meter unit-rate allowances for new and bulk meter installation within our Adapted GER proposal. We have provided the necessary supporting evidence in paragraphs A and B below. We have also provided an explanation for deferring the replacement meter installations to PR24 in paragraph C.

A. New Meters

New Meters - London

The Draft Decision expressed concerns that our GER installations in London are unlikely to be solely internal. We have used all available property data (metering database CustARD, meter contractor field surveys and site proving) to develop our proposal. This property data suggests that almost all 58,000 new HH smart meter installations for London are internal. Our view, based on the available data, is that almost all remaining unmetered properties in London beyond the existing AMP7 metering programme, will require internal installations

Our AMP7 meter programme will complete close to all external dig installations in London (~294k), as well as ~60k internal installations. The total ~354k smart meter installations for London in our AMP7 metering programme are part of our effort to achieve the M01 performance commitment and our demand reduction targets for AMP7. Our GER installations for London have not been included in the already funded PR19 meter installation programme activity, but aim to progress meter penetration through the only remaining individual property installations available.

We therefore request that, consistent with the PR19 approach, the appropriate unit-rate uplift of £154 per meter is applied to these GER internal installations. If this uplift is reinstated, we would seek to include the London internal meter installation into our Adapted GER programme. Any London internal installations would be additional to the 204k meter installations in our Adapted GER programme.

New Meters – Thames Valley – costs of the compulsory programme

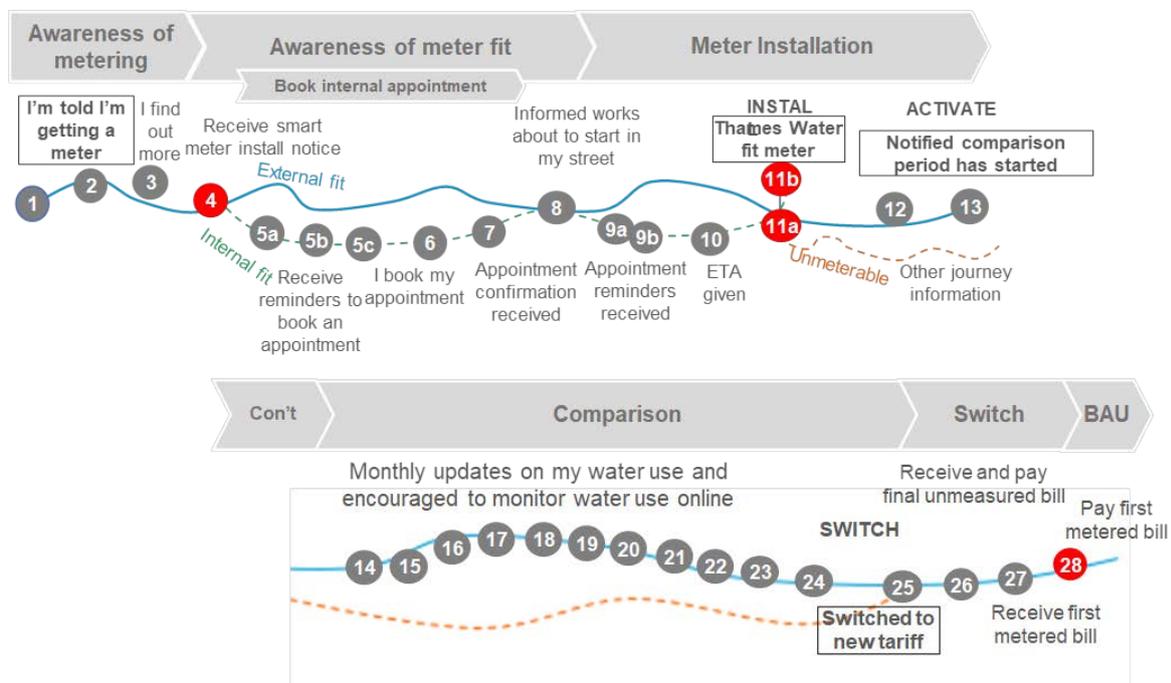
We acknowledge that the GER Draft Decision seeks to maintain consistency with PR19 assessments and pricing. However, we do not agree that, "...the challenges in this region to be comparable to those faced by companies in other regions". Given the compulsory nature of the programme in the Thames Valley, this results in significant additional effort and cost associated with consistent installations across all household property types (not just cheaper screw-ins) and comprehensive customer engagement which is not part of non-compulsory meter installations. This was outlined in Table 3 in our *'Response to T.Griffiths email of 30 April 2021'*.

