Utility Regulator
ELECTRICITY GAS WATER

IMPLEMENTATION OF THE RETAIL ENERGY MARKET MONITORING (REMM) FRAMEWORK

RETAIL MARGINS METHODOLOGY

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1 Contents

2 Margin Overview

This document sets out the methodology for the calculation and allocation of revenue and costs to calculate a margin figure for electricity and gas supply under the Utility Regulator's (UR) Retail Energy Market Monitoring (REMM) framework.

Margin is to be calculated using the basic formula as set out in Figure 1 below. Information is to be provided to UR in arrears as outlined below.

Figure 1: Calculation of Revenue

$$M = R - C$$

$$C = (NC + PC + WC + SC)$$

M = Margin

R = Revenue

C= Costs

NC = Network Costs

PC = Policy Costs

WC = Wholesale Costs

SC = Supply Operating Costs

Each element of this margin formula is set out in more detail later in this paper. The assumptions required in the calculation and allocation of revenue and costs are set out below so they can be consistently applied by all suppliers over time. This will result in the margin of error being the same for all suppliers.

The calculation and allocation methodologies set out in this paper should be reviewed along with the supplier templates for provision of the margin information.

3 Disaggregation of margin information

The information will be disaggregated on the basis of customer groups whereby companies report energy sales revenues and costs segmented by main customer groups as set out below.

3.1 Electricity customer group segmentation

The electricity customer group segmentation is:

- domestic meter points on a standard evergreen tariff[1];
- domestic meter points on a non standard evergreen tariff;
- I&C meter points with annual consumption below 50MWh;
- I&C meter points with annual consumption between 50MWh and 499MWh; and

[1] For the avoidance of doubt domestic standard evergreen tariffs are a requirement under condition 2.18 of the gas supply licence and condition 27 of the electricity supply licence

- I&C meter points with annual consumption greater than or equal to 500MWh.

To ensure consistency for reporting in electricity, I&C meter points should be categorised into the customer groups based on their previous 12 months consumption ending in the reporting period. Where the actual consumption is not available (no meter reading in the reporting period) the supplier's estimated consumption used for customer billing may be used. If neither of these options is available for a particular customer, the Usage Factor may then be used. For new connections the customer's forecast annual consumption should be used until an actual annual consumption can be extrapolated from validated meter readings.

3.2 Gas customer group segmentation

The gas customer group segmentation for gas is:

- domestic supply meter points on a standard evergreen tariff I;
- domestic supply meter points on a non standard evergreen tariff;
- I&C supply meter points with annual consumption below 73,200 kWh;
- I&C supply meter points with annual consumption between 73,200 and 731,999 kWh; and
- I&C supply meter points with annual consumption greater than or equal to 732,000 kWh.

To ensure consistency for reporting in gas, I&C supply meter points should be categorised into the customer groups based on the Annual Quantity (AQ) of each supply meter point (for example an I&C supply meter point with an AQ of 700,000 kWh would be categorised in the 'I&C supply meter points with annual consumption between 73,200 and 731,999 kWh' customer group.

4 Collection of Information

Margin information will be collected on a quarterly basis, reported by quarter in order to establish a trend of margins over time. The UR will expect the information provided to be reconciled to management accounts on a quarterly basis. This information will be collected one month after the end of the quarter following the reporting quarter. So, for example, quarter 1 information will be due at the end of July which is one month after the end of quarter 2. The UR will use the quarterly information to produce a rolling 12 month margin.

In addition the UR requires an annual return for margin information whereby the quarterly reported supply margins should be reconciled to the supply margins published in the regulatory accounts at the end of the accounting period. This is explained further in Section 8 of this paper.

5 Information on Cost Drivers

Suppliers should provide information on energy sales revenues and costs as set out in detail in Sections 5 and 6 of this paper. In addition suppliers should provide information on the following cost drivers:

- number of supply meter points at the end of the reporting period; and
- energy volume during the reporting period. The energy volume will be calculated as the billed volume during the period plus an estimate of the unbilled volume during the period:
  - unbilled electricity volumes should be adjusted for changes that the supplier may expect to be applied through the resettlement process and the settled net demand loss factor. Supporting assumptions should be provided;

- unbilled gas volumes should be net of shrinkage, theft and an estimate of bad debt. Supporting assumptions of the % level of theft and % level of bad debt should be provided.

Companies should provide to UR their assumptions of theft of gas on a percentage of total volume basis.

The number of supply meter points and the energy volume will be split into the required customer groups using the segmentations set out in Section 2.

