

Consultation on Mandatory Half-Hourly Settlement: aims and timetable for reform

DCC response

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Mandatory Half-Hourly Settlement: aims and timetable for reform

During 2016 Smart DCC Limited (DCC) successfully launched the data communications infrastructure that allows suppliers to install smart meters in every home and small business across Great Britain through the delivery of Release 1.2. This release provided the core functionality of the smart meter communication service for SMETS2 meters. This is a major milestone that delivers a first-of-a-kind, coherent and highly secure communication service for the energy industry. The remaining functionality, including prepayment functionality, will be delivered through Release 1.3 early in 2017.

DCC provides the central data and communications network that connects smart meters to energy suppliers. The services provided by DCC will be an essential enabler of Half-Hourly Settlement (HHS) as the means by which Half-Hourly meter reads will be retrieved from smart meters. HHS will in turn form the foundation of many future developments across the energy industry as it makes the transition toward a smart energy system and becomes increasingly driven by data and communication technologies.

DCC welcomes Ofgem's consultation on mandatory HHS and the opportunity for us to highlight the key areas for consideration as Ofgem develops a detailed plan for designing and implementing mandatory HHS. From DCC's perspective these key areas are:

- **A focus on data** – The settlements process is predominantly data-driven. Reforms should focus on ensuring that settlement data is accurate and consistent across all suppliers. Business processes, along with roles and responsibilities (such as whether there should be a central agent) should be treated as a means of achieving the outcome of accurate and consistent data in settlements.

- **Increased demand on DCC Systems** – DCC Systems have been designed and built to accommodate specific volumes of metered data using demand profiles based on policy decisions taken in the past. The introduction of mandatory HHS could result in an increase in the volume of metered data beyond the current capacity of DCC Systems. Any such increase must be managed efficiently in order to ensure that the maximum benefit can be gained from the introduction of mandatory HHS.
- **DCC as a key delivery partner** - DCC can provide specialist support to Ofgem throughout the development and implementation of HHS through the provision of professional services into the programme to help define system data and architecture and plan a delivery approach. DCC can also provide access to the industry leading expertise of our external service providers.

DCC's detailed responses are set out in the attachment to this letter. Should you wish to discuss any of the issues raised in our response or have any queries, please contact Robin Healey on 07753 219 725, or myself.

I confirm that this letter and its attachment may be published on Ofgem's website.

Yours sincerely,



Helen Fleming
Policy Director

Attachment

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DCC's response to your questions

2. Proposed approach

Question 2.1 Do you have views on our proposed approach?

DCC supports the scope and ambition outlined in the consultation and recognises the proposed approach as one which Ofgem has used in the past. DCC strongly advocates building on this approach based on experience gained during other significant industry change programmes such as the smart metering and switching programmes.

Target Operating Model, Impact Assessment and Business Case

DCC supports the proposal to base the decision whether to implement mandatory HHS on evidence collected and assessed using a Business Case, a Target Operating Model (TOM) and an Impact Assessment (IA).

A clear definition of the benefits that the programme is intended to deliver, and how these will be measured needs to be established at the earliest stage in the programme in order to ensure that the TOM is designed to deliver these benefits.

The existing settlements arrangements should be mapped-out using an architectural framework that considers data, systems, technology and business processes, such as The Open Group Architecture Framework (TOGAF). Clearly defining the existing architecture will facilitate an easier and more accurate assessment of the changes required to achieve the TOM.

Once the existing architecture has been mapped, a range of options for achieving the TOM can be developed and the architecture of each option mapped out. This will facilitate a robust IA of each option which clearly identifies the changes required to the existing architecture. Under such an approach the IA of each option will clearly identify the changes required in terms of systems, data, technology and business processes. This will allow the costs associated with each option to be assessed in a structured and consistent manner.

The Business Case needs to consider all the other significant industry reform packages which will be progressing during the same timeframe, such as the roll-out of smart meters and the reforms to customer switching. It is important that any impacts on the mandatory HHS programme caused by dependencies or constraints linked to other

reform packages are included in the costs and benefits contained in the Business Case.

