

Communications Hubs and Network Programme Conclusions on Revised Delivery Plan

DCC Conclusions on the consultation regarding its
revised delivery plan for its Communications Hubs and
Network (CH&N) Programme

Date: 10 February 2023

Author: consultations@smartdcc.co.uk

Classification: DCC Public

Table of Contents

1. Introduction and Context	3
2. Consultation Questions and Respondents	4
3. Analysis of Responses	5
3.1. Question 1.....	5
3.2. Question 2.....	8
3.3. Question 3.....	10
3.4. Question 4.....	11
3.5. Question 5.....	13
3.6. Question 6.....	15
3.7. Question 7.....	17
3.8. Question 8.....	19
3.9. Question 9.....	20
3.10. Question 10	21
4. Changes to the plan	24
5. Next Steps.....	24
Appendix A – Plan on a Page	25
Appendix B – Licence Condition 13B Milestone Table.....	26

1. Introduction and Context

1. The Data Communications Company (DCC) is Britain's digital energy spine, supporting the transformation of the energy system. DCC is licensed by the Government and regulated by the energy regulator Ofgem to connect smart meters in homes and small businesses across Great Britain to a single, secure, digital network. DCC supports the roll-out and operation of second-generation (SMETS2) smart meters, as well as the migration and operation of existing first-generation (SMETS1) meters onto our network.

1.1. Background

2. Telecommunications technology evolves continuously and in response to this DCC's Communications Hubs and Networks Programme (CH&N) aims to deliver future-proof Communications Hubs & Networks with an efficient supply chain and a targeted longevity of at least 15 years, introducing new Communications Hubs (CHs) which use the newer 4G network.
3. DCC set out its initial delivery plan for CH&N on 11 June 2021, building on an outline business case. It included a Control Point at the point where contracts were signed with new service providers. This Control Point has now been reached and DCC was directed by the Secretary of State on 10 October 2022 (under Conditions 13 B of its Licence) to undertake a replanning exercise for CH&N).
4. On 23 November 2022 DCC issued a consultation seeking customers' and stakeholders' views on the amended delivery timeline and key milestones for the delivery of the CH&N Programme.

2. Consultation Questions and Respondents

2.1. Questions

5. The consultation presented the consultation questions as set out in Table 1.

Q1	Please provide feedback on the milestones DCC proposes to include in the Joint Industry Plan
Q2	Please provide views on DCC's proposed changes to the design, build and testing arrangements in the revised plan. Please provide a rationale for your views
Q3	Please provide comments on DCC's proposed approach for Initial Pallet Validation by customers. Please provide a rationale for your views.
Q4	Do you agree with DCC's updated dependencies and assumptions? Are there any that have not been included, or any which have been included incorrectly or inaccurately?
Q5	Do you agree with DCC's updated assessment of the key external risks and opportunities? Are there any that have not been included, or any which have been included incorrectly or inaccurately?
Q6	Do you agree with DCC's updated assessment of programme opportunities and threats? Are there any that have not been included, or any which have been included incorrectly or inaccurately?
Q7	Do you support DCC's proposed approach to testing with GBCS versions? Please provide a rationale for your views.
Q8	Do you agree with DCC's updated assessment of the CH&N Programme's interaction with other change programmes, and whether our approach to managing them is appropriate?
Q9	Do you agree with DCC's overall engagement approach? Is there any activity which you consider necessary which has not been included?
Q10	Please provide any additional comments you have on the revised plan Where relevant please include a rationale for your view

2.2. Responses

6. DCC received a total of 11 written responses from:

- five Energy Suppliers;
- three Other SEC Parties;
- two trade bodies; and
- one governance body;

3. Analysis of Responses

7. DCC has analysed the feedback provided and views of stakeholders. Subject matter experts within DCC have reviewed every response.
8. DCC has structured the analysis of responses by question. Thus, this section presents DCC's analysis by question in several separate subsections; with each structured as:
 - an overview of the responses on the topic; and
 - where appropriate a DCC response.

3.1. Question 1

9. DCC sought views on the proposed milestones to be included in the Joint Industry Plan asking: "Please provide feedback on the milestones DCC proposes to include in the Joint Industry Plan".