In PR19 Ofwat allowed an uplift for the compulsory programme in London. Whilst the particular features of London exacerbate the issues of a compulsory programme, the additional costs apply more generally.

Whilst the PR19 metering enhancement model labels many of the cost categories used in the London uplift as ‘London’ factors, the majority of these additional costs are in fact costs relating to compulsory meter installation activities and associated engagement/support costs, and are not specific or limited to just London operations. The only London specific costs are “ULEZ/Congestion, Dartford crossing and Parking”. The remainder of the cost categories relate to the delivery of a compulsory installation programme and a component of these cost categories is relevant to all new meter installations in the Thames Valley area.

The customer journey and engagement investment required on compulsory metering programmes is far more intensive than non-compulsory meter installations, which are typical of other water company programmes and meter costs used as comparisons. Our customer journey map (Figure 1, and shared as Figure 1 in ‘Response to T.Griffiths email of 30 April 2021’) illustrates that only 3-4 of our 29 compulsory metering engagement with every customer (shown in red) are typically used by non-compulsory metering activities.

Figure 1: Compulsory vs non-compulsory meter customer journey



Our previous assessment of the appropriate uplift for the compulsory programme in the Thames Valley used PR19 unit costs to remain consistent with Ofwat’s PR19 approach. However, as our AMP7 programme was primarily London focussed, there was no uplift provided for the Thames Valley at PR19. It is appropriate therefore to update the analysis, using the PR19 approach to estimate the uplift but using our GER unit costs for the Thames Valley’s compulsory installations. The updated rates are included in the attached spreadsheet.

With these unit costs and using the Ofwat PR19 approach, results in an uplift cost of £32.96/meter for our new GER meter installations in the Thames Valley, compared to the figure of £93.74/meter included for compulsory meters in London, included in the Ofwat GER draft decision document.

B. Bulk meter installations

The unit-rates for small bulk meters submitted within our GER programme were based on actual cost rate cards consistent with our AMP7 programme. Cost data from the +1,000 small bulk meters installed in year 1 of AMP7 were used to derive both the cost and install type split values. These costs already take account for the different unit-rate costs associated with dig and screw-in installations, and therefore the additional efficiency challenge applied in the GER Draft Decision should not apply.

Table 2 outlines the small bulk unit-rate cost split between dig and screw-in installations, using total meter installation values from our original GER programme submission (total 60,300 small bulks). The combined value of all dig and screw-in costs was used to derive a single unit-rate for small bulks (approx. £638/meter in 17-18 prices).

Table 2: breakdown of mini bulk meter volumes and unit-rates by installation type

	Volume	Percentage	Unit-rate (£/meter)	Total Cost (£)
Mini Bulks (screw-in)	23,517	39.00%	£143	£3,372,776
Mini Bulks (digs)	36,783	61.00%	£955	£35,127,375
TOTALS	60,300	100.00%		£38,500,151

As our small bulk meter unit-rate already takes account of the dig and screw-in installation split proportion, we request that the GER Draft Decision efficiency challenge be removed to allow the full funding required for small bulk meters.

We would apply any revised unit-rate allowance to the Adapted GER programme volumes (1,500 bulks).

C. Replacement of basic meters in household and non-household properties

Ofwat's allowance of up to £24.2 million against the requested £71.5 million, does not cover enough of the required funding to include meter replacements within our adapted GER programme. Whilst we welcome the inclusion of some uplift for technology and London installation costs, the position within the GER Draft Decision that all replacement 'do job' costs are funded through Botex means that we are unable to accommodate this part of the programme at this time as our AMP7 Botex funding is already fully allocated to fundamental capital maintenance operations.

