

Sent by email to smartmetering@beis.gov.uk

APC Consultation

Smart Metering Implementation Programme

Department for Business, Energy & Industrial Strategy,

2nd floor, Spur,

1 Victoria Street,

London SW1H 0ET

September 2019

Dear Sir/Madam,

Gemserv welcomes the opportunity to respond to this consultation on Smart Metering System Proportional Load Control Functionality.

Gemserv recognises the benefits of the proposed developments to existing load control functionality, specifically that they:

- Provide a more refined means of controlling load which retains an appropriate level of security;
- Are a relatively minor incremental change to the Smart metering technical specifications;
- Are expected to be limited to a Data Service Provider (DSP) only change;
- Leverage off the substantial investments already made in the Smart metering infrastructure;
- Encourage solutions that are interoperable after change of Supplier rather than the proliferation of proprietary solutions;
- Are not mandatory and therefore do not 'lock-in' any particular technical or commercial operating model, supporting true innovation and a diverse range of possible load control services; and
- Provide sufficiently broad functionality to support a range of developments across the energy market, including Electric Vehicle (EV) charging, optimisation of on-site electricity storage and heating, along with any other innovative products or services which require more a higher degree of load control than is currently available.

We do not consider that the incorporation of these changes into Devices should be mandated at this time. The mandating of this functionality into Devices may become necessary in the future when evidence becomes available to consider the following points:

- Whether the timing is right in terms of seeing how the market will develop versus allowing a proliferation of sub-optimal solutions; and
- Whether EV charging solutions, and other uses, will conflict with these developments.

Because we do not consider mandating the changes to be appropriate at this time, we agree that implementation using a new version of the SMETS2 which would be valid alongside existing versions is appropriate. However, we have concerns around the proliferation of technical specifications such as SMETS, the



DCC User Interface Specification (DUIS) and the Great Britain Companion Specification (GBCS) because a range of concurrent specifications increases complexity for Users and risks undermining interoperability.

We anticipate that changes will be needed to the DUIS and the GBCS. Therefore, we encourage BEIS to consider how the proposed changes can be introduced in a manner which:

- Does not mandate the use of the proposed Services, either directly or indirectly; and
- Limits the overall number of technical specifications in effect at any time.

The incorporation of the proposed functionality into Devices should remain discretionary until evidence becomes available to demonstrate whether up-take is likely to be significant. We encourage BEIS to monitor market penetration of the proposed functionality, with focus on whether any interoperability issues arise which would require incorporation of the proposed functionality into Devices to become mandatory in order to support market-wide developments.

We note the contrast in the approach taken here compared to BEIS' proposals for Electric Vehicle Smart Charging, where the intent seems to be to use regulation/legislation to mandate a specific approach to achieve broad policy objectives. Whereas those proposals seek to mandate the use of Smart metering technology for all non-public electric vehicle charge points, which could stifle the development of innovative charge management solutions, this proposal only seeks to make Smart metering better suited to providing more precise variable load-control.

Yours sincerely,

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CONSULTATION ON SMART METERING SYSTEM PROPORTIONAL LOAD CONTROL FUNCTIONALITY

3.1 Do you agree that this proposal adds value over existing smart metering load control functionality? Please provide supporting rationale including, if you disagree, explanation of how the use cases in the annex could be met with existing functionality or are not relevant.

We agree that the proposed changes should increase the value of the existing Smart metering load control functionality in terms of providing more precise and flexible control of electrical load, which may in turn be used to support future market developments relating to demand-side optimisation.

The addition of the proportional load controller is a relatively minor addition to Devices and should be possible to implement without making significant changes to DCC Systems. The proposed approach should result in limited system development costs and should leverage existing Smart metering technology principles which are well established.

However, it should be noted that the proposed changes may duplicate some existing solutions. For example, many EV charging points already need to adjust the charging rate and several solutions already exist which provide this functionality. It is also unclear at this time whether up-take of the new functionality will be significant enough to justify the associated costs. We also believe that there needs to be evidence that EV charging points, or other use cases, will operate effectively with proportional load controllers.

3.2 Do you agree with our intention to enable a broad range of devices e.g. both ones that can control flow of power and ones that send a signal to set output power at different levels? If you disagree please explain why, and what your preferred way of delivering proportional load control is.

We agree with the intention of the proposed approach as it should allow a broad range of Devices which are capable of directly controlling the flow of power to a specific load. Furthermore, functionality which would allow APC signals to be interpreted by the load interfacing device to set its output at different levels should support a much broader range of business scenarios (and outcomes for consumers) than would be the case if this functionality is not included. Consideration needs to be given to the protocol, or protocols, that would need to be supported for the target devices to interpret such commands, and the complexity this might bring.

The proposals should provide a high degree of flexibility but may place some additional requirements on devices. For example, allowing an EV smart charge point to react to a signal to reduce or increase power to the vehicle may require a dedicated design of charge point to accept this input.