Respondents' Views

10. DCC received seven responses to this question.
11. Four respondents acknowledged the proposed milestones and noted they were as expected and considered them to be achievable. One respondent added that they considered the plan to remain ambitious and with significant risk, which will need strong industry monitoring and transparency from DCC.
12. One respondent welcomed the approach of maintaining planned sequencing and timings and confirmed that the milestones set out in the plan will allow the SEC Panel and its Sub-Committees sufficient time to undertake the Live Service Criteria assessment of the DCC's readiness to deploy 4G services. The respondent added that DCC should continue to report on progress towards these milestones along with highlighting any risks that may materially affect the DCC's ability to meet them as soon as they are identified.
13. Three respondents commented on the proposed delivery timeline being extended and noted concerns relating to delays to every milestone proposed in the replan. One respondent noted their frustration that a "significantly less complex" solution needed significantly longer to deliver. Respondents highlighted the increased costs to industry that will result due to 4GCH programme being delayed owing to the additional CH upgrades that will need to be completed as a result.
14. One respondent noted that the previous plan set out a six-month lead time for DCC low level design completions following the confirmation of the scope on regulatory changes required and requested context and confidence on the proposed five-week timeline given the drastic difference.
15. Two respondents raised concerns in relation to the proposed milestones for testing. Firstly, one respondent asked the DCC to reconsider if all the possibilities of parallel working in Pre-Integration Testing (PIT) have been considered to reduce the PIT duration. Secondly, one respondent considered that User Integration Testing (UIT) window was too short, noting that the normal six weeks would be sufficient for firmware testing, but with new hardware and firmware, more is required. They noted that all business processes need to be tested with the addition of soak tests and highlighted that this is complex due to the many Device combinations.
16. One respondent also noted the expectation for exit criteria for testing to include proof of interoperability with connected Devices, including Alternative Home Area Network (Alt HAN) bridges.

17. One respondent questioned whether the use of air freight or other activities could reduce the 7-week period from the decision on volume manufacturing milestone to the start of enduring supply of 4G CHs.
18. Respondents suggested that DCC also capture the following milestones in the JIP:
- a decision milestone for which GB Companion Specification (GBCS) version is to be used, as it is currently assumed GBCS v4.1, however this could revert to GBCS v2.1;
 - a decision milestone for which Change of Supplier Certificates are to be used as it is currently assumed to be Enduring Change of Supplier (ECoS), however this could revert to Transitional (TCoS);
 - further technical milestones between Low Level Design completion and UIT commencement;
 - a milestone for Commercial Product Assurance (CPA) completion;
 - milestones for Test Certified Product List (CPL)/Production CPL publication dates;
 - the last order dates for 2G/3G CHs from Communications Service Provider Central and South (CSP C&S);
 - the date for the delivery of 4G Test CHs;
 - milestones for the WAN Coverage Checker implementation for 4G CHs; and
 - end dates for 2G and 3G services by Mobile Network Operators relevant to the Smart Metering Equipment Technical Specification 1 (SMETS1) and SMETS2 Wider Area Network (WAN) services;
19. One respondent also noted the following inaccuracies between the Plan on a Page (POAP) and the milestones presented in the consultation document:
- the “Test CH Orders” on the POAP is at the start of March 2024, but the milestone in Appendix B is 1st April; and
 - the POAP shows the Noise Limit confirmation milestone towards the end of April whereas milestones in the table in Appendix B show the PIT Entry date as the 7th March.

DCC Response

20. DCC welcomes feedback on its proposed milestones, and the views of respondents on their achievability. The Plan remains ambitious, but DCC is confident that it is grounded on solid assumptions, based on detailed engagement with its new Service Providers. We can confirm that we will ensure the plan is subject to strong industry monitoring, through IMF and will report on progress towards milestones and highlight risks as soon as they are identified.
21. We recognise frustration regarding the extended timetable for the programme. The delay to the delivery of the dual-band 4G CH has been influenced by a range of factors, including ensuring our commercial processes were robust.
22. The procurement phase has taken longer than was initially anticipated, which will lead to a delay in the point at which the 4G Comms Hub intersects with the SMIP rollout. The case for proceeding with delivery of a 4G Comms Hub continues to deliver a significant positive net present value.
23. We recognise the challenges that Energy Suppliers will face as we transition from the 2G/3G network and the compressed timeframe to move to 4G CHs. DCC will work hard to support Suppliers through this transition.

