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SEC Guidance Document:

Technical Specifications and their interaction with the Central Product List (CPL) – an overview

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1. Purpose

This guidance provides an overview of the Technical Specification lifecycle provisions within the Smart Energy Code (SEC), and of the interactions between different versions of Technical Specifications and the Central Product List (CPL). It has been developed following recognition that the requirements are spread across Licence obligations and within different SEC sections which can cause confusion.

2. SEC Technical Documentation

2.1 Technical Code Specifications

The SEC contains a set of documents classed as Technical Code Specifications. Among the Technical Code Specifications, the most relevant to this guidance document are:

- **Great Britain Companion Specification (GBCS)** - describes communications between Smart Metering Devices and the Data and Communications Company (DCC).
- **DCC User Interface Specification (DUIS)** – describes communications between Users and the DCC. Typically, there will be one version of DUIS associated with each version of GBCS.
- **Message Mapping Catalogue (MMC)** - sets out the mapping of Service Responses and Device Alerts in GBCS format to a more human-readable format.

2.2 SEC Technical Specifications

Within the Technical Code Specifications are two documents called 'Technical Specifications' which set out minimum requirements for Smart Metering System devices:

- The **Smart Metering Equipment Technical Specifications (SMETS)** covers electricity and gas Smart Meters and associated devices.
- The **Communications Hub Technical Specifications (CHTS)** covers the Communications Hub Function and Gas Proxy Function.

3. Document Lifecycles

There are two types of updates to the Technical Specifications, and can be either:

- Principal Versions, which are proactive changes and apply from the date they go live. Currently installed Devices are not affected until their Maintenance Validity Period (see below) expires.
- Sub-Versions may be retroactive, meaning any installed Device to which the Technical Specification applies must be updated to be in line with the new Sub-Version.

Technical Specifications can have multiple live versions with overlapping validity periods. Each live version will have an associated version of GBCS, which in turn will have an Applicability Period.

SEC Parties can identify whether a Technical Code Specification is still valid, by referring to the **Installation Validity Period (IVP)** and **Maintenance Validity Period (MVP)** in SEC Schedule 11 - the Technical Specification (TS) Applicability Tables..

3.1 What is an Installation Validity Period?

This is the period during which a Device compliant with a specific version of SMETS or CHTS can be installed. It consists of two dates, an Installation Start Date (from when compliant devices can be installed) and End Date (after which they can no longer be installed).

When a new Principal Version is introduced there will typically be a defined period where the IVP of the existing version(s) overlaps with the new version to allow time for older Device stock to be used.

3.2 What is a Maintenance Validity Period?

The MVP is the period during which a Device must be repaired, replaced, upgraded or modified in line with relevant Technical Specification. MVPs will typically have no end date unless the specification is updated through a Sub-Version requiring changes.

3.3 What is an Applicability Period?

Each version of SMETS or CHTS is bound to one or more versions of GBCS for a limited period of time called the Applicability Period documented in the SEC Schedule 11 - Technical Specification Applicability Tables.

Each entry in the TS Applicability Tables details the IVP and MVP start and end dates for each Technical Specification, together with the associated relevant versions of GBCS and the GBCS Applicability period.

Each version of the GBCS requires Devices to comply with a relevant Version of the Commercial Product Assurance (CPA) Security Characteristics, as specified in the TS Applicability Tables.

3.4 What happens to old versions?

Once a Technical Specification's IVP and MVP end dates or a GBCS version's Applicability Period lapse they are removed from the SEC. Older versions remain on the SEC website for reference.

3.5 Supporting Examples

The examples below show the impact of IVP and MVP for principal and sub-version updates to the Technical Specifications.

3.5.1 A new Principal version of a Technical Specifications

In this section the MVP and IVP start dates of the new Versions are aligned – i.e. the devices have to be maintained from the point when they are installed.

The timeline below shows the impact of the IVP and MVP start dates, and IVP End Dates, for new Principal Versions of SMETS.

