

# Initial Enrolment Project Feasibility Report

**PART B – DCC summary of responses following  
consultation and DCC Conclusions**

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DCC PUBLIC



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# 1 Introduction

## 1.1 Consultation Responses

Part B of the IEPFR sets out DCC's analysis regarding the options for the enrolment of SMETS1 meters into DCC infrastructure. A total of 26 organisations responded to DCC's draft IEPFR consultation, comprising a range of stakeholder constituencies including large and smaller energy suppliers, existing SMETS1 service providers, network operators, meter asset providers, pre-payment service providers and trade organisations. DCC has analysed consultation responses and has summarised key findings in section 2 of this document.

## 1.2 Further Stakeholder Engagement

Following the closing date of the consultation, and to further inform DCC's analysis of stakeholder responses, DCC convened three stakeholder workshops in March 2017, focussing on particular elements of a future DCC Service. These workshops were open to all SEC Parties. Summary outcomes from the three stakeholder workshops were published on the DCC website on 24 March 2017. Section 3 of this document summarises these workshops and their outputs. On 24 March 2017 DCC provided a 2 week window for consultation respondents to update their consultation responses in light of these outputs, should they so wish. The workshop outputs were sent to all SEC parties prior to the 2 weeks' response window. Further responses were received from 8 organisations. These responses have been analysed together with initial consultation responses as described in section 2 of this document.

All consultation responses have been submitted to the Secretary of State as per the requirements in Section N4.6 of the SEC.

## 1.3 DCC SMETS1 Delivery Plan

In considering this document, reviewers should note that the DCC has concurrently issued a consultation on its plan for delivering a SMETS1 service. The plan takes all of the evidence gathered from the draft IEPFR, DCC's consultation with stakeholders and ongoing engagement with prospective service providers, and builds this into the plan. DCC has been able to use this to set out proposals for when and how decisions on which options for delivery of a SMETS1 service will be taken. The plan is summarised in more detail in Section 2.8.1 of this document.

## 2 Responses to the draft IEPFR consultation

### 2.1 Integration Path Options

The IEPFR consultation set out four questions on Integration Path Options – i.e. the means by which DCC can communicate with SMETS1 meters to enable their enrolment and subsequently send commands to, and receive messages from enrolled SMETS1 meters. Please refer to section 3.2 of Part A for the Integration Path Options and the associated questions, which are not repeated here.

#### Question 1

**Do you agree with the range of integration path options that DCC has considered, or do you consider that there are other integration path options that should be considered? Please provide a rationale for your views.**

All respondents agreed that the integration path options set out in the IEPFR were appropriate, with a large majority indicating that these represented the complete set of options available for assessment.

Two large suppliers suggested that an additional option should be considered, suggesting that a single SMSO operating in the market and interacting with all other SMSOs could be used as a single interface point for DCC, which would then provide an interface for all parties interacting with SMETS1 meters. One of these Large Supplier Parties suggested that this option could be considered as an interim solution, although noted that the commercial and timescale impacts of this approach would need to be assessed.

#### Question 2

**Do you agree that integration path options 1-3 should not be progressed on the grounds of cost and technical risk? Please provide a rationale for your views.**

All respondents who answered this question agreed that integration path options 1, 2 & 3 should be discounted, with the exception of one SMSO, who suggested that Option 3 should be considered further, noting that the technological solution that they provided allowed them to connect with any UK cellular network.

#### Question 3

**Do you agree with the analysis of the relative advantages and disadvantages of integration path options 4 ('integrate to meter') and 5 ('integrate to SMSO')? Please provide any other views on the relative advantages and disadvantages of integration path options 4 and 5. Please provide a rationale for your views.**

19 respondents answered this question directly. A large majority of respondents who commented on the relevant advantages and disadvantages of the different integration paths described, agreed with DCC's analysis. A majority of respondents noted that further analysis was needed to fully inform their view on the options, with one large supplier suggesting that option 4 analysis had not

adequately addressed factors such as IPR and the scaling of an 'integrate to meter' service. One Meter Asset Provider noted that the requirement for additional contracts should be set up between suppliers and SMSOs for prepayment services.

Across large and small supplier parties there was a slight preference for Option 5 as the preferred integration option, although the level of support given by each organisation for the options was varied, with some suppliers explicitly preferring option 4, others option 5 and several expressing no strong preference (with many noting that they required further information to reach a definitive view). After the Stakeholder workshop sessions and a second round of updated consultation feedback (as described in Section 1.3 above), one major supplier slightly amended their view on integration path 4. Having previously discounted it, they accepted Option 4 as a viable option given the existing SMETS2 DSP functions/services that could be re-used for the SMETS1 service. A majority of network operators preferred option 4, and SMSOs expressed a preference for Option 5.

#### Question 4

**Please provide views on whether, within option 5 ('integrate to SMSO'), 5a or 5b is preferable. Please provide a rationale for your views.**

18 organisations responded to this question, with a range of views expressed. Several took the opportunity to reiterate their preference for Integration Path 4 rather than any variation on Integration Path 5. Others stated that more information was required for them to express a preference of Integration Options.

SMSO respondents all stated a preference for Integration Option 5b, with several stating that they would be able to achieve the translation required both more quickly and more cost effectively than an option where this was done by DCC. For non-SMSO respondents that expressed a preference, there was an equal split between Option 5a and Option 5b. Overall there was a slight preference for Option 5b.

### 2.1.1 DCC findings – Integration Path Options

In light of respondent feedback and DCC's analysis, DCC proposes that Integration Options 1, 2 & 3 as described in the IEPFR should not be considered further in terms of a final SMETS1 service. DCC notes that some respondents suggested an additional 'Super SMSO' option for consideration. DCC's view is that this proposal is not technically different than Option 5, but is rather an alternative way of considering the commercial arrangements. Regarding one respondent's comments on including factors such as IPR in its considerations, these are also covered as part of the commercial annex in the IEPFR. In the IEPFR, DCC acknowledges that the current commercial arrangements in the SMETS1 market take a varied approach to transfer or licensing of IPR, and DCC expects to continue to work on these factors in more detail during the commercial design for the SMETS1 service.

The range of views regarding Integration Path Options 4 and Options 5 indicates that there is no clear preference across industry for either option. DCC acknowledges that the limited cost information included in the public consultation will have had an impact on respondents' decisions,

and that there is a need for further analysis to be performed on these options in line with relevant stakeholder feedback. . DCC will be refreshing its view of cost information in its continuing commercial engagement with prospective service providers, and plans to provide this information to BEIS when it is available.

As a result, it is DCC's view that there are no findings from the consultation that require a change to the draft IEPFR, and has not amended the section of the IEPFR dealing with Integration Path Options. Further analysis on Integration Path Options has been factored into DCC's design and delivery planning. Please refer to section 2.8.1 below for further information on DCC's delivery plan.

## 2.2 SMETS1 DCC User Interface Options

The IEPFR described options for the means by which users can communicate with DCC to enable suppliers to enrol SMETS1 meters with DCC and to enable all users to send service requests to, and receive service responses from, enrolled SMETS1 meters. Please refer to section 3.3 of Part A for those options, which are not repeated here. Four questions were set out in that section regarding the SMETS1 DCC user interface.

### Question 5

**Do you agree with the range of SMETS1 DCC user interface options that DCC has considered, or do you consider that there are other options that should be evaluated? Please provide a rationale for your views.**

Respondents broadly agreed with the range of options considered, as set out in the IEPFR. 2 respondents suggested a further option of using a new SMETS1 message format, one utilising existing SMSO command formats alongside the new message format interface and the other respondent suggested hosting the new SMETS1 message format within the DSP.

### Question 6

**Do you agree with the analysis of the relative advantage and disadvantages of each of the SMETS1 DCC user interface options? Please provide a rationale for your views.**

The vast majority of respondents agreed with the analysis of the relative advantage and disadvantages of each of the SMETS1 DCC user interface options as set out in the IEPFR. From the responses provided, Option 3 (A new SMETS1 message format with the interface provision competitively procured) was the least preferred option.

### Question 7

**Please tell us which SMETS1 DCC user interface option you consider to be preferable. Please provide a rationale for your views.**

The majority of respondents preferred Option 1 (Message format based on SMETS2 DUIS utilising the existing interface provided by the SMETS2 DSP), with Option 2 (Message format based on the SMETS2 DUIS but with the interface provision competitively procured) being a close

second. Across respondents, removal of or a reduction in impact to their businesses was the primary motivation for the selection.

