

**ENERGY**  
**SMART METERS**  
**DRAFT MODIFICATIONS TO THE SMART ENERGY CODE (SMART METERS No. 2 of**  
**2018)**

Presented to Parliament pursuant to section 89 of the Energy Act 2008



*Draft modifications to the Smart Energy Code laid before Parliament under section 89(3) of the Energy Act 2008; draft to lie for forty days pursuant to section 89(4) of that Act, during which period either House of Parliament may resolve that the modifications to the Smart Energy Code not be made.*

## **ENERGY**

### **SMART METERS**

#### **DRAFT MODIFICATIONS TO THE SMART ENERGY CODE (SMART METERS No. 2 of 2018)**

The Secretary of State makes the following modifications to the Smart Energy Code in exercise of the powers conferred by section 88(1) of the Energy Act 2008 ("the Act").

The Secretary of State has consulted the Gas and Electricity Markets Authority and such other persons as the Secretary of State considered appropriate in accordance with section 89(1) of the Act.

A draft of these modifications has been laid before Parliament in accordance with section 89(3) of the Act. Neither House of Parliament resolved, within the 40-day period referred to in section 89(4) of the Act, that the Secretary of State should not make the modifications.

#### **Interpretation**

- 1 In these modifications –
  - (a) "Smart Energy Code" means the document of that title required to be maintained and in force in accordance with condition 21 of the smart meter communication licences; and
  - (b) "smart meter communication licences" means –
    - (i) the licence granted to Smart DCC Limited on 20 September 2013 pursuant to sections 7AB(2) and (4) of the Gas Act 1986; and
    - (ii) the licence granted to Smart DCC Limited on 20 September 2013 pursuant to sections 6(1A) and (1C) of the Electricity Act 1989.

#### **Modifications to the Smart Energy Code**

- 2 The Smart Energy Code is modified, in accordance with paragraphs 3 to 8 below, with effect from the day after the day on which this instrument is made.
- 3 In Section A, in Section A1, in Section A1.1 –
  - (a) in the definition of "**DCC Live Systems**" –
    - (i) in paragraph (a), after "the activities fall within paragraph" delete "(b), (c) or (f)" and insert "(b), (c), (f) or (g)";
    - (ii) in paragraph (e), after the words "Self-Service Interface;" delete "and";
    - (iii) in paragraph (f), after the words "SMKI Recovery Procedure" delete "," and insert "; and"; and

(iv) after paragraph (f), insert new paragraph (g) as follows –

"(g) the Production Proving Systems,";

(b) insert in alphabetical order the following new definitions –

<b>"Dual Band Communications Hub"</b>	has the meaning given to that expression in the CHTS.
<b>Dual Band Communications Hub Configuration Tables</b>	means the technical document set out as an annex to Section F4 (Operational Functionality, Interoperability and Access for the DCC).
<b>Production Proving</b>	means the activities which the DCC is permitted to undertake by Section P (Production Proving).
<b>Production Proving Devices</b>	has the meaning given to that expression in Section P1.4 (Production Proving Devices).
<b>Production Proving Function</b>	means the DCC when undertaking Production Proving, and specifically those activities expressly stated in this Code to be undertaken by the Production Proving Function.
<b>Production Proving MPXNs</b>	has the meaning given to that expression in Section P1.8 (Production Proving MPXNs).
<b>Production Proving Registration Data</b>	has the meaning given to that expression in Section P1.11 (Production Proving Registration Data).
<b>Production Proving Systems</b>	means the Systems used by the DCC in its capacity as the Production Proving Function.
<b>Remote Party Role Code</b>	means the integer value for the Remote Party Role specified in the GB Companion Specification or Table 1 in Annex A to Section L (Smart Metering Key Infrastructure and DCC Key Infrastructure), as applicable."; and

(c) in the definition of "**Remote Party Role**" after the words "in the GB Companion Specification" insert ", and additionally comprises the values set out in Table 1 in Annex A to Section L (Smart Metering Key Infrastructure and DCC Key Infrastructure)".

4 In Section F -

(a) in Section F4, after Section F4.13, insert new Section F4.14 as follows –

"F4.14 In respect of each Dual Band Communications Hub that the DCC delivers pursuant to Section F6 (Delivery and Acceptance of Communications Hubs), the DCC shall ensure that the data items stored on the Communications Hub are (at the time of delivery) configured in accordance with the requirements of the DCC Dual Band Communications Hub Configuration Table.";

(b) in Section F4, after new Section F4.14, insert new Section F4.15 as follows –

"F4.15 In respect of each Smart Metering System which includes a Dual Band Communications Hub, the Lead Supplier from time to time shall ensure that the data items stored on the Communications Hub are (at all times) configured in accordance with the requirements of the Lead Party Dual Band Communications Hub Configuration Table.";

- (c) at the end of Section F, after new Section F4.15, insert on a separate new page a new Annex as follows –

**"Annex to Section F4 - Dual Band Communications Hub Configuration Tables**

Each data item in the first column is to be configured in accordance with third column.

**DCC Dual Band Communications Hub Configuration Table**

<b>Data item</b>	<b>Reference</b>	<b>Default Value</b>
<b>Page 28 Mask</b>	GBCS v2.0 Table 10.6.2.3	channels 0 to 26
<b>Page 29 Mask</b>	GBCS v2.0 Table 10.6.2.3	channels 27 to 34
<b>Page 30 Mask</b>	GBCS v2.0 Table 10.6.2.3	channels 35 to 48
<b>Page 31 Mask</b>	GBCS v2.0 Table 10.6.2.3	no channels to be used
<b>Normal-Limited Duty Cycle Threshold</b>	GBCS v2.0 Table 10.6.2.3	2.0%
<b>Limited-Critical Duty Cycle Threshold</b>	GBCS v2.0 Table 10.6.2.3	2.4%
<b>Maximum Sub GHz Channel Changes Per Week</b>	GBCS v2.0 Table 10.6.2.3	2 per week
<b>GSME Curfew</b>	GBCS v2.0 Table 10.6.2.3	5 hours
<b>Channel Quieter Threshold</b>	GBCS v2.0 Table 10.6.2.3	3 dB
<b>Channel Noisier Threshold</b>	GBCS v2.0 Table 10.6.2.3	3 dB
<b>Non GSME Poor Communications Percentage Threshold</b>	GBCS v2.0 Table 10.6.2.3	20%