6 Energy Sales Revenues

Below is the methodology for how gas and electricity revenue should be calculated and allocated into the customer groups set out in Section 2.

The revenues reported must only relate to energy sales. Revenue from other items (e.g. payments received from customers for siteworks charges) must be excluded.

The methodologies for calculating revenue for electricity and gas are inherently the same; the difference is in the allocation of the revenue into the customer groups.

6.1 Calculation of electricity and gas revenue

Energy sales revenue information should be derived from billing systems with allowance for unbilled volumes, gas shrinkage and theft and bad debts. Revenues should be presented exclusive of VAT. Estimates of revenues for unbilled volumes and bad debts should be consistent with those used for management accounts. Figure 2 illustrates.

Figure 2: Calculation of Energy Sales Revenue

$$R = BR + (UR - DR)$$

R = Sales revenue for the fuel in question

BR = Billed revenue from billing system

UR = Estimate of unbilled revenue as per management accounts (including allowance for theft and shrinkage for gas)

DR = Estimate of bad debt costs

6.2 Allocation methodology for electricity revenue

Billed electricity revenue information from the billing system should be extracted and allocated to the electricity customer groups set out in Section 2.

Unbilled electricity revenue should be estimated for each of the customer groups on the basis of historical usage. The unbilled revenue should be reduced for the estimated bad debt level.

Where the company has separate businesses, they must apportion revenue between those businesses in line with the requirement for separate accounts for separate businesses in licence condition 2 of the electricity supply licence.

6.3 Allocation methodology for gas revenue

Billed gas revenue information from the billing system should be extracted and allocated to the customer groups set out in Section 2. Unbilled gas revenue should be estimated for each of the customer groups on the basis of historical usage. The estimation of unbilled volumes should be net of shrinkage and theft of gas. The unbilled revenue should also be reduced for the estimated bad debt level. In addition suppliers should provide to UR their assumption, in percentage form, of theft and bad debt levels.

Where the company has separate businesses, they must apportion revenue between those businesses in line with the basis of apportionment provided to the UR under condition 1.2.5 of the gas supply licence.

7 Costs

Costs to suppliers should be separated into the following categories:

- network costs;
- policy costs;
- wholesale costs; and
- supply operating costs.

Where costs can be directly allocated to a customer group they should be. Allocation methodologies are detailed below in cases where direct cost allocation is not possible.

Where the company has separate businesses, they must apportion costs between those businesses in line with the requirement for separate accounts for separate businesses in licence condition 2 of the electricity supply licence and the basis of apportionment provided to the UR under condition 1.2.5 of the gas supply licence.

7.1 Network Costs

7.1.1 Calculation of electricity network costs

Electricity network costs should be allocated from the billed charges from the respective service providers covering:

- transmission as levied according to the statement of charges published by SONI[2] and the various usage parameters used for charging;
- distribution as levied according to the statement of charges published by NIE[3] and the various usage parameters used for charging; and
- credit costs as levied by the transmission and distribution companies.

Figure 3 provides an overview of the calculation of electricity network costs.

[2] See for example http://www.soni.ltd.uk/media/documents/Customers/TUOS/Final%20TUoS%20Statement%20of%20Charges%202014-15.pdf

[3] See for example http://www.nie.co.uk/documents/Regulatory-documents/DUoS-Statement-Oct14-Sept15.aspx

Figure 3: Calculation of electricity network costs

$$NCe = Te + De + \text{Ce}$$

NCe = total electricity network costs for the period

Te = published transmission costs for the period for electricity (including the Collection Agency Income Requirement tariff)

De = published distribution costs for the period for electricity

Ce = credit costs relating to electricity transmission and distribution

7.1.2 Allocation methodology for electricity network costs

Suppliers should allocate electricity distribution charges by the main distribution tariff types to the customer groups set out in Section 2.

Electricity transmission charges by customer group should be allocated using the methodology for wholesale electricity set out in Section 6.3.4 below.

Credit/collateral costs for network costs should be allocated on the basis of the resultant allocation of transmission and distribution costs.

7.1.3 Calculation of gas network costs

Gas network costs should be derived from the billed charges levied on suppliers covering:

- transmission as levied according to the statements of charges published by Premier Transmission Limited[4], BGE (Northern Ireland) NI[5], Phoenix Natural Gas Limited[6], firmus energy (Distribution) Limited[7] and National Grid[8] etc and the various usage parameters used for charging; and
- distribution as levied according to the statements of charges published by Phoenix Natural Gas Limited[9] and firmus energy (Distribution) Limited[10] etc and the various usage parameters used for charging; and
- credit costs as levied by the transmission and distribution system operators.

