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MP096 ‘DNO Power Outage Alerts’ Request for Information responses

About this document

This document contains the full non-confidential collated responses received to the MP096 Request for Information.

Context - potential solution options

Option 1 – Do nothing

This assumes that there are no changes made to the SEC at this time.

The DCC would seek a derogation from Ofgem until the DCC's Network Evolution Programme confirms the performance of the fourth generation (4G) Communication Hubs (CHs) and the roll-out timetable for these.

The SEC would then be changed to align with the proposed performance of 4G CHs and their proposed installation timescales with the derogation continuing to apply to installed CHs until they are replaced.

The current assumption for the commencement of the roll-out of the 4G CHs is Q4 of 2023/24¹.

Please note the Network Evolution Programme is only targeted at the South and Central CSP regions.

Option 2 – Change the SEC to current DCC performance

This option proposes that the DCC carries out testing to demonstrate current baseline performance.

The SEC would then be changed to match this baseline. Subsequent changes would be made to align DCC Service Provider contracts with the changes made to the SEC.

Option 3 – Change the SEC following implementing system improvement

This option assumes that system changes are made which improves upon the current performance, although would not fully deliver the current SEC requirements.

The DCC will carry out testing to demonstrate the performance that can be achieved following these changes. The SEC would then be changed to match this performance.

Subsequent changes would be made to align DCC Service Provider contracts with the changes made to the SEC.

Two options associated with making system changes have already been assessed by the DCC as part of its technical study:

- **Option A – Minimum change required to deliver a significant improvement**
 - This assumes that a select number of the changes assessed that deliver the largest improvement in performance are implemented, and the rest of the changes are disregarded.
- **Option B – Maximum performance improvement**
 - This option implements all system changes assessed which improve the speed and quality to deliver a POA or PRA.

¹ Please see Panel paper 91_1604_05 (Amber) for more details.

Please note that further combinations of the changes already assessed and outlined in the DCC technical paper v5 by the DCC could be considered during the Refinement Process, which could fall between the above options. Different options for each CSP region may also be considered.

The DCC has assessed the rough order of magnitude (ROM) implementation cost of the maximum performance improvement (Option B) at £10.9m up to the end of Pre-Integration Testing (PIT), with a cost of £604,000 to complete an Impact Assessment. The implementation costs would be reduced if a subset of the proposed Option B changes assessed were taken forward, with the minimum change option implementation costs (Option A) estimated at £6.5m up to the end of PIT.

Question 1: Which of the options put forward do you support?

Question 1				
Respondent	Category	Option	Response	Rationale
WPD	Networks Party	Option 1	No	<p>The DCC are currently not compliant with the SEC Obligations and have confirmed that they are unable to comply with the SEC, even with system enhancements. Therefore we do not feel that 'do nothing, Option 1, is an option.</p> <p>We do not believe that Option 3 is viable due to the significant costs involved. Neither recommendation under Option 3 meets the SEC Obligations and therefore we still wouldn't be able to realise the benefits we had anticipated as part of the Smart Metering Programme.</p> <p>Option 2 is our preferred option. It acknowledges that the DCC are not compliant with the SEC and addresses this issue. We do feel that under Option 2, the SEC should be amended to align with current system capabilities rather than current performance, in the event that these might differ.</p>
		Option 2	Yes	
		Option 3	No	
ENWL	Networks Party	Option 1	No	<p>Option 3A is the only option that could provide some benefit to ENWL's North customers as the other remaining Options 1 & 2 deliver no improvements to the timing or quality of the DCC's current under performance as no system changes will be carried out in the North CSP region.</p> <p>Option 3B holds no additional performance advantage to North region compared to Option 3A and as such does not justify the additional DCC implementation costs to North customers.</p>
		Option 2	No	
		Option 3	Yes (Option 3A)	

Question 1				
Respondent	Category	Option	Response	Rationale
				Please refer to our requests for DCC to complete further tasks in our response to Question 5 below to enable the MP096 working group and SEC Parties to make an informed decision regarding the progress of this modification.
British Gas	Large Supplier	Option 1	Yes	We believe DNOs would need to work with Ofgem to encourage DCC to remediate the issue.
		Option 2	No	
		Option 3	No	
SPEN	Networks Party	Option 1	No	<p>SPEN are unable to fully support any of the options presented in the RFI as none present a significant benefit to the business operation, either remaining with the current performance of the system, or slight improvement with significant cost. However, Option2 has been chosen in favour of either Option1 or Option3 as per below.</p> <p>SPEN do not regard Option1 as a credible option. The fundamental issue relates to the DCC not being compliant with SEC and this option does not resolve this. BEIS provided derogation (and extension) for non-compliance at the start of the Smart programme. SPEN would assume that further, enduring derogation in this area would not be granted by BEIS to support this option. As noted in the RFI, there is a risk that the Network Evolution Programme does not provide any performance gain, will not apply to existing comms infrastructure, and only impact CSP South.</p>
		Option 2	Yes	
		Option 3	No	

Question 1				
Respondent	Category	Option	Response	Rationale
				<p>The current performance of the system as presented in Option2 does not reflect performance as experienced by SPEN in their day-to-day operations in terms of both reliability and timing of alerts. If the presented performance is a definition of DCC system capability, then it is clear the DCC system is also not functioning to the DCC's own expectations. SPEN are unclear how this position translates into a SEC obligation that will provide no benefit to Users other than to resolve non-compliance by the DCC. It does not address the underlying end-to-end system inconsistencies with unreliable and untimely alerts.</p> <p>If Option2 is to proceed, then the actual current performance should be documented and baselined as a measurable SLA. The current CBA should be reassessed considering this new baseline.</p> <p>The expectation from SPEN would be that through the Network Evolution Programme and CSP contract renewal process, that any performance baseline set would be improved upon in the longer term.</p> <p>The benefits in timing of alerts for Option3 are only achieved during outages where the volume of impacted devices exceeds that experienced by SPEN on a regular basis. (i.e. HV rather than LV incidents). As Options A and B provide different benefits across CSP regions and SPEN operates equally across both, SPEN consider that the costs associated with Option3 do not provide sufficient benefits in performance in either of their licence areas for this option to be supported.</p>
	Network Party	Option 1	No	