24. DCC has considered opportunities to compress delivery of the programme. It is our view that the plan strikes a balance between ensuring quality outcomes, with a well-tested product that operates as required for customers, alongside a timetable that delivers this as quickly as possible. On the duration of PIT, it is DCC's view that our timetable is appropriate, building as we have on lessons learned from previous programmes, and in response to customer feedback on ensuring testing is sufficiently comprehensive. The duration of PIT is as set out in the initial plan, and we do not consider spending more in an effort to reduce the PIT duration would be an economical or efficient approach. We would highlight that 40% of PIT is made up of the Component Integration Testing (CIT), which reduces the risks associated with SIT.
25. DCC has allowed 9 weeks for UIT testing which is 50% longer than the normal 6-week UIT, and are investigating whether UIT can be opened earlier for some CH variants (i.e. debug CHs before ITCHs, or those used in remote test labs). DCC will engage with customers through testing forums to determine if this would be a benefit, and if so, which test CH types should be prioritised.
26. On lead times between low-level design completion and confirmation of the scope of regulatory change, DCC's initial plan included a milestone for the confirmation of remaining scope of regulatory change that followed 2 months after the completion of low-level design. In the revised programme, DCC's conclusion on the scope of regulatory change will precede the completion of low-level design by 5 weeks. The conclusions on the scope of change will be used alongside DCC's completion of low-level design, along with the conclusions on the approach to Transition, to feed into DCC's conclusions on red-line changes to regulation that are required, due to complete on 31 October 2023. We consider that our proposals on the scope of regulatory change and the low-level design are not dependent on one another, but instead are upstream dependencies for final regulatory change.
27. DCC is engaging with Alt-HAN Co and subject to Alt-HAN being able to provide Devices configured for use in DCC's test environments, we will include Alt-HAN in the scope of testing. The preference of DCC is to include the Devices within the CH-PIT Test Phase.
28. From the decision to begin mass manufacture of 4G CHs (7 April 2025), the plan allows for 12 weeks of shipping, which we believe this is a prudent planning assumption. Alternative, faster, shipping options are possible using air freight, but our view is that these would be applied only as a last resort due to the extra cost and increased carbon footprint. We will however consider the industry wide cost-benefits of expedited delivery before deciding whether to use the air freight option.
29. On the additionally suggested milestones, DCC welcomes the proposals from respondents. We agree that it is sensible to add a specific milestone to confirm which GB Companion Specification (GBCS) version is to be used and will add this to the plan. We cover GBCS in more detail in our analysis of Question 7. We set out our approach to tracking WAN Coverage Checker availability in response to Question 10.
30. We will also be including a "confirmation milestone" to confirm the decision on the Change of Supplier Certificates required. This is assumed to be ECOS at this stage of planning, and the progress being made by the ECOS programme.
31. The date for securing CPA accreditation for the 4G CH is 7 July 2024, and the date for adding the 4G CH to the CPL will be no later than the start of IPV, planned for 2 December 2024. DCC has added the CPA date into the LC13B Milestone table. We will monitor progress towards these dependencies being met and include this in the information we provide to IMF, flagging any risks to these accordingly.
32. We're grateful for respondents identifying inaccuracies between our POAP and the milestone table. We can confirm that the date for Test CH orders should be 1 April 2024 and will update the POAP to reflect this. We have added a line to the description of the Test CH Orders milestone which includes that the delivery of Test CHs within 12 weeks of the date they are ordered.

33. In contrast to the position consulted on, the date by which RF Noise Limits will be confirmed will be at the end of PIT. This is as we set out in our initial plan published on 11 June 2021, as opposed to start of PIT, as presented in the consultation on this updated plan. DCC has corrected this error in both the POAP and the Milestone table, with the correct date now being 10 January 2024. This date marks the point at which DCC will have published the Intimate Communications Hub Interface Specification (ICHIS) – the technical document managed by DCC which sets out formal noise limits. In advance of this DCC will work with its service providers and industry to determine the appropriate limit prior to formal consultation. DCC can confirm that it expects to have an initial view on noise limits established in Q2 2023, and we plan to share this information with the ICHIS working group. Stakeholders will have the opportunity to test against these indicative noise limits at DCC Test Labs from Q3 2023, using any feedback from this testing to inform our final position on RF Noise Limits.

3.2. Question 2

34. DCC sought views on the design, build and testing arrangement asking: “Please provide views on DCC’s proposed changes to the design, build and testing arrangements in the revised plan. Please provide a rationale for your views”.

