



SMDA – Guidance Interoperability and Interchangeability Obligations and Expectations

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1. Introduction

This note describes the requirements and expectations on SEC Parties regarding Interoperability and Interchangeability of SMETS2+ devices. It sets out:

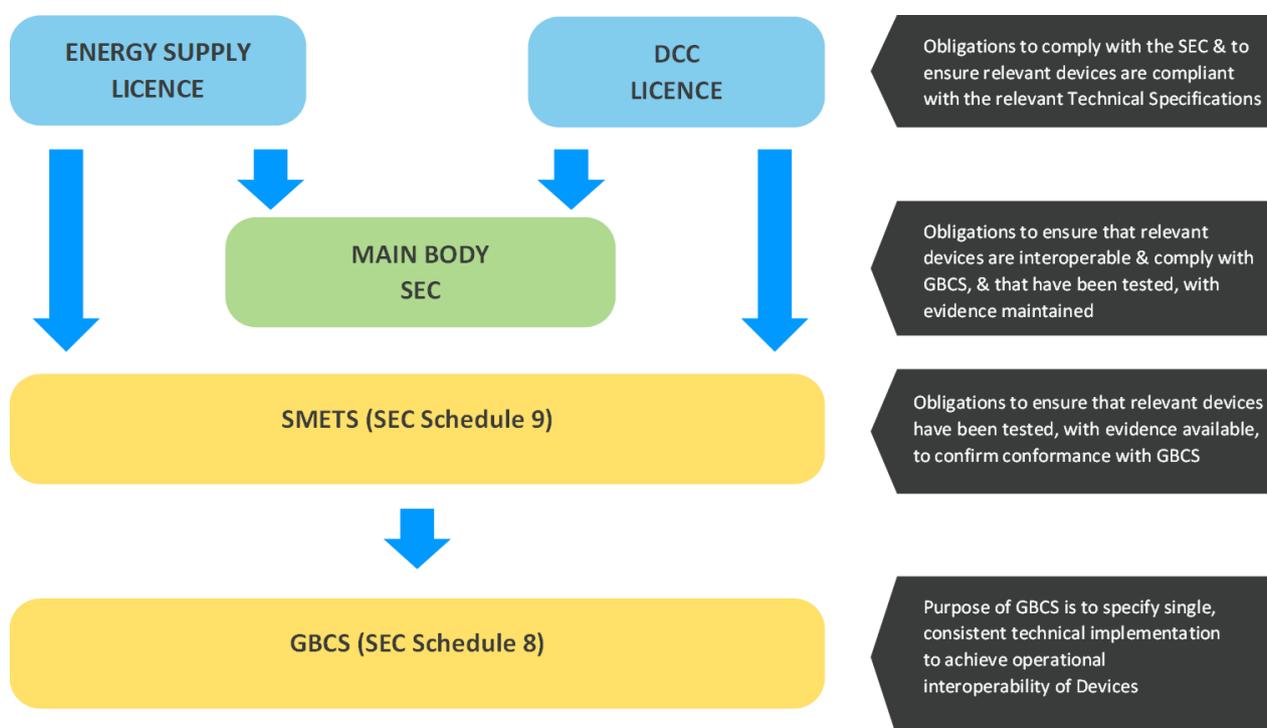
1. The varying obligations on different SEC Parties, and their flow-through energy market participants' Licences, the main body of the SEC and SEC Schedules; and.
2. The expectations on Interoperability and Interchangeability of SMETS2+ devices shared by Government and the Regulator.

SMETS1 devices are outside the scope of this Guidance Note. There was no mandated need for interoperability and interchangeability for SMETS1 devices owing to proprietary communication networks and equipment being rolled out.

2. Obligations on SEC Parties regarding Interoperability and Interchangeability of SMETS2+ devices

The diagram below summarises the hierarchy of requirements in relation to the Interoperability and Interchangeability of SMETS2+ devices. These Obligations apply to Energy Suppliers and the DCC.