Question 1				
Respondent	Category	Option	Response	Rationale
Northern Powergrid		Option 2	No, however we believe that there is a derivative of Option 2 which would be worthy of support. We have described this option in our response to Question 5.	We do not believe that any of the three options as drafted are worth supporting and we propose a fourth option, based on option 2. This fourth option is set out in our response to question 5.
		Option 3	No, because we are of the view that the implementation costs far exceed the value of the benefits that would be delivered.	
SSEN	Networks Party	Option 1	No	Based on the three options proposed as part of this RFI, in principle we support option 2 for the reasons detailed in our responses to the questions below. We have also detailed our responses to Options 1 and 3 and why these are not our preferred options.
		Option 2	Yes	
		Option 3	No	
UK Power Networks	Networks Party	Option 1	No	Option 3 seems to provide the best outcome in relation to POA and PRA for network operators compared to the other 2 options available, however the proposal needs to go further and include improvements at the DSP as outlined in Appendix C for managing spurious alerts.
		Option 2	No	
		Option 3	Yes	
Utilita	Large Supplier	Option 1	Yes	Option 1 is the most straightforward solution and preferred solution, especially as CH Network Evolution Plans are currently being developed
		Option 2	No	

Question 1				
Respondent	Category	Option	Response	Rationale
		Option 3	No *before this option can even be considered this proposed solution needs to be outweighing the excessive cost for this modification especially for suppliers.	<p>and consulted on at the moment. However, it does not resolve the issue until these Network Evolution plans are fully developed to include POA and PRA improvements.</p> <p>Option 2 is our least preferred solution as Suppliers are expected to pay for DSP contract changes, solely to enable the DCC's compliance with the SEC, with no benefit to Suppliers and other SEC Parties.</p> <p>Option 3 should only be considered if there is a clear cost-benefit for Suppliers that can be delivered before the CH Network Evolution and/or DSP procurement. The Smart Rollout CBA highlight potential cost savings for DNO's and their customers of approximately 350million, this implies that there are already incurring costs for the DNO especially. Suppliers should therefore see the reduction of these potential savings through a chargeback via the price control. If Option 3 was to be pursued, it would be beneficial to include a more up-to-date version of these cost benefits accounting for all potential Network Evolution plans in the pipeline.</p>

Question 2: Please set out any impacts and/or benefits you may realise from Option 1 and the estimated rough order of magnitude (ROM) costs and/or cost benefits these will have for you

Question 2		
Respondent	Category	Response
WPD	Networks Party	We feel that there are further implications with Option 1. If the SEC is not updated and aligned to the DCC system capabilities then it will be difficult to hold the DCC accountable to any performance. It will also be difficult to agree and measure any type of service level for these alerts.
ENWL	Networks Party	We do not support Option 1 as a derogation only seeks to benefit the DCC in terms of resolving their non-compliance in the South and Central CSP regions until as such time as a further generation (4G) Communications Hubs (CHs) may commence in 2024 which may improve performance at some unknown date. This Option is not a SEC modification and delivers no improvements to the timing or quality of the DCC's current under performance as no system changes will be carried out. This Option would not resolve the DCC non-compliance in the North CSP region, nor does it hold any benefits to other SEC Parties or end customers.
British Gas	Large Supplier	We do not anticipate any costs or benefits from Option 1.
SPEN	Networks Party	As is the case with other Network Operators, SPEN have modified current internal processes and functions to accommodate the inconsistencies presented by the current DCC system not meeting its current SEC obligation. The Cost Benefits Analysis of POA/PRA alerts to DNOs originally performed by BEIS does not consider the functional and process changes that DNOs have implemented in the intervening years. DNOs have modelled benefits separately (PA Consultancy) and consider that the original CBA should be reassessed in view of the current DCC system performance and usage by DNOs.
Northern Powergrid	Network Party	We do not believe that Option 1 is a viable option. Our rationale for this view is set out below. 1 Implementation of the DCC Network Evolution Programme will not resolve the existing SEC non-compliance as in this option a significant number of existing generation communication hubs will remain for which the Network Evolution Programme will deliver no benefits. Until all the existing generation communications hubs are replaced,

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Question 2		
Respondent	Category	Response
		<p>benefits would only be associated with new rather than existing installations. Furthermore, the current Network Evolution programme would not address any issues in the CSPN region. Hence even after full Network Evolution implementation, there will remain a significant SEC non-compliance.</p> <p>2 There is no benefit in having obligations under SEC that parties are not compliant with and which are considered to be unachievable; this would mean that enduring derogation would be required. BEIS have in the past declined to extend a previous derogation that had been granted to the DCC, and it is reasonable to assume that BEIS would not grant the enduring derogation that would be required for this option.</p> <p>3 We agree that, as stated in the RFI's assessment of risks and benefits for Option 1, despite the intention that the Network Evolution Programme will deliver SEC compliant POA and PRA performance, there is a risk that the programme does not deliver the expected performance.</p> <p>It is worth noting that the Network Operators' view, based on their data from the system, of the current POA and PRA performance is that it is significantly worse than the expected performance of the current system set out by the DCC in Appendix H of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5. We also note that a recent DCC consultation includes a statement 'DCC will not be seeking to improve Power Outage and Power Restore Alerts message times as part of the [Network Evolution] programme'³. Hence it is our view that the risk that the Network Evolution programme will not deliver POA and PRA benefits is significant.</p>
SSEN	Networks Party	<p>As Option 1 seeks to do nothing until the new 4G CH's are introduced and with the future performance being unknown until the replacement commences, SSEN do not believe this to be a feasible option.</p> <p>As the DCC's Network Evolution Programme only seeks to potentially improve CSP South. With SSEN having a large proportion of devices in both South and North CSP's, having unknown performance in the future for Telefonica and an indefinite derogation for Arqiva, this Option does not seek to answer or achieve the outputs that is required by this modification. For both CSP's, this option will not resolve the issue with the expired derogation that was previously granted by BEIS, nor will this modification allow DCC to meet its current SEC obligations.</p>

