

DCC Statement of Service Exemptions

Describing those premises which for the time being need not be served by the DCC Smart Meter Communication Services because of their physical characteristics, or because of the insularity or remoteness of the area in which they are located

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Classification: DCC Public

Note: this is the fourth draft version of the Statement of Service Exemptions. The revisions made to the document have been proposed to the Authority for approval. The changes will take effect from the time the Authority directs DCC to revise the Statement of Service Exemptions. The final version will be published following direction from the Authority.

Summary

In accordance with Appendix 1 to Condition 17 of the Smart Meter Communication Licence, this statement sets out the scope of the Smart Metering Wide Area Network (SMWAN) which provides connectivity between the Communications Hubs installed in consumer and small non-domestic premises and DCC Systems to enable the DCC Messaging Service.

It is assumed that to achieve the levels of communications coverage described in this statement, DCC Users will comply with the requirements of the SEC, in particular by adhering to the processes set out in the Communications Hub Support Materials for the installation and maintenance of Communications Hub devices.

This document will be updated on an annual basis to reflect the impact of additional information that will be made available as the roll-out of Smart Meters across Great Britain progresses.

This statement sets out two categories of premises for which connectivity to the SMWAN will not be provided:

1. Premises within an area of SMWAN coverage but which cannot be connected to the SMWAN due to local environmental factors, property type or specific installation issues; and
2. premises outside the Coverage Area within a Coverage Region.

This statement also sets out the steps that DCC will take to reduce the scope of these exemptions and secure the provision of connectivity to premises within these categories, where it is technically practicable at a cost which is not disproportionate.

Background

The DCC Messaging Service is dependent on the SMWAN. Within consumer and small non-domestic premises, connectivity between Smart Electricity and Smart Gas Meters and the SMWAN will be provided by Communications Hubs supplied by DCC.

Great Britain has been split up into three SMWAN Coverage Regions; South, Central and North. The three Regions in total incorporate all consumer premises geographically located in Great Britain and are defined by Distribution Network Operator (DNO) regions:

- Region North includes the DNO regions North Scotland, South Scotland, North East England, North West and Yorkshire;
- Region Central includes the DNO regions East Midlands, West Midlands, Eastern England, South Wales and North Wales, Merseyside and Cheshire; and
- Region South includes the DNO regions Southern England, London, South East England and South West England.

In each of these Regions the SMWAN is provided by a single Communications Service Provider (CSP). Two different CSPs have been contracted to provide SMWAN Services across the three Coverage Regions and in both cases will use wireless (radio) technology to deliver connectivity.

- Regions South and Central will utilise cellular mobile technology plus wireless mesh radio
- Region North will utilise long-range radio technology.

During the procurement phase for the CSP contracts, the cost of providing connectivity to all consumer and small non-domestic premises' electricity meter points¹ in each Region was assessed. The conclusion of this assessment was that the cost of connectivity to all meters would be disproportionately high, relative to the cost of providing connectivity to a very high proportion of meters (above 99% of all meter points).

The contracts between DCC and the CSPs therefore do not require connectivity to be provided to 100% of electricity meter points within each Region. Instead, the contracts require SMWAN coverage to between 99.25% and 99.50% of all electricity meter points within each within each Region; the detail of which is set out in Table 1, Table 2 and Table 3 below.

These connectivity levels were assessed as providing the highest level of coverage commercially available within the value for money constraints of the Smart Meter Impact Assessment². This Statement of Service Exemptions describes the parameters which determine whether an individual premises is likely to be provided with the connectivity required to support the DCC Messaging Service.

The current contracts require CSPs to commit to provide a set level of connectivity, as measured by the ability of the SMWAN to provide a viable Messaging Service to the electricity meter point in each consumer or small non-domestic premises. The parameters are:

- Regions South and Central: SMWAN connectivity to 99.25% of electricity meter points in domestic and small non-domestic premises by the end of 2020; and
- Region North: SMWAN connectivity to 99.50% of electricity meter points in domestic or small non-domestic by the end of 2020.

It should be noted that these coverage commitments relate to the provision of SMWAN connectivity between the Communications Hub only and DCC systems only. Connectivity between the Communications Hub and other Smart Meter devices is provided by the Home Area Network (HAN). Establishing HAN connectivity is not within the scope of DCC Services.