<b>Non GSME Poor Communications Thirty Minute Periods Measurement Periods</b>	GBCS v2.0 Table 10.6.2.3	50 periods
<b>Local CH Noise Measurement Period</b>	GBCS v2.0 Table 10.6.2.3	2 hours
<b>Local CH Failure Percentage</b>	GBCS v2.0 Table 10.6.2.3	10%
<b>Local CH Retry Percentage</b>	GBCS v2.0 Table 10.6.2.3	30%

**Lead Party Dual Band Communications Hub Configuration Table**

<b>Data item</b>	<b>Reference</b>	<b>Default Value</b>
<b>Page 28 Mask</b>	GBCS v2.0 Table 10.6.2.3	channels 0 to 26
<b>Page 29 Mask</b>	GBCS v2.0 Table 10.6.2.3	channels 27 to 34
<b>Page 30 Mask</b>	GBCS v2.0 Table 10.6.2.3	channels 35 to 48
<b>Page 31 Mask</b>	GBCS v2.0 Table 10.6.2.3	no channels to be used
<b>Normal-Limited Duty Cycle Threshold</b>	GBCS v2.0 Table 10.6.2.3	2.0%
<b>Limited-Critical Duty Cycle Threshold</b>	GBCS v2.0 Table 10.6.2.3	2.4%
<b>Maximum Sub GHz Channel Changes Per Week</b>	GBCS v2.0 Table 10.6.2.3	2 per week
<b>GSME Curfew</b>	GBCS v2.0 Table 10.6.2.3	5 hours
<b>Channel Quieter Threshold</b>	GBCS v2.0 Table 10.6.2.3	3 dB
<b>Channel Noisier Threshold</b>	GBCS v2.0 Table 10.6.2.3	3 dB
<b>Non GSME Poor Communications</b>	GBCS v2.0 Table	20%

<b>Percentage Threshold</b>	10.6.2.3	
<b>Non GSME Poor Communications Thirty Minute Periods Measurement Periods</b>	GBCS v2.0 Table 10.6.2.3	50 periods
<b>Local CH Noise Measurement Period</b>	GBCS v2.0 Table 10.6.2.3	2 hours
<b>Local CH Failure Percentage</b>	GBCS v2.0 Table 10.6.2.3	10%
<b>Local CH Retry Percentage</b>	GBCS v2.0 Table 10.6.2.3	30%

"; and

- (d) in Section F5, after the heading "**Availability of CH Variants**" delete the existing Section F5.1 and insert new Section F5.1 as follows –

"F5.1 The DCC shall ensure that Communications Hub Device Models are made available to be ordered by Parties under this Section F5 such that the Parties can order Communications Hubs that provide for each and every combination of HAN Variant and WAN Variant; save that:

- (a) this Section F5 does not apply to Special Installation Mesh Communications Hubs (and all references in this Section F5 to Communications Hubs shall be deemed to exclude Special Installation Mesh Communications Hubs); and
- (b) the DCC need not provide a 'Variant 450 Communications Hub' (as defined in the CH Installation and Maintenance Support Materials) that operates only with a HAN frequency within the 2400 – 2483.5 MHz harmonised frequency band (as further described in the CHTS).".

- 5 In Section J, in Section J4, delete existing Section J4.5 and insert new Section J4.5 as follows –

"J4.5 Each such budget will contain indicative values for the following (as each such expression is defined in the Charging Methodology):

Acronym	Name
EAR <sub>t</sub>	Estimated Allowed Revenue
EFR <sub>t</sub>	Estimated Fixed Revenue
EESR <sub>t</sub>	Estimated Elective Services Revenue
EECR <sub>t</sub>	Estimated Explicit Charges Revenue

Acronym	Name
$NFR_t$	National Fixed Revenue
$AHFR_t$	Alt HAN Fixed Revenue
$RFR_{rt}$	Regional Fixed Revenue
$EC_{it}$	Explicit Charge for each Explicit Charging Metric
$RCHFR_{rt}$	Regional Communications Hub Fixed Revenue
$RCHDR_{hrt}$	Regional Communications Hub Device Revenue

".

6 In Section K –

(a) in Section K3 -

- (i) in Section K3.8, delete existing Section K3.8 and insert new Section K3.8 as follows –

"K3.8 In order to provide a degree of transparency of costs, the DCC shall apportion the Estimated Fixed Revenue between:

- (a) the National Fixed Revenue, the Alt HAN Fixed Revenue and the Regional Fixed Revenue for each Region so as to reflect the relative proportion of the cost and expenses that the DCC incurs across all Regions or in particular Regions in providing the Services and in reimbursing the Alt HAN Costs (ignoring the Communications Hub Services, the Test CH Services and the Elective Communication Services and ignoring the costs and expenses designed to be recovered pursuant to the Explicit Charges);
- (b) the Regional Communications Hub Fixed Revenue for each Region so as to reflect the cost and expenses that the DCC incurs in providing, in respect of that Region, the Communications Hub Services and the Test CH Services (ignoring the incremental costs and expenses incurred in providing individual Communications Hubs, and also ignoring the costs and expenses designed to be recovered pursuant to the Explicit Charges); and
- (c) the Regional Communications Hub Device Revenue for each Region so as to reflect the incremental cost and expenses that the DCC incurs in providing, in respect of that Region, each individual Communications Hub of each HAN Variant which is available for that Region (ignoring the costs and expenses designed to be recovered pursuant to the Explicit Charges),



in each case, so that any revenue restriction correction factor adjustment contained within the Estimated Fixed Revenue is apportioned between (a), (b) or (c) above on the basis of the extent to which it arose in relation either to the Services referred to in (a), (b) or (c) respectively.";

- (ii) in Section K3.9 delete existing Section K3.9 and insert new Section K3.9 as follows –

"K3.9 The apportionment described in Sections K3.7 and K3.8 shall be such that:

$$EFR_t = NFR_t + AHFR_t + \sum_{\forall r} RFR_{rt} + \sum_{\forall r} RCHFR_{rt} + \sum_{\forall r \forall h} RCHDR_{hrt}$$

Where:

$EFR_t$  = the Estimated Fixed Revenue (estimated in accordance with Section K2) for Regulatory Year (t).