2.1 The hierarchy of requirements in relation to the Interoperability and Interchangeability of SMETS2+ DEVICES.



Quick Guide

As Suppliers you should:

Ensure that the meters and other devices you install and maintain in consumers' homes comply with the SMETS Technical Specifications.

Make sure that the meters you install and maintain in consumers' homes are interoperable with other devices and will work if the consumer changes energy supplier.

Test devices to demonstrate that they meet these requirements, and retain evidence of this testing, so you can share it with the SEC Panel or Ofgem if requested.

Obligations apply at the highest level in the Licences of Energy Suppliers and the DCC. These cover general obligations on the installation and maintenance of devices such that they comply with the requirements set out in Technical Specifications for devices. Licences also require that respective Licensees are Parties to and comply with the Smart Energy Code.

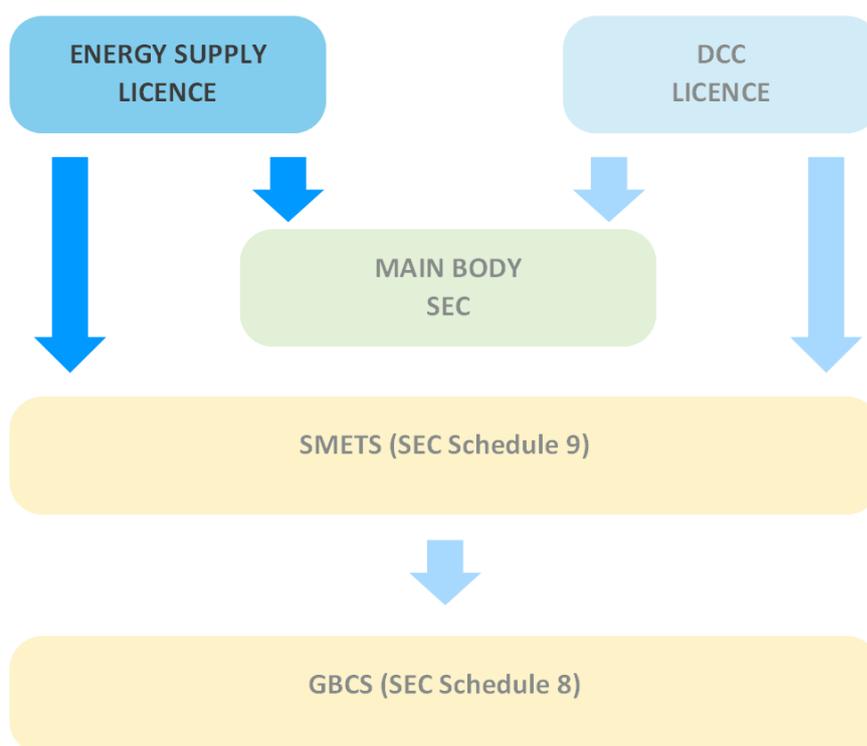
The Smart Energy Code includes higher-level, main body provisions, and also the technical specifications for smart metering devices. **SEC Section F includes obligations on Energy Suppliers to ensure that devices are interoperable and to retain evidence of interoperability.**

The Technical Specifications contain similar provisions with the aim of **achieving operational interoperability of Devices – as set out in the GBCS.**

Whilst Obligations in the regulatory framework fall on those bodies which are Licence Holders or Party to the Smart Energy Code. The requirements set out in the framework can and are delivered through contractual agreements with other parties. In **Section 4** of this document, we summarise the role other bodies play, in terms of how they can support these arrangements, or be impacted by them.

2.2 Obligations in Standard Energy Supply Licences

Obligations to comply with the SEC and to ensure relevant devices are compliant with the relevant Technical Specifications



There are three key obligations in Electricity Supply Licences which are relevant to Suppliers' requirements in relation to interoperability and interchangeability of devices.