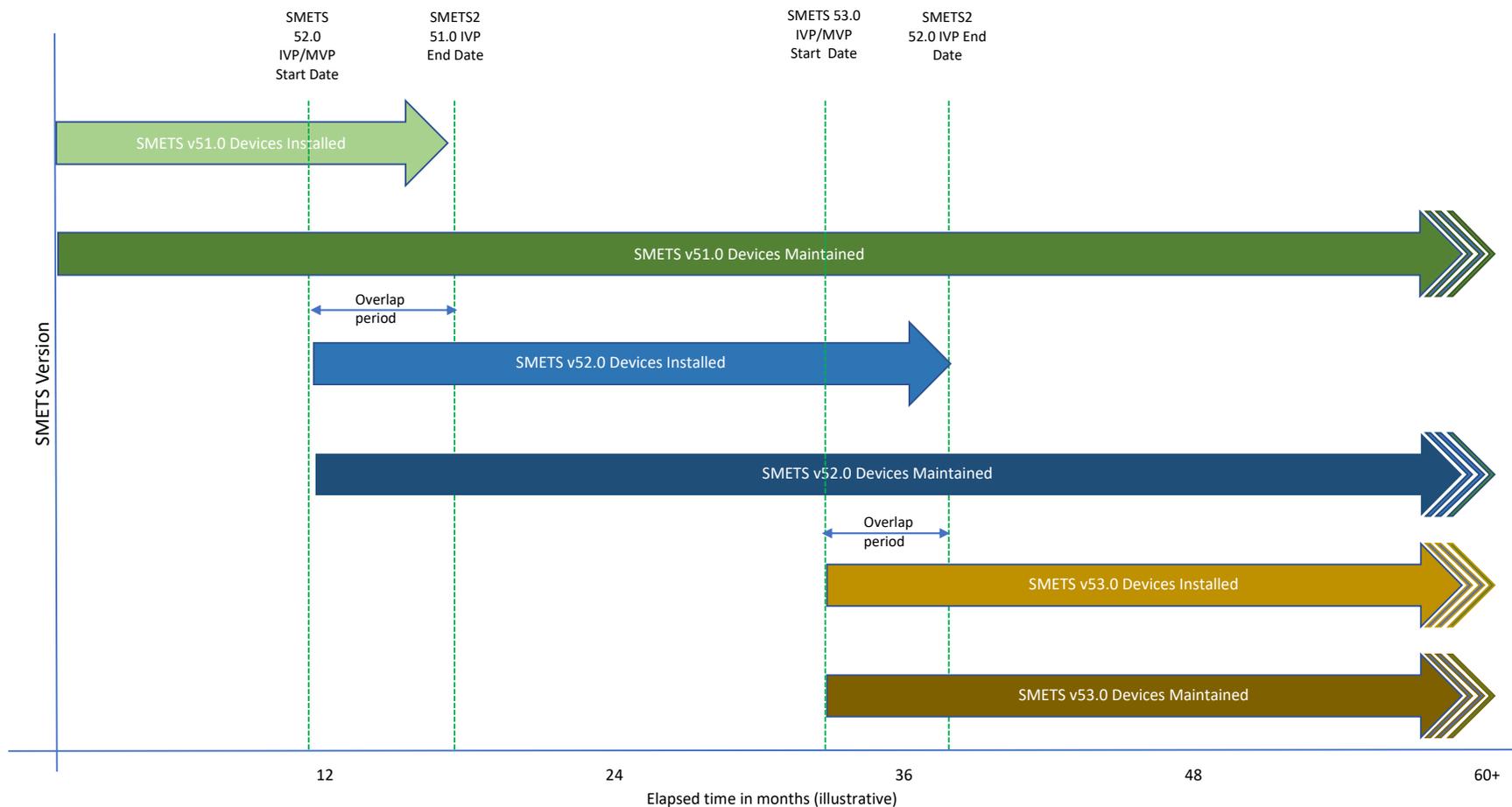


Figure 1: Impact of IVP & MVP for new Principal Version

As none of the SMETS has an MVP End Dates, an installed Device complying with any of the three can continue to operate and must to be maintained until an MVP end-date is notified and then reached.

Two important points to note are:

- Any replacement meter must comply with a TS Version having a valid IVP.
- Any firmware upgrade to be installed must comply with a TS having a valid MVP.

