National Measurement Office

Government Response

To the review of the guidance that accompanies the Electricity (Unmetered Supply) Regulations, 2001 (SI 2001/3263)

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1.0 Executive Summary

Following requests from industry stakeholders, the National Measurement Office (NMO), published guidance on the Electricity (Unmetered Supply) Regulations, 2001 (SI 2001/3263) ('the Regulations') in 2012.

At the time of publication it was agreed NMO would conduct a review of the guidance after one year of utilisation. On the 4th October 2013, NMO issued a review letter inviting the unmetered supplies stakeholders to provide responses to the questions outlined in the open letter and submit any comments or suggested amendments to the guidance document. The main intention being to seek clarification on a number of issues raised by certain stakeholders. The aim of the review exercise was to revise and issue version 2.0 of the guidance and to include any necessary amendments that provide appropriate advice on these matters. The consultation closed on 15th November 2013.

16 responses to the review letter were received. The majority of responses received were from businesses organisations involved with the provision of unmetered supplies (44%) and from local government authorities who purchase electricity using unmetered supplies (31%). 19% of responses came from trade bodies/associations and 6% (i.e. 1 response) was received from another organisation.

As with the original consultation, there are still a number of conflicting views expressed between the customers and suppliers of unmetered supplies. Based on the review and analysis of stakeholder comments, the government has issued responses to each of the individual questions and these are highlighted in the latter sections of this document.

2.0 Summary of Stakeholders' Responses and the Government Response

2.1 Question 1

Regulation 3(1)(b)(i) does not define where the 500 W limit is to be measured although the guidance has interpreted this as being measured at the "load point" (i.e. the point at which the load of the equipment consumes electrical energy). It has been suggested that this opens the way for unlimited sizes of unmetered connection and that the 500 W limit should be measured at the "supply point" (i.e. the point of connection to the authorised distributor's network).

Do you believe the 500 W limit should be measured at the supply point or the load point?

16 consultees responded. 10 (62%) were in favour of measuring at load point, 3 (19%) were in favour of measuring at the supply point; 3 (19%) were either unsure or did not provide any comments.

Summary of Comments

- A majority of the stakeholders indicated their preference to maintain the existing interpretation of measuring the 500 W limit at the load point as currently indicated in the UMS guidance document.
- One stakeholder explained that it is not practical to measure the load at the supply point due to varying operating profiles based on switch regimes and Charge Codes.
- Another stated that it would not be logical to settle UMS accounts for wholly predictable loads on a varying basis based on the number of individual loads connected to any given supply point.
- One DNO claimed that measurement at the load point introduced multiple pieces of equipment.
- Another DNO claimed the 500 W limit should be measured at the supply point as this is the basis of what is considered when DNOs establish connections to their networks. However, they are mindful that the limit is relatively low and would welcome the opportunity to maintain some flexibility whilst avoiding excessively large UMS connections.
- The guidance was originally interpreted to indicate measurement at the load point, which would appear to lead to unlimited sizes of UMS.
- There appears to be numerous situations where a single supply point with a predictable load exceeds the 500 W limit.
- Some DNOs have issued their own policy guidance on the maximum capacity at the supply point based on the service cable size and fuse rating.
- One DNO stated that measuring at the load point does not appear to have caused them any concerns over the last year.
- It was also stated that appropriate designs may be considered for aggregated loads that are predictable and exceed the maximum capacity.

- One customer explained that it is irrelevant where the load is to be measured (load point or supply point), provided that the electrical load has been allocated an appropriate Charge Code.

Government Response

The Government guidance, under section 3(1)(b)(i), will continue to retain the interpretation of the 500 W limit as being measured at the "load point" (i.e. the point at which the load of the equipment consumes electrical energy).

2.2 Question 2

NMO has been advised there may be operational challenges if the 500 W limit is measured at the load point as the maximum load of a connection will be limited by the cable size and the cut-out provided. NMO believes there is sufficient scope in the Regulations for a flexible interpretation of the 500 W limit. However measurement at the load point should not lead to unreasonable demands for unmetered supplies and the following addition to the guidance is suggested:

"Multiple connections may be granted subject to good engineering practice, where the size of the cut-out and maximum capacity of the connection is considered".