These are:

Licence Condition 39.1

This requires the Licensee to take *all reasonable steps to ensure that a Relevant Smart Metering System is installed ... at each Domestic Premises or Designated Premises in respect of which it is the Relevant Electricity Supplier.*

A Relevant Smart Metering System is defined as meaning:

in respect of any Domestic Premises or Designated Premises a system installed at such premises for the purposes of the supply of electricity to those premises which on the Installation Date ... consists of an Electricity Meter and any associated or ancillary devices identified in a Version of the ESME Technical Specification ... as a minimum, has the functional capability specified by and complies with the other requirements of that Version of the ESME Technical Specification.

Licence Condition 39.15

This requires the Licensee to take *all reasonable steps to ensure that the Smart Metering System at the relevant premises is maintained so that at all times it satisfies the requirements [of a] Version of the ESME Technical Specification.*

Taken together, these Licence Obligations require Suppliers to ensure that at all times, devices they install and maintain are consistent with the SMETS.

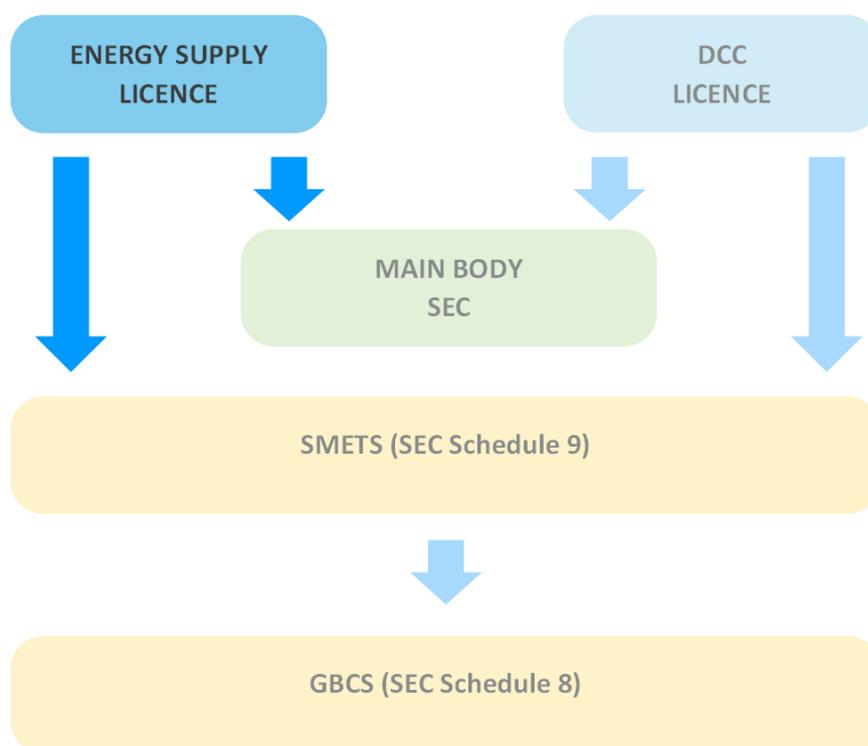
Licence Condition 48.1

This requires that the Licensee must be *a party to the Smart Energy Code; and (b) thereafter remain a party to and comply with the Smart Energy Code.*

This Licence Obligation requires that Supplier must be a party to, and comply with the regulatory requirements set out within, the Smart Energy Code.

2.3 Obligations in Gas Supplier Licence – Standard Conditions

Obligations to comply with the SEC and to ensure relevant devices are compliant with the relevant Technical Specifications



There are three key obligations in Gas Supply Licences which are relevant to Suppliers’ requirements in relation to interoperability and interchangeability of devices.

These are:

Licence Condition 33.1

This requires the Licensee to take *all reasonable steps to ensure that a Relevant Smart Metering System is installed ... at each Domestic Premises or Designated Premises in respect of which it is the Relevant Gas Supplier.*

A Relevant Smart Metering System (in Licence Condition 33.22) is defined as meaning:

in respect of any Domestic Premises or Designated Premises a system installed at such premises for the purposes of the supply of gas to those premises which on the Installation Date ... consists of an Gas Meter (sic)

and any associated or ancillary devices identified in a Version of the GSME Technical Specification which... as a minimum, has the functional capability specified by and complies with the other requirements of that Version of the GSME Technical Specification.