### Question 8

**Please provide your views on whether either SMETS1 DCC user interface option 2 or 3 better facilitates achievement of the SEC Objectives than SMETS1 DCC user interface Option 1. Please provide a rationale for your views.**

The vast majority of respondents expressed a view that either of the Options 2 or 3 would not better facilitate the achievement of the SEC Objectives compared to Option 1. One respondent felt that the IEPFR provided insufficient detail for them to provide a view.

### Additional Workshop Session

The User Interface Options were subject to additional discussions as part of DCC's SMETS1 stakeholder workshops. A summary of those discussions is detailed in chapter 3. Of the additional responses received following this workshop session no respondents changed their view of their preferred User Interface Option, however, both in the workshops and in the later responses, a strong view re-iterating preference for UI Option 1 has emerged.

## 2.2.1 DCC findings – SMETS1 User Interface Options

Responses to the IEPFR consultation indicate that a strong majority of those responding did not support option 3 as a SMETS1 User Interface. Options 1 and 2 (of which both retain the SMETS2 DUIS message format) are clearly preferred over a User Interface with a new message format.

Some respondents suggested a further option for consideration that was not set out in the IEPFR, namely utilising existing SMSO command formats alongside the new message format. This option was considered in the aforementioned stakeholder workshop session. The overarching theme to emerge from the User Interface workshop was that there is a support for re-using existing SMETS2 infrastructure and the DSP interface. The reasons cited were minimal user impact, costs and time to deliver. However, it was also highlighted that all options require changes to physical infrastructure. Concerns were raised regarding inventory management not being sufficiently explored in the draft IEPFR. Early and regular communications, as well as user engagement, has been requested as the plan and detailed specifications develop for the users to allocate sufficient resources in order to expedite delivery.

In summary, representations made through consultation responses and subsequent stakeholder workshops have clearly identified a preference for User Interface Options 1 and 2. As a result, DCC has not amended the section of the IEPFR dealing with User Interface Options. However, consultation responses and stakeholder workshop outcomes have also highlighted the requirement for further analysis of the preferred User Interface Options. Such analysis in the following stages of

the SMETS1 programme has been factored into DCC's delivery planning. Please refer to section 2.8.1 for further information on our delivery plan.

## 2.3 Service Request Functionality: Communication Services Options

The draft IEPFR set out 6 Communication Services options. Please refer to section 3.4 of Part A for those options. 10 questions were included in section 3.4 regarding the options for the range of SMETS1 communication services (service requests) that are available to users for DCC enrolled SMETS1 meters.

### Question 9

**Do you agree that the additional services that are currently provided by SMSOs that are not part of the core offering should be made available by DCC as elective communication services, should the supplier wish to continue to receive those services? Please provide a rationale for your views.**

Of those respondents who answered this question, a large majority agreed that the additional services that are currently provided by SMSOs that are not part of the core offering (the Minimum SMETS1 services) should be made available as elective communication services.

One respondent who agreed also expressed concerns about the completeness of the Minimum SMETS1 services for Users' operation of SMETS1, whilst another questioned whether the services set out in the IEPFR included those which were relevant to Network Operators (such as power outage alerts).

The minority of respondents who disagreed stated a preference for currently available SMSO services being included as part of a DCC core offering. Two respondents stated a preference for retention of "as-is" services, but did not state a preference for the treatment of those services that fall outside of the Minimum SMETS1 services. Another noted their preference for consumer benefits associated with functionality of SMETS1 Meters to be preserved.

### Question 10

**Do you agree that communication services options 2, 3 and 4 should be discounted? Please provide a rationale for your views.**

Of the 16 respondents who answered this question directly, all agreed that options 2, 3 and 4 should be discounted. Two respondents did not feel able to make a judgement due to a lack of detailed information on cost, and use of SMETS1 meters by DNOs.

### Question 11

**Do you agree with the evaluation of communication services options 1, 5 and 6 and do you consider that there are other advantages and disadvantages of any of those options that should be considered? Please provide a rationale for your views.**

There was a mixed response to this question, with a small majority of the 13 respondents who answered the question directly agreeing with the evaluation of Options 1, 5 and 6. One respondent who agreed in principle commented on a lack of insight into the detail behind the costs of the options and advocated the inclusion of industry costs in the decision making process.

Those who disagreed commented on a lack of clarity over the cost of each option, noting the absence of estimated industry costs, as well as a lack of consideration of the risk of stranded assets (for Options 5 & 6) and the impact this would have on the overall smart metering benefits case. Others cited a lack of information in the IEPFR as limiting their ability to express a view, with one respondent noting they did not feel able to make a judgement due to a lack of information on use of SMETS1 Meters by DNOs, another requesting additional analysis and a summary of the dependencies between different areas of optionality, and a third commenting that more clarity is required on the definition of each of the services.

#### Question 12

**Which communication services option do you consider is preferable? Please provide a rationale for your views.**

A large majority of the 17 respondents who answered this question directly preferred Option 1 (where DCC provides the Minimum SMETS1 services (37 Services) for all DCC enrolled SMETS1 meters), and only a very small number of respondents preferring Option 5 (where DCC provides the as-is services currently supported by each SMSO) or Option 6 (where DCC provides the as-is services (as per option 5) when the DCC SMETS1 capability goes live, with a phased move to full support for the Minimum SMETS1 services).

#### Question 13

**Do you agree that the two security-related service requests set out in Table 4 are not required for DCC enrolled SMETS1 meters? Please provide a rationale for your views.**

A small majority of the 17 respondents who answered the question agreed that DCC should manage security certificates on enrolled SMETS1 meters, and therefore that the two security-related service requests are not required as part of the SMETS1 service.

A significant minority of those who answered the question did not agree with DCC's assessment that the security related service requests are not required, with one indicating that it was too early to make a decision at this stage of the development of the SMETS1 service, and another stating that they considered these services to be necessary.

This was discussed as part of DCC's SMETS1 Stakeholder Workshop and is described further in Section 3.

#### Question 14

**Do you agree that the Non-Device requests listed in Table 5 are required for DCC enrolled SMETS1 meters? Please provide a rationale for your views.**

The vast majority of the 16 respondents who responded to this question directly, including all large suppliers, agreed with this position with one noting that there may possibly be a need identified for additional non-device requests as well as those listed in the IEPFR, once further details of the solution for SMETS1 enrolment emerge. DCC acknowledges that, and as the design progresses,

it is possible that we will identify a need for additional non-device requests to enable Users to effectively manage their DCC enrolled SMETS1 Meters. However, during the feasibility stage and in our engagement with stakeholders, we have not identified any such requirement.

#### Question 15

**Do you have a preference for the approach to implementing the Update Firmware Service for enrolled SMETS1 meters? Please provide a rationale for your views.**

A significant minority of respondents did not comment on this question. Of those that did, there were mixed views regarding a preferred approach to implementing the Update Firmware Service for enrolled SMETS1 meters, with no stand-out preference for either a 1-stage or 2-stage approach. One respondent noted that their preference would depend on the implementation option(s) chosen to deliver the SMETS1 service, with another preferring a 1-stage approach initially, with a 2-stage approach phased in over time.

A small number of respondents stated a preference for DCC to create a specific firmware service for SMETS1.

No clear preference emerged during the SMETS1 Stakeholder Workshop on communication services; however one of the themes that did recur throughout the series of workshops was alignment of DCC Users' experience for SMETS1 with that of SMETS2, which would imply a 2-stage approach to firmware updates.

#### Question 16

**Would you use DCC scheduled services if offered by DCC in respect of enrolled SMETS1 meters? Please provide a rationale for your views.**

Just under half of the total number of respondents answered this question; with all of those stating that they would use DCC scheduled services if offered by DCC in respect of enrolled SMETS1 meters.

#### Question 17

**Do you agree that DCC should provide a standardised set of service requests for commission and decommissioning SMETS1 devices that most closely approximates the process for SMETS2 devices? Please provide a rationale for your views.**

A large majority of respondents agreed that DCC should provide a standardised set of service requests for commissioning and decommissioning SMETS1 devices. Of those, one respondent agreed in principle that a standard set of services for decommissioning should be provided, but argued that the retention of existing SMSO commissioning arrangements would be more cost effective on the basis that the likelihood is low of suppliers commissioning meters of a type that they did not originally deploy.

Of the small number respondents who disagreed, there was a strong preference to retain existing commissioning arrangements, around which processes have been built.

### Question 18

**Do you anticipate ordering additional communications hubs from your existing vendor(s) during the life of the DCC SMETS1 service and, if so, would you require DCC to provide SIM cards? Please provide a rationale for your views.**

A small majority of the 15 respondents who answered this question directly did not anticipate ordering additional communications hubs from their existing vendor(s) during the life of the DCC SMETS1 service. Of the handful of respondents who did, two respondents expect to require additional communications hubs but indicated that they would expect SIM cards to be provided by the manufacturer without DCC intervention.