Do you agree with this suggestion or do you have an alternative proposal?

16 consultees responded. 7 (44%) agreed with the suggestion, 3 (19%) proposed an alternative; 6 (37%) were either unsure or did not provide any comments.

Summary of Comments

- One stakeholder commented that safe engineering practices should always be followed and cut-out sizes and capacity of connections should always be taken into consideration.
- Statement does not set a definitive limit for the amount of load that is permitted to be connected at the supply point.
- Ambiguity on wording "multiple connections" in terms of whether or not this refers to single supply point and if it is a question of making it more definitive.
- It is also acknowledged that various DNOs use a range of cut-outs and connection types.
- Issues with networks exceeding their connection capacity by more than 500 W and declaration of inventories were highlighted. However, it was suggested that these issues can be resolved by auditing UMS equipment in accordance with the Connection Agreement and the National Terms of Connection along with guidance provided in the MUESLI document.
- Proposed suggestion is only relevant if it is already clarified in the guidance that the 500 W limit is measured at the load point.
- One DNO has set a maximum capacity after taking into account technical engineering and settlement considerations.
- DNOs should therefore be permitted to impose maximum capacity at supply point so as to reduce risk of inaccurate settlement.
- The suggested addition appears to broadly align with one DNOs operational procedure where the guidance defines measurement of the 500 W limit at the load point.

Alternative Suggestions

- *"Multiple connections which are already unmetered shall be maintained as unmetered even where the unit load changes providing the new load is predictable and does not consume significantly more than the previous load. Where new multiple connections are being considered for unmetered supplies, this shall be in accordance with the relevant SI's and BS7671."*

- *"Where several items, each individually below 500 W, are to be connected from a common position, the Distributor may, subject to technical consideration and good engineering practice, agree the provision of an unmetered connection in accordance with 3(b)(ii)."*

- *"Multiple load points may be connected to an Exit Point on a Distributor's network providing:*
  (i) the installation satisfies the requirements of the Electricity Safety Quality and Continuity Regulations, the Electricity at Work Regulations 1989 and the British Standard Requirements, as applicable, and;
  (ii) the specific requirements are agreed with the distributor who owns the network before the connection is made where the aggregate capacity of the load is above 16A per phase or 3.68kW per phase."

Government Response

All connections should clearly be in accordance with good engineering practice and applicable Standards and Regulations. Having reviewed the alternative suggestions proposed by some of the consultees, the original statement is to be revised as follows and included under section 3(1)(b)(i):

"Multiple connections may be granted at the supply point on the DNO's network, subject to technical consideration and good engineering practice when agreeing the provision of an unmetered connection in accordance with 3(b)(ii). However, the maximum limit at the supply point is dependent on ~~where~~ the size of the cut-out and ~~maximum~~ capacity deemed appropriate by the DNO ~~of the~~ for that particular connection ~~is considered~~ under consideration."

It was also suggested that "a cap" must be put in place for the maximum capacity of an unmetered connection, with different values proposed by a number of stakeholders. However, NMO do not wish to quantify a maximum capacity limit due to the inherent difficulties of agreeing a definitive value. The guidance advises that a pragmatic approach shall be taken and encourages DNOs to work together to adopt a uniform approach that will increase confidence in the way unmetered supplies are provided.

2.3 Question 3

Are there any aspects of the guidance you believe require further clarification?

Out of the 16 consultees, 8 (50%) responded with comments.

Summary of Comments

- The Regulations currently require an agreement between the DNO, supplier and customer for a UMS connection. In practice, suppliers show no interest in such issues and are not involved in discussions that take place between DNOs and customers.
- Guidance not explicit on situation regarding relocation of existing UMS connections installed before 2001 when the Regulations came into force. Suggest following amendments to final paragraph of section 3(3) to allow for relocation:

  "Where equipment originally provided under an existing unmetered supply either before or after 1 October 2001 has been relocated, refurbished or modified in some way, this should not be converted to a metered supply unless the extent of the change justifies the supply being treated as a new installation."

- Remainder of guidance document appears sufficiently clear and provides appropriate examples for particular issues.

Government Response

The existing guidance already acknowledges that, in practice, the supplier will generally not be involved in the discussions as to whether a new connection may be provided with an unmetered supply.