Question 2		
Respondent	Category	Response
UK Power Networks	Networks Party	<p>Option 1 of “Do Nothing” delivers no benefits to customers or to UK Power Networks because the issues listed in Appendix C Table 2 are not addressed. This potentially means that UK Power Networks would be unable to utilise the power outage and power restore alerts because of issues related to delivery time of alerts and poor data quality such as false alerts where this would result in no benefits being delivered to our customers and the business.</p> <p>The Network Evolution Programme is planned to commence around 2022/23 with no firm date yet, when we anticipate that by this period, suppliers will have installed smart meters into approximately 60% of the UK Power Networks’ domestic customer base. This reduces the potential benefits that could be delivered to customers and the business as there will be remaining only 40% of customers receiving the network evolution comms hub, assuming smart meters are installed into 100% of all customers’ premises able to have one.</p> <p>The Network Evolution Programme will not resolve the issue of DCC non-compliance with the current SEC standard for power outage and restore alerts because of the high volume of smart meters and comms hubs that will have been installed by the time the Network Evolution Programme commences.</p> <p>The DCC non-compliance with the current SEC standard will not be resolved until after the current generation of installed comms hubs are replaced with the Network Evolution variant of comms hub in circa 5 million customers’ premises within UK Power Networks licensed areas.</p>
Utilita	Large Supplier	No comment.

Question 3: Please set out any impacts and/or benefits you may realise from Option 2 and the estimated ROM costs and/or cost benefits these will have for you

Question 3		
Respondent	Category	Response
WPD	Networks Party	<p>Option 2 is our preferred option as it addresses our concerns around a misalignment of the DCC system and the SEC Obligations. It will ensure that the DCC can be held accountable to providing a certain level of service as this level will be clearly defined and understood and therefore measuring and reporting on performance can be undertaken accurately.</p> <p>As stated in our answer to question one, we feel that if Option 2 is progressed, the DCC should still be encouraged to enhance the performance of these alerts, and that the SEC should be updated when appropriate to take into consideration enhancements on the systems, for example as a result of the CH&N Evolution programme.</p>
ENWL	Networks Party	<p>We do not support Option 2 as down grading the performance levels only seeks to benefit the DCC in terms of resolving their non-compliance with the SEC. This Option delivers no improvements to the timing or quality of the DCC's current under performance as no system changes will be carried out. This Option would result in the continued disparity between SEC performance requirements between the North region and Central and South regions. Page 5 of the Modification Report evidences significant disparity on current Power Restoration Alert (PRA) performance between the North region and Central and South regions. This Option does not benefit other SEC Parties or end customers and as such SEC Parties would struggle to rationalise its approval against a SEC general objective.</p>
British Gas	Large Supplier	<p>We do not anticipate any costs or benefits from Option 2.</p>
SPEN	Networks Party	<p>As is the case with other Network Operators, SPEN have modified current internal processes and functions to accommodate the inconsistencies presented by the current DCC system not meeting its current SEC obligation.</p> <p>The Cost Benefits Analysis of POA/PRA alerts to DNOs originally performed by BEIS does not consider the functional and process changes that DNOs have implemented in the intervening years. DNOs have modelled</p>

Question 3		
Respondent	Category	Response
		benefits separately (PA Consultancy) and consider that the original CBA should be reassessed in view of the current DCC system performance and usage by DNOs.
Northern Powergrid	Network Party	<p>We do not believe that Option 2, as documented, is a viable option. Our rationale for this view is set out below.</p> <p>1 In Appendix H of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5 there is a series of graphs (referenced as Tables 1-10) which summarise the expected performance of the current CSP infrastructure constructed, or to be constructed, in accordance with the current CSP contractual obligations.</p> <p>2 It is our experience that the practical performance delivered to DNOs from the existing systems falls far short of the DCCs own performance expectations of the current system.</p> <p>3 It is clear to us, as a DCC user, that the existing system, which has been funded by DCC users, is not delivering what the DCC describes as the 'performance expected' from the current infrastructure.</p> <p>From our perspective therefore, it is unreasonable to change the current SEC obligation to reflect the current measured performance because i) the current measured performance is less than that paid for by DCC users, and ii) it would remove any incentive for the DCC to resolve the issues associated with the existing system so that it actually performs as the DCC itself expects; the expected performance is shown in the 'Current' performance curves summarised in Appendix H of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5.</p>
SSEN	Networks Party	<p>Looking at the current performance in the RFI documentation and based on all options, implementation approaches, timelines, costs and required system and process changes, we feel that this is the most cost-effective option.</p> <p>Whilst we have shown support for this option, we would require the DCC to carry out further testing to demonstrate current baseline alerts performance.</p> <p>Although the current performance is detailed in Appendix C, we would seek DCC to confirm from inception of the new ability to measure POA and PRA performance, the current service and stability of performance against the</p>

Question 3		
Respondent	Category	Response
		<p>levels documented in the RFI. As this option would impact the SEC obligation relating to the timing of alerts we receive, we would need to be confident in the performance moving into the future.</p> <p>We would also seek for these performance levels to be implemented into the PMR and PMM reporting outputs as the new service level directly relate to performance measures that the DCC currently report on to industry. Without these being updated, would mean the current service against performance level requirements will become un-aligned.</p>
UK Power Networks	Networks Party	<p>The sole purpose of SEC MP096 by the DCC is to address the non-compliance of their existing system measured against the current SEC standard.</p> <p>Option 2 to change the SEC standard to match the performance of the current DCC system without implementing any system enhancements will not provide any benefits to customers or UK Power Networks because, we will remain in a similar situation as with Option 1 where potentially we would be unable to utilise the power outage and power restore alerts.</p> <p>Appendix F of this RFI "POA / PRA Performance Enhancement Recommendation" Section 4 and Appendix C explains graphically the DCC system performance for delivery of power outage and power restore with a comparison against the current SEC standard.</p> <p>From the information provided in this RFI it is clear that the existing DCC system does not perform to the standard as expected when originally designed to operate in compliance with the SEC standard. It is therefore unreasonable and illogical to change the SEC standard to match the performance of a non-compliant system that does not deliver any benefits to customers from the power outage and restore alerts.</p>
Utilita	Large Supplier	No comment.