$NFR_t$  = the National Fixed Revenue (estimated in accordance with Section K3.7 and K3.8) for Regulatory Year (t).

$AHFR_t$  = the Alt HAN Fixed Revenue (estimated in accordance with Section K3.7 and K3.8) for Regulatory Year (t).

$RFR_{rt}$  = the Regional Fixed Revenue (estimated in accordance with Section K3.7 and K3.8) within each Region (r) for Regulatory Year (t).

$RCHFR_{rt}$  = the Regional Communications Hub Fixed Revenue (estimated in accordance with Section K3.7 and K3.8) within each Region (r) for Regulatory Year (t).

$RCHDR_{hrt}$  = the Regional Communications Hub Device Revenue (estimated in accordance with Section K3.7 and K3.8) for each HAN Variant (h) within each Region (r) for Regulatory Year (t).";

- (iii) delete existing Section K3.16;
- (iv) delete existing Section K3.17;
- (v) delete existing Section K3.19; and
- (vi) renumber existing Sections K3.18 and K3.20 as Sections K3.16 and K3.17 respectively;
- (b) in Section K5 –
- (i) in Section K5.1(a) –

- (A) after "the National Fixed Revenue" insert "," and delete "and"; and
- (B) after "the Regional Fixed Revenue" insert "and the Regional Communications Hub Fixed Revenue"; and
- (ii) delete existing Section K5.4 and insert new Section K5.4 as follows –

"K5.4 For each Regulatory Year (t), the DCC will determine the Fixed Charge payable in respect of each month (or part month) of Regulatory Year (t) by each person within each Charging Group (g) in respect of each Enrolled Smart Metering System for a Non-Domestic Premises and each Mandated Smart Metering System for a Domestic Premises ( $RFC_{gt}$ ), as follows:

$$RFC_{gt} = \frac{(NFR_t + \sum_{\forall r} RFR_{rt})}{NM_t} \times \frac{\alpha_{gt}}{\sum_{\forall g} (\alpha_{gt} \times \sum_{\forall r} RESMS_{grt})} + \frac{\sum_{\forall r} RCHFR_{rt}}{NM_t} \times \frac{\beta_{gt}}{\sum_{\forall g} (\beta_{gt} \times \sum_{\forall r} RESMS_{grt})}$$

Where:

$\alpha_{gt}$  = the Charging Group Weighting Factor (as set out in Section K3) applicable to Regulatory Year (t) and each Charging Group (g)

$\beta_{gt}$  = the CH Charging Group Weighting Factor (as set out in Section K3) applicable to Regulatory Year (t) and each Charging Group (g)

$NM_t$  = the number of months (or part months) in Regulatory Year (t)

$NFR_t$  = the National Fixed Revenue (estimated in accordance with Section K3) for Regulatory Year (t)

$RFR_{rt}$  = the Regional Fixed Revenue (estimated in accordance with Section K3) for Regulatory Year (t) and Region (r)

$RCHFR_{rt}$  = the Regional Communications Hub Fixed Revenue (estimated in accordance with Section K3) for Regulatory Year (t) and Region (r)

$\forall g \forall r \quad RESMS_{grt} = REDSMS_{grt} + RENSM SMS_{grt}$

$RENSMS_{grt}$  = the estimate pursuant to Section K5.2(d) for Regulatory Year (t), each Charging Group (g) and each Region (r)

$REDSMS_{grt}$  = the estimate pursuant to Section K5.3(d) for Regulatory Year (t), each Charging Group (g) and each Region (r).";

(c) in Section K6 –

(i) in Section K6.1(a) –

(A) after "the National Fixed Revenue" insert "," and delete "and"; and

(B) after "the Regional Fixed Revenue" insert "and the Regional Communications Hub Fixed Revenue"; and

(ii) delete existing Section K6.3 and insert new Section K6.3 as follows –

"K6.3 For each Regulatory Year (t), the DCC will determine the Fixed Charge payable in respect of each month (or part month) of Regulatory Year (t) by each person within each Charging Group (g) in respect of each Enrolled Smart Metering System for a Non-Domestic Premises and for a Domestic Premises ( $EFC_{gt}$ ) as follows:

$$EFC_{gt} = \frac{(NFR_t + \sum_{\forall r} RFR_{rt})}{NM_t} \times \frac{\alpha_{gt}}{\sum_{\forall g} (\alpha_{gt} \times \sum_{\forall r} ESMS_{grt})} + \frac{\sum_{\forall r} RCHFR_{rt}}{NM_t} \times \frac{\beta_{gt}}{\sum_{\forall g} (\beta_{gt} \times \sum_{\forall r} ESMS_{grt})}$$

Where:

$\alpha_{gt}$  = the Charging Group Weighting Factor (as set out in Section K3) applicable to Regulatory Year (t) and each Charging Group (g)

$\beta_{gt}$  = the CH Charging Group Weighting Factor (as set out in Section K3) applicable to Regulatory Year (t) and each Charging Group (g)

$NM_t$  = the number of months (or part months) in Regulatory Year (t)

$NFR_t$  = the National Fixed Revenue (determined in accordance with Section K3) for Regulatory Year (t)