We have therefore removed the 470k proposed replacement installations from the adapted GER programme and propose to defer them to PR24. We would seek a consistent approach to dumb-to-smart meter uplift allowance for any replacement meter installations included in our PR24 submissions. Should circumstances change in the next few years, we would like to retain the option of including some replacement meters in the adapted GER programme. Drivers for including some replacement meters could include; local authority request, water resource needs specific to

geographic regions, financial efficiency and logistic capabilities. We would welcome the opportunity to discuss this with Ofwat during AMP7.

Section 3: Benefits

The following sections provide evidence in response to Draft Decision statements and questions raised during discussions with Ofwat 27th May 2021, in relation to leakage benefit differences between GER and PR19 amounts, applying to new and bulk meter installations.

A. Benefits – GER vs PR19

Our calculation methodology for deriving GER usage and leakage demand reductions is consistent with our PR19 method and outputs. Some litres per household savings values for each PR19 and GER installation will differ, due to the slightly different property type and installation type work mixes across the two programmes (ie. each house type will yield slightly different demand reductions based on physical and occupancy differences).

The usage savings delivered through GER installations would be 100% in addition to the usage demand reductions achieved through PR19 operations. As our GER meter installations would be identifying continuous flows (eg. customer supply pipe leaks) that be potentially identified and addressed through existing PR19 leak find and fix operations, we have applied a '50% factor' to the potential leakage savings values from GER meter installs. This enables an appropriate level of demand reduction benefit from GER meter installations, but reduces the risks of double-counting leakage fixes that are already happening in the same geographic areas as GER meter installs.

Table 3 shows a side-by-side view of PR19 and GER usage and leakage demand reductions that are projected from new smart meter installations on previously unmeasured households. These usage and leakage values are shown in total MI/d and litres saved per meter. The commentary further explains the application of a 50% factor to the projected leakage benefits.

Table 3: Side-by-side comparison of PR19 and GER benefits from new household smart meters

New Household Meter Installations	No. Installs	Demand Reduction (MI/d)			Demand Reduction (litres/meter)		Commentary
		Usage (MI/d)	Leakage (MI/d)	Total	Usage	Leakage	
PR19 AMP7 (IBP2) London only installs	354,617	27.06	13.12	40.18	76.31	37.00	<ul style="list-style-type: none"> • Usage savings per house calculations use the same calculation methodology as per PR19. GER savings differ slightly from PR19 values, due to differences in house type and occupancy levels across the different proportions of meter type work mix. • Leakage savings in GER new meters use the same calculation method as per PR19, but has a 50% factor applied to account for smart meters identifying a portion of the finite continuous flow volumes that are projected to be identified and fixed through existing PR19 leak fix operations. The 50% factors aims to avoid over-estimating leakage savings. Other minor differences occur due to housing type differences between London and Thames Valley, with each housing type offering different CSL benefits.
GER (numbers from original GER submission)	258,000	15.30	4.20	19.50	59.30	16.28	

B. Benefits – Bulk Meters

Bulk meter leakage savings for GER have been generated using the same calculation method as used in PR19, but with some variations to individual site demand reductions.

Demand reduction benefits from small bulk meters were reduced in our AMP7 business plan from the original WRMP19 levels, due to the small volumes and uncertain levels of supply pipe leakage data captured actual small bulk meter installations. The leakage savings forecasted from our GER small bulk meter installations are consistent with our AMP7 business plan values. However, our GER small bulk installations also include a wider range of property types across London and Thames Valley areas, which vary in size, individual property numbers per site and potential savings from each. These small differences in property characteristics results in minor differences in leakage reduction projections.

Table 4: Side-by-side comparison of PR19 and GER benefits from small bulk smart meters

Small Bulk Meter Installations	No. Installs	Demand Reduction (MI/d)			Demand Reduction (litres/meter)	
		Usage (MI/d)	Leakage (MI/d)	Total	Usage	Leakage
PR19 AMP7 (IBP2)	3,786	0.00	0.15	0.15	0.00	39.62
GER (numbers from original GER submission)	60,300	0.00	2.00	2.00	0.00	33.17

Our large bulk meter installations in PR19 are prioritising the sites with the largest demand reduction potential, due to size of site and known water usage rates. This inflates the PR19 per meter leakage savings compared to GER, which will be covering a more standard range of large bulk meter site types and operations. We have applied a '50% factor' to the potential leakage savings values from GER large bulk meter installs to reduce the risks of double-counting leakage fixes that are either already happening in the same geographic areas as GER meter installs, plus issues encountered due non-household site access and/or retailer requirements.