As a result of the impact of DCC Release 2.0 (Dual Band Communications Hubs) and the decision to provide the EDM Variant 450 Communications Hub as a Dual Band variant only, five North SMWAN coverage milestones have changed.

These are detailed below and are reflected in Table 1:

- 95% milestone date changed from 01/09/2017 to 01/03/2018
- 97.75% milestone date changed from 01/12/2017 to 01/06/2018
- 98% milestone date changed from 01/03/2018 to 01/09/2018
- 99.25% milestone date changed from 01/06/2018 to 01/12/2018

¹ The electricity meter point was chosen as the point at which SMWAN connectivity is required since the Communications Hub must be installed either directly onto the electricity meter via the 'Intimate Communications Hub Interface' or in very close proximity to the electricity meter or incoming supply point using a 'hot shoe' or cradle solution.

² <https://www.gov.uk/government/publications/smart-meter-roll-out-for-the-domestic-and-small-and-medium-non-domestic-sectors-gb-impact-assessment>

- 99.35% milestone date changed from 01/01/2019 to 01/07/2019

These changes in dates for the above milestones do not impact the overall provision of 99.5% Coverage by 01/01/2021.

CSPs will be required to provide a Coverage Database which identifies where meter point connectivity to the SMWAN is expected to be available. Premises identified as having expected connectivity to the SMWAN are classed as being within the Coverage Area within a Coverage Region.

There are two categories of premises for which connectivity to the SMWAN will not be provided and will therefore be exempt from the provision of the DCC Messaging Service:

1. Premises that are within a Coverage Area within a Coverage Region, which cannot connect to the SMWAN due to local environmental factors, property type or specific installation issues; and
2. premises outside the Coverage Area within a Coverage Region.

Each category is described in further detail below.

Service Exemption Category 1

This exemption covers premises within the Coverage Area within a Coverage Region, which cannot connect to the SMWAN due to local environmental factors, property type or specific installation issues.

DCC notes that no specific type of premises is excluded as being unable to connect to the SMWAN. CSP solutions are, within the Coverage Area, designed to be capable of providing connectivity to all potential electricity meter points subject to reasonable local radio conditions.

Connectivity is dependent on radio signal propagation to a given meter location, this is mapped based on a number of statistical assumptions. Where signal attenuation, due to obstructions or insulating material between an SMWAN Access Node and the Communications Hub falls outside normally measured ranges, this may result in SMWAN connectivity not being achieved.

This scenario cannot be reasonably determined in advance for individual premises without detailed radio surveys of all meter points.

Factors negatively influencing coverage may include:

- meters located deep inside the premises or underground;
- property construction or property type; and
- metallic obstructions or enclosures likely to disrupt radio communications in the immediate environment of the Communications Hub.

In the period up until the end of 2020, during the deployment of Smart Meters and SMWAN communications infrastructure, the percentage of premises within the Coverage Area which fall into this category will not exceed 1%.

In practice, this means that the number of premises subject to service exemption will be an additional 1 % of the premises inside the Coverage Area as defined in Table 1, Table 2 and Table 3 below.

Following completion of planned deployment activity by the end of 2020, the CSP contracts require the total connectivity level to be met without exceptions and therefore, from 1st January 2021, the Connectivity level shown will include coverage exemptions due to *both* Categories.

Service Exemption Category 2

This exemption covers premises outside the Coverage Area within a Coverage Region, where the SMWAN will not be available. This availability is determined by geographic location, as location, as determined by postcode and premises address information. The Coverage Area shall provide a minimum of 80% connectivity to electricity meter points in domestic or small non-domestic properties within each Region at Initial Live Operations (ILO).

All Regions' SMWAN connectivity will be increased over time as CSPs deploy network infrastructure and other enhancements to increase coverage, to the minimum levels. This is defined in Table 1, Table 2 and Table 3 below.

These tables reflect contractual coverage milestone commitments in the CSP contracts and, as such, reflect the minimum level of connectivity provision that CSPs will be required to demonstrate over time.

DCC will perform assurance of CSP coverage milestone reports against these dates, including analysis of updated coverage models and infrastructure build reports as CSPs develop and deliver their solution implementation plans. In subsequent iterations of this document, DCC will include the results of this assurance which will measure actual progress against these milestone targets.