Feedback from other respondents indicated that they may require DCC to provide SIM cards. This highlighted the fact that approaches to maintenance of SMETS1 Smart Metering Systems are still under consideration by Suppliers and that those respondents could not, at this stage, rule out ordering additional communications hubs in future.

### Additional Workshop Session

DCC convened a SMETS1 Stakeholder Workshop focussing on communication services to gain further insight into stakeholders' views. Output from that workshop is summarised in Section 3. Of the additional responses received following this workshop session only one major supplier changed their view of their preferred Communication Services Option. They amended their choice to Option 1 where a full suite of 37 services are offered with the rest as-is services offered as electives to ensure no end consumers are impacted. The participants and later responses also highlighted a strong preference for including Pre-payment services in the core SMETS1 service offering. In the context of discussions on replacement SIM cards, during the SMETS1 Stakeholder Workshop on communication services, a common theme was a lack of clarity on what, from a regulatory perspective, constitutes permitted maintenance of a SMETS1 Smart Metering System. It was explained at the workshop that a letter issued by BEIS clarified that the policy intention was that replacement of components of the system constituted permitted maintenance, but not replacement of the system in its entirety.

## 2.3.1 DCC findings – Communications Services Options

Across respondents, there was an overall preference for the Communication Services beyond the minimum SMETS1 services as defined in the SEC to be offered as elective services.

Generally, those respondents who argued for inclusion of all "as-is" services in the core DCC offering were those who have access to additional services as part of their current SMETS1 solution. DCC notes that some of these services are not supported by other types of SMETS1 Meters as they are not linked to functionality required by SMETS1. DCC did not therefore include cohort specific "as-is" services in the core offering since these could only be offered in relation to a

sub-set of enrolled SMETS1 Meters and would potentially only be used by the Suppliers who use them currently. DCC considers that Suppliers will have the option to preserve availability of additional "as-is" services for DCC enrolled SMETS1 Meters by requesting elective services.

Given the broad support from respondents to the proposal that Options 2, 3 and 4 as set out in the IEPFR should be discounted, DCC's view is that these options should not be considered further.

Of the other Communication Services Options put forward, DCC acknowledges the general view from stakeholders that insufficient information was made available in the draft IEPFR to inform their views. Accordingly DCC convened a SMETS1 Stakeholder Workshop on communication services to provide a further opportunity for stakeholders to ask clarifying questions and to enable DCC to elicit clarification from stakeholders to aid its understanding of the consultation responses.

During the stakeholder workshop on communication services, a strong theme emerged that a consistent set of communication services, including support for prepayment, would be a critical factor for Suppliers' decisions to enrol and operate SMETS1 meters through the DCC SMETS1 service, with industry costs associated with supporting each DCC functional release also being a major consideration.

There were suggestions that revisiting the core 37 service offering may reduce the cost and user impact. It was highlighted that there is a need to understand in details what these 37 service requests are and whether they all are used. A need to map current 'as-is' services was also highlighted.

Given the support for the inclusion of the proposed non-device requests described in the IEPFR, DCC's view is that these should be factored into the scope of the ongoing design activity. DCC also considers that scheduled-services should be included in the scope of ongoing design activity, given that a large number of respondents indicated that they would use scheduled services. As a majority of respondents also supported standardised Service Requests for commissioning and decommissioning, DCC also considers that they should form part of the ongoing design.

The key theme to emerge from the stakeholder workshop was that all parties felt the need for further, detailed cost-benefit analysis to be carried out on Communications Services Options, specifically focussing on the service requests, with a suggestion that they should be re-visited, and that the list of core services should be amended to reflect any further analysis and feedback. A strong consensus was that the prepayment services are essential and should be made part of the core services.

There was also a consensus that gaining suppliers should be able to operate gained meters seamlessly irrespective of them being SMETS1 or SMETS2. So the services offering and interfaces should be aligned.

Consultation responses and stakeholder workshop outcomes have highlighted the requirement for further detailed analysis of the communication options and service requests mapping. Such analysis in the following stages of the SMETS1 programme has been factored into DCC's delivery planning. Due to this reason and the fact that there has been no fundamental difference of opinions, from consultation respondents and workshop participants, on the IEPFR options for

communication services from all parties, DCC has decided not to amend the section of IEPFR dealing with communication services.

## 2.4 Prepayment Options

In terms of Prepayment, the draft IEPFR set out options to support the generation of UTRNs for use with DCC enrolled SMETS1 meters operating in prepayment mode and the process for sending over the air top up requests to SMETS1 prepayment meters, and included 6 questions. These options and the associated questions are set out in Section 3.5 of Part A.

### Question 19

**Do you agree with the options that DCC has identified for the provision of a UTRN generation service and are there others that should be considered? Please provide a rationale for your views.**

A large majority of the 17 respondents who directly answered this question agreed with the options identified. Among the respondents who disagreed, all expressed a preference to continue to use existing SMSO arrangements. Several points were raised in relation to the options identified, including one respondent noting that all options set out in the IEPFR imply a change to the current SMETS1 arrangements, and another noting a preference for close alignment to the SMETS2 model.

### Question 20

**Do you agree with the assessment of the advantages and disadvantages of each UTRN generation option and are there others that should be considered? Please provide a rationale for your views.**

Responses to question 20 were very closely aligned to the answers provided for question 19, with a large majority of respondents agreeing with the assessment of each of the options identified. Of those who agreed, one expressed concern that any centralised service may increase security risk through creating a single point of failure, with another seeking to confirm that the cost estimates for options 1 & 2 include provision of a user interface. The DCC cost estimates for UTRN generation options 1 & 2 include all DCC direct costs for the design, build and testing of a centralised DCC UTRN service with its own user interface.

### Question 21

**Which UTRN generation option do you consider to be preferable? Please provide a rationale for your views.**

There were a broad range of preferences across each of the options set out, with some respondents expressing a preference for two of the three set out. There was a slight preference for Option 3 compared to Options 1 and 2.

### Question 22

**Do you consider that payment service providers should become eligible to use the Top-Up Device services on a supplier's behalf? Please provide a rationale for your views.**

A small majority of the 17 respondents who answered this question did not agree that payment service providers should become eligible to use the Top-Up Device services on a supplier's behalf

### Question 23

**Do you consider that a one-step or two-step process for sending an OTA Top up to a SMETS1 Meter is preferable? It would be useful to understand the advantages and disadvantages of each approach as you perceive them, including the relative efficiencies to a user of a single step process (which aligns with current SMETS1 processes and implies a single interface) versus a two-step process (which more closely aligns with SMETS2 processes and results in two interfaces)? Please provide a rationale for your views.**

There was a slight preference for 2-step process amongst the 15 respondents who answered the question directly, with a significant minority preferring a one-step process. Several respondents pointed out that both processes could be supported to enable Suppliers to continue with current arrangements, with one noting that DCC should support both, with SMETS1 service users indicating which route a request should follow at the time of submission.

### Question 24

**Do you agree that SMETS1 IHDs with PPMID-like functionality should be included in the Smart Metering Inventory as a separate device type to other IHDs? Please provide a rationale for your views.**

All respondents who answered this question directly agreed that SMETS1 IHDs with PPMID-like functionality should be included in the Smart Metering Inventory as a separate device type to other IHDs.

### Additional Workshop Session

DCC convened a SMETS1 Stakeholder Workshop focussing on pre-payment options and services, to gain further insight into stakeholders' views. This is summarised in Section 3. Of the additional responses received following this workshop session no respondents changed their view of their preferred Prepayment Option. Additional comments made were that:

- there is a strong preference for prepay services to be a part of the core SMETS1 offering;
- further analysis to be done to understand the UTRN generation function better;
- security, resilience, performance and availability of the UTRN function needs to be prioritised; and
- some respondents highlighted their multiple payment options and prepay services and raised concerns that these may be impacted if not prioritised.

### 2.4.1 DCC findings – Pre-Payment Options

There was a general view from respondents that the options set out in the IEPFR were appropriate, and in general the assessment of those options in the IEPFR was correct.

During this stakeholder workshop, a clear preference emerged for the DCC User experience for SMETS1 to be the same as that for SMETS2; meaning that a Top-Up Device request would only be submitted once a User has obtained a UTRN. The workshop also elicited a number of concerns and considerations regarding each of the Pre-Payment Options set out in the IEPFR, which echoed and elaborated on those already fed back as part of consultation responses. No clear preference emerged from the workshop.