Respondents’ Views

35. DCC received seven responses to this question.
36. Two respondents broadly agreed with the proposed changes to the DBT arrangements whilst others provided comments, suggestions and questions.
37. One respondent noted that allowing more time in PIT to identify and address issues seems sensible, but that it was important to ensure there are no delays. Another respondent considered that the proposed PIT stage seems excessively long and there may be potential to reduce this period with more testing resources. Another respondent emphasised that the DCC must test all Service Request Variants and responses during SIT and PIT for the CH&N Programme.
38. On UIT a respondent did not consider the length of time for UIT to be proportionate compared to the proposed System Integration Testing (SIT) and PIT timescales. They noted that UIT is critical for Energy Suppliers and Meter Manufacturers to ensure compatibility across Devices and that DCC meeting the proposed date of April 2024 would be key particularly as 4G CHs will support a new ZigBee Stack.
39. Several respondents also provided the following suggestions in relation to testing:
- that long-term HAN testing should be included;
 - that DCC should take account of key learnings from the previous delivery of Dual Band Communications Hub (DBCH) capability;
 - that RF Noise testing should include multiple ESME models to provide assurance that new noise constraints will not be introduced on existing metering equipment;
 - that Smart Metering Device Assurance (SMDA) testing should be included in pre-UIT for 4G CHs;
 - that DCC should take account of key learnings from the BEIS-led work of the Trust Centre Swap-Out (TCSO) Subgroup (under the Technical Specification Issue Resolution Sub-group (TSIRS)) in respect of proving the CH exchange process;
 - that testing should include instances where there are Significant Metallic Objects in the vicinity of the CH; and
 - that testing with Alt HAN bridges should be included to ensure there are no interoperability issues.

40. Two respondents noted concerns in relation to GBCS delivery. One respondent highlighted that whilst ZigBee is mentioned in the replan the implementation of GBCS in the CH is not. They questioned whether that would be a development from scratch or if the current implementation in the CH would be taken as baseline. The other respondent recommended that the DCC include the GBCS 4.1 plan above the CH&N POAP and also add a milestone for when the GBCS version needs to be decided. The respondent highlighted their preference that GBCS v4.1 is successfully delivered and also requested clarity on the DCC approach on which GBCS version testing will commence with (i.e. the assumption is v2.1). and when v4.1 will be available for testing for 4G CHs.
41. Respondents also requested the following:
- an overview of the 4G CH design compared to existing 2G/3G CH, including key differences that Energy Suppliers will need to be aware of, be provided;
 - that DCC provide capability for CH re-flashing, especially in prepayment scenarios; and
 - for DCC to clarify arrangements for ordering 4G CHs when placing orders for production Devices prior to testing being complete.

DCC Response

42. DCC considers that the duration of PIT is appropriate and have set out our rationale in response to Question 1. We incorporated a number of lessons learned in order to develop our 'shift-left' approach to testing, as well as external governance for PIT exit. We will also be testing with real devices during PIT, selected using a methodology agreed with TAG. The DCC will test all Service Reference Variants in PIT. This is done predominantly through the Component Integration Testing and the DSP PIT stage.
43. DCC has allowed 9 weeks for UIT, which is 50% longer than the normal 6 weeks that we would allocate to the UIT phase. However, we recognise the importance of this phase for Energy Suppliers, and we are investigating whether UIT can be opened earlier for some CH variants (i.e. debug CHs). DCC will engage with customers to determine if this would be a benefit, and if so, which test CH types should be prioritised.
44. On the specific suggestions raised regarding testing:
- In relation to HAN testing, DCC considers this from two angles. Firstly, the functional requirements that enable a persistent HAN are tested within CH PIT where ZigBee interactions between Devices are tested. In relation to the RF elements (JTM / ICHIS etc) of HAN testing, a more complete response is provided against question 4.
 - We can confirm that we have incorporated lessons learned from the DBCH programme, including the incorporation of an extended IPV period, ahead of a mass-manufacturer decision, as well as an extended PIT phase.
 - On SMDA testing, DCC proposes that SMDA will test in UIT in line with the current arrangements. SMDA testing in pre-UIT would require some changes by SMDA and is out of the scope of this programme.
 - DCC can confirm that the installation guidance for 4G CHs will be the same as it is for 2G/3G CHs. Regarding Significant Metallic Obstructions, given the properties of the 4G CH's RF remain closely aligned to the 2G/3G CHs, DCC does not propose to conduct specific testing in regards to Significant Metallic Obstructions, but would point to the use of the BRE facility as further described in response to Question 4 as evidence of "real world" testing.

- on Alt HAN bridge testing, DCC can confirm that the 4G CH is designed to interoperate with the Alt HAN bridge, similarly to the 3G CH. Interoperability between the 4G CH and the Alt HAN bridge will be tested.