Central agent function

Settlements is predominantly concerned with the collection, processing and aggregation of data to calculate an accurate physical position for each supplier on which the financial settlement of Trading Charges can be based. The objective should be to achieve a settlements model which contains the most accurate data available and that ensures consistent performance across all suppliers. Once the required settlements model has been defined, roles and responsibilities for Data Processing (DP) and Data Aggregation (DA) functions can be allocated to best support those outcomes.

If it is decided that the chosen settlements model is best supported by a central agent function, DCC is an option for carrying out this role. However, we would need a clear view of the associated commercial arrangements before considering what DCC's involvement could be.

The SCR Process

DCC supports the use of the SCR process to implement the required changes. The SCR process is the best mechanism available to Ofgem under the current code governance arrangements and will facilitate the efficient consideration of changes across all industry codes.

Consideration needs to be given to changes in codes governance being implemented as a result of recommendations made by the Competition and Markets Authority (CMA). It is possible that Ofgem could gain new powers allowing more direct intervention in the modifications process whilst the reforms to settlements are underway. Should this be the case, we encourage Ofgem to take an approach to code governance which ensures consistency throughout the implementation of mandatory HHS. A consistent approach will increase the certainty of the outcome.

Question 2.2 Our Impact Assessment will evaluate the costs and benefits of mandatory HHS for domestic and smaller non-domestic consumers. We will be seeking evidence of costs and benefits as part of that process. Do you have initial views on the costs and/or benefits? If so, please provide these with your supporting evidence.

It is not possible for DCC to provide a view of costs or benefits until the proposed reforms have been developed in more detail. However, the sections below highlight the key areas which will drive DCC costs in order that these can be considered at the earliest stage.

Core Communication Services capacity

The implementation of mandatory HHS is likely to result in a significant increase in the amount of data transmitted across DCC Systems compared to current forecasts. DCC Systems have been built to accommodate the volume of data originally identified by BEIS in its Volume Projection analysis. Whilst a phased increase in capacity is planned, this is only intended to accommodate the forecast increase in the number of meters connecting to DCC Systems.

The impact on DCC Systems will take the form of an increase in the volume of data traffic and/or increased volatility of demand. These impacts will largely be dictated by two key factors:

- the frequency with which suppliers retrieve meter reads; and
- the method by which suppliers request meter reads.

Frequency of meter reads

Whilst a basic requirement of mandatory HHS must be to ensure that Half-Hourly (HH) granularity data is submitted into settlements, there are a range of options available regarding the frequency with which those readings can be submitted.

If suppliers are required to submit meter reads every half-hour, data traffic will increase significantly but will be at a relatively constant level. It may be that the only viable way for DCC to manage such a consistent increase in traffic is to increase the capacity of DCC Systems. This may involve expansion of Communication Service Provider (CSP) network capacity. It may also require changes to Data Service Provider (DSP) systems and interfaces.

If suppliers are required to submit HH meter reads into settlements periodically, e.g. on a monthly basis, it may be possible to manage the increase in demand using a central scheduling mechanism. The aim of such a schedule would be to normalise demand before it reaches DCC Systems, minimising the impact on peak capacity. Such an approach may reduce or avoid the need to increase the capacity of DCC Systems, minimising costs without reducing certainty for suppliers. This approach would require careful consideration of how such a schedule would interact with Settlement Run timescales and performance measures under the BSC.

If suppliers are allowed full autonomy regarding when reads must be submitted into settlements, this could result in significant variability in the demand on DCC Systems which would be difficult to predict. DCC could manage such variable demand by storing and queuing meter reads, normalising the flow of traffic as it enters DCC Systems. Such an approach would reduce suppliers' certainty around when their meter reads

would be submitted into settlements and could have an impact on supplier performance under the Balancing and Settlement Code (BSC).

Method of retrieving meter reads

There are three ways in which suppliers can retrieve reads from meters:

- 'on-demand' using a Service Request to retrieve each meter read (or batch of reads);
- by adding a meter read schedule to the DSP telling it when to pull meter reads from the meter; or
- by adding a meter read schedule to each meter telling it when to send metered data.

Retrieving meter readings on-demand or using a centralised DSP meter read schedule would require a request to be sent to each meter every time meter readings need to be retrieved, resulting in two packages of data being used to retrieve each meter read (sending the request and retrieving the meter read).

Adding a meter read schedule to each meter would have the advantage of minimising message traffic (there would be no need to send a request in order to retrieve each meter read).

