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DP152

‘Consumption on Smart Polyphase Electricity Meters’

Modification Report

Version 0.2

16 August 2021



About this document

This document is a draft Modification Report. It currently sets out the background, issue, and progression timetable for this modification. This document will be updated as this modification progresses.

Contents

1. Summary.....	3
2. Issue.....	3
3. Assessment of the proposal	4
Appendix 1: Progression timetable	5
Appendix 2: Glossary	5

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1. Summary

The Proposer for this Draft Proposal is Chris Brown from Haven Power.

Data Communications Company (DCC) Users are currently unable to interrogate polyphase metering equipment and get consumption information from individual phases. This limits the information, understanding and engagement of consumers with their energy consumption.

Being able to read consumption from each phase would mean consumers would benefit from being able to obtain more granular data on their usage behaviours. As a result of being able to obtain individual phase data Suppliers would have the opportunity of offering smart tariffs to consumers if desired.

2. Issue

What are the current arrangements?

Polyphase meters are electrical meters used for measuring three phase electricity supply. Polyphase meters are sometimes used in scenarios where each phase is used for a specific purpose e.g. for heating and/or Electric Vehicle (EV) charging. Separate phase consumption data provides Suppliers the opportunity to offer innovative propositions which allow the customer to be billed at different rates for each phase/purpose.

Currently smart polyphase meters only provide profile consumption data as a combined value across the three phases. Therefore, the tariffs offered to those consumers who have polyphase metering equipment is applied to the cumulative consumption of all three phases combined, rather than individual phase data.

What is the issue?

Some polyphase electricity meters support the measurement of consumption on each phase. However, the Smart Energy Code (SEC) does not currently support functionality that would allow this individual phase data to be retrieved, where it is available.

The current arrangements severely limit the opportunity to provide support to consumers around their energy efficiency choices which they could do if their consumption figures were provided at a more granular level.

What is the impact this is having?

This lack of individual phase data limits the ability of Suppliers to innovate and develop products such as smarter tariffs that enable the customer to take greater benefit from smart meters.

Impact on consumers

Smart metering enables consumers to be more engaged in their energy consumption by informing them of their consumption behaviours, whilst encouraging them take action to support greater energy efficiency and cost saving. With the increase in EV charging and electrification of heating, polyphase meters will become more prevalent in both non-domestic and domestic properties. In the specific application of supporting EV charging and heating, it is likely the meters will be used to charge separately for individual appliance consumption and understand consumption patterns to allow cost efficiency and energy efficiency savings. Therefore, by not having the ability for the consumer to understand the consumption by each individual phase, or be charged by each phase, limits the ability for the consumer to be informed, engaged and active in taking energy efficiency measures.

The Proposer also believes the impact of not making this change is that there would be missed opportunities for Suppliers and other Parties to innovate around smart offerings/tariffs.

3. Assessment of the proposal

Observations on the issue

The Proposer provided a background to the issue to the Change Sub-Committee (CSC) members at the January 2021 meeting. A CSC member questioned if the proposal seeks to measure consumption at both phase and meter level, or just at phase level. The Proposer advised the choice could be offered and can be clarified as the modification progresses.

A CSC member further noted that the data already exists on the meter, and that the Proposal will be seeking an additional data source as opposed to replacing any current sources. A CSC member added that there is ongoing work around Half-Hourly Settlement, which seeks not to have to aggregate data to obtain a meter-level reading. The CSC member advised that this Proposal would not want to perpetuate or worsen the existing issues with data aggregation.

A CSC member acknowledge the intention of the modification was to provide additional data. They further noted there are other modifications currently under the Balancing and Settlement Code (BSC) regarding sub-boundary metering which will be worth looking at to ensure alignment (BSC P375).

At the March 2021 CSC, SECAS on behalf of the Proposer provided further update into to the issue and business context of the modification to the CSC. SECAS noted that whilst the modification still requires discussion with the Technical Architecture and Business Architecture Sub-Committee (TABASC), further discussion with the Proposer outlined that this change is a Device orientated opportunity, where some Devices may be able to produce individual phase data. The benefit of this change is that it paves a way for greater granularity of usage information, whilst allowing organisations to show people and consumers that there are the opportunities to cut down usage and enable efficiency. SECAS added, that the Proposer anticipates that the opportunity and benefit of this modification will increase with the larger uptake of polyphase meters in the domestic space. The Proposer believes the real benefit would not only be for one business but for many businesses and ultimately consumers, which benefits the wider industry as a whole. CSC members noted that the question around wider benefits should be addressed during refinement.

SECAS advised that discussion around the opportunity the modification presents will be discussed at TABASC.

The Proposal was discussed at the Requirements Workshop. One member asked how many of these meters were currently in the field. The Proposer stated that this information was not available but suggested that as more consumers take on EV's and Smart heating arrangements such as Heat Pump cooling and heating, the demand for a polyphase meter is likely to increase. Another member believed there are currently 3.4 million polyphase meters in the field.

One member added that there needs to be a clear business case, as they believed that the current Proposal is a 'nice to have'.

It was also noted that for this to go ahead, the consumer would need to see the consumption data, across all phases on the In-Home Display (IHD).

Appendix 1: Progression timetable

A request for information on this Draft Proposal will be issued to understand the magnitude of the business case and support for change.

Timetable	
Event/Action	Date
Draft Proposal raised	29 Jan 2021
Presented to CSC for initial comment	26 Jan 2021
Presented to CSC for further comment	23 Feb 2021
Problem statement discussed with TABASC	4 Mar 2021
Request for information issued	16 Aug - 3 Sep 2021

Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	Full term
BSC	Balancing and Settlement Code
CSC	Change Sub-Committee
DCC	Data Communications Company
EV	Electric Vehicles
SEC	Smart Energy Code
TABASC	Technical Architecture and Business Architecture Sub-Committee
IHD	In Home Display