Figure 4 provides an overview of the calculation of gas network costs.

[4] See for example http://www.premier-transmission.com/
[5] See for example http://www.gasnetworks.ie/en-IE/Gas-Industry/Northern-Ireland/Transportation-services/Postalised-Tariffs/
[6] See for example http://www.phoenixnaturalgas.com/fs/doc/Transmission%20Capacity%20Charge%20for%20the%20Greater%20Belfast%20Area%2014%2015.pdf
[7] See for example http://www.firmusenergy.co.uk/media/Postalised-Capacity-Charge-Statement-10-Towns-1st-October-2014-30th-September-2015.pdf
[8] See for example http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33019
[9] See for example http://www.phoenixnaturalgas.com/help-and-advice/networks/charges/
[10] See for example http://www.firmusenergy.co.uk/about_us.aspx?dataid=507590

Figure 4 Calculation of gas network costs

$$NCg = Tg + Dg + Cg$$

NCg = total gas network costs for the period

Tg = published transmission costs for the period for gas

Dg = published distribution costs for the period for gas

Cg = credit costs relating to gas transmission and distribution

7.1.4 Allocation methodology for gas network costs

Gas transmission costs should be allocated on the basis of the capacity and volume figures for the period, to the customer groups set out in Section 2.

As the I&C customer groups set out in Section 2 match the I&C categories on the various distribution charging statements, suppliers should be able to allocate these charges directly to the customer groups.

Distribution charges relating to domestic customers should be allocated to the customer groups on the basis of the number of supply meters points in each customer group (i.e. standard evergreen tariff or non standard evergreen).

Credit costs for gas network should be allocated on the basis of the resultant allocation of transmission and distribution costs.

7.2 Policy Costs

7.2.1 Calculation of electricity policy costs

The relevant policy costs for electricity are:

- the electricity Public Service Obligation (PSO) charge as published by NIE[11] including collateral costs;
- the costs to the supplier of complying with the UK electricity Renewables Obligation (RO); and
- the costs of complying with the UK Climate Change Levy (CCL) for liable I&C consumption.

Figure 5 provides an overview of the calculation of electricity policy costs.

Figure 5: Calculation of electricity policy costs

$$PCe = PSOe + ROe + EROe + CCLe + ECCLe$$

PCe = total electricity policy costs for the period

PSOe = PSO levy costs for the period (including collateral costs)

ROe = RO levy costs for the period

EROe = Estimated RO levy costs for unbilled volumes

CCLe = CCL costs for the period (liable I&C electricity volume only)

ECCLe = Estimated CCL costs for unbilled volumes (liable I&C electricity volume only)

[11] See for example http://www.nie.co.uk/documents/PSO-Schedule-of-Charges-Oct14-Sept15.aspx

7.2.2 Allocation methodology for electricity policy costs;

Suppliers should allocate electricity policy costs by volume to the customer groups set out in Section 2.

7.2.3 Calculation of gas policy costs

Climate Change Levy is charged on liable I&C gas consumption. This figure will be calculated as the CCL costs charged for the period plus an estimate of the CCL liable to be charged on unbilled volumes.

Figure 6 provides an overview of the calculation of gas policy costs.

Figure 6: Calculation of gas policy costs

$$PCg = CCLg + ECCLg$$

PCg = total gas policy costs for the period

CCLg = Billed CCL costs for the period (liable I&C gas volume only)

ECCLg = Estimated CCL costs for unbilled volumes (liable I&C gas volume only)

7.2.4 Allocation methodology for gas policy costs

As gas policy costs are levied based on volumes, suppliers should extract information from billing systems and allocate these costs to the customer groups set out in Section 2.

Estimated CCL costs for unbilled volumes should be calculated as above for each of the customer groups based on historical usage.

7.3 Wholesale costs

7.3.1 Calculation of wholesale costs

As there are different market structures for wholesale electricity and wholesale gas, there are specific wholesale cost allocation methodologies for each fuel.

Where suppliers purchase energy for specific customers or groups of customers the supplier should allocate the cost of that energy and the associated volumes directly to the customer groups set out in Section 2.

For all other wholesale energy the allocation methodologies set out below are to be used. Suppliers should use actual trading profiles to allocate the wholesale costs to the customer groups within the period.

Should the volume allocation methodology not capture fully actual energy flows, any residual, positive or negative should be pro-rated to each customer group according to the proportion of already allocated energy purchased for that group.