Noting the concerns raised regarding the security risks of a single UTRN solution held within DCC systems, DCC notes that there is a trade-off between the risk of a centralised service being a single point of failure, compared to the complexity of managing a solution that suppliers would deploy in their back office, but which would use security credentials that DCC will manage and would need to be accessible to Suppliers whilst maintaining the integrity of the security model.

There was full support for the proposal that SMETS1 IHDs with PPMID-like functionality should be included in the Smart Metering Inventory as a separate device type to other IHDs, and DCC recommends that this should be included in the ongoing design.

The general theme emerging from the prepayment workshop was a recognition of the consumer experience and all the services, capabilities, etc. that are required to ensure the end user gets a seamless, simple, quick, reliable and value for money service. Most of the discussions related to the non-functional requirements such as high availability, reliability, resilience and speed of the service, with a desire for margin for error to be kept to an absolute minimum. From the DCC customer point of view the other key theme was the need for the service to mimic the SMETS2 solution in all aspects. Reasons cited for these were ease of implementation, speed of delivery and cost minimisation. All parties appreciated the technical challenges involved. Early and regular communications as well as user engagement has been requested as the plan and detailed specifications develop, so that prospective users are able to allocate sufficient resources in order to expedite delivery.

As there is no clear preference emerging from the responses and the workshop, DCC considers that further analysis should be undertaken as part of its ongoing detailed design and delivery planning. Due to this reason and the fact that there has been no fundamental difference of opinions on the prepayment services options listed in the IEPFR from all parties, in DCC's view there is no evidence emerging from the consultation that requires an update to the draft IEPFR.

## 2.5 Security

The draft IEPFR set out, at a high level, possible security measures for a DCC SMETS1 service, describing the security issues associated with the various technical options and the impact on the delivery cost and timescales of implementing various security controls. The sensitivity of the security risks in Smart Metering Systems meant that this section was purposefully written at a high level and did not discuss specific risks. Additional, detailed security analysis was shared with the SEC Panel, via the Security Sub Committee (SSC), and submitted separately to BEIS. In addition to setting out the options, Section 4 of Part B set out 4 questions for respondents.

### Question 25

**Do you agree with the approach set out in section 4.1.2 that DCC has adopted for assessing a material increase in risk? Please provide a rationale for your views.**

A majority of the 17 respondents who answered this question agreed with the approach set out in the IEPFR for assessing material risk, including a vast majority of supplier parties, although one noted that the fact that much of the security detail had been provided directly for BEIS and not subject to consultation, they were unable to comment.

One respondent noted that more security details were being reviewed by the SEC Security Sub Committee (SSC), and that they will rely on this expert group's feedback to DCC.

### Question 26

**Are there any security option areas or significant measures which have not been outlined in section 4.1.3 that you would consider of key importance to a SMETS1 solution? Please provide a rationale for your views.**

Nearly all respondents agreed that there were not any security option areas, or significant measures, which had not been outlined. Several respondents noted that the level of detail provided in the draft IEPFR was at too high a level to provide enough information for them to provide a detailed response.

One supplier suggested that DCC additionally consider base-lining and hardware testing for meter types within a cohort, and the roll-out of a standard configuration set to all meters.

One SMSO noted that, whilst the use of a Public Key Infrastructure (PKI) made sense, the draft IEPFR did not make it clear whether this would be owned by head end systems or another independent service provider (like SMKI), stating that the latter was sensible and that this should be an option under consideration, as it could provide a trust framework regardless of other options and potentially across multiple parties.

The same respondent suggested that further details would be needed in considering system hardening, stating that hardening tends to imply protection as opposed to detection and response.

### Question 27

**Are there any additional security issues that would need to be taken into account when assessing the technical options described in section 4.2? Please provide a rationale for your views.**

Whilst some respondents did not identify any additional security issues that would need to be taken into account, a majority of the 14 respondents who answered the question directly did offer suggestions for consideration. These included consideration of whether Parse and Correlate software used in SMETS2 would become more complex as a result of enrolment of SMETS1 meters, and whether this would lead to errors, as well as noting the increased attractiveness of DSP as a target for attackers were it to become a single point of compromise for SMETS1 meters, although one respondent noted that a centralisation may allow for more effective spend on risk countermeasures.

One respondent queried whether the total number of SMETS1 meters installed across GB would require higher levels of security controls. Several respondents noted the importance of factoring in the costs of development and implementation into any consideration of security controls.

### Question 28

**Do you have any comments on the feasibility of implementing the identified security options? Please provide a rationale for your views.**

There were a wide range of comments from respondents on the feasibility of implementing security options. These included:

- For islanding - that this could prove to be ineffective and operationally complex, especially where SMSOs might be controlling large numbers of meters, but that it should be considered for smaller cohorts, and that virtual separation should be considered,
- That the costs of developing a solution to cater for multiple meter cohorts may be so expensive as to be cost-prohibitive. One respondent noted concern about the costing of the security options.
- System hardening - it was possible that costs could be mitigated by building this into the design of the solution from the start.
- That enhanced key management should have been further evaluated in the IEPFR.
- Depending on how SMETS1 communications hubs drop connections, CSP limitations (which are assumed to be relatively cheap to implement) may have a performance impact on the DCC Service.

### 2.5.1 DCC findings – Security

Given the broad support for DCC’s position regarding material risk as described in Section 4.1.2 of the draft IEPFR, DCC proposes that it continues with this approach, and will continue to engage with the SEC Panel’s Security Sub-Committee (SSC) moving forward.

The SSC has provided additional comments on the security annex of the IEPFR (which was not published). DCC has been considering these comments whilst continuing to engage with the SSC and BEIS as it does so.

Whilst one respondent commented on the IEPFR lacking clarity regarding PKI, DCC notes that the appropriate usage of PKI will be dependent upon which interfaces and systems form part of the SMETS1 Solution, and can confirm that re-use of SMKI is one of the options being considered. Recognising that one respondent suggested that Parse and Correlate would become more complex as a result of enrolment of SMETS1 meters, DCC can confirm that it does not envisage any scenario where Parse and Correlate will be used for SMETS1 commands and responses because the SMETS1 systems do not respond in the same format as SMETS2 or have the concept of Critical messages, so therefore the functionality of Parse and Correlate is not required.

Regarding the query from a respondent as to whether the total number of SMETS1 meters installed across GB would require higher levels of security controls, DCC notes that the expected numbers of SMETS1 meters (compared to the number initially estimated) ) still aligns with the position regarding material risk as described in Section 4.1.2.

DCC welcomes the comments and suggestions provided by stakeholder in relation to the feasibility of implementing the security measures in the IEPFR. DCC shares the view that islanding could be a high-cost option, but considers that it may be an effective component of the overall security solution if a KMO option is not feasible for all cohorts of meters.

On cost more generally, DCC will continue to investigate the impact additional security controls will have on existing systems and these cost impacts will be reported to BEIS.

DCC notes concerns raised in the consultation responses regarding performance and additional CSP controls and plans to discuss these further with Foundation CSPs moving forward.

DCC is currently evaluating Enhanced Key Management (set out in 4.3.4 of Part A) as part of phase 2 of its Enrolment Options Testing study.

In light of the general view from respondents that the high-level security options as set out in the IEPFR were comprehensive, DCC has not made any amendments to the security chapter of the IEPFR.

## 2.6 Service Delivery

The draft IEPFR included DCC's analysis of the feasibility of providing Service Management for each of the technical and security options outlined in the draft IEPFR. Section 5 of Part A sets out that analysis and asked six questions.

### Question 29

**Do you agree that a single Service Desk and single Self Service Interface should be provided for SMETS1 and SMETS2? Please provide a rationale for your views.**

The vast majority of the 19 respondents who answered this question directly, including all large suppliers, agreed that a single Service Desk and single Self Service Interface should be provided for both SMETS1 and SMETS2 Services. Several respondents commented on the need for further impact assessment or cost benefit analysis to confirm this view.

A small number of respondents requested that the current SMSO SMETS1 arrangements were maintained due to possible impacts on consumers, delivery timescales and costs.

### Question 30

**Do you agree that any new SMETS1 service providers should conform to the Service Management Standards? Please provide a rationale for your views.**

In line with answers to question 29, The vast majority of respondents, including all large suppliers agreed that any new SMETS1 service providers should conform to the Service Management Standards, with several commenting on the need for further cost benefit analysis, and a small number of respondents requesting that the current SMSO SMETS1 arrangements were maintained due to possible impacts on consumers, delivery timescales and costs.

