

# **Consultation on Global Settlement in the SEM for Northern Ireland**

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## 1. Purpose of this Paper

The purpose of this paper is to consult on the changes that are required to implement Global Settlements in the Single Electricity Market for Northern Ireland (the Northern jurisdiction).

The Utility Regulator is consulting on two separate changes that are required to be completed before the implementation date that is presently planned for September 2012.

These are:

- the proportion of the residual volume for each trading period that will be allocated to suppliers' meter volumes derived from different types of meters; and
- the changes required to Power NI's<sup>1</sup> Supply Licence. It is proposed the formal licence modification process to effect this licence change will take place following this consultation.

## 2. Introduction

On 6 October 2010, the SEM Committee approved a Modification for the Implementation of Global Settlement. The legal and system changes required to implement the Modification were incorporated into the Trading and Settlement Code as part of the Spring 2011 release. The changes were made in a manner to enable Global Settlements to be implemented in each jurisdiction on different settlement days. This additional feature was necessitated by the dependencies imposed on the two Distribution Meter Data Providers (MDP), who would both need to change their metered data and aggregation processes to support the implementation of a settlement process for all registered distribution meter points. This revised MDP process is often referred to as 'global aggregation'.

NIE, who are the Distribution MDP for the northern jurisdiction, are presently introducing the required functionality and data requirements as part of the Enduring Solution Project. It is expected that NIE will be a position to commence global aggregation operations by September 2012.

Global Settlements has been introduced in the Republic of Ireland since June 2011. This introduction was preceded by CER consultations on the Residual

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<sup>1</sup> Formally known as NIE Energy Ltd.

Meter Volume Interval Proportion (RMVIP), and the required changes to ESBCS licence conditions.

We invite comments from stakeholders on the proposed changes required to introduce Global Settlements in Northern Ireland. **Please send your views about the proposals in this paper by 28 May 2012 at the latest to [barbara.cantley@uregni.gov.uk](mailto:barbara.cantley@uregni.gov.uk)**

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After the consultation, we will publish a final decision paper along with the responses received, and which are not marked 'Confidential', in July 2012.

Copies of the document will be made available in large print, Braille, audio cassette, and a variety of relevant minority languages if required.

Your response to this consultation may be made public by the UR. If you do not wish your response or name made public, please state this clearly by marking the response as 'Confidential'. Any confidentiality disclaimer that is automatically produced by an organisation's IT system, or is included as a general statement in your fax or coversheet, will be taken to apply only to information in your response for which confidentiality has been specifically requested.

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 (FOIA) and the Data Protection Act 1998 (DPA)). If you want any other information to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.

In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all

circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Utility Regulator.

### 3. Background

Global Settlements requires a settlement process for every energised meter point connected to the distribution network. The MDP, as common services provider, has an existing obligation to perform the collection and validation of all metered data from every energised meter point. Presently this metered data is aggregated into Supplier Units for each independent supplier. This is not required for Power NI who is responsible for the jurisdictional residual metered generator volumes that are all allocated, by the wholesale trading arrangements, to their Error Supplier Unit.

The current process is commonly referred to as 'settlement by differences' as the Error Supply Unit ensures that metered generation and suppliers' demand are always in balance. The Error Supplier Unit will be deregistered at the start of Global Settlements and the new arrangements<sup>2</sup> are now required to ensure that total metered generation and total metered demand are always in balance.

For each trading period of the wholesale electricity market, suppliers purchase electricity from the gross mandatory pool to meet the demand of their customer base. The quantity of electricity available in the pool (supply) must match the electricity being drawn from it (demand). However, due to some degree of estimation associated with these quantities, these figures generally do not align.

This mismatch is accounted for in settlement jurisdictionally by including it in the quantity of electricity that Power NI, as the historic Public Electricity Supplier (PES), must purchase. Any additional costs or benefits are allocated to Power NI and passed through to their customer base. With increasing levels of competition, the number of Power NI customers is reducing and a more equitable allocation is required with all suppliers being treated the same.

To allow for an even playing field, Global Settlement needs to be adopted. This is where the demand for all suppliers is explicitly aggregated and the residual volume then smeared across all suppliers. This is to be done on the basis of suppliers overall share of demand and metering type.

At the start of Global Settlements the Power NI customers' metered demand will be aggregated into one or more Supplier Units in the same manner as independent suppliers. This will create a mismatch between total metered generation and total metered demand (referred to as the residual volume by

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<sup>2</sup> As developed by the implementation of the TSC Modification 34.

industry) that will need to be reconciled within the wholesale trading arrangements.

