Market Change Request

Number		Title	Priority
MCR	**0164**	Including the Meter Multiplier on the Extranet	*Medium*

Date	Version	Reason For Change
21/05/2008	1.0	Market Change Request raised containing no changes from the associated Discussion Request.

CHANGE REQUEST:			
Name of Requesting Organisation	**RMDS**		
Contact name	**Jessica Gregory**		
Date Change Request Raised	**07th June 2008**	**Originating Discussion Request**	**DR 0155**

Detail of Discussion Request
It has been proposed to add the meter multiplier to the extranet. After examination of the data structure it is suggested that the meter multiplier be added to the register level data on the MPRN search page. It will appear as the last column on the list of meters. Please see Appendix A for an explanation on how the multiplier is calculated and is used. The reason for the display at register level is that there are certain circumstances where different multipliers for different meters at a site may exist. These exceptions mean that the option of displaying a single value at MPRN header level of the MPRN search is excluded. An example of where multipliers differ between devices at a site is the case where fire fighting equipment exists and has a different multiplier to the main meter installed. Appendix B documents all cases where the multipliers at a site may differ between devices or do not exist at a device. The multiplier value displayed on the web will be mapped from the register factor field which is held at register level in SAP. Appendix C provides mock up designs for the addition to the extranet screen.
Reason for Discussion Request
To provide more detail to suppliers in order to support and enhance their business processes.
Market Design Documents impacted by Request
Retail Market Participant Extranet Website.doc

Date of IGG where discussed	*26th June 2008 – Was agreed to progress from DR to MCR*
Change Request xref (if applicable)	*N/A*

PART 2 MARKET ASSURANCE:				
Applicability				
ESB Networks	Suppliers	TSO	SSA	Generators
Scope of Test				
Connectivity	DTT	MSA	IPT	Other
			No. Of Scenarios	

PART 3 RESPONSES AND MODIFICATIONS:
Collation of Impact Assessment (*from Form C*)
Not Applicable
Modifications Included
Not Applicable
Reason for Modifications
Not Applicable

PART 4 ASSESSMENT & RECOMMENDATION:
Part 4(a) ASSESSMENT
Summary of Impact Assessment
Recommendation on Implementation Plan

Part 4(b) RECOMMENDATION			
ACCEPTANCE	**REJECTION**	**NO RECOMMENDATION**	**COMMENT**
Reason for Recommendation			
Date of Recommendation			

APPENDIX A

Meter Multiplier

The Meter Multiplier (or multiplier) is the ratio of actual consumption at the meter point to the consumption registered on the meter. In most cases this is equal to one. In cases where it is not one, it is generally calculated as in the formula:

The Meter Multiplier (or 'Multiplier') = CT ratio * VT ratio

Explanation

Commercial meters that carry the total current of a site are available up to a maximum current capacity. (These are 'whole current' meters.) Above that maximum, meters are used that are designed to work with current transformers ('CT' meters). Current Transformers 'step down' the total site current to a level that the meters can withstand. They are designed to do this in a known ratio, the 'CT ratio'. When the connection voltage is greater than low voltage, this voltage also needs to be stepped down. CT meters designed to work with voltage transformers (VTs) are used.

When CTs or CTs and VTs are in use, the consumption on the meter must be multiplied by a combined factor - the 'multiplier' - to obtain the actual consumption.

- Current Transformers (CT) – these are usually used where the MIC is >50 kVA. For sites connected at low voltage, these devices only sample current, the voltage is the same as in small load sites. These transformers have various ratios e.g. 50/5 Amp, 100/5 Amp, 300/5 Amp, 600/5 Amps, 1500/ Amp 5, are some of the ratios used by ESB Networks.
    - Where there is only a current transformer, the Factor (multiplier) to be applied to the reading is simply the ratio. E.g. with a 100/5 amp CT the multiplier is 100 divided by 5 = 20. the Multiplier is 20. Any reading at such a site is simply multiplied by 20.

- Voltage Transformers (VT) – these are used where the supply connection voltage is greater than low voltage i.e. 10kV or greater. The voltage transformers similarly sample the High voltage and present the sample to a meter. There is, again a factor involved.
    - As an example – 10,000/100 Volts would mean a calculation of 10000 divided by 100 = 100, the multiplier is thus 100.

- CT and VT - Some sites use CTs only and some sites use both CTs and VTs. Where both CTs and VTs are used, it is necessary to multiply the CT ratio by the VT ratio to get the complete multiplier at a site.
    - Using the above examples, we have a CT multiplier of 20 and a VT multiplier of 100. 20 X 100 = 2000 the multiplier at the site is 2000. Any reading on a meter at the above site would be multiplied by 2000 to get the actual consumption.

TLF Transformer Loss Factor: Note that the multiplier is distinct from the Transformer Loss Factor, if any.

Use by Suppliers

NQH Meters: In the case of NQH meters, the readings provided are those actually on the meter registers (or estimated to be on the registers in the case of estimates) The supplier needs to multiply meter reading differences by the multiplier to get the consumption.