45. DCC has set out its proposed approach and response to questions on GBCS testing in Question 7.
46. Regarding the provision of the 4G CH design compared to existing 2G/3G CH, including any key differences, DCC will work with customers to make this available in a suitably digestible format following the completion of low-level design: we would expect to utilise TABASC to do this. We do not expect any differences to have an impact on design specifications set out in the SEC.
47. On CH re-flashing, DCC can confirm that CH re-flashing will be available for IPV only and that DCC will have the capacity to re-flash c. 2,500 during the IPV phase. Wholesale re-flashing at DCC customers' request is not currently a service provided for by DCC and we will not therefore be incorporating this into our 4G service. DCC will have enduring capability to re-flash returned CHs where it is able to so that they can be refurbished and re-used. DCC is planning to discuss this with stakeholders as part of our Transitional engagement, including how we can best make use of this limited capability.
48. Finally, on CH ordering, DCC will work with customers – through a series of Transitional Workshops in Q1 and Q2 2023, to set out what transitional provisions will be included to manage the ordering of CHs. This will include consideration of how any delays to availability of 4G CHs are managed.

3.3. Question 3

49. DCC sought views on the proposed approach for Initial Pallet Validation (IPV) asking: "Please provide comments on DCC's proposed approach for Initial Pallet Validation by customers. Please provide a rationale for your views".

Respondents' Views

50. DCC received seven responses to this question.
51. The majority of respondents expressed concerns with regards to the proposed duration for IPV, highlighting that 9 weeks would provide insufficient time to undertake piloting and resolve identified issues especially due to the phase spanning the festive period. Respondents noted that Energy Suppliers will be unable to undertake pilot activities around the festive period due to the difficulty with booking appointments with consumers. Furthermore, piloting new hardware or firmware during the winter months is not favourable given the length of time consumers may be without energy.
52. Respondents recommended that the DCC bring the pilot period forward with suggestions that the window should start in the Summer or Autumn and no later than October or November. It was emphasised that the IPV window should not be pushed back to after the festive period. It was also recommended that the length of the phase be reviewed with one respondent suggesting DCC revert to the original plan of three months. They noted that this will allow for installers to feedback observations of exchanging the new CH and for consumers to notice any issues which will take longer than performance statistics.
53. One respondent also noted that if there are Install and Commission (I&C) process changes for 4G CH (such as LED light sequencing, wait times and orchestration improvements), then the installers need that information prior to UIT and the pilot starting. Therefore, the proposed dates for sharing the design and the update of installers' guidance would be useful for planning purposes.
54. One respondent also requested that the DCC provide a view on IPV being used to validate 4G CH I&C and Over-the-Air (OTA) firmware update capability, and that this should be a condition of

sign-off. They stressed that consumption data must be able to be presented accurately to consumers and Energy Suppliers prior to sign off. It was also noted that Energy Suppliers will be taking a risk-based judgement on the probability of IPV success, given that orders are proposed as 6 months before IPV.

DCC Response

55. DCC acknowledges the broadly consistent feedback on the timing and duration of IPV. On its start date, we are investigating ways in which we can bring forward the start of the phase. This is dependent on discussions taking place around starting UIT earlier than currently planned.
56. On the duration, we acknowledge the concerns raised by energy suppliers regarding the impacts of a pilot phase during December, where many set out the risks of installing new hardware in consumers' premises for the first time. Our rationale for a 9-week date was based on the fact that pilot windows such as IPV have typically been up to 6-weeks in duration. Working on this as a basis for IPV, DCC opted for a 9-week window that would take into account the Christmas holiday period.
57. It is important that we work closely with energy suppliers to understand options for IPV, both in terms of the requirements and exit criteria for the phase, and in terms of the timetable needed by them to meet these requirements. We will be looking to use our series of customer workshops starting in February 2023 to explore a more detailed view of the approach for IPV.
58. It is also important that we balance the strong views on the duration and timing of IPV, with the strong views on the need to make 4G CHs available at scale, as quickly as possible. Based on the need for these competing requirements, we have kept the duration of 9 weeks as per our consulted-on plan for now – but do commit to reviewing this with stakeholders as described above.
59. On possible impacts of changes to installation guidance and supporting materials that will be needed ahead of IPV, DCC will be reviewing guidance material and other lower-level technical information as part of its review of regulatory change (though we note that in some cases, guidance material sits in documents that are not formally regulated), and expect this to be concluded by end October 2023, well in advance of the planned IPV start.