DCC HHS programme costs

We believe that DCC should be an integral part of the mandatory HHS implementation programme due to the inevitable impacts on DCC's Core Communication Services. Our view is that DCC's contribution to the programme in this capacity will fall under the remit of our existing Mandatory Business.

Options for the roles that DCC could perform and our assumptions on whether these roles would be covered under our existing licence obligations are set out in our response to Question 3.3 below.

3. Proposed plan

Question 3.1 Do you think we have identified the necessary reforms? Are there other reforms that should be listed? If so, what are they and how would they fit in the proposed plan?

DCC considers that the areas for reform identified by Ofgem are comprehensive and consistent with the work carried out by the Electricity Settlements Expert Group

(ESEG) and Profiling and Settlement Review Group (PSRG). HHS will be a key enabler for many of the future market developments needed to make the transition to a smart energy market. We encourage Ofgem to develop its longer-term vision and provide more detail around how HHS will be used to implement wider changes to the market.

Settlements is the mechanism by which the financial settlement of competitive energy supply activities takes place. The consistent treatment of suppliers' data is paramount to ensuring that settlement costs are allocated fairly and DCC's view is that this should guide Ofgem's reform proposals.

Question 3.2 What industry expertise is needed to deliver these reforms in the timetable we have given?

In order for the reforms to be delivered successfully within the desired timescales, Ofgem will need to establish a programme which has the necessary expertise and experience. We urge Ofgem to put such programme in place at the outset.

As the provider of the central data and communications network which will connect meters in the homes and businesses of energy consumers to energy suppliers, DCC has a key role to play in facilitating the implementation of mandatory HHS. DCC's expertise will be required throughout the programme to ensure that the impact on DCC Systems is considered at an early stage, reducing the likelihood of delays and unforeseen expenditure in later phases of the programme.

Expertise will be required from across the energy industry to assess the impact of reform on the existing data, systems, technology and business processes. In addition to contributions from energy industry experts, DCC considers that there could be benefits to including participation from organisations outside the energy industry to provide external challenge to the status quo. Settlement processes are predominantly driven by data and the programme may benefit from engaging experts in data architecture in order to ensure that best practices are employed.

Question 3.3 How much expertise and time can your organisation provide? How does this interact with other Ofgem initiatives?

DCC can provide expertise across the following areas:

- **Impact on DCC Systems** – DCC considers that understanding the impact of mandatory HHS on DCC Systems falls under the remit of our existing Mandatory Business due to the impact of mandatory HHS on DCC's Core Communication Services.

- **Central agent role definition** – Supporting the development and evaluation of options for moving to a central agent model for DP/DA functions. We consider such a supporting role to fall under the remit of our existing Mandatory Business due to the potential impact DCC Systems and interfaces.
- **Fulfilment of the central agent function** – Were this option to materialise, we consider that this would require changes to DCC's licence as it does not currently form part of our Authorised Business.
- **Professional services** – DCC could provide professional services into Ofgem's programme to help define system and data architecture and plan a delivery approach, as we are doing with the switching programme.

DCC envisages setting up a small programme team to support the implementation of mandatory HHS and to ensure that any changes required to DCC Systems are carried out in the most economic and efficient manner.

The use of a separate programme team will allow DCC to avoid conflicts with both the Smart Metering and the Switching Programmes. Whilst common resources and processes may be used across all three programmes, using a separate team will allow the management of time and resources using industry standard programme governance.

Question 3.4 What are the key risks and constraints to delivering to the timetable outlined?

The proposed timescales to make a decision on whether and how to implement mandatory HHS by the first half of 2018 are ambitious and allow significantly less time to complete the required policy and design work other programmes of comparable size and scope.

Additionally, DCC considers that it would be prudent to consider the experiences gained through the move to mandatory HHS for profile classes 5-8 (P272) when this programme concludes in April 2017. The programme should be designed to accommodate the time needed to analyse this information.

Question 3.5 Do you agree with the dependencies in Figure 1? If not, please explain what changes you suggest and why.

Resolving all the issues outlined in the first phase is critical as some of these have the potential to delay or block the progress of the programme at an early stage. Our view is that this phase should focus on resolving legal and regulatory issues, for example data access and meter register accuracy under the Measuring Instruments Directive.