QH Meters: In the case of QH meters, the multiplier and the TLF, if any, are applied by PDS to the consumption figures from the meter. Therefore the consumption figures provided to suppliers (via the 341 market messages) already have the multiplier and TLF applied to them. In these cases, the supplier should not apply multiplier and TLF values to the consumptions provided.

APPENDIX B

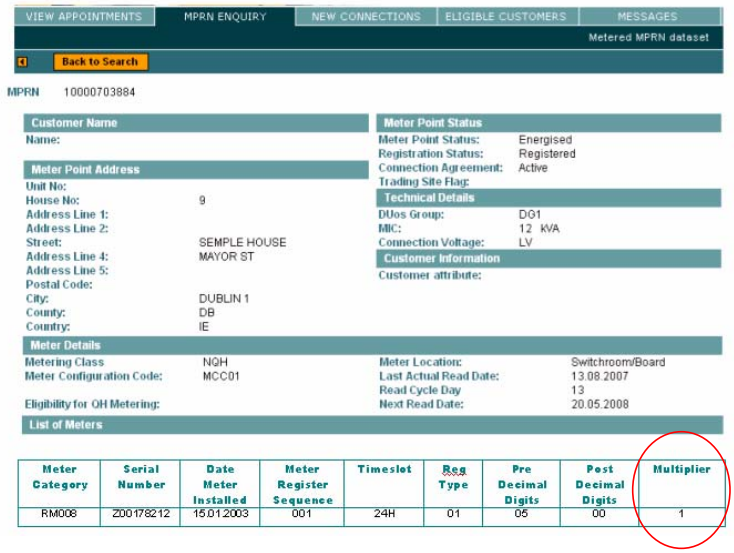
Meter Multiplier for meters at the same site

In most cases the meter multiplier will be the same for meters at a site. There are cases when they will not be the same. These will be detailed below.

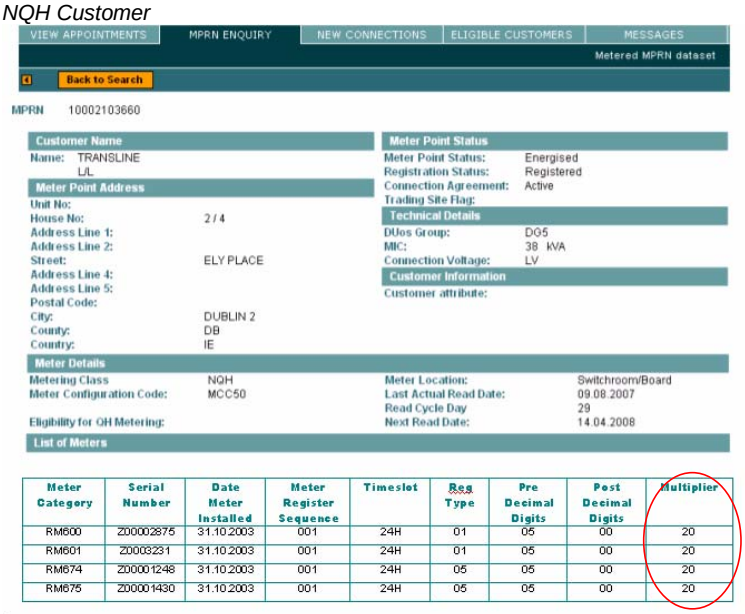
Type	Description	Legitimate or Data Error
Fire Fighting	Same multiplier not always relevant at different meters Where more than one meter exists differences may occur as the fire fighting equipment may have a different multiplier to the main meter at the site	Legitimate
Night Storage Heating	The night storage heating meter may have a different multiplier to the main meter at the site.	Legitimate
Non Standard MCCs	Non Standard MCCs with multiple meters on the same or on NSH tariff could have different multipliers.	Legitimate
More than 1 meter undergoing system updates	Data update error: This may occur due to updates on the system where a user may, for example, omit the multiplier during the Database update process. Another example could be where a meter reader incorrectly updates the number of digits of the meter This is currently actively monitored as follows: • A report is run on a weekly basis displaying cases where the multipliers between one period and another have been changed and are inconsistent. This report is maintained by the ISC and problematic cases referred back to the Networks business for follow up • Multiplier Reconciliation Integrity Check Report: Any Discrepancies are investigated by Database in ESB Networks • An internal ESB Networks change request is in progress which is aimed at ensuring multiplier consistency. This is being delivered through development to the ESB Networks system.	Data Error
One meter with multiplier one without	At certain sites it would be possible to have no multiplier on, for example, the General purpose meter but if there was a large Storage heating load, the storage heating meter could have a multiplier. (MCC03)	Legitimate
QH meters at cutover	Some QH multipliers were not transferred during market opening cutover. There will thus not be a value for these sites. PDS supplies this data value.	Data Error.
Older Metering	In sites which were metered many years ago, if there were different rates applied for Light, Heat and Motive power for example (MCC64 - 3X24H) again, one of the loads may have had CTs connected and as in the case above,	Legitimate

	different meters would legitimately have different Multipliers or none.	

APPENDIX C



NQH Customer



MD Customer