3.4. Question 4

60. DCC sought views on the updated dependencies and assumptions asking: "Do you agree with DCC's updated dependencies and assumptions? Are there any that have not been included, or any which have been included incorrectly or inaccurately?"

Respondents' Views

61. DCC received six responses to this question.
62. Two respondents noted that whilst agreeing with the dependencies outlined in the re-plan, they consider there to be additional dependencies that have been omitted, including:
 - internal DCC dependencies, particularly parallel programmes which impact decisions in CH&N, i.e., GBCS 4.1 and ECoS;
 - potential SEC amendment implications via the SEC Modification Process, i.e. DP223 'WAN Coverage Reporting';

- the point of which BEIS designate SEC and/or DCC Licence changes to enable further regulatory changes for the CH&N programme;
 - there are no further instructions from BEIS for DCC to carry out additional work outside of the CH&N programme as this may distract DCC from its core delivery;
 - supply chain resilience noting that the use of a single 4G CH supplier would result in delays should manufacturing be affected by events such as material shortages or shutdowns due to Covid-19 outbreaks;
 - mutual compatibility between devices noting that there is a dependency for robustness between the new 4G CH and all existing devices to enable programme success; and
 - sunsetting dates for 2G and 3G services by Mobile Network Operators.
- 63. One respondent also noted that the existing dependency D5 (Meter Manufacturer support for HAN device testing) needs to include support on the other testing areas such as TCSO/CH Exchange and RF Noise.**
- 64. With regards to assumptions, four respondents considered the following assumptions to be omitted:**
- demand/capacity changes for the DCC ecosystem from the Market Half Hourly Settlement (MHHS) programme will not impact the CH&N programme;
 - Data Service Provider (DSP) re-procurement activities will not impact the CH&N programme;
 - Radio Frequency Noise limits for 4G CHs will be designed and contracted to comply with the existing ESME noise limits meaning that current SMETS2 ESME will not need to be removed and if not the case Energy Suppliers should be compensated for removals;
 - commercial/contractual levers allow the DCC to appropriately manage its Service Providers, i.e., performance and change management and the ability to fix defects at Service Provider cost and with urgency as issues arise; and
 - interoperability between devices and any additional testing that is required in relation to Alt HAN including access to 4G CHs to complete sufficient Alt HAN testing.
- 65. One respondent also requested the following additional information is included on updates to existing assumptions:**
- with regards to the assumption that all 4G CH orders will be satisfied by June 2025, the due diligence to ensure there is sufficient supply of existing CH in case of delay and the visibility of cross over plans from existing CH orders and dual manufacturing;
 - the new Enduring Service Management System is expected to be in place by end of 2023 and therefore CH&N providers will be using this capability;
- 66. One respondent noted that the Post Manufacture Flashing assumption should be reinstated with an updated assumption that will be limited and used as a last resort, as the assumption is that provided I&C and OTA firmware updates work, the DCC customers will be expected to resolve issues via OTA upgrades.**
- 67. Another respondent noted the importance that the DCC assess the indoor propagation of the 4G frequencies versus 2G/3G and the HAN performance at both 2.4GHz and sub-GHz. This is because industry need to consider the possibility that some premises that currently enjoy acceptable 2G/3G signal indoors may later be found to have no internal 4G signal. Therefore DCC need to clarify the actions if a consumer loses connectivity with the 4G CH.**
- 68. One respondent urged DCC to provide adequate capability for CH re-flashing especially in prepayment scenarios and be transparent about capacity limits. They noted that if the 4G CH has**

issues with prepayment functionality, being able to deliver an OTA firmware upgrade after I&C will lead to consumer detriment as this means waiting for the 5-day SLA to be able to use the functionality (assuming a successful OTA firmware upgrade). Providing this re-flashing capability would help mitigate prepayment risk given the criticality for prepayment consumers. Energy suppliers will therefore need to understand from DCC what re-flashing capacity available and over what period will be so that they can manage (prepayment) CH exchanges if re-flashing is required.