$ESMS_{grt}$  = the estimated number of persons within each Charging Group (g) for Enrolled Smart Metering Systems determined in accordance with Section K6.2 for Regulatory Year (t) and each Region (r)

$RFR_{rt}$  = the Regional Fixed Revenue (determined in accordance with Section K3) for Regulatory Year (t) and each Region (r)

$RCHFR_{rt}$  = the Regional Communications Hub Fixed Revenue (estimated in accordance with Section K3) for Regulatory Year (t) and Region (r).";

(d) in Section K6A –

(i) in Section K6A.1(a), after "the Regional Communications Hub" insert "Device";

(ii) delete existing Section K6A.2 and insert new Section K6A.2 as follows –

"K6A.2 In respect of each Regulatory Year occurring during or after the UITMR Period, the DCC will estimate the average number of Smart Metering Systems that there will be during the Regulatory Year. The DCC shall undertake such estimates for Domestic Premises and Non-Domestic Premises separately (being *EDCH* and *ENCH* respectively). For each such Regulatory Year (t), the DCC will estimate the average number of persons within each CH Charging Group (g) for such Smart Metering Systems, and break down such estimates by reference to the Region (r) in which the premises is located and the HAN Variant (h) forming part of each such Smart Metering System, such that:

$$\forall g \forall r \forall h ECH_{ghrt} = EDCH_{ghrt} + ENCH_{ghrt}$$

Where:

$EDCH_{ghrt}$  = the DCC's estimate of the average number of persons within each CH Charging Group (g) for Smart Metering Systems for Domestic Premises during that Regulatory Year (t), broken down by Region (r) and HAN Variant (h); and

$ENCH_{ghrt}$  = the DCC's estimate of the average number of persons within each CH Charging Group (g) for Smart Metering Systems for Non-Domestic Premises during that Regulatory Year (t), broken down by Region (r) and HAN Variant (h).";

(iii) delete existing Section K6A.3 and insert new Section K6A.3 as follows –

"K6A.3 For each Regulatory Year (t), the DCC will determine the Fixed CH Charge payable in respect of each month (or part month) of Regulatory Year (t) by each person within each CH Charging Group (g) in respect of each Smart Metering System incorporating each HAN Variant (h) for a Non-Domestic Premises or for a Domestic Premises ( $CHC_{ght}$ ) as follows:

Where:

$$CHC_{ght} = \frac{\sum_{\forall r} RCHDR_{hrt}}{NM_t} \times \frac{\beta_{gt}}{\sum_{\forall g} (\beta_{gt} \times \sum_{\forall r} ECH_{ghrt})}$$

$\beta_{gt}$  = the CH Charging Group Weighting Factor (as set out in Section K3) applicable to Regulatory Year (t) and each Charging Group (g)

$NM_t$  = the number of months (or part months) in Regulatory Year (t)

$RCHDR_{hrt}$  = the Regional Communications Hub Device Revenue (determined in accordance with Section K3) for Regulatory Year (t), HAN Variant (h) and Region (r)

$ECH_{ghrt}$  = the estimated number of persons within each Charging Group (g) for Smart Metering Systems determined in accordance with Section K6A.2 for Regulatory Year (t), HAN Variant (h) and each Region (r).";

(iv) in Section K6A.6, after "by reference to each Region (r)" insert "and HAN Variant (h)";

(v) delete existing Section K6A.6(a) and insert new Section K6A.6(a) as follows –

"(a) in respect of Domestic Premises, be represented as  $ADCH_{pghmt}$ ; and";  
and

(vi) delete existing Section K6A.6(b) and insert new Section K6A.6(b) as follows –

"(b) in respect of Non-Domestic Premises, be represented as  $ANCH_{pgrhmt}$ .";

(e) in Section K7 –

(i) delete existing Section K7.5(m) and insert new Section K7.5(m) as follows –

"(m) [not used]";

(ii) in Section K7.6(f) –

(A) after "Explicit Charging Metrics referred to in" delete "Section" and insert "Sections";

(B) after "K7.5(l)," delete "(m),"; and

(C) after "('CH stock level charge'," delete "'CH variant charge',";

- (iii) delete existing Section K7.6(g) and insert new Section K7.6(g) as follows –
  - "(g) in the case of the Explicit Charging Metric referred to in Sections K7.5(l), (o) and (p) ('CH stock level charge', 'CH returned and redeployed' and 'CH returned not redeployed'), on the basis that there can be different charges for each HAN Variant";
- (iv) in Section K7.5(h) –
  - (A) after "('CH returned and redeployed')" insert "for each HAN Variant"; and
  - (B) after "is not more than the Explicit Charging Metric" insert "for that HAN Variant";
- (v) in Section K7.5(i), after "lost or destroyed;" delete "and"; and
- (vi) after Section K7.5(i), insert new Section K7.5(ia) as follows –
  - "(ia) in the case of the Explicit Charging Metric referred to in Sections K7.5(r) ('test comms hubs'), on the basis that there can be different charges for different types of Test Communications Hubs (including by reference to the HAN Variant to which they correspond); and";
- (f) in Section K10 –
  - (i) in Section K10.1 –
    - (A) after Section K10.1(a), insert new Section K10.1(b) as follows –
      - "(b) the Fixed CH Charges determined in accordance with Section K6A"; and
    - (B) renumber existing Sections K10.1(b) to K10.1(e) as Sections K10.1(c) to K10.1(f) respectively;
  - (ii) in Section K10.2 –
    - (A) after "The Fixed Charges" insert ", Fixed CH Charges"; and
    - (B) after "in accordance with Section K4, K5, K5A, K6" insert ", K6A";
  - (iii) in Section K10.3 –
    - (A) after "The Fixed Charges" insert "and Fixed CH Charges"; and
    - (B) after "by the persons in the Alt HAN Charging Groups. The Fixed Charges" insert "and Fixed CH Charges";
  - (iv) delete existing Section K10.6 and insert new Section K10.6 as follows –
    - "K10.6 For each month (or part month) (m) during a Regulatory Year (t) prior to the UITMR Period, the initial monthly payment (*IMP*) in respect of the Charges payable by each Party (p) shall be calculated as follows:

$$\begin{aligned}
IMP_{pmt} = & \sum_{\forall g} (FC_{gt} \times AMSMS_{pgmt}) \\
& + \sum_{\forall g \forall h} \left( CHC_{ght} \times \left( ADCH_{ght} + \sum_{\forall r} ANCH_{ghrt} \right) \right) \\
& + \sum_{i=1}^{i=n} (EC_{it} \times ECM_{ipmt}) + TEP_{pmt} + \sum_{e \in m} UBDP_{pemt} + \sum_{l \in m} LP_{plmt}
\end{aligned}$$