Licence Condition 33.15

This Licence Condition requires that the licensee *must take all reasonable steps to ensure that the Smart Metering System at the relevant premises is maintained so that at all times it satisfies the requirements of a Version of the GSME Technical Specification.*

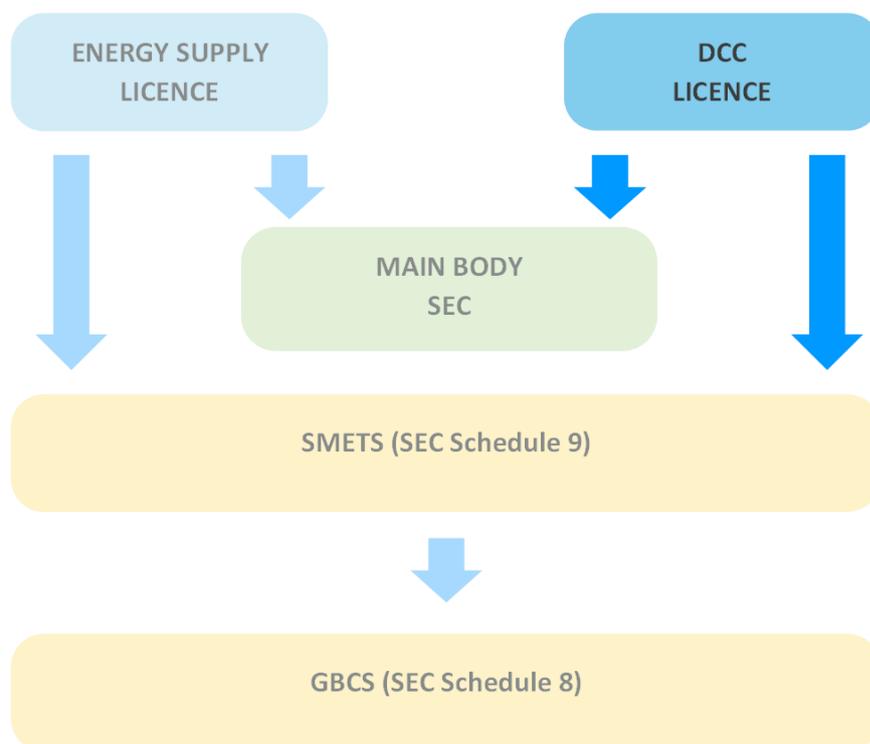
Licence Condition 42.1

This requires that the Licensee *must be a party to the Smart Energy Code; and (b) thereafter remain a party to and comply with the Smart Energy Code.*

This Licence Obligation requires that Supplier *must be a party to, and comply with the regulatory requirements set out within, the Smart Energy Code.*

2.4 Obligations in the DCC Licence

Obligations to comply with the SEC and to ensure relevant devices are compliant with the relevant Technical Specifications