7.3.2 Calculation of electricity wholesale costs

Suppliers should distinguish between the following wholesale costs:

- **contract volume**—payments made and units of energy (MWh) received under the terms of contracts made by the supplier with a counterparty ahead of delivery of the electricity, excluding credit or collateral requirements which are to be separately reported. This information should include all trades save those for SEM energy noted below (i.e. including brokered or bilateral long-term contracts);
- **credit costs**— any costs incurred posting security or securing letters of credit to allow wholesale trading;
- **contract capacity**—payments made and units of capacity (kW of capacity of electricity) received under the terms of contracts made by the supplier with a counterparty ahead of delivery of the energy;
- **SEM energy**—purchases for volumes from the Single Electricity Market comprised of the SEM wholesale electricity cost for each day[12].) and the SEM capacity payments;[13]
- **other SEM charges (electricity)—**covering the variable market operator charge, imperfections charges and the system operator system support charge; and
- **resettlement charges—**the net cost to suppliers incurred in the quarter of this charge that reallocates initially settled volumes as more meter reading information becomes available.[14]

The calculations should be undertaken using an aggregated daily profile for the supplier's entire load profile. Figure 7 below illustrates.

[12] This is the nett trading position across all markets including both sales and purchases including (DAM, IDA1, IDA2, IDA3 and the Balancing Market).

[13] If a swap or contract for difference (CfD) contract is in place for electricity, any difference payments should fall under contract volume, any option fees should fall under contract capacity and purchases should fall under SEM energy.

[14] As more meter reading information becomes available, suppliers' wholesale electricity positions are restated by NIE triggering resettlement charges. These charges are billed three months and 13 months after the month of consumption. Suppliers should record the net cost of those bills that are paid in the quarter in question even though the adjustments will apply to electricity consumed prior to the quarter.

Figure 7: Calculation of electricity wholesale costs

$$WCe = \Sigma Wed + Re + Cap + Mop + I + S + CR^{15}$$

WCe = Total electricity wholesale cost for the day

Wed = SEM-related wholesale energy cost for each day

Re = Electricity resettlement charge per day

Cap = Capacity payments charge per day

Mop = variable market operator charge per day

I = imperfections charges per day

S = system operator system support charge per day

CR = credit costs per day

7.3.3 Allocation methodology for electricity wholesale costs

As stated previously, where wholesale electricity purchases have been made for specific customers or groups of customers these costs should be allocated directly to the customer groups set out in Section 2.

After separately allocating defined wholesale purchase costs for specific customers, the methodology of allocating by customer group for remaining wholesale electricity costs and credit costs is to allocate them by half hour proportionately according to the profiled consumption volume methodology outlined in Section 6.3.2.

7.3.4 Calculation of gas wholesale costs

Using aggregated meter and profile data for each day, the wholesale gas costs should be allocated as below:

- **wholesale cost of gas**—this should include the cost of forward purchases, spot purchases, exchange purchases and sales and balancing gas and relates to payments made and units of energy received under the terms of contracts made by the supplier with a counterparty ahead of delivery of the gas. This information should include all trades completed outside formal energy exchanges (i.e. including brokered or bilateral long-term contracts), whether they are for the purchase of energy or sell back of excess; and
- **credit**—any costs incurred posting security or securing letters of credit to allow wholesale trading.

The calculations should be undertaken using an aggregated daily profile for the supplier's entire load profile. Figure 8 illustrates.

[15] Formula updated 18 March 2020 following the arrangements under the new SEM which went live on 1st October 2018.

Figure 8: Calculation of gas wholesale costs

$$WCg = \Sigma\,(Wdg + CRdg)$$

WCg = Total gas wholesale cost for the period

Wdg = wholesale gas cost for each day

CRdg = daily credit costs

7.3.5 Allocation methodology for gas wholesale costs

Where wholesale gas purchases have been made for specific customers or groups of customers these costs should be allocated directly to the customer groups set out in Section 2.

For the remaining wholesale gas purchases and for credit costs, the supplier should allocate costs into the customer groups proportionately according to the actual profiled consumption as described in Section 6.3.2 of this paper.

7.4 Supply Operating Costs

The calculation and allocation methodologies for supply operating costs are the same for electricity and gas. These are set out below.

7.4.1 Calculation of electricity and gas supply operating costs

Supply costs are defined as those costs incurred by the suppliers in providing energy to their customers that are not related to wholesale costs, network costs or policy costs. These are the costs which make up the operating costs section of the regulatory accounts.