The wording in the guidance, under section 3(3), will be revised as follows to accommodate the relocation of existing UMS connections:

"Where equipment originally provided under an existing unmetered supply either before or after 1 October 2001 has been relocated, refurbished or modified in some way, this shall not be converted to a metered supply unless the extent of the change justifies the supply being treated as a new installation."

2.4 Question 4

Can you suggest any changes to the Regulations that would provide benefits to your business? Please quantify what savings would such changes bring and would any costs be incurred?

8 consultees (50%) responded with comments.

Summary of comments

- The use of CMS was also suggested as an alternative means for accurately accounting for energy settlement, although there appears to be a barrier due to the Regulations.
- A case study was highlighted where a project was undertaken to assess various metering sites across the streets of London. There was an overcharge of around one hundred thousand pounds for one metering site due to a discrepancy between actual and estimated reads.
- Reference was made to an Ofgem letter dated 1st April 2008 to highlight issue with unaccounted energy smeared across the network. It also mentions that inaccurate estimates can result in DNOs charging higher Distribution Use of System (DUoS) charges to reflect risks associated with UMS.
- By permitting multiple UMS connections, customers may incur savings but could increase risk for losses, ultimately leading to increased DUoS charges.
- Changes to the Regulations could take considerable time and money due to the legislation process.
- Amending the Regulations was not necessarily intended to reduce costs and bring savings but to ensure that they were unambiguous and enabled all parties to easily understand their requirements and responsibilities.
- Some points were raised regarding unacceptable costs incurred by councils for metered supplies where the load exceeds 500 W but is found to be predictable through the use of Charge Codes. This is mainly due to greater administration required to arrange a metered supply. There is also a timescale for the DNO when providing metered supplies, compared to unmetered supplies.
- It was noted that energy settlement regulations are currently lagging behind technological advances and seem unhelpful in encouraging innovative changes to support efficiency and simplicity.
- Practices overseas have seen the adoption of metering chips in CMS systems and implementation of this system in the UK could potentially eliminate obstacles arising from the Regulations.
- Changes to the Regulations may not be necessary, if the guidance provides clarity on matters regarding the supply and load points.

Government Response

NMO and Ofgem looked into the approval of CMS (Central Management Systems) technology in 2008 and the position is summarised in an open letter: https://www.ofgem.gov.uk/ofgem-publications/42161/public-lighting-open-letter-final.pdf

To summarise:

- CMS cannot be approved under the European Measuring Instruments Directive (MID) as the Directive requires the "metering chips" to be fitted with a display.
- However there is no such specific requirement under GB national legislation (i.e. the Electricity Act 1989) and CMS may be approved by NMO under this legislation because:
    - The MID only applies to domestic, commercial and light industrial applications (i.e. not public lighting)
    - The aggregated load would exceed the 100Kw/h which is the scope of the MID implementing Regs (SI 2006/1679)

NMO do therefore not believe the Regulations are a barrier to the use of CMS and we would be willing to discuss the approval requirements with any interested party.

None of the responses provided to this question quantified any savings or business benefits that would be realised from suggested changes to the Regulations. As such, there are no current plans to amend the Regulations.

2.5 Question 5

Are there any other comments you wish to raise?

5 consultees (31%) responded with comments.