Question 4: Please set out any impacts and/or benefits you may realise from Option 3 and the estimated ROM costs and/or cost benefits these will have for you

Question 4		
Respondent	Category	Response
WPD	Networks Party	<p>We do not feel that we can support Option 3. Whilst we appreciate the efforts of the DCC to get to a position to provide these enhancement options, we don't feel that they are viable due to the costs associated with the changes. Even with the enhancements recommended by the DCC, the performance still wouldn't meet that of the current SEC Obligations and therefore we still wouldn't be able to realise the benefits that we had anticipated.</p> <p>The details provided also show the greatest improvements for scenarios with a large number of outages, and unfortunately the improvements for smaller outage scenarios are minimal. This is the area which is primarily where we require the improved service, as our existing systems already handle High Voltage incidents that result in large volumes of outages in an appropriate manner.</p> <p>Whilst these options help speed up the delivery of the alerts to the Network Operators, there is still a lot of issues around the accuracy and reliability of the alerts, and therefore, implementing one of these options will not guarantee enough of an increase in benefits for Network Operators or consumers. We are aware that there are defects raised to help address these issues, however the outcomes are still unknown at this point.</p> <p>One significant improvement detailed in these options is the timing of the delivery of PRAs in CSP N, however, this has been done by utilising the Communication Hub PRA, which will result in Service Users needing to update their systems to handle a new type of alert. This will also mean there is another inconsistency between CSP C&S and CSP N behaviour that would need to be accounted for by Service Users, both with their internal systems and processes. This is not ideal for us and would result in WPD needing to have different processes internally for premises in CSP N compared to those in CSP C&S. We note that in order to provide a true comparison between August 2020 and March 2021 costs, the post PIT costs have now been excluded from the August 2020 ROM, costs with an additional comment that the DCC expect these to no longer be the initial £6m anticipated. However, the DCC have not been able to advise a ROM for this and there is the potential that these will still be significant, as seen in other SEC</p>

Question 4		
Respondent	Category	Response
		<p>Modifications. Therefore we have assumed that the costs stated, whilst are less that originally advised, are still likely to increase.</p> <p>Due to the fact that we don't feel we can support this Option, we do not feel it is appropriate at this time for us to spend effort and resource calculating potential costs to our organisation for the implementation of these options.</p> <p>We acknowledge that the technical paper offers a variety of enhancements across the different Service Providers. The DNOs requested that the DCC provide a recommendation as they best know their systems, advising what option(s) offered the greatest improvement and the best value for money. Due to the complexities involved and the time and effort that will be required, we do not feel it is appropriate to look further into the reduction of system changes, as we believe that the improvement will still not outweigh the costs and efforts required.</p> <p>Whilst we acknowledge that CSP N handle power outages very differently to CSP C&S, we are cautious of making any further changes to one or other CSP which will result in further differences between the two. We need to try and ensure a consistent service to the consumers, regardless of which region they are located in.</p> <p>Any benefits that Network Operators can realise as a result of improving the POA and PRA delivery by system enhancements, are also limited due to the larger than anticipated SMETS1 meters that have been installed on the network.</p>
ENWL	Networks Party	<p>As per our response to Question 1 Option 3A is the only option that could provide some benefit to ENWL's North customers. Option 3B holds no additional performance advantage to North region compared to Option 3A and as such does not justify the additional DCC implementation costs to North customers.</p> <p>We are unable to provide ROM costs or a cost benefit analysis by the submission date and in absence of some key information by the DCC. Please refer to our requests for DCC to complete further tasks in our response to Question 5 below.</p>
British Gas	Large Supplier	We do not support this option and costs incurred by DCC changes would be at the detriment of the consumer.

Question 4		
Respondent	Category	Response
SPEN	Networks Party	<p>As is the case with other Network Operators, SPEN have modified current internal processes and functions to accommodate the inconsistencies presented by the current DCC system not meeting its current SEC obligation.</p> <p>The Cost Benefits Analysis of POA/PRA alerts to DNOs originally performed by BEIS does not consider the functional and process changes that DNOs have implemented in the intervening years. DNOs have modelled benefits separately (PA Consultancy) and consider that the original CBA should be reassessed in view of the current DCC system performance and usage by DNOs.</p>
Northern Powergrid	Network Party	<p>We do not believe that Option 3A or Option 3B, as documented, are worth supporting, on the basis that our assessments indicate that the anticipated costs, which would be borne by GB consumers, are significantly greater than the value of the benefits that would be delivered. We support the concept of improving the POA and PRA delivery times, but the costs of achieving the delivery time improvements must be commensurate with the value of the benefits. We do not believe that it is appropriate to pursue a change that costs more than the value of the benefits that will accrue from such a change. Our rationale for this view is set out below and would only change if the total cost of implementing options to deliver the proposed performance improvements was to significantly reduce.</p> <p>1 It is important to note that the performance improvement set out in the DP096 DNO Power Outages Alerts Modification report V0.7 relates to a network event, or multiple simultaneous network events affecting 30,000 customers. DNOs have previously advised the DCC that outages affecting 30,000 customers are relatively rare and typically occur across the whole of GB between 28 and 42 times per annum. This information is included in Table 1 of the DCC's Power Alerts Project Briefing paper V1.9 dated 1 December 2016.</p> <p>Hence, although the improvement in POA and PRA delivery times are material, particularly the PRA performance in CSPN, the number of occasions when this performance benefit (assuming that DNOs rely on timely PRA delivery rather than more likely scenario of using SR7.4, Check Energisation Status, functionality) would actually be delivered is likely to be limited to between 28 and 42 times per year.</p>