DCC Response

69. Regarding the suggested “internal” dependencies and assumptions in relation to other DCC programmes, DCC notes the following:
- under service continuity risk assessment, the 2G/3G capability to accommodate future traffic increase including MHHS data requirement is being assessed by DCC with the support of the 2G/3G Service Providers;
 - DCC has added decisions dates, where we confirm our assumptions relating to GBCS 4.1 and ECoS delivery, to the CH&N plan. We will continue to monitor these and if required adopt the mitigating measures; and
 - it is DCC’s intention for the Order Management System delivery to be included in the overall SIT process, and we have highlighted this in the plan.
70. We are grateful for the points raised by respondents, and DCC will continue to monitor programme interdependencies. Where not already captured, we will add these in our internal programme RAID log and, will continue to review them throughout the programme delivery.
71. DCC notes the concern regarding future SEC changes in addition to those outlined in the plan, either because of SEC Modification Proposals or BEIS directions, however DCC considers these to be out of the DCC’s control and so have not included these as dependencies in the replan document. We will continue to monitor any upcoming SEC, REC or Licence changes and assess the potential impacts to the CH&N Programme.
72. Regarding the supply chain, the 4G CH manufacturer (Toshiba) have resilience plans in place, that include two separate manufacturing locations and facilities, with contingency arrangements. These are captured in our programme RAID material.
73. Whilst noting that 2G/3G end dates may be a constraint, they are not within the scope of CH&N programme and will not be included in the list of dependencies outlined in the replan. Instead, they are captured and managed under the specific work DCC is undertaking in this area.
74. In response to the request that support for other testing areas are included in Dependency 5, DCC has updated this dependency to cover all device testing.
75. Regarding the respondent’s assumption in relation to RF Noise limits, DCC can confirm 4G CHs will be designed to comply with current RF Noise Limits for HAN radios. As we have done in the past, in the event that installed meters do not conform to the new 4G WAN noise limit, we will work with energy suppliers through the ICHIS working group to consider the most effective means to manage these issues.
76. On the point regarding "Mutual Compatibility between devices", DCC will work closely with customers in UIT and IPV to ensure the widest possible range of device model combinations are utilised in these testing phases.
77. DCC will be sharing some initial considerations on CH ordering transition proposals at the February CH Transition Workshop. At this session we will begin to develop a set of principles, starting with IPV and CH ordering required to support the transition from the current 2/3G supply

to 4G CH supply. This will include information on crossover options and the continued support from CSP C&S for 2G/3G CHs.

78. As stated in our response to Question 2, on re-flashing capability, it will be available for IPV only and DCC will have the capacity to re-flash c. 2500 during the IPV phase. Wholesale re-flashing at DCC customers' request is not currently a service provided for by DCC and we will not therefore be incorporating this into our 4G service. Any re-flashing as part of BAU will therefore be facilitated by the current CH Returns process. DCC raised [MP155 'CH Re-Flash'](#) in 2022 regarding extended re-flash capabilities, however this was withdrawn following lack of support from industry due to costs. Therefore, DCC has removed this assumption from the plan.
79. Regarding indoor propagation of signal, DCC can confirm that the HAN function and RF characteristics in the 4G CH design remains unchanged from 2G/3G CH design. The 4G CH design will meet pathloss requirements as stipulated in the Joint Testing Methodology for HAN radios. Further assurance is being planned, in the form of Real Life Testing Methodology (RLTM) at the Building research Establishment (BRE) as part of Toshiba design assurance.

3.5. Question 5

80. DCC sought views on the updated assessment of the key external risks and opportunities asking: "Do you agree with DCC's updated assessment of the key external risks and opportunities? Are there any that have not been included, or any which have been included incorrectly or inaccurately?"

Respondents' Views

81. DCC received seven responses to this question.
82. The majority of respondents agreed with the risks already outlined in the re-plan, however, noted that the following risks should also be included:
- internal DCC/programme risks, particularly around other parallel programmes which impact decisions within this programme e.g., GBCS 4.1 and ECoS;
 - ZigBee Stack version v7.0.2.0 not currently being used in design and is therefore not proven with existing HAN devices and increases risk of device interoperability issues;
 - limited reflash capability could cause delays in the programme should there be need to carry out post manufacture upgrades;
 - the risk associated with the three DSP programmes (Data, System Integration and Service Management System);
 - the use of emulators in PIT if using GBCS v4.1 as there are some functional behaviours that cannot be replicated by emulators, which means that these can only be tested with production devices later in the programme;
 - uncertainty or a potential future change in the planned sunseting dates for 2G and 3G services by Mobile Network Operators;
 - 4G coverage from Vodafone (as the new WAN provider) does not match the existing coverage footprint of VMO2's 2G/3G coverage;
 - existing WAN coverage based on 2G connectivity cannot cope with demand and/or suffers service degradation once Mobile Network Operators end 3G services;
 - issues related to TCSO will remain unresolved when the 4G CH goes into production, noting that these issues are currently being managed by the TBDG TCSO sub-group; and

- supply chain delays and impacts due to the potential lack of availability of components.