Summary of comments

- It was mentioned that the government guidance has not been applied as intended, whereby the Regulations are inoperable in practice and even with helpful guidance, is poorly and inconsistently applied.
- Guidance has been quoted by DNOs in support of UMS connections, although it is claimed that their internal business processes take precedence.
- It was noted that the Regulations allow for a dispute process where an unmetered connection cannot be agreed. This process does not appear to be utilised as a means to obtain a definitive view from NMO.
- Questions also arise as to whether or not parties are aware of the dispute process, if it can be improved and the reasons for not being used.
- Original intent of the Regulations should be considered further and if there is a case for stakeholders to initiate an industry-based change proposal to revise the 500 W limit.
- Comments were raised regarding the cost of data collection associated with metered supplies, which is increasing due to smart metering and additional obligations to meet safety requirements.
- This is attributed to administration costs incurred by suppliers and customers through multiple billing in addition to direct metering costs highlighted in the previous consultation.
- Where a supply meets all other criteria of the Regulations but the load is greater than 500 W, use of metering brings additional costs without any benefits in terms of an improvement in the accuracy of energy consumption. It was suggested that increasing the 500 W limit would seem appropriate in order to offset these increasing costs.
- Comments were also raised regarding the consumption of electrical equipment used by DNOs, where it is claimed that they are the largest consumers of unmetered electricity in their own distribution areas.
- Much of the equipment is claimed to be unpredictable in terms of consumption patterns, which include ancillary equipment in substations such as heating, battery charging, lightings, communications and control equipment, etc.
- DNOs are obliged to ensure that this electricity consumption enters the BSC settlements arrangements, but there is no evidence that any of this equipment has been granted a Charge Code to be used in energy calculations according to BSCP520.
- There are claims that the DNOs use ‘best estimates’ to arrive at a suitable figure for UMS consumption which in many cases exceeds 500 W at both supply and load points. As this is perceived as a pragmatic approach to a rather complex issue, it was suggested that this is also afforded to customers with a similar high demand for electricity through multiple connections.
- One customer raised a point, where it must be ensured that UMS connections for the intended load are predictable. They are of the opinion that any piece of equipment

granted a Charge Code should make it appropriate for connection to an unmetered supply.

Government Response

Section 4.16 of the current guidance outlines the dispute process which is available for the consideration of all involved parties referred to under clause 4 of the Regulations (i.e. DNO, supplier and customer).

NMO have not received any requests to determine on disputes since the responsibility for the Regulations was transferred from Ofgem on 1st April 2009. Any determinations that NMO do issue will be published on the NMO website to establish precedents for specific examples and this guidance may be revised following any such determinations.

As previously stated, it is not possible to amend the Regulations in order to increase the 500 W limit, since there was no evidence of quantified savings provided.

NMO believe a pragmatic approach should be taken to address any complex issues. Stakeholders are encouraged to work towards a harmonised approach that will improve the manner in which unmetered supplies are provided.

3.0 Next Steps

NMO will issue version 2.0 of the Guidance to accompany the Electricity (Unmetered Supply) Regulations. The guidance will be reviewed in future subject to any justifiable requests from stakeholders on matters affecting the application of this guidance.

Annex A

Breakdown of responses

Total number of responses received: 16

Business Organisation	7	44%
Local Government	5	31%
Trade Body / Trade Association	3	19%
Other	1	6%

A list of respondents is attached at Annex C.

Annex B

Summary of questions

1. Regulation 3(1)(b)(i) does not define where the 500 W limit is to be measured although the guidance has interpreted this as being measured at the "load point" (i.e. the point at which the load of the equipment consumes electrical energy). It has been suggested that this opens the way for unlimited sizes of unmetered connection and that the 500 W limit should be measured at the "supply point" (i.e. the point of connection to the authorised distributor's network). Do you believe the 500 W limit should be measured at the supply point or the load point?

2. NMO has been advised there may be operational challenges if the 500 W limit is measured at the load point as the maximum load of a connection will be limited by the cable size and the cut-out provided. NMO believes there is sufficient scope in the Regulations for a flexible interpretation of the 500 W limit. However measurement at the load point should not lead to unreasonable demands for unmetered supplies and the following addition to the guidance is suggested:

   "Multiple connections may be granted subject to good engineering practice, where the size of the cut-out and maximum capacity of the connection is considered".

   Do you agree with this suggestion or do you have an alternative proposal?

3. Are there any aspects of the guidance you believe require further clarification?

4. Can you suggest any changes to the Regulations that would provide benefits to your business? Please quantify what savings would such changes bring and would any costs be incurred?

5. Are there any other comments you wish to raise?

Annex C

List of Respondents to the consultation

1. ADEPT Lighting Group
2. Elexon (including views from UMSUG members)
3. Electricity North West
4. Highway Electrical Association/UCCG
5. Lincolnshire County Council
6. Manchester City Council
7. Power Data Associates
8. Premier Energy Services Ltd.
9. Royal Borough of Kingston
10. Sefton Council
11. SP Energy Networks
12. UK Lighting Board
13. UK Power Networks
14. Virgin Media
15. Western Power Distribution
16. Westminster City Council

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