Table 5: Side-by-side comparison of PR19 and GER benefits from large bulk smart meters

Large Bulk Meter Installations	No. Installs	Demand Reduction			Demand Reduction	
		Usage (MI/d)	Leakage (MI/d)	Total	Usage	Leakage
PR19 AMP7 (IBP2)	1,116	0.00	21.20	21.20	0.00	18,996.42
GER (numbers from original GER submission)	2,080	0.00	5.20	5.20	0.00	2,500.00

Section 4: Response to conditions

C. Conditions – Masts

While we support Ofwat's desire to protect customers through its various conditions, we do not consider that it is appropriate to include the condition requiring third party assured evidence that 120 masts (71 macro and 49 macro) in the Thames Valley are installed to receive the GER allowance

associated with the fixed network. This condition would hinder our ability to seek cost efficiencies through the adoption of alternative technologies.

As stated in our response to GER RFI-007 our PR19 submission, which included the 120 mast value, was based on estimates provided from our communication provider Arqiva of what infrastructure might be required to provide enhanced coverage of the SWOX and Guildford WRZs. Our supplier's continued improvement in modelling outputs, technological capability advancement and insight gained through Anglian Water's fixed network (as discussed with Ofwat on April 29th), may result in different communication network requirements to achieve the same coverage outcome.

As noted in the GER Draft Decision, we propose to demonstrate efficiencies to the costs associated with smart meter communications coverage through the adoption of alternative technologies and other measures. The use of masts or alternative technologies with different/multiple suppliers is essentially a tool to deliver the bigger picture outcome of demand reduction. At present, physical mast installations are associated with a single provider only (i.e. Arqiva fixed network solution). The investigation/adoption of alternative technologies, alternative suppliers through open competition and the ability to deliver cost efficiency gains for customers could come through communication alternatives that do not use the same mast infrastructure type of installation density. These cost efficiency alternatives would be discounted and prevented if a GER funding condition was applied to a specific number of masts installations linked only to a single supplier.

We propose that any condition applied to the delivery of communications coverage in the Thames Valley area through both PR19 and GER investment, uses a percentage (%) of AMI communications coverage of total households within each water resource zone (WRZ). This would allow clear distinction between PR19 investment (covering part of SWOX and Guildford WRZs) and GER activity (remainder of Thames Valley). Based on coverage modelling undertaken by our existing communications supplier, a figure of 96% of households coverage with AMI capability, constitutes an appropriate maximum target coverage level.

We propose the following criteria to be considered for conditions applied to our GER smart meter communications funding allowance, replacing the use of mast numbers in the GER Draft Decision;

- GER allowance smart meter communications funding recovery following third party evidence is given to demonstrate AMI communications coverage for at least 96% of households within the SWOX and Guildford WRZs.
- In relation to GER fixed network funding recovery, allowance for new mast (or communications equivalent) funding recovery is given following third-party evidence that AMI communications coverage is achieved for at least 96% of households in the remaining Thames Valley WRZs.

D. Conditions – Leakage and usage demand saving

We support the successful achievement of our leakage performance commitments as conditional allowance requirements for GER funding recovery²

As currently included in the Draft Decision, if we miss our leakage target by 1MLD, we will lose all GER funding. This does not seem to be reasonable or proportionate. We therefore propose that a level of

² PR19TMS_BW04, Leakage, reduction of 20.4% in three-year average terms from 2019- 20 baseline by 31 March 2025.

tapering is applied such that the level of GER funding is reduced by five percent for every whole 1 MLD of leakage above the AMP7 2024-25 PC target. The assessment of leakage performance would be an end of AMP reconciliation, rather than annual.

We also support the requirement to achieve our AMP7 demand saving of 98 Ml/d delivered through meter installation, customer supply pipe leakage reduction and water efficiency activity (separate from demand reduction savings from GER activity).