3.5.2 A new Sub-Version of Technical Specifications

The timeline below shows the impact of new CHTS Sub-Versions. Each Sub-Version has an MVP End Date and Users (in this case DCC) will need to ensure:

- that **installed** CHs rolled out against CHTS v64.0 must be updated (typically via firmware) to comply with CHTS v64.1 between the 64.1 IVP start date 1 and the 64.0 MVP end date
- similarly, **installed** CHs rolled out against CHTS v64.1 must be updated to be compliant, with CHTS v64.2 between the 64.2 IVP start date and the 64.1 MVP end date

Similar obligations exist for other Devices based on SMETS if the Sub-Version changes.

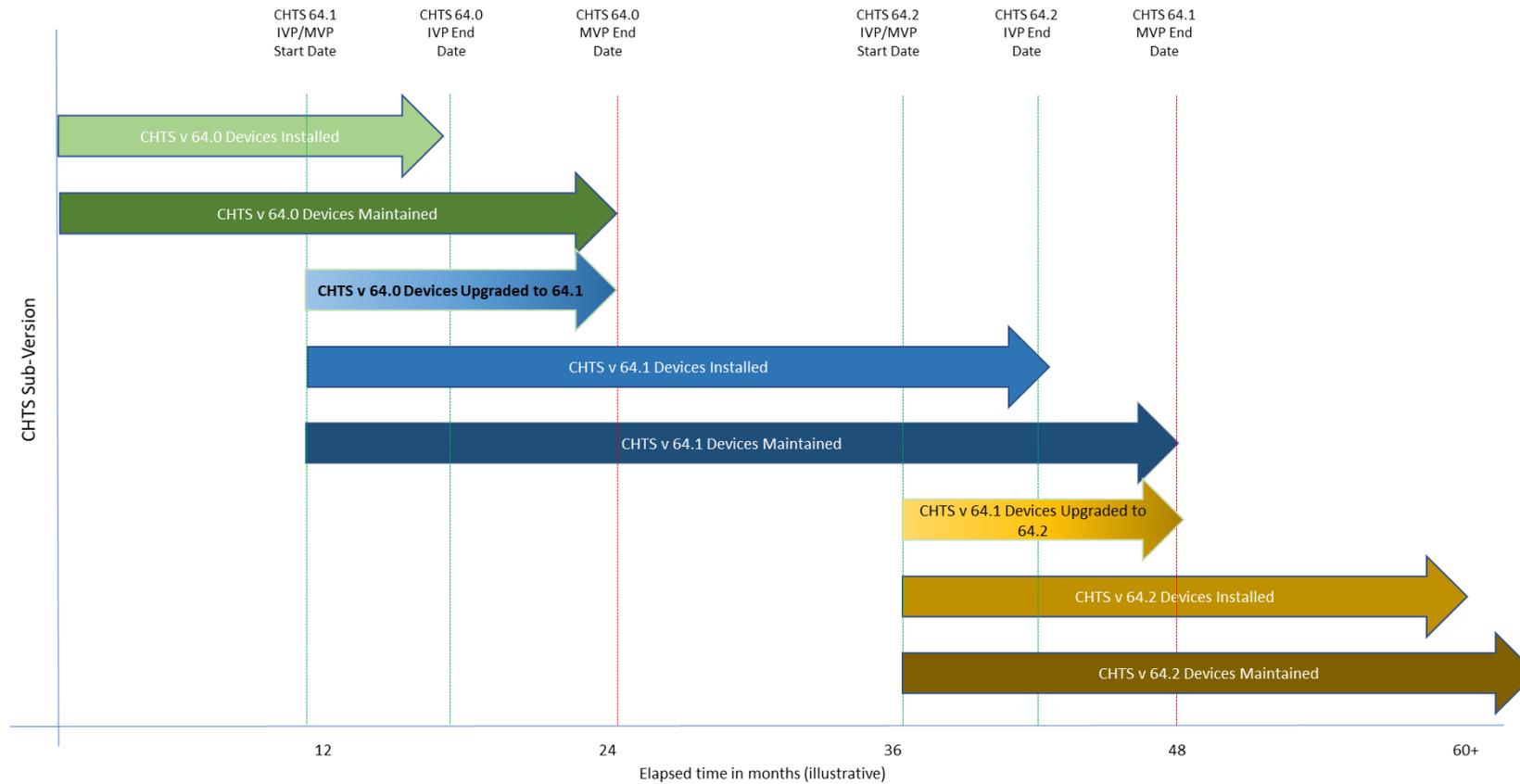


Figure 2: Impact of Sub-Version updates

3.5.3 The Technical Specification Applicability Table

The diagram below shows an example of the Technical Specification Applicability Table.