Where:

$FC_{gt}$  = the Fixed Charges payable in respect of months (or part months) during Regulatory Year (t) by persons in Charging Group (g) in respect of Mandated Smart Metering Systems, calculated in accordance with Section K4

$AMSMS_{pgmt}$  = the amount described in Section K4.5

$CHC_{ght}$  = the Fixed CH Charge payable in respect of months (or part months) during Regulatory Year (t) by persons in CH Charging Group (g) for HAN Variant (h) in respect of Smart Metering Systems for both Non-Domestic Premises and Domestic Premises

$ANCH_{ghrt}$  = the amount described in Section K6A.6

$ADCH_{ght}$  = the amount described in Section K6A.6

$EC_{it}$  = the Explicit Charge for an Explicit Charging Metric (i) and a Regulatory Year (t)

$ECM_{ipmt}$  = the Explicit Charging Metrics incurred by a Party (p) during the Charging Period for that month (m) in a Regulatory Year (t)

$TEP_{pmt}$  = the total amount payable by a Party (p) in respect of Elective Charges and a month (m) in a Regulatory Year (t)

$UBDP_{pemt}$  = the Unrecovered Bad Debt Payment in respect of a month (m) in a Regulatory Year (t) and each Event of Default (e), as calculated in accordance with Section K9

$LP_{plmt}$  = the Liability Payment in respect of a month (m) in a Regulatory Year (t) and each Liability Event (l), as calculated in accordance with Section K9.";

- (v) delete existing Section K10.7 and insert new Section K10.7 as follows –

"K10.7 For each month (or part month) (m) during a Regulatory Year (t) during the UITMR Period, the rollout monthly payment (*RMP*) in respect of the Charges payable by each Party (p) shall be calculated as follows:

$$\begin{aligned}
 RMP_{pmt} = & \sum_{\forall g} \left( RFC_{gt} \times \left( ADSMS_{pgmt} + \sum_{\forall r} ANSMS_{pgmt} \right) \right) \\
 & + \sum_{\forall g \forall h} \left( CHC_{ght} \times \left( ADCH_{ght} + \sum_{\forall r} ANCH_{ghrt} \right) \right) \\
 & + \sum_{\forall g} \left( RAHFC_{gt} \times ADSMS_{pgmt} \right) + \sum_{\forall g} \left( RAHFC_{gt} \times \sum_{\forall r} ANSMS_{pgmt} \right) \\
 & + \sum_{i=1}^{i=n} \left( EC_{it} \times ECM_{ipmt} \right) + TEP_{pmt} + \sum_{e \in m} UBDP_{pemt} + \sum_{l \in m} LP_{plmt}
 \end{aligned}$$

Where:

$RFC_{gt}$  = the Fixed Charges payable in respect of months (or part months) during Regulatory Year (t) by persons in Charging Group (g) in respect of Mandated Smart Metering Systems for Domestic Premises and Enrolled Smart Metering Systems for Non-Domestic Premises, calculated in accordance with Section K5;

$ADSMS_{pgmt}$  = the amount described as such in Section K5.9;

$ANSMS_{pgmt}$  = the amount described as such in Section K5.7;

$CHC_{ght}$  = the Fixed CH Charge payable in respect of months (or part months) during Regulatory Year (t) by persons in CH Charging Group (g), for HAN Variant (h) in respect of Smart Metering Systems for both Non-Domestic Premises and Domestic Premises;

$ANCH_{ghrt}$  = the amount described in Section K6A.6;

$ADCH_{ght}$  = the amount described in Section K6A.6;

$RAHFC_{gt}$  = the Fixed Alt HAN Charge payable in respect of months (or part months) during Regulatory Year (t) by persons in Alt HAN Charging Group (g) in respect of Mandated Smart Metering Systems for Domestic Premises and Smart Metering Systems for Non-Domestic Premises calculated in accordance with Section K5A;

$EC_{it}$  = the Explicit Charge for an Explicit Charging Metric (i) and a Regulatory Year (t);



$ECM_{ipmt}$  = the Explicit Charging Metrics incurred by a Party (p) during the Charging Period for that month (m) in a Regulatory Year (t);

$TEP_{pmt}$  = the total amount payable by a Party (p) in respect of Elective Charges and a month (m) in a Regulatory Year (t);

$UBDP_{pemt}$  = the Unrecovered Bad Debt Payment in respect of a month (m) in a Regulatory Year (t) and each Event of Default (e), as calculated in accordance with Section K9;

$LP_{plmt}$  = the Liability Payment in respect of a month (m) in a Regulatory Year (t) and each Liability Event (l), as calculated in accordance with Section K9."; and