DCC Licence Condition 17.21

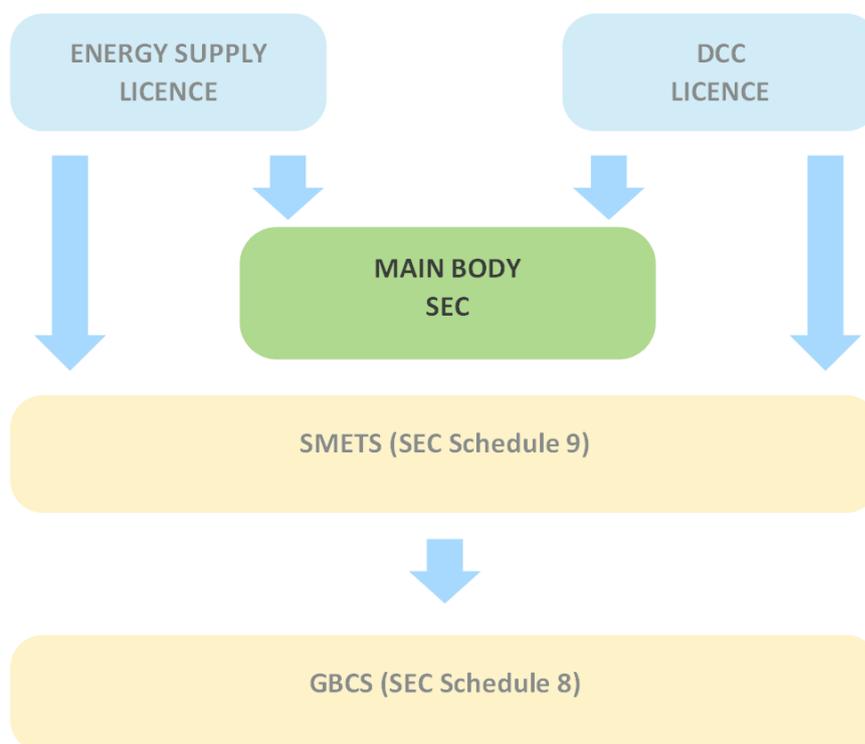
This requires that the Licensee *must ... arrange to provide such Communications Hubs... take all reasonable steps to ensure that each such Communications Hub which is installed as a component of a Smart Metering System continues at all times to satisfy the requirements of a Version of the CH Technical Specification.*

DCC Licence Condition 22.2

This requires that the Licensee *must be a party to, comply with, and maintain and have in force the SEC.*

2.5 Obligations in the Smart Energy Code

Obligations to ensure that relevant devices are interoperable and comply with GBCS, and that have been tested, with evidence maintained



SEC Section F4 - Operational Functionality, Interoperability and Access

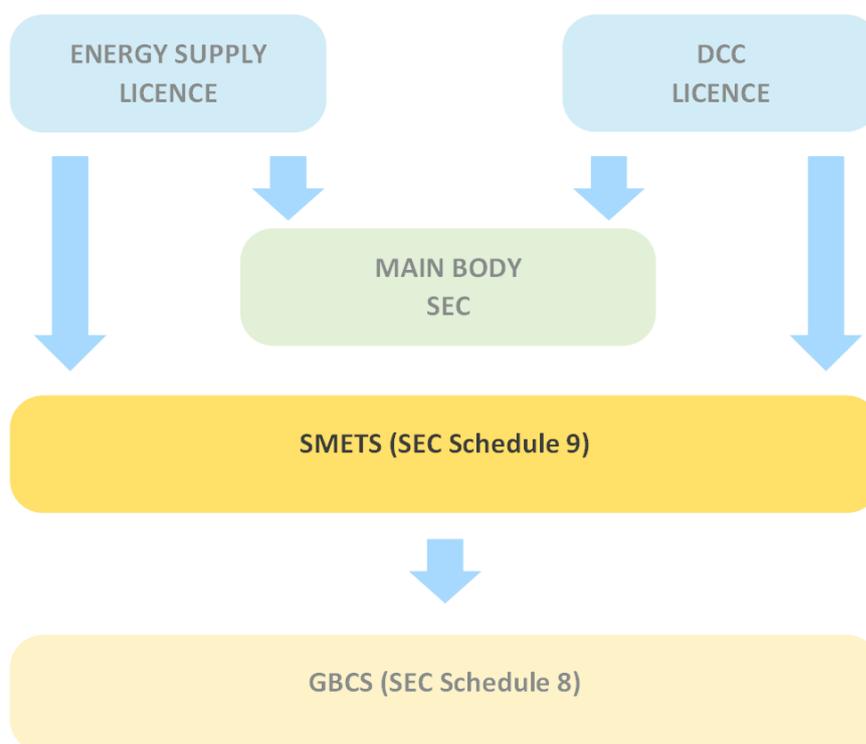
SEC Sections F4.3 – F4.4 require that *the Responsible Supplier for each Enrolled Smart Metering System... shall ensure that all the Devices forming part of that Smart Metering System are interoperable with the DCC Total System to the extent necessary to enable those Devices to respond to Commands received from or via the DCC in accordance with the requirements defined in the GB Companion Specification.*

'Responsible Supplier' in this context means the current energy supplier for any meter point.