Different companies will segment their businesses differently, but supply operating costs may be expected to cover functions such as:

- **customer services**—including, for example, energy trading and settlement, retail pricing, marketing and customer acquisition and retention, billing and transactional account management for larger customers, customer enquiries and complaints and debt management; and
- **business services—**including, for example, finance, HR, regulation, general management, IT, facilities and premises and insurance and rates.

Costs which do not relate directly to the sale of electricity or gas must be excluded from supply operating costs, these include, but are not limited to:

- costs for which the customer is subsequently charged such as siteworks costs;
- non regulated activities (e.g. any activity not associated with the NI electricity or gas supply licence); and
- Northern Ireland Sustainable Energy Programme (NISEP).

7.4.2 Allocation of electricity and gas supply operating costs

Operating costs should be directly allocated to the customer groups where possible. Where costs cannot be directly allocated suppliers will use their own allocation methodlogy to apportion the

operating costs in the manner they consider most accurately reflects the split of these costs. In addition suppliers should provide to the UR the percentage split of operating costs across the customer groups.

Suppliers must also provide a summarised allocation methodology including a breakdown of the operating costs and the drivers used to allocate them. Where appropriate this allocation must be consistent with the methodology provided to the UR under licence. Once this allocation methodology has been provided it will only need to be updated whenever a supplier chooses to amend its allocation methodology.

8 Retail margins

Deducting the total of all costs from the revenue in each customer group will produce a retail margin value for each customer group. The retail margin figures should be reported on a quarterly basis showing their component parts by the customer groups in absolute money terms, percentage of total revenues and per unit revenue.

The retail margin figures should be reconcilable to the operating profit and profit before tax figures reported annually by suppliers in their regulatory accounts. A statement of this reconciliation should be provided by suppliers at the end of each financial year, as defined by licence.

The calculation process for the retail margin shown in Figures 9 and 10 for electricity and gas is designed to be the same for each fuel.

Figure 9: Calculation of electricity retail margin

Electricity retail margin $Me = Re - NCe - PCe - WCe - SCe$

Me = total electricity retail margin

Re = revenue from electricity sales

NCe = electricity network costs

PCe = electricity policy costs

WCe = electricity wholesale costs

SCe = supplier's electricity supply operating costs

Presented for each customer group and in aggregate for the supply business as a whole. Reconciliation to regulatory accounts at the end of each financial year.

All values to be expressed by component in £m, percentage and £/MWh supplied.

Figure 10: Calculation of gas retail margin

Gas Retail Margin $Mg = Rg - NCg - PCg - WCg - SCg$

Mg = total gas retail margin

Rg = revenue from gas sales

NCg = gas network costs

PCg = gas policy costs

WCg = gas wholesale costs

SCg = supplier's gas supply operating costs

Presented for each customer group and in aggregate for the supply business as a whole. Reconciliation to regulatory accounts at the end of each financial year.

All values to be expressed by component in £m, percentage and £/therm supplied.

9 Reconciliation

9.1 Annual Reconciliation

Information will be provided from suppliers on a quarterly basis and will be the quarterly data for the previous quarterly period. This information should be reconciled to management accounts on a quarterly basis.

At the end of each financial year as defined by the supplier's licence, the supplier must provide a reconciliation of the previous four quarters to the regulatory accounts. UR requires a reconciliation of the margin figure to the regulatory accounts together with a detailed list of reconciling items. This margin figure will be the figure calculated on a 12-month basis from the information provided by the supplier for the previous four quarters.

9.2 K Factor

An additional below the line reconciliation is available for those regulated companies who wish to show the impact of the k factor on their regulated margin on a quarterly basis. This reconciliation will allow the price regulated suppliers to show in their price regulated margin where k factor, either included within the revenue or built up within costs, has an impact on their margin. The k factor included will be an estimate of the amount that the company will be able to recover from or will have to return to customers.

10 Submission of retail margin information

10.1 Quarterly submission

This template for quarterly retail margin information must be completed and submitted to UR within one month after the end of the quarter following the reporting quarter. So, for example, quarter 1 information will be due by the end of July, one month after the end of quarter 2.

10.2 Annual reconciliation

The annual reconciliation statement must be provided to the UR within two months of the deadline (set out in each supply licence) for submitting the annual regulatory accounts.

Schedule 1 – Updates to REMM Margins Methodology paper

- Update to retail margins and wholesale cost calculations, given the previous formula for wholesale costs used SMP which is no longer applicable under the new SEM arrangements. The new SEM arrangements came into effect on the 01 October 2018.