### Question 31

**Do you agree that any new SMETS1 service provider should comply with the Initial Target Response Times and Target Resolution Times for Incidents required by the SEC? Please provide a rationale for your views.**

The vast majority of respondents agreed that any new SMETS1 service provider should comply with the Initial Target Response Times and Target Resolution Times for Incidents required by the SEC, noting the consistency of experience for Users. Of these, many noted the importance of a detailed cost-benefit analysis in considering changes to SMETS1 service providers' exiting service management arrangements.

### Question 32

**Do you agree that the same level of self-diagnosis tools should be provided to users for SMETS1 as those for SMETS2? Please provide a rationale for your views.**

Of the 19 respondents who answered the question directly, a large majority agreed that the same level of self-diagnosis tools should be provided to SMETS1 and SMETS2 Service users, noting that this would align processes and lead to efficiencies, although several noted this should be subject to further cost-benefit analysis as part of the development of the SMETS1 service. Of the few that did not agree, a small number requested that a hybrid approach be developed, building on the different diagnostic capabilities that exist across SMETS2 and SMETS1 platforms.

In Section 5 of Part A, DCC acknowledges that not all SSI use cases would be applicable to enrolled SMETS1 Meters and the SMETS1 service, and DCC proposes that users with enrolled SMETS1 Meters should be able to self-serve to the same extent as for SMETS2 Meters subject to these technical constraints. In effect, this is a hybrid model, so DCC considers that respondents who requested such a model are in agreement with the DCC 'minded to' position.

### Question 33

**Do you agree with the proposed approach to Business Continuity and Disaster Recovery? Please provide a rationale for your views.**

In a similar vein to responses to question 32, a large majority agreed with the proposed approach to Business Continuity and Disaster Recovery as set out in the IEPFR. Many noted that further review would be required, and proposals subject to a more detailed cost-benefit analysis. A small number of respondents also proposed a hybrid model be developed, building on the different business continuity and disaster recovery arrangements that exist across SMETS2 and SMETS1 platforms. The requirement for further analysis on the proposed hybrid model has been factored into DCC's delivery plan.

### Question 34

**Do you agree with the analysis of options for the Service Management System? Please provide a rationale for your views.**

There were mixed views across respondents in relation to the analysis of options for the proposed SMETS1 Service Management System, and how DCC integrates with incumbent SMSOs in respect of service management. Whilst a majority of those respondents agreed broadly with the analysis, several noted that it should be subject to further cost-benefit analysis. Other comments included concerns that current SMETS1 triage capability could be lost where standardising the SMETS1 service management capability, and that implementation might be delayed given the various differences across SMETS1 meter cohorts. One large supplier suggested that DCC should assess an option where it integrates with each service providers' service management systems. Of those who expressed an opinion, there was no clear preference across respondents regarding whether the Service Management System should mirror SMETS2 arrangements or be designed to retain current SMETS1 arrangements.

## 2.6.1 DCC findings – Service Delivery

Given the strong agreement from respondents regarding the proposals for service delivery, DCC recommends that these are all factored into ongoing design development. In light of this

consultation feedback, DCC has not amended the section of the IEPFR dealing with Service Delivery. Ongoing design development work will include analysis of cost of service delivery.

In the stakeholder workshop on communication services, major concerns arose with respect to service management discussions relating to firmware management, alert management and post SMETS1 end date device and fault management. Participants felt that there are certain areas under service management that have not been discussed in detail in the IEPFR and so needed to be part of further analysis. DCC's view is that almost all of the respondents and workshop participants felt that service management for SMETS1 should be brought in line with the SMETS2 service management and the further analysis in this area should keep this view in mind.

## 2.7 Commercial Approach

The Commercial Approach section of the draft IEPFR (section 6 of Part A) set out DCC's emerging high level view of the services that would need to be procured, and DCC's options available for the procurement of these services, as well as DCC's proposed procurement strategy and approach, and DCC's view of delivery confidence for the various contractual arrangements required.

To support this information, DCC has also submitted a more detailed commercial analysis to BEIS which has not been published, due to commercial confidentiality. DCC asked 2 questions relating to its proposed commercial approach.

### Question 35

**Are there any other commercial considerations that you consider that DCC should be taking into account? Please provide a rationale for your views.**

Respondents were generally content with the analysis of the commercial considerations, although some noted that because only a high-level analysis of commercial issues was presented, this limited their ability to make fully informed comments on the content of the draft IEPFR. Various respondents noted the requirement for further analysis on the overall commercial approach to SMETS1 meter integration.

### Question 36

**Based on the information contained in the report, do you think that DCC's assessment of its commercial strategy is correct? Please provide a rationale for your views.**

Again, as with answers to question 35, respondents were generally content with the analysis presented in the IEPFR, but a majority of respondents did not feel that what was included in the draft document constituted a full commercial strategy, including cost impacts.

### 2.7.1 DCC findings – Commercial Approach

DCC shares the prevailing view of respondents that the analysis presented in the published draft IEPFR was at a high level, and accepts that this could be of limited usefulness to respondents. Due to commercial confidentiality, DCC has been unable to provide more granular cost information (although this has been passed to BEIS in an unpublished annex).

DCC does recognise the need for further analysis to be undertaken on the commercial aspects of adoption and enrolment of SMETS1 meters. This analysis is being undertaken in next phase of the programme, and has been factored into the delivery planning. Please refer to section 2.8 for further details.

## 2.8 Implementation

The IEPFR included a section which considered how, given DCC's technical and commercial understanding, it might approach the implementation of the SMETS1 service, asking 3 questions to respondents (Section 7 of Part A).

### Question 37

**Do you agree that the implementation options presented provide an appropriate view of the ways in which the DCC SMETS1 service could be implemented, or are there other implementation approaches that you believe would be more effective and efficient? Please provide a rationale for your views.**

Just over half of all respondents directly answered this question. Of these, the majority stated they thought the options presented were appropriate, although many included a range of caveats and additions including a need to see more information on costs and that the delivery plan for the SMETS1 service should be one in which DCC had a high level of confidence. Some respondents noted that the timescales expressed across the options appeared to be ambitious. Several respondents stated that they would require more information in order to state an opinion regarding the appropriateness of the options.

### Question 38

**Do you agree with the assessment of each implementation option and the relative benefits of the “hybrid” Option 3? Are there other criteria that should be considered or criteria that should not? Please provide a rationale for your views.**

As with question 37, just over half of all respondents directly answered this question. Responses were broad ranging and demonstrated a range of views on the depth of the assessment provided in the IEPFR, with some respondents considering that the assessment of each implementation option was sufficiently detailed, whilst others stated that the assessment presented was not detailed enough for them to form an opinion. Common themes across responses included that more analysis should be undertaken at the cohort level, that the proposed timelines set out in the IEPFR are overly optimistic and ambitious and that more cost detail is required to inform responses.

### Question 39

**What do you consider to be the risks, or other factors, in planning enrolment of meters into the DCC SMETS1 service that need to be considered as part of implementation?**

Just under half of respondents answered this question. Of those, common themes included the importance of speed in the delivery of the SMETS1 service, but that costs of implementation must be controlled. Also common across respondents was the view that there is a risk of market disruption if the nature of the SMETS1 service, and how enrolment occurs, favours some market participants over others.

Comments made from respondents which were not common included highlighting the complexity of migration of meter populations. Security, commercial and technical challenges were also all flagged, including an acknowledgement of the complexity of supply chain which risked making the process slow and expensive. Numerous respondents highlighted the need for further analysis on wide ranging commercial (including costs) and technical areas before a firm decision on the approach to SMETS1 meter enrolment can be made.

Respondents also noted the importance of learning from engagement with cohorts of meters that are enrolled early, and the risks of there being insufficient skilled resources across industry to support Suppliers and other parties in a large programme of this kind.

### 2.8.1 DCC findings – Implementation

On 18 January 2017 DCC received a Direction from the Secretary of State, in accordance with Condition 13 of the Smart Meter Communications Licence (the Licence), to prepare a plan for the delivery of services to support SMETS1 meters, which noted that, “in order to ensure timely and efficient development and delivery of a SMETS1 service, should the Secretary of State determine this to be the way forward, a suitable plan needs to be in place as soon as possible”.

In light of this direction, DCC has been preparing a plan which it considers sets out an approach that will allow the SMETS1 service to be delivered in the most economic and efficient way possible. The delivery plan takes all of the evidence gathered from the draft IEPFR, DCC’s consultation with stakeholders and ongoing engagement with prospective service providers, and builds this into the plan. DCC has been able to use this to set out proposals for when and how decisions on which options for delivery of a SMETS1 service will be taken.