The dependencies outlined in figure 1 indicate that roles and responsibilities (e.g. for carrying out DP/DA functions) will be decided prior to the settlement process being considered. It would be better to define the settlement process and data architecture required to facilitate the TOM prior to overlaying which organisation is best placed to deliver each element of the process. This approach would ensure that the TOM is not constrained by the capabilities of preselected parties.

Question 3.6 What are the barriers to making changes to central systems and industry rules by the first half of 2018?

It is not clear how the ambition to make changes to central systems and industry rules by the first half of 2018 fits with the timeline outlined in the consultation which envisages that the decision on if, when, and how to implement mandatory HHS should be taken by the first half of 2018.

The proposed timescales coincide with an unusually large amount of change across the energy industry including the roll-out of smart meters and reforms to customer switching. In addition to the reform programmes which Ofgem has already identified and initiated, there will also be a considerable amount of industry change associated with the ambitions expressed by BEIS and Ofgem in their call for evidence on a smart, flexible energy system¹. The mandatory HHS programme must consider constraints imposed by the amount of change that both central systems and supplier systems are able to accommodate during this period.

Question 3.7 Do you have any other comments on the proposed plan?

The proposed plan only extends as far as the point at which Ofgem makes the decision on how and when to implement mandatory HHS. Whilst it is not possible to develop a detailed plan beyond this point at this stage, DCC considers that it would be beneficial to establish an indicative timetable for implementation of mandatory HHS early in the programme as this will affect the costs and benefits in the Business Case.

4. Policy scope

Question 4.1 Do you agree with the conclusions of the ESEG and the PSRG (see paragraphs 1.8 – 1.10.)? Do you think anything has changed since they considered these issues?

DCC broadly agrees with the conclusions of the ESEG and considers that the assessment of options for reforming the supplier agent model carried out by the ESEG

¹ https://www.ofgem.gov.uk/system/files/docs/2016/12/smart_flexible_energy_system_a_call_for_evidence.pdf

should aid Ofgem when developing the TOM. However, we note that the group did not make any formal recommendations for reform.

The PSRG was unable to investigate some of the issues raised in this review in sufficient detail due to the lack of information at the time regarding the functionality which would be provided by DCC Systems. One of the most significant changes since the PSRG considered mandatory HHS is that DCC Services are now live and it is possible to develop a comprehensive view of the changes required to implement the reforms.

Question 4.2 Do you agree with the scope of issues identified in the roles and responsibilities section?

DCC agrees that there are potential advantages to having a central agent carry out DP/DA functions. These include efficiency savings due to increased scale, the rationalisation of organisations reducing overhead costs, and consistency in the standard of data quality submitted into settlements across all suppliers.

Question 4.3 Do you agree with the scope of issues identified in the settlement process section?

DCC does not wish to comment on the settlement process.

Question 4.4 Do you agree with the scope of issues identified in the policy enablers section?

DCC agrees with the scope of issues identified but we also seek clarity around the extent to which this programme will consider the broader transition towards a smart energy system.

The impact of smart tariffs on DCC Systems in terms of capacity will be significantly higher if DCC is required to send dynamic pricing messages to meters. This needs to be considered at an early stage in order to ensure that the strategy for managing increasing demand on DCC Systems is developed holistically and will not need to be amended to accommodate foreseeable future developments.

Question 4.5 Do you agree with the scope of issues identified in the consumer issues section?

DCC does not wish to comment on the consumer issues.

5. Conclusions and next steps

Question 5.1 What is the best way for us to use the expertise of stakeholders? What have you found helpful in the past?

The development and implementation of HHS is likely to involve a number of distinct work streams and we encourage Ofgem to establish its approach to programme management at the outset in order to ensure that the expertise of stakeholders is used effectively.

In addition to continuous engagement with industry stakeholders, DCC considers that external independent challenge and assurance can be extremely valuable to large programmes, particularly when targeted at key products or milestones. We advocate such an approach in order to ensure that key products are of the required quality and that the programme plan is realistic and deliverable

The use of an enterprise architecture methodology and framework will produce the best results if employed under the stewardship of a specialist enterprise architect. We encourage Ofgem to establish a proficient architecture function from the outset of the programme.

DCC
January 2017