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Solution Design Specifications

SECMP0023:

Correct Units of Measure for Uncontrolled Gas Flow

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Summary

The Great Britain Companion Specification (GBCS) currently limits the unit values of the Uncontrolled Gas Flow Rate (UGFR) on Gas Smart Metering Equipment (GSME) to be set in whole metres cubed per hour. This modification proposes to allow this unit to be set to an accuracy of ten-thousandths of metres cubed per hour.

Impacts



- Supplier Parties
- DCC
- DCC Central Systems
- Party Interfacing Systems

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About this Document

This is the Solution Design Specification (SDS) document for SECMP0023, which contains the detailed:

- business requirements;
- system requirements;
- testing requirements; and
- implementation approach.

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1. Business Requirements

This section sets out the detailed business requirements for SECMP0023.

Requirement 1 – the Uncontrolled Gas Flow Rate (UGFR) shall be set on a Gas Smart Metering Equipment (GSME) in ten-thousandths of metres cubed per hour.

SECMP0023 requires changes to the Great Britain Companion Specification (GBCS) so that the UGFR on a GSME can be set in ten-thousandths of metres cubed per hour (tenths of a litre per hour).

For the avoidance of doubt, there is no requirement for previously installed GSME to be upgraded to support this modification.

In accordance with Communication Hub Technical Specification 4.6.3.9, this configuration data item is not maintained on the Gas Proxy Function (GPF). Therefore, UGFR is not available to other Devices on the Home Area Network (HAN). Thus, no related changes are required for Devices other than GSME.

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2. System Requirements

This section sets out the detailed system requirements for SECMP0002.

GBCS Use Cases

To deliver the change in line with the SEC approach that revisions are not made to existing Use Cases, the existing GBCS Use Case 'GCS24 Set Uncontrolled Gas Flow Rate and Supply Tamper State on the GSME' shall be replaced by a new Use Case; 'GCS24a Set Uncontrolled Gas Flow Rate at greater resolution and Supply Tamper State on the GSME'.

The only difference in the new Use Case is the fixed value of the Divisor parameter in the Set Uncontrolled Flow Threshold Command, which shall change from 1 to 10,000.

DUIS Service Request

Corresponding changes are required to the DCC User Interface Specification (DUIS) to modify the existing Service Request Variant (SRV) 6.7 'Update Device Configuration (Gas Flow)' with a choice to specify:

- a) the UGFR without decimal places (to align with the existing GBCS Use Case (GCS24); or
- b) the UGFR with decimal places (to align with the new GBCS Use Case (GCS24a).

Service Request Processing

Note that if the GSME complies with the version of the Smart Metering Equipment Technical Specification (SMETS) which implements this change, the DCC will send the new Use Case (GCS24a) to the GSME, regardless of whether there are any digits after the decimal point.

If the UGFR is without decimal places and is targeted to a GSME that does not support this modification, the DCC will send the existing Use Case (GCS24) to the GSME.

If the UGFR is with decimal places and the Service Request is targeted to a GSME that does not support this modification, this will result in the DCC returning an error. A new error code will be required to accommodate this modification (E060701).

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Anomaly Detection

In line with the input provided by the Security Sub-Committee (SSC), Anomaly Detection packet inspection is required for resulting Commands to ensure that the 'Uncontrolled flow threshold' is greater than a specified value.

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3. Testing Requirements

This section sets out the testing requirements for SECMP00023.

User Testing Requirements

1. The DCC will provide Testing Services to support the implementation of SECMP0023 to assess the interoperability of User Systems with DCC Systems and Smart Metering Devices.
2. The DCC will provide an analysis including supporting assumptions and rationale, of any testing required to the DCC Total System.
3. The DCC will prepare a report setting out the scope, phases, timetable, Testing Participants, assumptions and rationale in relation to SECMP0023 testing.
4. The testing environment that the DCC provides in support of SECMP0023 as part of Testing Services will be open to all User Roles eligible to send the Service Request (Gas Suppliers). This environment should be made available for a minimum of 15 Working Days, depending on the impact of the change. The DCC must provide the costs and assumptions associated with providing this Testing Service, including whether the testing costs are based on a set number of Users utilising the Testing Service, i.e. up to 10 Users, noting that at least two Large Suppliers may test the functionality. This is to ensure it operates correctly before it is put into the End-to-End and Production environments.
5. The objective of testing as part of the Testing Services will be to ensure that, in response to the Service Request, the User receives the corresponding Service Response from the DCC.
6. As part of the Testing Services, the DCC will provide Users with a corresponding version of the Parse and Correlate software and Message Mapping Catalogue.
7. The acceptance criteria for testing as part of the Testing Services will be, following successful execution of the corresponding Command, the User receives the corresponding Service Response from the DCC that the UGFR has been successfully set.
8. As reasonably required, the DCC will provide:
 - a. a reasonable number of Test CH for use in the testing environment which represent every combination of HAN and WAN Variant;

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- b. Test Stubs (or other alternative arrangements) to emulate meter behaviour of version(s) of SMETS in force prior to the Release as well as the version of SMETS which will be effective on the Release date.
9. As the DCC will apply all applicable Anomaly Detect Thresholds (ADTs) to the Signed Pre-Commands in the test environment, Users will be expected to set User volume ADTs and data value ADTs as applicable. The process for setting the ADTs as well as for receiving notifications when a Signed Pre-Command has been quarantined will be part of the test environment.

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4. Implementation

Implementation Date

The recommended implementation date for SECMP0023 is:

- 27th June 2019, if a decision to approve is made by 27th June 2018; or
- 7th November 2019, if a decision to approve is made after 27th June 2018 but on or before 7th November 2018.

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Appendix 1: Glossary

The table below provides definitions of the terms used in this document.

Acronym	Term
ADT	Anomaly Defect Threshold
CHTS	Communications Hub Technical Specification
GBCS	Great Britain Companion Specification
GSME	Gas Smart Metering Equipment
HAN	Home Area Network
SMETS	Smart Metering Equipment Technical Specification
SRV	Service Request Variant
UGFR	Uncontrolled Gas Flow Rate

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