The plan describes when decisions will be made on integration paths and timing for each cohort, and is set out across four distinct phases as follows:

- An **Initiation Phase** – in which the DCC submits its final IEPFR to BEIS, to enable a BEIS decision on the options set out in the IEPFR. Additionally during this phase DCC continues its exploration of the SMETS1 market to further understand time and cost implications of integration path options, technical feasibility and both new and existing service provider capabilities and to prepare for a discovery phase;
- A **Discovery Phase** – which sees further commercial negotiation and initial development activity by Smart Meter System Operators (SMSOs), incumbent and new Service Providers, enabling DCC to gauge capability and better inform BEIS as to which delivery option(s) is/are most appropriate;
- A **Development Phase** – where DCC commences development of Integration Path solutions to improve understanding of delivery confidence and cost information and including a BEIS checkpoint for decisions to proceed; and
- A **Transition & Enrolment** phase – where DCC finalises the development and integration testing of its solution(s), and suppliers carry out user integration testing with the DCC before undertaking any necessary end-to-end testing and enrolment activities.

The consequential impact of the Direction from the Secretary of State to prepare a plan for the delivery of services to support SMETS1 meters is that the plan will supersede the implementation approach set out in section 7 of Part A. On this basis, and rather than attempting to retro-fit the information in the new plan into section 7, DCC has not amended section 7 dealing with implementation.

## 2.9 Costs and Charges

The final section of the draft IEPFR containing consultation questions (Section 8 of Part A) provided an overview of DCC's approach and results to the cost modelling that underpins some of the analysis set out in the draft IEPFR. Given the sensitive nature of the data included, DCC did not provide the cost model as part of the draft IEPFR, but has instead submitted it to BEIS. Four consultation questions were included in the draft IEPFR.

### Question 40

**Do you agree with the approach that DCC has adopted to the modelling of IEPFR costs, or should any amendments be considered? Do you agree with DCC's key input assumptions on costs, or should any amendments be considered?**

Of the 18 respondents who answered the question directly, a large majority generally agreed that the approach taken was appropriate, though several commented that further analysis of cost items is required in the following stages of the process. No respondents fully disagreed with the approach taken.

Just over half of the energy suppliers who responded stated that they broadly agreed or fully agreed with the approach taken. This position was also taken by one of the SMSOs and two of the MAPs. Amendments to be considered included the disaggregation of cost data between set-up and ongoing costs, and between pre-existing costs and those incurred due to the introduction of the SMETS1 service. In addition, various costing assumptions were queried, for example the asset life assumed in the model (with one large supplier suggesting it was 10 years and not 15), and future CSP costs (which one respondent considered to be over-estimated) which would require clarification as part of further analysis in this area.

One respondent stated that it was their opinion that the future stated CSP costs would decrease due to the amalgamation of contracts. Other respondents stated that it was their opinion that future SMSO costs may be overestimated due to reduction in rates because of increased volume of meters. Two respondents stated that industry costs need to be included.

### Question 41

**Are there other key sensitivities that you consider should be modelled at this stage and if so, what are they?**

Whilst several respondents stated that no further sensitivities were required at this juncture, others included suggested additions, such as a consideration of replacement of SMETS1 meters with SMETS 2 meters, an inclusion of industry costs, and a reconsideration of the charging

methodology for non-supplier Parties. Finally, one respondent stated that it was their opinion that data allowances would not be as critical to costing as DCC had stated in the draft.

DCC's approach was to address sensitivities that we envisaged would be under the control of DCC, not those over which we would be unable to influence or measure directly. It is our understanding that BEIS's Smart Metering Implementation Programme (SMIP) cost benefit analysis will include consideration of, amongst other factors, replacement of SMETS1 equipment with SMETS 2 apparatus and wider industry costs. Whilst recognising the comments about the charging methodology, these would not constitute a component of sensitivity for DCC's cost base.

#### Question 42

**Do any of the options outlined in this report result in materially different costs to your organisation (based on your estimate)? Please provide details.**

The large majority of the 16 responses to this question came from energy suppliers, who identified the adoption of systems different to those used in SMETS2 as key drivers of cost to their organisations. Specifically called out were options decisions on User Interface and prepayment solutions, and security proposals. Other issues identified included the number of releases that would be required for the final SMETS1 service, with each additional release increasing industry cost. One SMSO stated that integration to meter would be more expensive and be slowest, whilst several respondents stated that they felt that they did not have enough information to answer this question based on the level of information in the IEPFR.

#### Question 43

**Do you agree with the early view on the Second Relevant Policy Objective regarding the charging for excess SMETS1 communications costs? If you disagree, what other factors should DCC consider?**

Of the 15 respondents who answered this question directly, around half agreed with the views set out in the IEPFR regarding the charging for excess SMETS1 Communications costs. Most respondents stated that more work should be done in understanding and articulating the nature of SMETS1 charges. One respondent disagreed with the views in the draft IEPFR, stating that additional analysis should be undertaken to enable changes to the Second Relevant Charging Objective, so that costs were charged to SEC Parties on the basis of number of SMETS1 meters they were responsible for, rather than spread across all Parties based on market share. Several respondents stated that there was not enough information set out in the IEPFR to inform a response at the current time.

### 2.9.1 DCC summary – Costs and Charges

The majority of respondents requested further information regarding costs and charges to inform their views. DCC acknowledges these views, and notes that more detailed cost information, along with the cost-model, has been passed to BEIS for assessment as part of their overall smart metering cost-benefit analysis. Regarding suggested changes to the Second Relevant Policy Objective in the DCC Licence which sets out how excess SMETS1 costs are allocated to DCC

Users, DCC notes that it is a matter of policy that can only be amended by Government through a change to DCC's Licence.

In terms of the high-level nature of the costing information provided in the IEPFR, DCC plans to provide more detailed and accurate cost estimates after planned procurement dialogue with current and potential suppliers in accordance with its delivery plan referred to in 2.8.1. This improved data will better inform our position on both costs and the implementation of DCC's charging methodology. We will provide this updated cost data to BEIS and expect that it will form an input into BEIS decisions relating to the business case for DCC SMETS1 enrolment. Additionally DCC will continue to assure our work internally and externally with our advisors.

In summary, DCC has not amended the IEPFR section relating to costs and charges. The reason for this approach is due to the fact that the costs and charges will be refined further in the following stage of the programme and these refinements will be submitted to BEIS. The need for such refinement of costs and charges has been factored into the SMETS1 delivery plan, issued for consultation on 12 May 2017 (as set out in section 2.8). DCC's plan keeps open solution delivery options at this stage, recognising that cost effectiveness will be a factor in selecting service providers.

## 3 SMETS1 stakeholder workshops

### 3.1 Introduction

The responses to DCC's consultation on the draft IEPFR provided an insight into participants' priorities and preferences regarding enrolment of SMETS1 Meters. This, in some cases, displayed a clear preference for one or other of the options presented in the IEPFR, for example in the case of Integration Path Options. In other cases however, there were a wide range of preferences expressed and the accompanying rationale indicated that SEC Parties have different and often competing priorities. Other consultation responses cited a lack of clarity or detail in the IEPFR as a reason for being unable to state a preference for or comment on the options.

In order to give respondents an opportunity to clarify the feedback given in their consultation responses, DCC held a series of workshops prior to publication of the final IEPFR. Each workshop focused on a key area of optionality described in the IEPFR, with DCC Subject Matter Experts presenting a brief recap of the relevant IEPFR content, followed by breakout sessions in which groups of attendees were asked to consider some key questions on the subject matter.

Following completion of the workshops, presentations and consolidated anonymised outputs were published on DCC's website. In order to provide an opportunity for all SEC Parties to consider the content presented and the outputs captured, whether or not those Parties were present at the workshops, DCC made the decision to invite updates to the consultation responses received.

A summary of each of the workshops and the outputs captured by DCC is provided below.