(vi) delete existing Section K10.8 and insert new Section K10.8 as follows –

"K10.8 For each month (or part month) (m) during a Regulatory Year (t) after the UITMR Period, the monthly payment ( $MP$ ) in respect of the Charges payable by each Party (p) shall be calculated as follows:

$$\begin{aligned}
 MP_{pmt} = & \sum_{\forall g} \left( EFC_{gt} \times \left( ADSMS_{pgmt} + \sum_{\forall r} ANSMS_{pgmt} \right) \right) \\
 & + \sum_{\forall g \forall h} \left( CHC_{ght} \times \left( ADCH_{ght} + \sum_{\forall r} ANCH_{ghrt} \right) \right) \\
 & + \sum_{\forall g} \left( DAHFC_{gt} \times ADSMS_{pgmt} \right) + \sum_{\forall g} \left( NAHFC_{gt} \times \sum_{\forall r} ANSMS_{pgmt} \right) \\
 & + \sum_{i=1}^{i=n} \left( EC_{it} \times ECM_{ipmt} \right) + TEP_{pmt} + \sum_{e \in m} UBDP_{pemt} + \sum_{l \in m} LP_{plmt}
 \end{aligned}$$

Where:

$EFC_{gt}$  = the Fixed Charges payable in respect of months (or part months) during Regulatory Year (t) by persons in Charging Group (g) in respect of Enrolled Smart Metering Systems for both Non-Domestic Premises and Domestic Premises, calculated in accordance with Section K6;

$ADSMS_{pgmt}$  = the amount described as such in Section K6.7;

$ANSMS_{pgmt}$  = the amount described as such in Section K6.7;

$CHC_{ght}$  = the Fixed CH Charge payable in respect of months (or part months) during Regulatory Year (t) by

persons in CH Charging Group (g), for HAN Variant (h) in respect of Smart Metering Systems for both Non-Domestic Premises and Domestic Premises;

$ANCH_{ghrt}$  = the amount described in Section K6A.6;

$ADCH_{ght}$  = the amount described in Section K6A.6;

$DAHFC_{gt}$  = the Domestic Fixed Alt HAN Charge payable in respect of months (or part months) during Regulatory Year (t) by persons in Alt HAN Charging Group (g) in respect of Mandated Smart Metering Systems for Domestic Premises calculated in accordance with Section K6B;

$NAHFC_{gt}$  = the Non-Domestic Fixed Alt HAN Central Charge payable in respect of months (or part months) during Regulatory Year (t) by persons in Alt HAN Charging Group (g) in respect of Mandated Smart Metering Systems for Non-Domestic Premises calculated in accordance with Section K6B;

$EC_{it}$  = the Explicit Charge for an Explicit Charging Metric (i) and a Regulatory Year (t);

$ECM_{ipmt}$  = the Explicit Charging Metrics incurred by a Party (p) during the Charging Period for that month (m) in a Regulatory Year (t);

$TEP_{pmt}$  = the total amount payable by a Party (p) in respect of Elective Charges and a month (m) in a Regulatory Year (t);

$UBDP_{pemt}$  = the Unrecovered Bad Debt Payment in respect of a month (m) in a Regulatory Year (t) and each Event of Default (e), as calculated in accordance with Section K9;

$LP_{plmt}$  = the Liability Payment in respect of a month (m) in a Regulatory Year (t) and each Liability Event (l), as calculated in accordance with Section K9."; and

(g) in Section K11.1 –

(i) in the definition of "**Alt HAN Cost Domestic Allocation**" after the words "given to that expression in Section" delete "K3.20" and insert "K3.17.";

(ii) insert in alphabetical order the following new definitions –

**"HAN Variant** for the purposes of this Section K there shall be only two HAN Variants: Single Band and Dual

Band, as further described in Appendix 1 (CH Installation and Maintenance Support Materials).

**Regional Communications Hub Device Revenue**

has the meaning given to that expression in Section K3.9.

**Test CH Services**

means the Services provided under Section F10 (Test Communications Hubs).";

- (iii) in the defined term "**Regional Communications Hub Revenue**" after the words "**Regional Communications Hub**" insert "**Fixed**";
- (iv) delete the definition of "Standard Communications Hub";
- (v) in the definition of "**UITMR Period**" in paragraph (b) after the words "paragraph 1 of Condition 39 of the" delete "Energy" and insert "Electricity"; and
- (vi) delete the definition of "Variant Communication Hubs".

7 In Section L –

(a) in Section L3 –

- (i) in Section L3.16, add a new row to the bottom of the table as follows –

"

The DCC acting as the Production Proving Function	Any Production Proving Device
---	-------------------------------

";

- (ii) in Section L3.18 –

- (A) in Section L3.18(b), after "if the value of the" delete "OrganizationalUnitName" and insert "X520OrganizationalUnitName";

- (B) in Section L3.18(b)(i), after "that person is the DCC, and" delete "the Remote Party Role is not one in relation to which a Device may require to undertake processing in accordance with the GB Companion Specification" and insert "it is identified with that Remote Party Role in the second column of that table and the Certificate Signing Request originates from the individual System referred in the paragraph of the definition of DCC Live Systems identified in the fourth column of that table"; and

- (C) after Section L3.18(b)(ii), delete the existing table immediately below Section L3.18(b)(ii) and insert a new table immediately below Section L3.18(b)(ii) as follows –

"

<b><u>Remote Party Role</u></b>	<b><u>Party</u></b>	<b><u>User Role or RDP</u></b>	<b><u>DCC Live Systems definition paragraph</u></b>
root	The DCC	[Not applicable]	(d)
recovery	The DCC	[Not applicable]	(f)
transitionalCoS	The DCC	[Not applicable]	(c)
wanProvider	The DCC	[Not applicable]	(a)
accessControlBroker	The DCC	[Not applicable]	(a)
issuingAuthority	The DCC	[Not applicable]	(a)
networkOperator	A Network Party	Either: (a) Electricity Distributor; or (b) Gas Transporter.	[Not applicable]
supplier	A Supplier Party	Either: (a) Import Supplier; or (b) Gas Supplier.	[Not applicable]
other	An RDP or any Party other than the DCC	Either: Other User; Registered Supplier Agent; Registration Data Provider; or Export Supplier.	[Not applicable]
pPPXmlSign	The DCC	[Not Applicable]	(g)
pPRDPFileSign	The DCC	[Not Applicable]	(g)