And on testing and retention of evidence, states that *the DCC and each Supplier Party shall ensure that testing has been undertaken to demonstrate its compliance with the obligations set out... and retain evidence of such testing and make such evidence available to the Panel and the Authority on request.*

2.6 Obligations in the SMETS

Obligations to ensure that relevant devices have been tested, with evidence available, to confirm conformance with GBCS



Testing Evidence to demonstrate conformance with the SMETS

The SMETS sets out (in Section 4.2.1 for Gas, and Section 5.3.1 for electricity) that:

GSME shall have been tested to ensure that it meets the requirements described in this Section 4, and evidence must be available to confirm such testing and conformance... and

ESME shall have been tested to ensure that it meets the requirements described in this Section 5 Part A, and evidence must be available to confirm such testing and conformance.

Compliance with GBCS

The SMETS sets out in Section 4.2.2 that:

...GSME shall meet the requirements described in the Great Britain Companion Specification and in Section 5.3.2, that ESME shall meet the requirements described in the Great Britain Companion Specification.

2.7 Obligations in the CHTS

Testing Evidence to demonstrate conformance with the CHTS

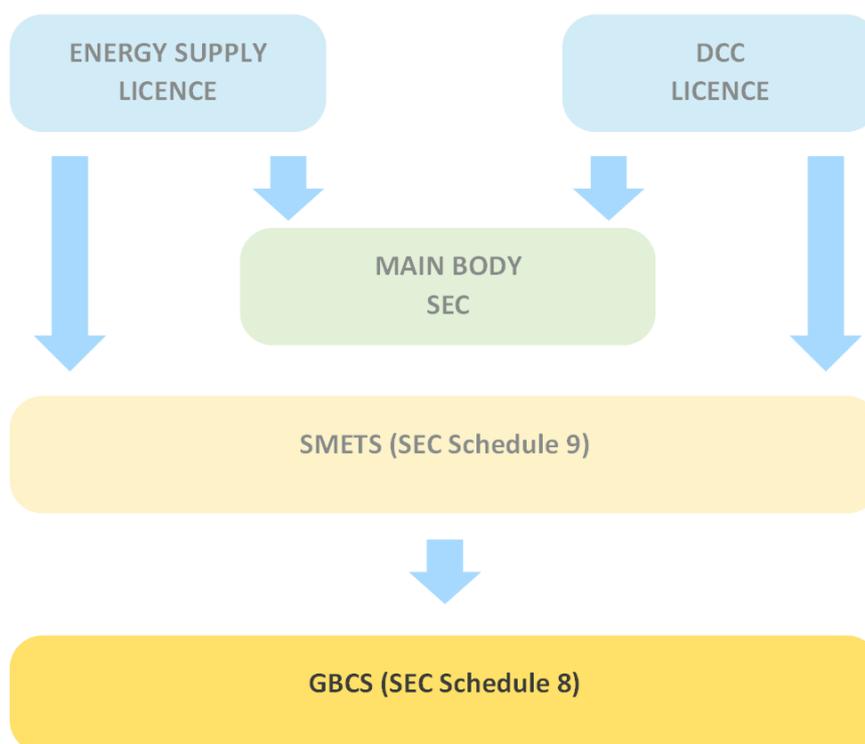
The CHTS sets out (in Section 4.2.1) for Communications Hubs *that a CH shall have been tested to ensure that it meets the requirements described in this Section 4, and evidence must be available to confirm such testing and conformance.*

Compliance with GBCS

The CHTS sets out in Section 4.2.2 *A CH shall meet the requirements described in the Great Britain Companion Specification.*

2.8 Obligations in the GBCS

Purpose of GBCS is to specify single, consistent technical implementation to achieve operational interoperability of Devices



Interoperability between devices

The requirement for interoperability between devices is set out in the GBCS. The GBCS incorporates both normative (prescriptive) and informative (useful) text.