Question 4		
Respondent	Category	Response
		<p>2 DNOs have indicated to the DCC that a network outage scenario affecting supplies to between 1-200 customers occurs tens of thousands of times per year. This information is included in Table 1 of the DCC's Power Alerts Project Briefing paper V1.9 dated 1 December 2016.</p> <p>The information in Appendix H Table 7 of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5 illustrates that in CSPN neither Option 3A nor Option 3B deliver any benefits in the delivery of POA and, importantly, show that the current SEC requirement should be delivered by the current system.</p> <p>Similarly Appendix H Table 10 of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5 illustrates that in CSPN both Option 3A and Option 3B actually reduce the performance of the delivery of PRA, and, importantly, show that the current SEC requirement should be delivered by the current system.</p> <p>Therefore, for the most frequently occurring outages, which occur tens of thousands of time per year on a DNO network, in CSPN neither Option 3A nor Option 3B deliver any benefits. We do however recognise that the two options deliver benefits in CSPC&S.</p> <p>3 It is clear from the information in Appendix H of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5 that the benefits from Option 3A and Option 3B are related to the volume of customers affected by a network outage. The greater the number of customers affected by the various network outage scenarios, the more material are the anticipated benefits. In determining the value of the benefits that will accrue to GB consumers from the two options, it is necessary for the frequency of occurrence of network events to be considered – the zero / low benefit scenarios need to have a high weighting (because they occur very frequently) and the higher benefit scenarios need to have a low weighting (because they rarely occur).</p> <p>4 It is important to remember that outages affecting large numbers of customers will be caused by faults on the HV, EHV or 132kV network, and that DNOs generally have visibility of such incidents via their SCADA system. The reason why DNOs are interested in information from the smart metering infrastructure about outages affecting such large numbers of customers is to ensure that LV faults (which aren't detected by DNO SCADA systems) occurring simultaneously with HV, EHV or 132kV outages (which are predominantly detected by DNO SCADA system) aren't masked by the volume of alerts generated as a result of HV, EHV or 132kV faults.</p>

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Question 4		
Respondent	Category	Response
		<p>The DNO requirement included in DP096 DNO Power Outage Alerts Modification Report V0.7 would allow customers affected by such simultaneous outages to be identified, but both Options 3A and Option 3B would permit (in CSPN) non-delivery of 5%, ie 1500 of POAs. Therefore, it is possible that the useful information related to simultaneous LV faults would be vastly diluted or perhaps not delivered at all by either option.</p> <p>5 From a cost perspective, whilst Option 3A and Option 3B have ROM costs of £6.5m and £10.9m respectively, there are also PIT costs to be taken into consideration. These have previously been estimated to be £6m.4 There is also an additional annual cost of £0.7. All costs need to be factored into any final decision because it is the overall total cost of the modification that would have to be borne by GB consumers and it is this overall cost against which the potential benefits should be assessed. The total expenditure being proposed corresponds to a net present value (3.5% discount rate) in the region of £16m and £21m to 2030 for Options 3A and 3B respectively. These figures do not include the system costs that DCC users in CSPN would incur to accommodate PRAs being sent by the Communications Hub rather than from the Electricity Smart Metering Equipment. We haven't included any costs for these changes in our assessment.</p> <p>6 The BEIS 2019 CBA indicates that the benefits associated with power outage management are £170m. It is unclear what assumptions were used to derive this figure, however in 2019 DNOs commissioned PA Consulting to undertake an assessment of the benefits associated with smart meters relating to distribution networks. PA Consulting's findings were that the net present value of the benefits to 2030 related to power outage management were: Earlier Fault Notification £18m, Reduced calls to fault line £0m and Faster Restoration of Supply £36m; i.e. a total of £54m.</p> <p>7 It should be recognised that only the Earlier Fault Notification benefit is dependent on the timely delivery of the POA and PRA, as the Faster Restoration of Supply benefits assume that DNOs will utilise the SR 7.4 Check Energisation Status functionality rather than rely on the PRAs.</p> <p>8 Assuming that there is a maximum potential benefit of £18m associated with Earlier Fault Notifications, and that the existing as-built system currently does not facilitate the delivery of any of these benefits, then Option 3A would be marginally economic and Option 3B would be uneconomic.</p>

Question 4		
Respondent	Category	Response
		<p>However the current as-built system should, if it works as designed, enable the majority of this £18m benefit, particularly in the CSPN region, to be delivered. This is because the majority of network faults affect relatively small numbers of customers and the POA and PRA performance that should be delivered from the current as-built system (i.e. POAs delivered within 4 minutes of the start of the outage and PRAs within one minute of restoration) matches the current SEC requirements and is the basis for the PA Consulting modelled benefit of £18m.</p> <p>9 Even if outages affecting up to 5000 customers are considered, Options 3A and 3B only improve POA delivery times in the region of 1 to 1.5 minutes respectively. Using the PA Consulting (PAC) model a 1 minute improvement in the POA delivery time has a benefit value in the region of £3m for all DNOs.</p> <p>For the purposes of this high level assessment, this £3m per minute is assumed to deliver a £1m per minute improvement for those DNOs in the CSPN region, and a £2m per minute improvement for those DNOs in the CSPC&S regions. We recognise that these are high level assumptions, but believe that they are reasonable to use in order to assess the order of magnitude of the potential savings.</p> <p>The following tables summarises the POA CSPN improvement, based on Option 3B:</p>