Table 1: Provision of Coverage in the North Region

Date	Percentage of Properties within the Coverage Area in the North Region	Actual Milestone connectivity level demonstrated (to be included in future iterations of this document)
01/10/2014	3%	29/09/2014
01/01/2015	25%	11/12/2014
01/04/2015	40%	30/03/2015
02/11/2015	70%	02/11/2015
06/05/2016	80%	06/05/2016
01/12/2016	84%	01/12/2016
01/03/2017	88%	01/03/2017
01/06/2017	92%	01/06/2017
01/03/2018	95%	
01/06/2018	97.75%	
01/09/2018	98%	
01/12/2018	99.25%	
01/07/2019	99.35%	
01/01/2020	99.40%	
01/06/2020	99.50%	

Date	Percentage of Properties within the Coverage Area in the North Region	Actual Milestone connectivity level demonstrated (to be included in future iterations of this document)
01/01/2021	99.50%	

Table 2: Provision of Coverage in the Central Region

Date	Percentage of Properties within the Coverage Area in the Central Region	Actual Milestone connectivity level demonstrated (to be included in future iterations of this document)
01/01/2014	80%	01/01/2014
01/04/2014	80%	01/04/2014
01/07/2014	80%	01/07/2014
01/10/2014	80%	01/10/2014
01/01/2015	80%	01/01/2015
01/04/2015	80%	01/04/2015
01/07/2015	80%	01/07/2015
01/10/2015	80%	01/10/2015
01/01/2016	80%	01/01/2016
01/04/2016	80%	01/04/2016
01/07/2016	80%	01/07/2016
01/10/2016	80%	01/10/2016
01/01/2017	97.75%	01/01/2017
01/01/2018	97.75%	01/01/2018
01/01/2019	97.75%	
01/01/2020	97.75%	
01/01/2021	99.25%	

Table 3: Provision of Coverage in the South Region

Date	Percentage of Properties within the Coverage Area in the South Region	Actual Milestone connectivity level demonstrated (to be included in future iterations of this document)
01/01/2014	80%	01/01/2014
01/04/2014	80%	01/04/2014
01/07/2014	80%	01/07/2014
01/10/2014	80%	01/10/2014
01/01/2015	80%	01/01/2015
01/04/2015	80%	01/04/2015
01/07/2015	80%	01/07/2015
01/10/2015	80%	01/10/2015
01/01/2016	80%	01/01/2016
01/04/2016	80%	01/04/2016
01/07/2016	80%	01/07/2016
01/10/2016	80%	01/10/2016
01/01/2017	97.75%	01/01/2017
01/01/2018	97.75%	01/01/2018
01/01/2019	97.75%	
01/01/2020	97.75%	
01/01/2021	99.25%	

Premises not within a Coverage Area shall be excluded from the provision of SMWAN connectivity. In these cases, the CSP coverage model will have determined that it is not economically viable to provide SMWAN connectivity to these locations. DCC shall publish details of the Coverage Area on a quarterly basis, starting Q3 2014. This quarterly publication will continue until the Coverage Database is available.

Once available, access to the Coverage Database will be provided to all DCC Users via the DCC Self Service Interface (SSI). The Coverage Database will also respond to coverage queries issued by DCC Users via the DCC User Gateway. As described above, following completion of deployment activity, by 1st January 2021, the total number of premises recorded in the Coverage Database as being capable of achieving SMWAN connectivity shall reach the levels shown, including coverage exemptions due to both Categories.

Securing Provision to Exempted Premises and Areas

DCC expects that information gathered through the roll-out of Smart Meters will improve the CSPs ability to model effectively SMWAN coverage. and that future iterations of the Statement of Service Exemptions will be developed to take advantage of practical experience and installation data.

As CSP coverage models are refined and systems improved, DCC will assess any opportunities to secure provision of coverage to premises falling within Service Exemption Category 1 and areas in Service Exemption Category 2³. Through a process of continuous engagement and service improvement activity with CSPs, potential solutions will be identified that are likely to include either additional communications infrastructure or the deployment of new technology.

To ensure that such solutions to secure provision are technically practicable and at a cost that is not disproportionate, DCC will review using assessment criteria as detailed within the Development Plan (Appendix B) and undertaking, subject to the scale of the initiative, outline or full cost-benefit analysis.

³ This activity will be managed through the DCC Service Improvement work programme, outlined in the DCC Development Plan