E. Conditions – Meter installation

We support the successful achievement of our AMP7 meter installation performance commitments, as set out below, as conditional allowance requirements for GER funding recovery:

- PR19TMS_M01; Installing new smart meters in London, 399,749 to be installed by 31 March 2025;
- PR19TMS_M02 Replacing existing meters with smart meters in London, 130,000 to be installed by 31 March 2025

However, we are concerned about the granularity of the further conditions attached to our GER programme, specifically the conditions attached to each PR19 meter type installation, which we consider to be too specific, are focussed on outputs rather than outcomes and do not take into account the genuine challenges of delivering a compulsory metering programme.

We believe that the focus of GER conditions should be on the ML/d outcomes of the AMP7 and GER programmes, as discussed with Ofwat during the GER assessment period and consistent with Ofwat's approach to setting a Totex allowance to allow companies to deliver outcomes in the most efficient way as most recently explained in Ofwat's live consultation on PR24.³

The breakdown of meter types included in our original and revised PR19 metering programme aims to achieve the combined ML/d reduction target, using a best-fit approach of meter types according to property type information available prior to onsite investigations and supply pipe proving activity. When implementing a high-level meter programme delivery plan, the individual meter type installations numbers are impacted by a range of physical site and customer factors, which are only identified following a physical site visit. These factors include: shared supply pipe installations, no access issues (customer lead and physical property barriers), unmeterable properties (can't access pipe work, multiple inlet sources per property, shared hot water systems etc).

These issues are common throughout all meter installation programmes in the UK and internationally, but are amplified by the compulsory installation programmes and when delivering in complex and older built environments such as London. The on-ground meter installation teams and individual meter type delivery numbers require a degree of flexibility depending on what conditions are discovered during the field investigation and supply pipe proving activity.

Assigning the revised PR19 meter delivery plan, by individual meter type, is therefore not an appropriate condition for GER funding allocation. The GER funding conditions for each meter type should not be locked to the revised PR19 meter programmes' individual meter type installation totals.

³ PR24 and beyond: p24 "Our totex approach....gives companies flexibility to use the most efficient means of delivering for customers" and p102:"...the totex and outcomes regime provides flexibility to companies to deliver the same outcome through a different approach during the price control period..."

Rather, GER funding should be conditional on delivery of the core total PR19 meter programme outcomes as set out below:

- M01 and M02 meter installations
- BW04 Leakage
- 98 MI/d usage demand reduction

F. Conditions - Reporting requirements

CCW – monitoring of vulnerable customers

A comprehensive overview of our metering programme's customer journey and support services was submitted to CCW (Dene Bridge, Policy Manager) on March 9th, outlining our GER programme's efforts to protect vulnerable and affordability customers. This submission addressed the concerns raised by CCW during the GER assessment period. Our response covered key items such as customer bill impact mitigation, complaint mitigation and management.

Our GER programme would utilise the same customer journey and support mechanisms developed through AMP6 and year 1 of AMP7 for the Progressive Metering Programme. This 1-year journey includes up to 29 customer engagement touchpoints that help the customer understand their rateable to metered tariff difference, as well as implement the continuous flow fix, affordability and priority service assistance mechanisms.

Our quarterly meetings with CCW include reporting on the existing Progressive Metering Programme. We proposed to expand the reporting in place for these quarterly meetings to include the relevant GER performance metrics. These metrics include complaint volumes, the proportion of total complaints that are from metering and a breakdown of metering complaints.

CCW has since confirmed that including the GER relevant metrics within the current reporting mechanisms would satisfy their requirements.

TMS GR RFI 012 01 – PCs affected by GER proposals.

In response to TMS GR FRI 012 01, we confirm that the only performance commitments affected by our GER proposals are BW04 - Leakage and BW05 - Per Capital Consumption. We will also need to report the expenditure levels in Tables 4S and 4U and the metering activity levels in the new Table 10A.

Section 5: Financeability

In our GER submission, we asked that allowances for GER are incorporated in the annual stated RCV published by Ofwat. This is because our gearing covenants rely on this figure as an independent published value of RCV. In the Draft Decision Ofwat propose that GER expenditure is included in the shadow RCV. However, this value is not permitted to be used for our gearing covenant calculation and so we request that Ofwat confirm that any GER allowances will be included in the annual stated RCV following confirmation of activity for each year.