Question 4

Question 4																														
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		<table><tr><th>Delivery Scenarios</th><th>Max POA improvement</th><th>Benefit from PAC £m estimate</th><th>No of network events per annum in GB</th><th>Weighted benefit £m estimate</th></tr><tr><td>C (50 customers)</td><td>Zero</td><td>N/A</td><td>10,000</td><td>0</td></tr><tr><td>B D G (5000 customers)</td><td>1 min</td><td>1</td><td>1,000</td><td>0.1</td></tr><tr><td>E F H (20,000 – 30,000 customers)</td><td>3 min</td><td>3</td><td>28-42</td><td>0.01</td></tr><tr><td>Estimated total benefit CSPN</td><td></td><td></td><td></td><td>£0.11m</td></tr></table>	Delivery Scenarios	Max POA improvement	Benefit from PAC £m estimate	No of network events per annum in GB	Weighted benefit £m estimate	C (50 customers)	Zero	N/A	10,000	0	B D G (5000 customers)	1 min	1	1,000	0.1	E F H (20,000 – 30,000 customers)	3 min	3	28-42	0.01	Estimated total benefit CSPN				£0.11m			
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		The following tables summarises the POA CSPC&S improvement, based on Option 3B:																												

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		that the expected performance as described in the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5 will not be delivered as there would be no incentive for the DCC to ensure that the expected performance was actually delivered to DCC users.
SSEN	Networks Party	<p>From ongoing discussions around POA/PRA performance and SEC modification, our core driver for the timeliness of alerts relates to the benefit this would bring to our network at LV level. Network Parties are currently unaware of Single and LV faults unless our customers were to call into our contact centres and report the issue or in some scenario's, where automation is on sections of the LV network.</p> <p>When looking at scenarios A, B, D, E, F, H and I, in these scenarios, we will be aware of a large proportion of outages through our telemetry on our High Voltage network. This means the benefits highlighted by Scenario C and G is where we can realise benefit through earlier fault notification, as these will impact our LV network including single property faults.</p> <p>When reviewing the modification costs against the BEIS Cost Benefit Analysis and the PA Consulting Cost Benefit Analysis. Looking at the improvements gained from RFI Options 3A and 3B, if we base these improvements against the £18m benefit associated with Earlier Fault Notification via PA Consulting which takes us up to 2030, the costs of this modification option, outweigh the potential benefits we would gain. This is further reduced with the enrolment and adoption of SMETS1 devices which will not send Outage alerts when an interruption has occurred. Alongside these impacts as detailed in option 2, this is without a full analysis to be completed of the DCC's actual performance which needs to be carried out.</p> <p>A further impact to note surrounds the significant volume of smart meters that will be installed in both of our license areas in CSP South and North at mass rollout. As we would be required to change the core functionality of restoration alerts to accommodate the new CH restoration alert in the Arqiva region, this would mean that we would have to change our current processes and implement new processes and functionality that would digest the new messages. From the implementation of the new CH restoration alert we would also be lacking the outage time that is currently contained within the restoration alert. This is used by our customer contact centres. If implemented this would further</p>

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		erode the potential benefit from the current process and would also lead to inconsistent processes between each of SSEN's license areas.
UK Power Networks	Networks Party	<p>Under Option 3, DCC have carried out an assessment of their proposals and have forecast a performance standard they wish to deliver to their customers.</p> <p>If the SEC standard is to be changed then it should be aligned to their forecasted system performance based on their enhanced system design.</p> <p>The SEC standard should not be changed to meet with the DCC system performance assessed after delivery of their enhanced system because there remains the risk that it may not meet the expected standard and be unable to deliver benefits to customers, leaving no incentive for the DCC to further improve the performance of their system.</p> <p>Appendix C Table 16 Telefonica Options against DNO Scenarios explains the delivery of power outage alerts from smart meters measured against the different types of fault scenarios based on volumes of customers affected ranging from 50 customers to 200,000 customers.</p> <p>Network Operators have SCADA monitoring on their high voltage networks so any power outage affecting, on average, more than 500 customers will be reported by their Outage Management Systems. Option 3 should focus primarily on delivering improvements to scenarios A to D & G in Table 16 with a range of between 50 and 5000 customers because there will be little benefit gained from smart meter alerts under scenarios E to I. The reason for this is so that Network Operators would be able to identify faults on the low voltage network affecting customers that may be masked by faults on the high voltage network with higher customer volumes.</p> <p>If the enhanced DCC system under Option 3B meets their forecasted performance criteria, then it should be able to provide a significant improvement to the timing of delivery of the power outage and power restore alerts potentially delivering benefits to customers.</p> <p>Appendix C Table 21 Options Recommendations Overview states that there are no recommendations for improvement from the DSP (CGI) though Section 4.4 shows eight options available where there is scope to mitigate the quality and spurious alerts issue. The reason stated for there being no recommendation being offered is because</p>

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		<p>of: (a) dependencies of the CSP enhancement, (b) DNO requirement priorities and (c) acceptability from other DCC users impacted by any of the changes.</p> <p>Unfortunately without any resolution to improve the quality and reliability of the data such as mitigating spurious alerts, network operators would be unable to reliably use the power outage and power restore alerts for delivering benefits to customers, therefore the change options that can be made by CGI to the DSP system as proposed in Appendix C Table 19 and Table 20 Impact of Enhancements must be implemented.</p> <p>The DCC proposal under Option 3A and 3B of this RFI must include a positive statement that the DSP enhancement will be selected once the CSP options have been confirmed and then both the CSP and DSP enhancement options implemented. If this is not done then it can be assumed that no DSP improvements will be implemented after the CSP changes where failure to address data quality will potentially result in increased aborted visits to customer premises and diluting benefits derived from the power outage and restore alerts.</p> <p>If the proposed changes to the both the CSP and DSP are confirmed and implemented, it will provide a level of confidence to Network Operators for using power outage and power restore alerts within their smart meter platforms.</p> <p>Option 3 also addresses the issues related power outage and restore alerts for smart meters installed in customers premises prior to the start of the Network Evolution Programme as advised in the response to Question 2</p> <p>In relation to the cost of DCC proposals under Option 3A and 3B, the documentation is misleading and implies the full costs will be lower than the actual cost that customers will be expected to contribute towards the changes. The total cost should be clear and include all aspects of work to deliver the full solution, irrespective of the how the costs are apportioned between the different project stages where the overall cost of Option 3A and Option 3B are shown circa £16m and £21m respectively with a further annual charge of £0.7m.</p> <p>The benefits in the Smart Metering Implementation Programme Cost Benefit Analysis 2019 report published by BEIS attributes a saving of £210m for Outage Detection and Management to the DNOs and their customers from the roll-out of Smart Meters related Early Fault Notification, Faster Restoration of Supply, Reduction in Operational Costs and Reduction in Calls to the Fault and Emergency Lines.</p>