”;

(iii) in Section L3.23 –

- (A) in Section L3.23(f), after "the DCC" delete "(Access Control Broker)" and insert "(accessControlBroker)"; and
- (B) in Section L3.23(g), after "the DCC" delete "(Access Control Broker)" and insert "(accessControlBroker)";
- (iv) in Section L3.24 -
  - (A) in Section L3.24(b), after "the value of the" delete "OrganizationalUnitName" and insert "X520OrganizationalUnitName"; and
  - (B) after Section L3.24(c), delete the existing table immediately below Section L3.24(c) and insert a new table immediately below Section L3.24(c) as follows –

"

<u>Certificate</u>	<u>keyUsage Value</u>	<u>Remote Party Role</u>	<u>DCC Role</u>
Recovery Certificate	digitalSignature	recovery	The role of the DCC under the SMKI Recovery Procedure.
DCC (Access Control Broker) - digitalSignature Certificate	digitalSignature	accessControlBroker	AccessControlBroker
DCC (Access Control Broker) – keyAgreement Certificate	keyAgreement	accessControlBroker	AccessControlBroker
DCC (wanProvider) Certificate	digitalSignature	wanProvider	wanProvider
DCC (transitionalCoS) Certificate	digitalSignature	transitionalCoS	The role of the DCC as CoS Party.

"; and

- (v) in Section L3.25 –
  - (A) in Section L3.25(a), delete the defined term "KeyUsage" and insert new defined term "keyUsage";
  - (B) in Section L3.25(b), delete the defined term "OrganizationalUnitName" and insert new defined term "X520OrganizationalUnitName"; and
  - (C) in Section L3.25(c), delete the defined term "AccessControlBroker" and insert new defined term "accessControlBroker";

- (b) in Section L5, in Section L5.1 –
  - (i) in Section L5.1(o), after "such other documents or information" insert "(excluding any other public key infrastructure certificate)"; and
  - (ii) in Section L5.1(p), after "such other documents or information" insert "(excluding any other public key infrastructure certificate)"; and
- (c) at the end of Section L insert, on a new page, a new Annex A as follows –

**"Annex A to Section L**

Table 1: Remote Party Roles and associated Remote Party Role Codes in addition to those specified in the GB Companion Specification

Remote Party Role	Remote Party Role Code
pPPXmlSign	128
pPRDPFileSign	129

".

- 8 After Section N, insert new Section P as follows –

**"SECTION P: PRODUCTION PROVING**

**P1 PRODUCTION PROVING**

**Purpose**

- P1.1 The purpose of Production Proving is to provide assurance on the operation of the DCC Total System.

**Overview**

- P1.2 The DCC may, in its capacity as the Production Proving Function and subject to this Section P, to the extent reasonably necessary for the purposes of Production Proving:
- (a) act as if it is a User (in different User Roles) to send Service Requests;
  - (b) act as if it is a User (in different User Roles) to receive Service Responses and Alerts in relation to Production Proving Devices (as if it was an Eligible User);
  - (c) act as if it is a User (in different User Roles) to access the Self Service Interface; and
  - (d) act as if it is a Registration Data Provider in respect of Production Proving Registration Data.

**Production Proving Devices**

- P1.3 The Production Proving Function is only entitled to send a Service Request or Signed

Pre-Command to the DCC that will result in communication with a Device where that Device is a Production Proving Device.

- P1.4 A "**Production Proving Device**" is a (real) Device of a Device Model identified in the Certified Products List, but one that has been procured by the DCC for the purposes of Production Proving.
- P1.5 The Production Proving Function may send a Service Request requesting that the DCC adds a Production Proving Device to the Smart Metering Inventory (to be listed with an SMI Status of 'pending'), and the DCC shall add the Production Proving Device to the Smart Metering Inventory provided that the Production Proving Device is of a Device Model that is identified in the Certified Products List.
- P1.6 The Production Proving Function may install and Commission Production Proving Devices in order to create Smart Metering Systems, but those Production Proving Devices (and Smart Metering Systems) cannot be ones that record the supply of gas, or import or export of electricity, to or from a Premises for the purposes of settlement under the Energy Codes.
- P1.7 The DCC shall not allow Production Proving Devices to be linked in the Smart Metering Inventory to (real) MPANs or MPRNs.

#### **Production Proving MPXNs**

- P1.8 Given the limitation set out in Section P1.7, the Production Proving Function is entitled to generate dummy MPANs and dummy MPRNs (collectively, "**Production Proving MPXNs**") for the purposes of Production Proving. The DCC may record these Production Proving MPXNs in the Smart Metering Inventory and link them to Production Proving Devices for the purposes of recording the Commissioning of Production Proving Devices. The DCC shall publish on the DCC Website the range of values which the DCC uses for Production Proving MPXNs.
- P1.9 The Production Proving Function shall ensure that the Production Proving MPXNs are different from any and all MPANs and MPRNs, including that the data values of each Production Proving MPXN are outside the range that may in the future be used in an MPAN or MPRN.
- P1.10 The DCC shall ensure that each Production Proving MPXN is only linked in the Smart Metering Inventory to a Production Proving Device (and not any other Device).

#### **Production Proving Registration Data**

- P1.11 The Production Proving Function may generate dummy Registration Data ("**Production Proving Registration Data**") for the purposes of Production Proving.
- P1.12 The Production Proving Function shall ensure that the data fields in the Production Proving Registration Data by which Parties and other market participants are identified all contain data values which are different from the values used in the Registration Data to identify Parties and other market participants, including that the data values are outside the range that may in the future be used to identify Parties and other market participants.
- P1.13 The Production Proving Function shall be entitled to send the Production Proving Registration Data to the DCC in accordance with Section E (Registration Data) acting as if the Production Proving Function was a Registration Data Provider.