### 3.2 Workshop 1 – SMETS1 User Interface

On 2 March 2017 DCC convened a workshop focusing on the User Interface Options contained in the draft IEPFR. In the first breakout session of the workshop, participants were asked to:

Capture the challenges and benefits of a new UI instance, subdivided into a DUIS-like or an entirely new UI. Dimensions of thought to include:

- Magnitude of cost of change
- Magnitude of cost of ongoing operation
- Time to delivery
- Complexity and scale of business change
- Simplicity/complexity of ongoing operation
- Risk

The key points captured from the breakout groups were that:

Participants felt that the decision making process should take into account the industry costs associated with use of a non-DSP User Interface, which may be driven by:

- Additional operational processes and/ or customer journeys for SMETS1 Meters

- Development and maintenance of additional systems to integrate with a separate SMETS1 UI
- Close down and exit from current SMETS1 arrangements whilst simultaneously integrating with a new SMETS1 UI
- Separate service request forecasting and anomaly detection threshold setting
- Separate user entry process tests due to potentially different security arrangements for a new interface
- Cost of change may be less if future development SMETS2 DCC User Interface is kept separate

Participants also highlighted that the following design considerations, which were not addressed in the IEPFR, will have an impact on DCC and/or industry costs for enrolment:

- SMETS1 Meters are commonly identified by a Meter Serial Number, which is not guaranteed to be unique and doesn't enable other logical devices to be addressed. Unique device identifiers will be needed for enrolled SMETS1 Meters and their associated communications hubs and gas proxies.
- In the case where the User Interface is not provided by DSP, users will need access to an inventory to query whether Meters that are gained through churn are DCC enrolled. There was a view among participants that it would be preferable for the Smart Metering Inventory to contain SMETS1 devices.
- Multiple physical points of presence in users' datacentres, resulting from use of a non-DSP User Interface is not necessarily material to industry costs.

In the second breakout session of the workshop, participants were asked to:

Describe the fastest implementation that could be achieved per option. To consider:

- Scale/complexity/speed of business change
- Service testing requirements
- Regulation
- Exit from existing SMETS1 commercial arrangements
- Radically different approaches
- What would need to be true for the fastest implementation of each option?

The key points captured from the breakout groups were that:

- An early draft implementation plan, use cases, scenario model would aid stakeholder engagement and potentially accelerate implementation.
- A detailed UI specification is required before users can fully impact the scale of the changes required.
- Should UI option 2 or 3 be selected, the lead time to install new network connections may be material to the overall timescale.

- Re-use of existing SMETS2 infrastructure was considered to be the most expedient course of action, as it may reduce testing effort and minimise business process changes.
- Use of interoperability solutions in the marketplace may offer some acceleration for enrolment.
- Phased implementation may enable an Initial Operating Capability sooner, however participants questioned whether this would deliver any time savings in achieving Full Operating Capability.
- Support for multiple interface formats would be attractive to some users, but would add complexity and therefore risk.
- There are a number of other industry initiatives and regulatory obligations that will present a challenge to users in terms of resourcing SMETS1 enrolment, adding risk.
- Concerns were raised regarding the new entrants to the market, so as not to make any solution a barrier to entry.
- The detailed UI specification must be formalised before investment by Users in solution changes (application reconfiguration, new network connectivity etc.).
- Time for users to build out to a SMETS1 interface is ~12 months from the point at which the interface specification is stable (irrespective of UI option).
- End-to-end implementation time for UI option 3 is longer due to the need to design a new interface specification.

In the third breakout session of the workshop, participants were asked to:

Identify and consider detailed elements of implementation and service operation how they facilitate service delivery and/or present risks. Items may include:

- Physical equipment
- Security
- Response/performance times
- Resilience
- Operational risk though period of change
- Operational risk through life of the service

The key points captured from the breakout groups were that there are challenges in the details that need to be addressed around the following areas of implementation:

#### Physical Equipment

- The participants felt that both options UI2/3 would require new gateway hardware. This in itself may not be material but security requirements, user entry and ongoing maintenance of separate interfaces were of greater concern.
- All participants insisted on a service that “delivers” for the end customer and customer experience was high on the list of priorities.

- It was a consensus that the physical infrastructure for UI2/3 needed additional data centre equipment, e.g. network equipment, servers, firewalls etc. Also, all this needs to be replicated in the DR data centre

#### Security

- The participants felt that all UI options need to address single points of risks, such as, registration data, security credentials, etc. It was suggested that ideally a definition of SMETS1 security requirements is needed. Discussions were had on whether this definition need to differ from what is already described in the SEC.
- The consensus was that the SMETS1 solution must not impact DCC security, performance or operation.
- It was also highlighted that for options UI2/3, there will be an additional Code of connection to manage

### 3.3 Workshop 2 – Pre-payment

On 9 March 2017 DCC convened a workshop focusing on the Prepayment Options contained in the IEPFR. In the first breakout session of the workshop, participants were asked to:

Describe an ideal process for a prepayment top up (for an enrolled SMETS1 meter):

- User experience
- Roles and responsibilities
- Transaction times
- Transaction costs
- Churned devices

The key points captured from the breakout groups were the following:

- The user experience for the consumers need to be:
  - 24x7 service, year round
  - Transparent processes on CoS & CoT
  - Seamless in transition
  - Timing of reversal/ void transactions needs to be allowed for
  - Consumers should get near real-time access to UTRN. Short transaction times must be a key consideration to minimise waiting times
- The SMETS1 prepayment services need to address the processes that describe how the consumers become eligible to make a top-up payment. It was highlighted that there is a need to support virtual cards / apps etc. as online payments are becoming increasingly prevalent. It was suggested to keep all the channels to get a prepayment top up open to customers, such as; online, pay-point, mobile, etc.
- The following points were suggested to support the user experience for the suppliers and PSPs:

- Need to consider detailed impact on back-office functions more generally DCC needs to support resolution of problems in the prepayment processes – suppliers have strict licence obligations re. prepayment consumers
- DCC to handle complexity of different UTRN algorithms in SMETS1 and access controls (ensure access control applied regardless of option)
- Payment, UTRN generation and top up message to meter must be separated and the solution needs to facilitate this. The complexities in Payment Allocation Number (PAN) management were discussed along with credit balance management and the UTRN functions that are critical for non-top-ups such as 40 & 60 digit codes
- There was a strong feeling around having a single Prepayment process for SMETS1 and SMETS2. The participants felt that the solution should prioritise ease of implementation and there should be as less links / steps in the solution as possible. Others concerns were to ensure solution accuracy and integrity is maintained and that it is flexible

#### Roles and Responsibilities

- The participants felt that any option that includes PSP will add the complexity of managing registration data that DCC holds. The PSP solution should be simple without the PSP having to make the decision on whether to send a certain request to SMETS1 or SMETS2 service.
- Supplier centric transactions are preferable (similar to SMETS2) with no direct PSP access to UTRN generation solution
- In terms of security requirements it was suggested that an authorised access to meters be provided along with supplier control. Service authentication featured high on concern list.

#### Timing & reliability

- Concerns were raised that the absence of WAN provider's information (as in SMETS2) will impact the availability and target response times. There were also concerns around a number of non-functional requirements such as transaction times, outage management, etc. Some of the main points raised were:
  - Availability of UTRN system needs to be high. Redundancy has to be better than DCC specification i.e. hot swap or available in seconds not hours
  - Latency of Transaction should be minimised for customer experience (15-26 seconds). Speed of top up -Transaction time needs to be quick (seconds)
  - In terms of Network Capacity, the participants felt that the demand is difficult to forecast for PPM customers and within the +/- 10% requirement is hard
  - The service must provide a resilient UTRN creation. If a central DCC service is created it requires a higher degree of resilience and there must be reliability of Top up and minimise misdirection of payments
  - Fall-back process for suppliers must be provided to access directly if PSP (shop) service is down or a Failed Transaction recovery process to be provided.

#### IEPFR Option specific comments

- People felt that Option 2 has more points of failure before a UTRN gets to the consumer but Option 3 might prove more expensive because of added complexity.
- If option 1 is chosen, PSP using the service can be elective. This requires the optionality to include PSP option but let the suppliers choose whether to implement/extend it to PSP or not. This requires clear processes for managing the relationship between the PSP and DCC such as, processes for nominating PSPs by Users and CoS process impacts.
- A suggestion was that a version of the SMETS2 option where a PSP can generate UTRN as well as the Energy Provider would be useful. This can be an extension to Option 3 but will also put the complexity of integration in user systems. Security and encryption key elements will add further complexity to this implementation. Thus, A centralised DCC option would be preferable to reduce the above listed complexity of integration on users

In the second breakout session of the workshop, participants were asked to:

Describe the business impact of changing from current prepayment arrangements to one of the options in the IEPFR:

- Magnitude of cost of change
- Magnitude of cost of ongoing operation
- Time to delivery
- Complexity and scale of business change
- Simplicity/complexity of ongoing operation
- Risk

The key points captured from the breakout groups were the following:

Consolidated Feedback

- The general feeling among the participants was that the current SMETS1 prepay providers will have to change the current SMETS1 solution to match one of the options chosen from IEPFR. The SMETS2-only or future pre-pay providers will have to either create or leverage a solution similar to SMETS2. Thus it was highlighted that the preference is for standardising prepayment services as much as possible across SMETS1 and SMETS2. It was observed that Options 1 and 2 represent different models for SMETS1 and SMETS2 prepayment and it was a consensus that SMETS1 functions regarding prepayment are fundamentally different to SMETS2.
- Participants discussed exception management at both technical and business levels for SMETS1 irrespective of option chosen, noting:
  - There is a need for back-out or reversal process to be present and that SMETS1 back out processes are likely going to be different from SMETS2. The models for cash and online payments are likely to be potentially different as well.
  - A widespread training requirement has been identified for work areas such as issue resolution etc.