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		<p>During 2019, Network Operators appointed PA Consulting to carry out a Cost Benefit Analysis of the Smart Meter Programme to refresh the original BEIS 2016 CBA. The benefits refresh analysis was conducted utilising data from all Network Operators that had been submitted to Ofgem as part of the annual regulatory submissions from 2013 to 2019 and forecast data to 2030 together with the actual smart meter rollout profile and forecast profile to 2030 that allowed an accurate benefits model to be developed.</p> <p>The PA Consulting Cost Benefit Analysis showed a value of £18m for benefits from Early Fault Notification in comparison to the BEIS assessment or £40m i.e. a 55% reduction.</p> <p>The early fault notification benefit is dependent on the power outage and power restore alert being delivered in line with the current SEC standard for a power outage alert providing a saving of 5 minutes when compared against 7 minutes for a customer to telephone the faults and emergency lines from the start of the actual power outage time. This benefit is also dependant on all smart meters being capable of delivering the power outage and power restore alerts but there had been delays to the supplier led smart meter rollout that also included a high percentage on SMETS1 meters being installed that do not send the required alerts. Therefore the consequence of these issues have contributed to the overall reduction in benefits.</p> <p>The PA Consulting model also calculated that in the CSP C&S region there would be a benefit of £2m for every minute improvement to the time reduction in receiving the power outage alert. Appendix D Summary of Power Outage Alerts Performance table shows an improvement in time for the receipt of power outage and power restore alerts. Applying the values from both the PA Consulting analysis and Appendix D to an average of UK Power Networks Faults during the period 2019 to 2020, the table below shows the benefits that could potentially have been accrued from the power outage alerts if received from the proposed DCC enhanced system.</p> <p>We believe that the DCC non-compliance with the current SEC standard is a matter for them to resolve and that Customers and Network Operators should not be subject to DCC costs for them to improve their systems and should not be placed in a position where they are required to make the decision on what constitutes the best option. This decision is the sole responsibility of the DCC to select the most suitable option because it is their decision that is required for them to improve their system.</p>

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		<p>We recognise that the DCC system is not able to deliver performance to meet with the current SEC standard for power outage and power restore alerts so four options have been presented to DCC customers where options 1 and 2 are non-starters because they do not provide any improvement to the DCC system. Options 3A and 3B have been presented as options for improvement where 3B is the recommended option.</p> <p>As the RFI is requesting views on the options then UK Power Networks would consider Option 3B as recommended but on the following basis:</p> <ul style="list-style-type: none"> • The proposal must include a positive statement that includes DSP changes with the changes to the CSP system where both will be implemented with the proposal also including an explanation of the full costs. • If the SEC standard is to be changed then it needs be aligned to the DCC forecasted system performance based on their enhanced system design and not on the performance assessed after delivery. • If the delivered solution does not meet with the forecasted performance standard then DCC must continue to improve their system at their own cost to meet with the SEC standard • Option 3 must focus primarily on delivering improvements to scenarios A to D & G in Table 16 with a range of between 50 and 5000 customers. • The total cost for the proposal must be clear and include all aspects of work to deliver the full solution with no options for further costs being applied. <p>UK Power Networks would need to have confidence in the DCC system being able to deliver the proposed improvement in timing for delivery of power outage and power restore alerts, their reliability, consistency, accuracy and be trustworthy allowing a decision to be taken for implementing changes to integrate these alerts into its Outage Management System.</p>
Utilita	Large Supplier	No comment.

Question 5: Please provide any further comments you may have.

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WPD	Networks Party	<p>We would like to question the details provided around the costings. Despite the DCC being asked to provide justification for the reduction in costs we don't feel that this has been clearly articulated to explain exactly what the reduction is. Also the August 2020 ROM costs stated £15.2m, however the DCC are now stating that the August 2020 ROM costs were £15m.</p> <p>The DCC had advised that they were looking to enhance power outage performance with the new 4G Communications Hubs. We note that in the latest CH&N consultation issued on 6 April 2021, they confirmed that this is no longer the case as it states:</p> <div> <p>EO3 POA improvements</p> <p>DCC will not be seeking to improve Power Outage and Power Restore Alert message times as part of the programme, but there may be opportunities to drive improvements in this area through programme procurement.</p> <p>DCC will ensure its DNO Transformation Programme and the CH&N Programme share insight and that opportunities are presented to stakeholders for consideration.</p> </div> <p>For clarity, Western Power Distribution remain supportive of the Smart Metering Programme and believe that there are still benefits to be gained. Due to numerous issues that have surrounded Power Outage and Power Restoration Alerts since the DCC went live in 2017, we have adapted our systems and processes to handle these events in the best way possible. Going forward we are continuing to enhance our processes and change our systems to ensure the best service for our consumers, but by utilising different functionality available from smart meters, rather than relying solely on these alerts.</p>
ENWL	Networks Party	<p>We request DCC complete the following tasks to enable the MP096 working group and SEC Parties to have full visibility and make an informed decision regarding the progress of this modification:</p>