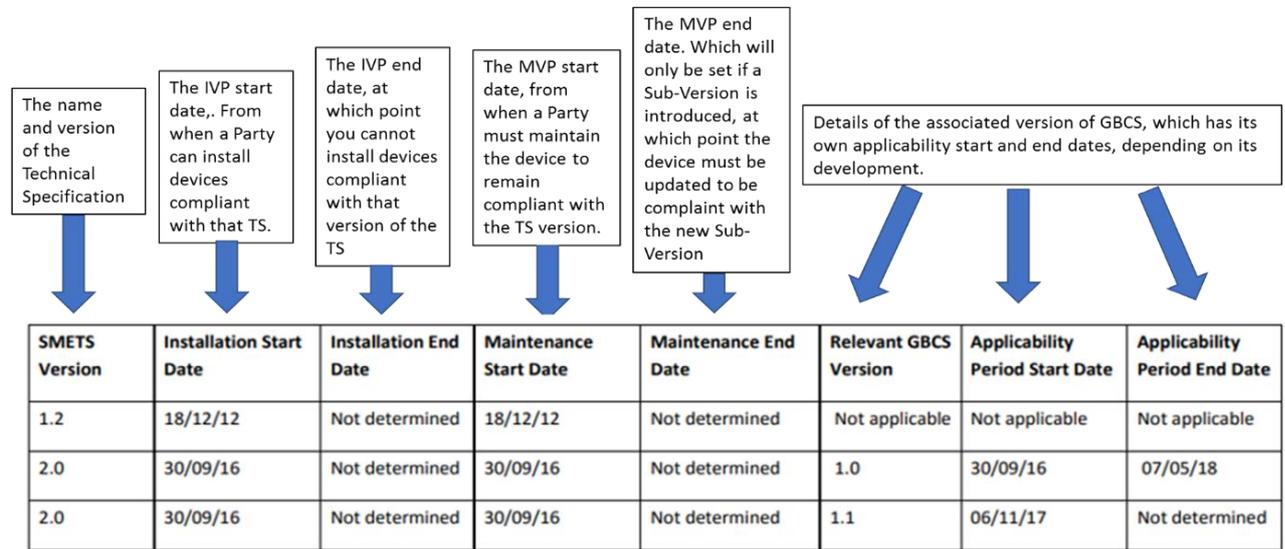


Figure 3 TS Applicability Table example

4. The Certified / Central Product List (CPL)

4.1 Structure and Content

The Certified / Central Products List (CPL) is a list of Device Models; CPL entries for each Device comprise:

- Device Type and a number of manufacturer and device specific Device Model attributes identifying the manufacturer’s model number, hardware and firmware versions;
- Applicable versions of the Technical Specifications;
- Status which may be “Current” or “Removed”;
- (For SMETS2+ Devices) Assurance Certificate information, covering
 - Commercial Product Assurance (CPA) Certificates: Required for all Devices other than Prepayment Interface Device (PPMID) and Type 2 Devices
 - Device Language Message Specification (DLMS) Certificates: Only required for Single/Twin/Polyphase Electricity Smart Metering Equipment
 - Zigbee: All Devices.
- Security information and contact details.

Any Device in use must conform to a “Current” CPL entry. Before any MVP End Date is reached the responsible Supplier must update the Device to a “Current” hardware/firmware configuration listed on the CPL or replace it with a “Current” Device listed on the CPL.

4.2 Licence Compliance

There are several Licence conditions that put requirements on Suppliers and the DCC to ensure smart metering Devices are maintained in accordance with a version of a Technical Specification with a valid MVP and a version of GBCS with an effective Applicability Period.

Supplier Licence Requirements: Licence condition 39.15 in the Electricity Supply Standard Licence Conditions and Licence condition 33.15 in the Gas Supply Standard Licence Conditions require Suppliers to ensure installed Smart Metering Systems remain compliant with versions of the Technical Specifications having an associated active MVP.