This reconciliation will be achieved by the residual volume being smeared across all suppliers in accordance with their proportion of demand and metering type - that is whether their customers are interval or non-interval metered. This allocation to interval and non-interval will be conducted in accordance with a smearing factor, the Residual Meter Volume Interval Proportion (RMVIP). This factor will determine the proportion of the residual volume to be allocated to interval metered volumes. The purpose of this paper is to seek comment on the proposed value of the smearing factor, and the associated changes to Power NI's supply licence which presently imposes an obligation on Power NI to be the registrant of the jurisdictional Error Supplier unit.

#### **4. Residual Volume**

Suppliers purchase electricity for each trading period from the gross mandatory pool to meet their demand. Presently, the quantity to be purchased by an independent supplier is determined by the explicit aggregation of their customers' metered consumption by the MDP. However, this allocation of consumption for each trading period cannot be performed completely accurately. This is due to a degree of estimation, data errors and unaccounted for demand due to theft.

The estimation is linked to metering limitations, as not all sites are half-hourly metered, and the use of predetermined factors to account for system losses (so called 'Loss Adjustment Factors', which are fixed ex ante for a given tariff year). The associated errors can either artificially increase or decrease a suppliers deemed demand at the trading point.

The above factors can result in a mismatch between demand and supply in the wholesale market, this mismatch is referred to as the residual volume.

The possible reasons for the residual volume are briefly discussed below:

##### ***Meter inaccuracies***

All generation and demand settlement meters are expected to meet minimum accuracy requirements to ensure they are fit for purpose. Inevitably, all meters have a degree of error but there is no evidence to support applying a different approach to interval and non-interval meters via the value of RMVIP.

### *Transmission and distribution loss adjustment factors*

Presently the loss adjustment factors are fixed for a year, although the changing generation and demand characteristics would indicate that systems losses are dynamic. Also system configuration changes can have a direct effect on losses. Although there are many views about the impact on different classes of customers there is no proven hypothesis to indicate that support applying a different approach to interval and non-interval meters .

### *Theft*

There are no definitive statistics about the levels of illegal extraction of electricity in Northern Ireland. In the UK, informed estimates would indicate the level to be around 1%, although this is unproven. It could be argued that most theft is from non- interval meters as all energised interval meters in Northern Ireland are interrogated on a daily basis, and any consumption inconsistencies would soon become apparent.

### *Profiling Error*

Profiling of non-interval metered data is a poor substitute for settlements using an interval meter. However, it is not presently practical or cost effective to install a compliant interval meter in low consumption premises and profiling provides a viable alternative. Correction ratios<sup>3</sup> are normally within the range of +/- 25%, although in exceptional circumstances can be above +/-100%.

The profiling error in GB, for the vast majority of settlement periods, is proven to be the main contributor to their residual volumes and there is no reason to doubt that this will not be the case in Northern Ireland.

## **5. Drivers for Change**

In the implementation of the SEM, it was agreed by the Regulatory Authorities (RAs) to transition away from the market arrangements where the supply incumbent, or former PES, is the sole supplier in a jurisdiction to whom the cost of Global Settlement balancing, or ESU, is assigned. This was deemed a SEM 'Day Two' issue and later would be addressed through the adoption of Global Settlement. Global Settlement refers to the explicit aggregation of the consumption of each supplier's customer base.

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<sup>3</sup> The ratio between the non-interval meter volumes calculated by the MDP and residual volumes calculated by SEMO.

The supplier would then be required to meet this consumption through purchases. The residual volume would still remain, but be explicitly calculated and appropriately apportioned across all suppliers in the market.

Competition in the retail market is the key driver for the introduction of Global Settlement. When the SEM was launched, both former PES suppliers were dominant in their respective markets and, as such, the ESU was spread across a large customer base. With the development of competition in the business and domestic markets, north and south, the erosion of the PES market share means that it is no longer appropriate that Power NI's customers bear the ESU function.

## **6. TSC Modifications**

On 11th September 2009, Electric Ireland submitted a modification proposal to initiate discussions on Global Settlement. Having received this proposal, the Modification Committee established a Working Group (WG) to consider and develop it. Various options for Global Settlement were developed and consulted on, with a noted preference by the Modifications WG for two proposals; Option A+ and E.

### **(i) Option A+**

Option A+, proposed utilising the Single Electricity Market Operator (SEMO) as a vehicle to smear the costs across all suppliers, through the imperfections charge ( Mwh Charge), which is set each year.

### **(ii) Option E**

Option E identified the proportion of demand for each trading period associated with non-interval meters. The cost of balancing would then be weighted towards these demand sites as they have been identified as a main contributor to the Residual Volume.

Following detailed consideration by the WG and the Modification Committee, a Modification Recommendation (Mod\_34\_09\_V2) based on Option E was submitted to the SEM Committee for approval. Approval was granted by the SEM Committee on 6 October 2010.