Section 2.2 of GBCS v4.2 is informative, and sets out that *the purpose of this GBCS, and related documents, is to specify the single, consistent technical implementation in sufficient detail to achieve operational interoperability of Devices.*

2.9 Interchangeability and Interoperability

The regulatory framework focuses on obligations on SEC Parties with regards to Interoperability. Note that the expectation from Government is that this also incorporates what has since been referred to as 'interchangeability'. In 2012, Government's original description of Interoperability included *'the need to ensure that smart metering equipment can be changed in the home without affecting the operation of other smart metering equipment'* (set out in full in Section 3.1 of this guidance note).

'Interchangeability' as a term was introduced to the framework at a later date in relation to the SMDA Scheme. It more clearly articulates the requirement to ensure devices that make up a Smart Metering System will work with each other, including when they are replaced. It is included in SEC Section F12.4, which sets out the two key objectives of the SMDA Sub-Committee (a sub-committee of the SEC Panel with delegated duties to manage SMDA testing) as:

- *to provide assurance that Smart Meters and other Devices which can together potentially form a Smart Metering System work together (that they are interoperable); and*
- *to provide assurance that Smart Meters and other Devices which can together potentially form a Smart Metering System work with each other (that they are interchangeable).*

The requirement is repeated in the SMDA Sub-Committee's obligation *to procure and manage provision of services from one or more independent testing organisations to provide interoperability **and interchangeability** testing services for SMETS2+ Devices.*

Interchangeability as set out in the SEC should therefore be considered a component of Interoperability as initially defined, with regulatory obligations applying to both Interoperability and Interchangeability as currently set out in the SEC.

3 The expectations on Interoperability and Interchangeability of SMETS2+ devices shared by Government and the Regulator

3.1 Initial Government position on interoperability

Fundamentally, the expectations and obligations on smart metering participants are set out through the regulatory provisions in Licences and the SEC.

These provisions were established early in the development of the framework. In December 2011 the Government published an Explanatory document to support the designation of the first version of the Smart Metering Equipment Technical Specifications,¹ in which the following is stated on interoperability.

Interoperability is a core requirement for the roll-out of smart meters. The effective operation of a competitive retail market for electricity and gas is dependent on customers being easily able to switch energy supplier. Because energy suppliers are responsible for the installation of meters, there needs to be standardisation in the equipment they install so that meters installed by one energy supplier can be operated by another energy supplier. This interoperability of equipment means that:

- *equipment is not unnecessarily replaced before the end of its economic life;*
- *the need for multiple visits (which incurs significant costs for suppliers) to consumer premises at the point of switching, is avoided;*
- *the consumer switching process is smooth and does not act as a disincentive for consumers to participate actively in the energy market and seek to reduce their energy costs; and*
- *the costs and risks associated with change of supplier are reduced such that they do not represent a barrier to entry for new entrants or provide a disadvantage for smaller suppliers.*

In 2012, the Government consulted on the introduction of regulatory changes to oblige energy suppliers to take all reasonable steps to ensure that all smart metering equipment installed in consumer premises is interoperable with other smart metering equipment. Ultimately, this obligation was not introduced, but in its response to this consultation the Government restated its position on the importance of interoperability,² stating:

Interoperability is central to the business case for the roll-out of smart metering, including the realisation of consumer benefits ... the draft licence condition proposed in the Consultation reflected the need to ensure that smart metering equipment can be changed in the home without affecting the operation of other smart metering equipment and that such equipment installed by one supplier can be operated by another supplier, should the customer switch.