- Service request security implications need to be considered such as “free credit” only to be used by supplier
- The need for clarity of interlinking of processes and process visibility such as ability for Users to see Alerts etc. was highlighted.
- The risks of how to manage device migration. One way suggested to mitigate this risk was to change the meter in a credit mode on churn by losing supplier.
- the DCC helpdesk needs to be 24/7/365
- The Pros & Cons of keeping the PSP solution were discussed. Keeping PSP in will add to the complexity, however, PSPs reduce the risk of a consumer losing UTRN as these can be re-issued at the point of sale without having to call the energy supplier. PSP appointment & reappointment would be required given the current security model assumptions.
- There was a brief discussion on which option would be quicker to adapt to or implement. The general feeling expressed by respondents was that it should take the users about 12 months to implement SMETS1 pre-pay solution after DCC go live. Participants insisted that the communication regarding the selected option be frequent, keeping the industry up-to-date on the decisions process so that they have enough time to adapt to the changes. Sharing SEC changes/drafts regularly as they appear was also requested.

#### Risk:

- It was highlighted that the SMETS1 service will require device inventory to be managed if Option 3 is selected, and that PAN reconciliation will be a challenge. An assumption was made that the service in Option3 would be ‘plug and play’ (the model employed by Parse and Correlate) and would need to be able to access algorithms directly.
- Security implications for the new solution would need to be considered. Different cohorts have different security implementations, which will lead to more changes required within each cohort. Technical specifications of some meter types might mean that some of the proposed options are not feasible.
- The participants highlighted that there are risks to their businesses in the phased delivery approach, such as loss of certain current SMETS1 functions/features if in an initial, lower capability SMETS1 service, before moving to an enduring SMETS1 solution with additional services. All felt that these risks need to be clearly identified and mitigated. Prepayment related services are considered as equally important (e.g. Non-Disconnect Calendars etc.) and no less complex. Transition to tactical arrangements may involve the operation of parallel processes for UTRN generation during the period of SMETS1 enrolment. Time taken for the transition to take place need to be taken into account when designing the detailed.
- Prioritising Prepayment in SMETS1 enrolment reduces the stranding risk. A SMETS2 like model minimises stranding risk as all suppliers will invest in SMETS2 Prepayment. It was suggested that the re-use of suppliers’ SMETS2 infrastructure/ prepayment solutions might reduce implementation time and risk in delivery.

- Some parties are still developing SMETS1 Prepayment. Others are already operating significant volumes. It was noted that it would be difficult therefore to judge the scale of change. Clarity of direction on SMETS1 Prepayment options may drive behaviour in the deployment of SMETS1 & SMETS2 Meters.

### 3.4 Workshop 3 – SMETS1 Communications Services

On 16 March 2017 DCC convened a workshop focusing on the Communication Services Options contained in the IEPFR. In the first breakout session of the workshop, participants were asked to:

Describe the challenges of operating a mixed estate of SMETS1 Meters that have different functional offerings (as in IEPFR options 5 & 6):

- Magnitude of cost of change
- Magnitude of cost of ongoing operation
- Time to delivery
- Complexity and scale of business change
- Simplicity/complexity of ongoing operation
- Risk

The key points captured from the breakout groups were the following:

#### Cost

- The participants felt that there will be a very large cost associated with inability to offer consistent services to customers. This may preclude enrolment of SMETS1 outliers. Therefore, a detailed analysis of the service request options is required including cost/benefit analysis of full suite against mapping of the currently used services across SMETS1. There was an agreement that if the solutions required the suppliers to have different sets of processes to manage each of the cohorts (to support on gain) then this will put the costs significantly up.

#### Time

- Option 5 was considered to be the 'as-is' option maintaining the status quo akin to 'giving up'. However, it could be the fastest delivery option. General feeling was that Option 6 should take a duration of maximum 1 year from go-live to steady state

#### Complexity

- DCC knowledge of SMETS version is a possible mechanism for conveying SMETS1 device capability. However, a general consensus was that a standard set of SMETS1 services is essential. Lack of standard SMETS1 set may have adverse effect on customer experience

- A general consensus was that prepayment is essential and the participants insisted that enrolment should not be allowed if no prepayment services were included. All agreed that prepayment services should be a part of the core services offered.
- The participants felt that more clarity is required regarding the number of meters/cohorts that do not support prepayment. For the cohorts that support prepayment, there is a need to know the extent of the service provided; whether it is a full set, basic set, or a subset of. Questions were raised whether anything less than a full suite of prepayment services will be acceptable. Options 5/6 will require DCC to manage all the SMSO services and bring them all together.
- There were suggestions to revisit the core 37 service offering. This exercise might reduce the cost and user impact. It was highlighted that there is a need to understand in details what these 37 service requests are. Whether they are use-cases as opposed to service requests and whether they all are used. The need to map current 'as-is' services was highlighted.
- All parties agreed that gaining supplier should be able to operate a meter seamlessly irrespective of the meter type (S1 or S2). Single/similar interface, one request, etc. A mismatch of services across suppliers' solutions will be complex if 'as-is' is maintained. Systems, people and processes are all affected in this scenario. Fault diagnosis would be more difficult and it was felt that service users should have similar experience to SMETS2.
- More work would be needed to understand if commissioning of all types of meters is required or whether there is a need to support current supplier specific commissioning processes.

#### Risk

- The suppliers have an obligation to provide prepayment. Failure to do so will incur reputational damage including customer confusion such as what meter they have which might necessitate service user leaflets to require holding specific meter versions

#### General

- There were some discussions regarding Option 2 & 3 and why were they discounted and whether there was value in bringing them in scope.
- There was confusion around draft IEPFR wording. It was not clear what constitutes a 'service' and a 'service request' and whether these terms have been used interchangeably across the document
- A suggestion was made that if there are a relatively small proportion of meters with an SMSO that are unable to support prepayment then maybe this should be managed by exception through replacement meters. This might be harder for energy suppliers that specialise in prepayment and its impact on customer perception of smart meters needs to be carefully considered. Another idea that was suggested was that it might be possible to move a meter between SMSOs if another SMSO does support the meter and the required Communication Services.

In the second breakout session of the workshop, participants were asked to:

Describe approaches to maintenance of enrolled SMETS1 Smart Metering Systems. To consider:

- Alerts
- Firmware management
- Inventory management
- Churned devices
- Like-for-like replacement
- Regulation
- Risk of stranding
- The key points captured from the breakout groups were the following:
  - The general consensus regarding configuration of alerts was that either too many are pushed to the user which might not be of interest or alerts that are required by the users are not pushed. Too many alerts may lead to unnecessary volume of network traffic as there is no ability to configure alert behaviour in 37 SMETS1 services, as no capability is specified in SMETS1. There are no Comms Hub alerts either and this has been deemed as required.
  - The points and concerns raised regarding Firmware management were whether a central Firmware library (SEC Mod) will be applicable to SMETS1. It was highlighted that MAPs have an interest in playing a role in ensuring firmware is up to date.
  - Questions were raised as whether all SMETS1 Meters support/require a two stage firmware update process. Also, whether they support/require a SMETS2 model of emergency firmware release?
  - There was a general concern that Firmware could cause stranding because it's too hard for some providers to manage it due to resources required to understand the complexity not being available. They might find it easier and more cost effective to remove and replace with a meter that they are used to operating
  - A risk is that if the sequencing is applied incorrectly it may cause devices to cease to be interoperable. So, there is a need for future dating and sequencing of service requests.
  - A variety of maintenance concerns were raised such as, whether a meter with an integral comms hub can be replaced after the SMETS1 End Date. Participants need to know what constitutes a replacement. This has been highlighted as being unclear in regulation.
  - Concerns were raised that redeployment of no-fault returns by MAPs is complex and relies on manufacturers resetting devices. This is costly and unlikely to happen. Suppliers are planning to run down stock of SMETS1 meters during install period in the run up to SMETS1 End Date. There is no requirement for a DCC commissioning service.
  - A clarity is required on whether the following concerns are supported in all IEPFR options:
    - Can roaming rules for SIMs be managed to ensure reliable Comms?
    - There is a need for CPL style external body to assess meters for compliance.

- A case of no commercial relationships with a manufacturer may drive removal of devices.