Smart Metering Communications (DCC) Licence Requirements: Licence condition 17.21 of its Licence requires the DCC to ensure Communications Hubs provided to SEC Parties meet and remain compliant with the versions of the Technical Specifications having an active MVP.

4.3 SEC Compliance

SEC Section F 'Smart Metering System Requirements' requires the SEC Panel to maintain a Central Products List of:

- SMETS2+ Device Models for which the Panel has received all the Assurance Certificates required for the Physical Device Type relevant to that Device Model (known as the Certified Products List); and
- SMETS1 Device Models for which the Panel has received all the information required in accordance with the CPL Requirements Document (which does not require any certification of SMETS1 Devices under the CPA or any other assurance scheme).

The Panel is not required to inform Suppliers when IVPs or MVPs expire, although general notifications to SEC Parties are issued as part of changes to the affected documents. Suppliers are responsible for ensuring their Devices remain compliant. The Panel is required to notify relevant Parties when the Assurance Certificates associated with a SMETS2+ entry will expire in 12 and then 6 months time, to enable action to be taken by the relevant Suppliers to ensure the Devices continue to have the necessary valid Assurance Certificates.

4.4 Updating the CPL

The processes for adding Device Types to the CPL are described in SEC Appendix Z 'CPL Requirements Document' supplemented by CPL Submission Guidance available on the SEC Website.

The Panel can add SMETS2+ Device Models to the CPL once it has received all the Assurance Certificates required for Device Models of the relevant Physical Device Type. These can be supplied by a Party or any other person.

The Panel can add SMETS1 Device Models to the CPL once it has received a notification from the DCC stating that it has received a confirmation of compliance from a Supplier Party.

A Device Model can be added to an existing CPA certificate if the hardware or firmware changes to that Device Model do not have a significant impact on its security functions.

Where an Assurance Certificate for a Device Model is withdrawn or cancelled, or a CPA Certificate expires, then the Device Model may be removed from the Certified Products List. The Panel can also remove a SMETS1 Device Model from the CPL on the advice of the Security Sub Committee or the Device Model is found to be non-compliant with SMETS1.

Existing CPL entries cannot be amended. Updates to Devices resulting from new versions of the Technical Specifications, GBCS or Firmware changes require new CPL submissions.

Not all document changes affect a particular device; this may result in a CPL submission using Device details identical to those already on the CPL except for the new version of the Technical Specification or GBCS being referenced.

4.5 How can the DCC Systems aid matters

At key points, such as Change of Supply, Suppliers need to establish details of the metering equipment at a particular location.

- As part of normal operations, the DCC systems check that Service Requests are applicable to the target Device and return a response code to the originator with the outcome of the checks. The version of GBCS is one of these items being checked and can help Users to establish which version of GBCS is supported by the Device.
- Authorised Users can send a “Read Inventory” Service Request which returns all the details stored in the DCC Inventory about a Device. This allows them to establish which SMETS/CHTS version are recorded for the Device, and that these are aligned with the CPL.
- Users can also send a Service Request querying the firmware version of a Device. If the firmware version returned is different to that held in the Inventory, the Party can take remedial action.

5. Links

The following links provide the locations of information that informed this guidance document:

- Current versions of the SEC, SMETS, CHTS and GBCS :
<https://smartenergycodecompany.co.uk/the-smart-energy-code-2/>
- Current versions of Certified/Central Product List and CPL Submission Guidance:
<https://smartenergycodecompany.co.uk/central-products-list/>
- Electricity Supply Standard Licence Conditions:
<https://epr.ofgem.gov.uk/Content/Documents/Electricity%20Supply%20Standard%20Licence%20Conditions%20Consolidated%20-%20Current%20Version.pdf>
- Gas Supplier Standard Licence Conditions:
<https://epr.ofgem.gov.uk/Content/Documents/Gas%20supply%20standard%20licence%20conditions%20consolidated%20-%20Current%20Version.pdf>
- Smart Meter Communications Licence (‘the DCC Licence’):
<https://epr.ofgem.gov.uk/Content/Documents/Smart%20DCC%20Limited%20-%20Smart%20Meter%20Communication%20Consolidated%20Licence%20Conditions%20-%20Current%20Version.pdf>