3.2 NAO Rolling out smart meters report

In 2018 the National Audit Office (NAO) published a Rolling Out Smart Meters report which set out the founding principles of the requirement for interoperability and to avoid the need for consumers to have to change devices, just because they had changed energy supplier. In its summary, the 2018 NAO report sets out that:

The government decided that it was necessary to ... set minimum standards for functionality and ensure that smart meters would support a future smart energy system. In addition, it wanted to ensure that energy suppliers would be able to operate meters installed by their competitors, rather than have to replace them when customers switched supplier. To make smart meters interoperable between energy suppliers, the government proposed to

¹ [7339-exp-doc-support-smets1.pdf \(publishing.service.gov.uk\)](#)

² [4965-gov-resp-cons-tech-spec-smart-meters.pdf \(publishing.service.gov.uk\)](#)

set new minimum standards for how they should work, and to connect them to a central data and communications infrastructure (the DCC)

3.3 Authority position on interoperability

In January 2021, The Authority delivered its determination on SEC Modification Proposal 1113 - which proposed changes to the SEC to support SMDA Budget Amendments. In its determination, Ofgem stated the following on interoperability: *Suppliers have a licence obligation to ensure the smart metering Devices they install are compliant with the Smart Metering Equipment Technical Specifications (SMETS), and one key outcome delivered is that Devices are interchangeable (i.e. smart meters and associated Devices work with each other) and interoperable (i.e. will continue to operate following a Change of Supplier (CoS)). The Smart Meter Device Assurance (SMDA) Scheme was developed and introduced by industry to provide independent test assurance for consumers, Suppliers and other industry parties that smart metering Devices meet these requirements.*

³ [Modification » \(smartenergycodecompany.co.uk\)](https://www.smartenergycodecompany.co.uk/Modification)

4 OBLIGATIONS – WHO DELIVERS THEM AND WHO IS IMPACTED

Obligations in Energy Licences apply only to those parties who hold a Licence. In relation to Interoperability, Obligations apply to Electricity and Gas Suppliers where they appear in a Supplier’s Electricity or Gas Licence respectively; and to DCC were included in the DCC Licence. These obligations can be backed-off into contracts with service providers, and can impact a range of parties. The diagram below summarises these interactions.

	Obligations are relevant to	Non-Compliance Impacts
<p>ENERGY SUPPLY LICENCE</p> <p>DCC LICENCE</p>	<p>Energy Suppliers, re their requirements to comply with the SEC. Energy Suppliers’ device manufacturers re impacts of devices complying with the SMETS. DCC re compliance with the SEC, and CSPs for technical compliance.</p>	<p>Consumers: may not receive intended smart metering benefit, additional site visits to address non-compliance issues.</p> <p>Ofgem: may be impacted through enforcement effort and making changes.</p> <p>MAPs: Where devices may lose value, premature replacement charges incurred replacing non-compliant devices.</p>
<p>MAIN BODY SEC</p>	<p>Energy Suppliers, in terms of retaining evidence of testing to demonstrate interoperability.</p> <p>Energy Suppliers’ device manufacturers who undertake testing on their behalf. DCC and CSPs for CHs</p>	<p>All SEC Parties: will have a lack of understanding in terms of interoperability and interchangeability across the DCC estate and for current and future device permutations.</p>
<p>SMETS (SEC Schedule 9)</p>	<p>Energy Suppliers, in terms of retaining evidence of testing to demonstrate interoperability.</p> <p>Energy Suppliers’ device manufacturers who undertake testing on their behalf.</p>	<p>Consumers: may not receive intended smart metering benefits, additional site visits to address non-compliance issues.</p> <p>Energy Suppliers: will be in a non-compliant position if Devices being installed are not conforming to SMETS.</p> <p>MAPs: Where devices may lose value.</p>
<p>GBCS (SEC Schedule 8)</p>	<p>Energy Suppliers’ device manufacturers, who should ensure that devices comply with GBCS.</p>	<p>Consumers: may not receive intended smart metering benefits,</p> <p>Energy Suppliers: will be in a non-compliant position if Devices being installed are not conforming to GBCS.</p> <p>DCC: Increased number of incidents due to device non-conformance to triage.</p> <p>MAPs: Where devices may lose value.</p>

Change Control

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