3.3 Do you agree that the maximum output should be configured as a percentage rather than another unit such as a kW value? Please provide supporting rationale for any alternative suggestions.

We agree with the proposal to use percentages rather than kW values since this would enable generic Device solutions across a wide range of applications. However, as noted in the consultation, this may introduce a need to communicate the details of the installation to the energy supplier (or other controlling party), along with the Distribution Network Operator (DNO) in order to influence the correct load.

3.4 Do you agree that no further functionality is required to allow smart metering to control and support provision of frequency response services? If not, please suggest what additional functionality you think would be required and provide supporting rationale for its inclusion in your response.

We agree with the proposal to exclude additional functionality which would support frequency response details at this time. The extent to which the proposed proportional load control functionality will be adopted by the market is currently unclear and Gemserv supports an approach which limits the costs and complexity of the changes being made at this time to those which are most likely to be adopted by both market participants and consumers.

3.5 Do you agree the inclusion of the override functionality is a prudent future proofing measure? Please set out your rationale.

We believe that the implementation of the override functionality will be of benefit in the future, particularly when it comes to the protection of grid assets from potential damage caused by overloads.

However, we believe that the rules of who may override functionality, and under what circumstances, need to be clearly defined. Such business rules should probably sit within the Retail Energy Code (REC), because they will govern retail-based activities with the potential to have a direct impact on consumers. These rules must also be explained clearly to consumers, which could already be regarded as a requirement of the Standards of Conduct (SoC) in the electricity supply licence.



4.1 Are there other SMETS changes that could further maximise implementation potential of APC functionality i.e. provide greater flexibility to industry in manufacturing, installing and operating devices?

Gemserv has not identified any further SMETS changes at this time. We consider that the proposed implementation provides a suitable degree of flexibility, and decouples the manufacturing, installation and operation of Devices.

4.2 Do you agree that having two forms of APC (meter integrated, and HAN connected) allows valuable flexibility and is worthwhile given no additional system cost?

We agree with the proposal to provide an integrated version and a HAN connected version of the APC. Providing two ways of delivering the desired outcome provides greater flexibility and we would not expect this to increase the costs associated with making changes to DCC systems.

4.3 Do you agree with the proposed approach to maintain the new SMETS2 alongside the existing SMETS2 versions?

We agree with the proposal to maintain the new SMETS2 version along with the existing SMETS2 version as we consider this to be the simplest way of avoiding mandating the adoption of the new functionality.

However, we would like to highlight that Users have expressed a preference to have all their Devices aligned with as few specification versions as possible in order to minimise the effort and cost associated with supporting interoperability.

4.4 Do you agree that no further changes to the specifications should be implemented to deal with change of supply events, meaning that suppliers can decide how to handle APC functionality on churn? Please provide your rationale.

We would prefer the establishment of clear rules on how APC calendars are handled or reset in the case to a Change of Supplier (CoS) event. However, such rules would not necessarily need to be included in the technical specification documents as we would expect these to take the form of business rules which govern how the proposed functionality should be used in practice.

The business rules governing how to manage APC functionality during a CoS event should probably sit within the Retail Energy Code (REC), because they will govern retail-based activities with the potential to have a direct impact on consumers. This seems to be commensurate with BEIS' proposed approach as suppliers would be able to agree the rules prior to codifying them and would be able to propose



amendments to those rules in response to changing market conditions, subject to the REC change governance process.

Similarly, although outside of the technical specifications, Suppliers need to have visibility of the presence of an APC on CoS, the load it controls and information necessary to understand load percentages. This should be achieved through appropriate (mandated) labelling and the Smart Metering Inventory.

4.5 Do you agree that proposed drafting delivers the intended outcome? Do you have suggestions on how SMETS2 changes could be drafted to more effectively deliver this?

We agree that the proposed changes will deliver the intended outcome for the foreseeable future.

However, we would like to highlight that the market for EV charge points is evolving and EV charging related requirements are still maturing which may result in a situation in the future where some details of the solution need adjusting in order to respond to market changes.

4.6 Are there other requirements or functionality related to load control that should be added at this stage? Please provide supporting rationale for any additional suggestions.

Other than the requirement for Suppliers to see the presence of an APC and its associated load (see the last paragraph of our response to question 4.4), Gemserv has not identified any other requirements or functionality related to load control that should be added at this time. However, we would like to take this opportunity to highlight a potential issue, along with the outline of a possible solution.

Some loads may expect to be able to consume power up to the limits imposed by the electrical wiring. There is a possibility that if such loads are subjected to a lower power limit by an APC, the voltage of the power being supplied to the load may fluctuate. Depending on the construction of the load, this may cause the load to reset (possibly repeatedly) or to stop working.

A possible solution to prevent these scenarios could be for intelligent loads to read the APC settings, for example via the SM-HAN so that power consumption can be set in line with APC limits.