### **Excluded Service Requests**

- P1.14 The Production Proving Function may not submit the following Service Requests (or send Signed Pre-Commands that relate to the following Service Requests):
- (a) Update Security Credentials (KRP) (SRV 6.15);
  - (b) Request Handover Of DCC Controlled Device (SRV 6.21); or
  - (c) Update Security Credentials (CoS) (SRV 6.23).

### **Testing**

- P1.15 The DCC shall, before it undertakes any or all of the activities set out in Section P1.2, successfully complete reasonable and appropriate testing of the Systems to be used as the Production Proving System.
- P1.16 Prior to sending a Service Request to the DCC, the Production Proving Function must have successfully completed testing equivalent to User Entry Process Tests in the relevant User Role in which it wishes to act in sending that Service Request.
- P1.17 Prior to sending Production Proving Registration Data to the DCC, the Production Proving Function must have successfully completed testing equivalent to RDP Entry Process Tests.

### **General Standards**

- P1.18 Where the DCC undertakes Production Proving, it shall do so in accordance with Good Industry Practice, and in a manner that does not adversely affect the provision of the Services.

### **Production Proving IDs**

- P1.19 The Panel shall, where requested by the DCC, issue one or more Party Signifiers and/or RDP Signifier to the DCC for the purposes of identifying the DCC when acting as if it was a User or an RDP in its capacity as the Production Proving Function, and the Production Proving Function shall use these signifiers for such purpose.
- P1.20 The Panel shall, where requested by the DCC, issue a new range of EUI-64 Compliant identifiers for use as DCC IDs by the DCC when acting as the Production Proving Function. This range must be outside the range of identifiers used by DCC as DCC IDs for any other DCC purpose under this Code.
- P1.21 The DCC shall assign one or more DCC IDs for use only by the Production Proving Function.
- P1.22 The DCC shall notify the Panel which DCC IDs are associated with which Production Proving Function Party Signifier, and which DCC IDs are associated with which Production Proving Function RDP Signifier.
- P1.23 The Production Proving Function shall not use User IDs for the purpose of Production Proving.



## **Security**

- P1.24 As the Production Proving Systems form part of the DCC Live Systems and the DCC Total System, the DCC shall ensure that it complies with the relevant requirements of Section G (Security) which apply as a consequence.
- P1.25 The Production Proving Systems do not need to comply with the requirements of Section G (Security) which apply to User Systems or which apply to RDP Systems (via Section E (Registration Data)); save that Section G6 (Anomaly Detection Thresholds: Obligations on the DCC and Users) shall apply to the Production Proving Function as if it was a User.
- P1.26 For such purposes of Section G6 (Anomaly Detection Thresholds: Obligations on the DCC and Users), the Production Proving Function shall set Anomaly Detection Thresholds that have been approved by the Security Sub-Committee (and the DCC shall not process any communication from the Production Proving Function until such threshold values have been approved and set).
- P1.27 In respect of the DCC's obligations under Section G6 (Anomaly Detection Thresholds: Obligations on the DCC and Users), not acting in the capacity of the Production Proving Function, the DCC shall set the Anomaly Detection Thresholds for the following Service Requests from the Production Proving Function to zero:
- (a) Update Security Credentials (KRP) (SRV 6.15);
  - (b) Request Handover Of DCC Controlled Device (SRV 6.21); and
  - (c) Update Security Credentials (CoS) (SRV 6.23).

## **Records and Reporting to the Security Sub-Committee**

- P1.28 The DCC shall:
- (a) retain an audit log of the activities undertaken by the Production Proving Function for at least 6 years from the date on which the activity was undertaken;
  - (b) carry out post-event checks to confirm that no Service Requests or Signed Pre-Commands sent by the Production Proving Function resulted in communication with a Device which is not a Production Proving Device (or would have resulted in such communication had the DCC not rejected the message); and
  - (c) carry out post-event checks to ensure that the Production Proving Registration Data did not contain any (real) MPANs or MPRNs and did not use identifiers that are (or have been) used in the Registration Data to identify Parties and other market participants.
- P1.29 The DCC shall, within 5 Working Days following the end of each month, provide a report to the Security Sub-Committee which summarises in respect of that month the matters referred to in Section P1.28.

## **SMKI Services and DCCKI Services**

- P1.30 The Production Proving Function shall be entitled to receive SMKI Services and

DCCKI Services under and in accordance with the relevant provisions of Section L (Smart Metering Key Infrastructure and DCC Key Infrastructure) and the SEC Subsidiary Documents applying pursuant to Section L:

- (a) as if it was a Party other than the DCC; and
  - (b) as if it was an RDP.
- P1.31 The effect of Section P1.30 is to entitle the Production Proving Function to become an Authorised Subscriber, and to be an Eligible Subscriber in respect of those Device Certificates and Organisation Certificates for which the Production Proving Function is expressly stated to be eligible in Section L (Smart Metering Key Infrastructure and DCC Key Infrastructure).
- P1.32 Before the Production Proving Function can apply to become an Authorised Subscriber or access the SMKI Repository, the Production Proving Function must have successfully completed testing equivalent to the SMKI and Repository Entry Process Tests.
- P1.33 The Production Proving Function shall not submit any Certificate Signing Requests for a Device Certificate other than in relation to a Production Proving Device.
- P1.34 The Production Proving Function shall not submit any Certificate Signing Request for an Organisation Certificate other than the one in relation to which it is identified as an Eligible Subscriber in Section L3 (The SMKI Services).
- P1.35 The DCC is not required to implement controls within the DCA, an Issuing DCA or within the Registration Authority that limit the issuing of Device Certificates to the Production Proving Function in relation Production Proving Devices.
- P1.36 The DCC shall ensure that no Public Key that is used by a Production Proving Device in relation to the Remote Party Role of either supplier or networkOperator is contained within any Certificate or other public key infrastructure certificate."

*Name*

Minister of State

Date:

Department for Business, Energy and Industrial Strategy