## **7. Calculation of Residual Meter Volume Interval Proportion**

Under the Modification, Global Settlement in Northern Ireland will commence upon deregistration of the Error Supplier Unit by Power NI and the residual



volume will be calculated using the algebra under Section 4.91 of the Trading and Settlement Code.

With Global Settlement, the deemed metered demand of the Power NI customer base will be known and will be deducted within the algebra to obtain the residual volume. The residual volume will then be smeared according to a supplier's proportion of overall demand which can consist of both interval and non-interval metered demand.

In Great Britain and the Republic of Ireland, the Residual Volume is allocated in its entirety to non-interval demand. This fits with the findings of the Modifications Committee WG which found that the main contributor to the residual volume is profiling associated with non-interval metered sites. The exact contribution of the various factors amounting to the residual volume is, however, not available. The volume of the error in Northern Ireland has never been explicitly measured and is, as such, unknown. This is due to the fact that the difference is currently included in the Error Supply Unit and masked by Power NI customers' demand.

The split of the residual volume between interval and non-interval demand sites is to be calculated by applying a weighting factor called the Residual Meter Volume Interval Proportion (RMVIP). Where this weighting factor is equal to zero, all the residual volume is allocated to non-interval metered sites and if set to unity it would be allocated exclusively to interval sites.

The Utility Regulator has taken into account respondents' views to the equivalent CER Consultation<sup>4</sup> and with limited access to jurisdictional data to establish the exact extent to which the various factors contribute to the Residual Volume, it is considered reasonable to follow at the outset the principles already adopted in Great Britain and the Republic of Ireland. This would see all the residual volume being attributed to non-interval demand and the Residual Meter Volume Interval Proportion (RMVIP) being set to zero.

The Utility Regulator is aware of the work recently carried out by ELEXON to consider adjustment of the BSC 'scaling factors'<sup>5</sup> and the recommendations for changing the parameters for non interval meter line losses as from April 2013. It is noted the recommendations did not include any changes to the 'scaling factors' as they relate to interval and non-interval consumptions.

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<sup>4</sup> Global Settlement – the Residual Meter Volume Interval Proportion, CER 11/079 dated 29 April 2011

<sup>5</sup> Proposed Scaling Weights for GSP Group Correction dated 4 October 2011, Reference SVG128/02 paper refers.

When data becomes available under the Global Settlement arrangements, it will allow for further analysis of the factors contributing to the residual volumes. The Utility Regulator proposes to keep the RMVIP under review.

## 8. Proposal: RMVIP

It is proposed that the residual volume be allocated solely to non-interval metered demand. - this would see the RMVIP set to zero. The magnitude of the RMVIP will remain under review as more information on the actual split becomes available.

**Q1.** Respondents are invited to comment on the proposal to attribute the Residual Volume solely to non-interval metered demand? Are you in favour of the proposal? If not, what value of RMVIP should be selected? Outline reasons for agreement or disagreement.

**Q2.** Do you agree that the RMVIP should be kept under review? If so, how often do you think it should be reviewed? Outline reasons for agreement or disagreement.

## 9. Deregistration of the Error Supplier Unit

The trigger for the implementation of Global Settlement for Northern Ireland will be the deregistration of the Error Supplier Unit by Power NI. To enable Power NI to move away from the ESU function, a change is required to their Supply Licence. This change is in relation to Condition 52 in which paragraphs 2 and 3 state:

*2. The Licensee shall, in accordance with the provisions of the Single Electricity Market Trading and Settlement Code, register the Error Supplier Unit for Northern Ireland.*

*3. In this Condition:*

**Error Supplier Unit** - has the meaning given to it in the Single Electricity Market Trading and Settlement Code.

This requirement is only included in the Power NI Supply Licence and, if not amended, would be inconsistent with their TSC obligations when Global Settlements is implemented.

The Northern Ireland Authority for Utility Regulation is therefore proposing to commence a licence modification in accordance with article 14(2) of the

electricity (Northern Ireland) order 1992 (the “**order**”) to the electricity supply licence held by NIE Energy Limited under article 10(1)(c) of the order. The proposed licence change will delete Paragraphs 2 and 3 from Condition 52 but leave the following obligation in place:

*1 The Licensee shall become a party to the Single Electricity Market Trading and Settlement Code, and shall at all times remain a party to and comply with the Code, insofar as it is applicable to the Licensee in its capacity as an Electricity Supplier.*

As part of this consultation the Utility Regulator would welcome any comments or objections to the proposed licence changes. It is proposed the formal licence modification process will take after this consultation period.

## **10. Conclusions**

It is proposed that the residual volume will be allocated solely to demand with non-interval metering. This will be conducted by setting the weighting factor, the RMVIP, to zero.

With greater access to data on the Residual Volume available under Global Settlement arrangements, it is proposed to keep the magnitude of the value under review. The new data will be used in the future annual approval of the RMVIP.