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		<p>1) DCC carries out analysis to demonstrate current baseline performance. The analysis timetable and parameters would be agreed with Users pre-commencement.</p> <p>2) Total costs for the DCC implementing Option 3A and B. The costs set out in Appendix E are not the full costs as they exclude Pre-Integration Testing (PIT) costs and currently stand at £6m. This exercise should also identify costs for the additional work required to process the CH Power Restoration Alert (PRA) beyond Arqiva that has not been factored into the solution identified under ARQ.1 – Reinstate Comms Hub Restoration Alerts Appendix C.</p> <p>3) DCC road map on how they expect to improve their current system performance to meet the proposed targets under Option 3 (A & B) against current baseline performance determined in 1).</p>
British Gas	Large Supplier	No further comment.
SPEN	Networks Party	<p>SPEN do not believe the SEC Modification process is the correct mechanism to correct non-compliance with SEC obligations. SEC Parties have already provided funding for an expected level of service from the DCC system. It is unreasonable to expect that SEC Parties will also fund changes to a system that will still not meet this expected level of service.</p> <p>SPEN note that there is a continued discrepancy of service (reflected in 3A and 3B) between the North and South regions.</p>
Northern Powergrid	Network Party	<p>i) Northern Powergrid alternative option</p> <p>Our view is that there is a derivation of Option 2 that should be progressed.</p> <p>Option 4 – Change the SEC to match the performance capability of the current CSP contracts</p> <p>This option proposes that the DCC continue to improve the performance of the infrastructure currently provided within the scope of the current CSP contracts.</p> <p>This expected performance is summarised in the ‘current’ curves in Appendix H Tables 1-10 of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5. The SEC would then be changed to match this design performance capability.</p>

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		<p>The benefits of this option are:</p> <ol style="list-style-type: none"> 1 There would be no additional capital or annual costs incurred by DCC users as the infrastructure has already been built, or committed to be built, under the existing CSP contracts. 2 It will not require GB consumers to fund a DCC investment and operating costs of between £16m - £21m (NPV to 2030) depending on the option. 3 The DCC would be incentivised to deliver the performance that is inherent within the infrastructure that the CSPs have either already built or are contracted to build under the current contracts. 4 The delivery the performance expected from the existing infrastructure will represent a significant improvement on the performance currently experienced by users. 5 It will, in CSPN, deliver sufficient performance for the most common DNO outages where there is currently limited or no POA or PRA visibility. That said, the performance expected from the existing infrastructure will not meet the current SEC requirements, nor the DNO requirements for the complete range of outages as set out in Table 11 of Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5. <p>We do however recognise that that Option 4 would not deliver the benefits associated with Option 3A (ie 1 min improvement in POA delivery time for up to 5000 customer outages) or Option 3B (ie 1.5 min improvement in POA delivery time for up to 5000 customer outages) to DNOs in the CSPC&S regions; however we think that the value of these improvements is comparatively small at £2m and £3m respectively.</p> <ol style="list-style-type: none"> 6 It will drive a review of the current SEC performance obligations re the delivery of POA and PRA, and this could be based on the 'current design' performance as set out in Appendix H of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5. This could use each of the nine scenarios set out in Table 1 of the Power Outage Alert and Power Restoration Alert Technical & Enhancement Paper V5, weighted by the expected incidence of network outages summarised in Table 1 of DCC's Power Alerts Project Briefing paper V1.9 dated 1 December 2016. <p>ii) General comments</p>

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		<p>1 We are concerned that there appears to be different capital costs presented in the various documents that form this Request for Information. It is essential that decisions are made on a consistent set of up-to-date cost estimates.</p> <p>2 We note that the total cost of Option 3A and 3B have reduced by £2.5m and £4m respectively over recent months. Whilst any cost reduction is welcome, this introduces additional uncertainty relating to the composition of sub-options that make up Options 3A and 3B. The DCC, as suggested by DNOs, considered the relative costs, benefits and interdependencies of the individual sub-options from each of the CSPs and the DSP and recommend an overall option. This led to the creation of Options 3A and 3B.</p> <p>The cost reduction in recent months is equivalent to 28% and unless the saving of 28% is uniform across all the sub options (which seems unlikely) then it is conceivable the combination sub-options that form Option 3A and 3B is no longer the optimum. There would be merit in revisiting the cost and benefits associated with each sub option to assess whether there are now any options which deliver benefits at a significantly lower cost.</p> <p>3 We have a general concern that the SEC modification process is being used to address the POA and PRA issues. Each of the options involve a SEC changes to relax the current SEC obligations to varying degrees. It is not clear to us how any of these options can better meet the General SEC Objectives. We are firmly of the view that before the DCC either seeks the relaxation of existing SEC obligations or requires GB consumers to commit more funds, it should maximise the performance of the current as-built system.</p> <p>iii) Summary</p> <p>It is our view that the cost of implementing Option 3A or Option 3B would exceed the value of the benefits that could be delivered. We think that the DCC should focus on ensuring that the existing as-built system works as it was designed, in terms of delivering high quality and timely alerts, before spending any more money on improvements.</p>
SSEN	Networks Party	<p>Whilst we recognise the significant work carried out by DCC in recent months to clarify their proposal to improve the POA/PRA service together with the associated ROM costs, irrespective of any option implemented, we expect that the DCC continues to address the ongoing reliability issues relating to POAs and PRAs as these outstanding issues must be closed out to ensure that provision of this service delivers meaningful value to network customers.</p>

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		<p>SSEN are still of the view that SEC parties should be compliant with their SEC obligations and that each SEC party should carry their own costs of SEC compliance.</p> <p>We are therefore of the view that the costs of any technical enhancements to deliver SEC compliant alerts performance should not be borne by electricity network customers. This view is held irrespective of whether the costs are apportioned in accordance with the SEC charging methodology.</p>
UK Power Networks	Networks Party	No further comment.
Utilita	Large Supplier	No further comment.