- 83.** One respondent also agreed with the risks but considered that the extended delivery timelines has significantly increased the risk of impact from other industry change and significantly extended the dependency on 2G/3G service being available. There is also a risk that despite all the testing, an unacceptable flaw finds its way into the main production deployment. Regarding the assumption of a limited capability re-flash process, the respondent considers that paragraph 59 is unacceptable in cases (as seen in DBCH with Toshiba) where I&C works, but then leads to a material impact on consumers and a need for Energy Suppliers to physically replace assets.
- 84.** With regards to opportunities, two respondents considered the following should also be included:
- exploring the optional feature in the CH&N programme for 4G coverage in CSP N for urban areas, subject to a business case, to support the existing Long Range Radio coverage of Arqiva or instead at the point when the CSP N contract comes up for renewal;
 - potential to help optimise the cross-over during the transition between 2G/3G CH and 4G CH availability to ensure any impact on supplier rollout obligations are minimised, including mitigating the risk of a CH upgrade being required earlier than necessary;
 - Improvements to WAN coverage, including reducing existing No WAN areas and intermittent WAN issues; and
 - Improvements to other BAU processes.

DCC Response

- 85.** As with dependencies and assumptions, DCC has included decision points linked to the GBCS v4.1 and ECoS within the CH&N plan. We will continue to track risks linked to other programmes internally. Where risks have been suggested by respondents which are not already included in our programme RAID log, these will be added.
- 86.** As mentioned in response to question 4, DCC with the support of the 2G/3G Service Provider is assessing the capability of the network to accommodate future known traffic (Smart Metering and others) including after the end-date of the 3G mobile network. This analysis is still in progress and DCC will expand further to include any required risk mitigations once complete.
- 87.** With regard to the points raised in relation to TCSO, CH Exchange or Swap Out will be proven in testing, and based on expected customer behaviour CH Exchange will also be proven in UIT. CH Exchange is one of the minimum Customer Journey's that DCC will propose for IPV and will be discussed in the series of workshops on Transition that DCC will be hosting from February 2023. The CH&N programme will need to monitor progress of the issues being tracked at TBDG/TSIRS, which are ongoing. DCC considers that if technical change is required, there is sufficient time to validate this as part of the testing planned for the 4G CH, given that CH Exchange is already included in plans.
- 88.** Regarding the suggested opportunities, DCC can confirm we will be assuring the 4G coverage (to meet the same contractual obligation for 99.25% coverage as currently required) and comparing it with the existing VMO2 2G/3G service. As with Dependencies and Risks, opportunities suggested which are not already captured in our internal programme RAID material – including the possible extension of 4G coverage to the North Region – will be added and tracked.

3.6. Question 6

89. DCC sought views on the updated assessment of the programme opportunities and threats asking: “Do you agree with DCC’s updated assessment of programme opportunities and threats? Are there any that have not been included, or any which have been included incorrectly or inaccurately?”.

Respondents’ Views

90. DCC received five responses to this question.
91. With regard to the opportunities currently listed in the re-plan, one respondent noted the following:
- Opportunity 5 and 6 offer minimal benefits for the potential risk involved;
 - Opportunity 5 will not get any result unless the IPV period is brought forward to summer/autumn to avoid the festive period;
 - Opportunity 8 will not be realised without a milestone for test devices being delivered to test labs (DCC and/or Remote Test Labs) as testing teams will have difficulty planning resources; and
 - Opportunity 8 offers tangible benefits in terms of DCC User confidence, and a smoother UIT test period and consideration would need to be given on provision of support and management of any issues encountered during this period. This would also be dependent on CPA and CPL availability.
92. Several respondents suggested that there are additional opportunities that should be considered:
- there is an opportunity available to test with Alt HAN Bridges in the initial testing phase to limit the emergence of interoperability issues;
 - by actively seeking to bring forward project dates (recovering some of the slippage so far) and coordinating industry’s requirement for stock, there is opportunity for DCC to take an active role in minimising the number of 2G/3G CHs installed; and
 - there is an opportunity to preserve/adapt the testing environments to produce an enduring large scale test environment.
93. Respondents also suggested that the following threats are considered:
- a threat needs to be prioritised and sufficient measures introduced to ensure the 4G supply chain does not become a risk or issue in the future, noting it is unclear from the re-plan whether measures to mitigate this have started;
 - further increased costs to the programme due to the potential for installed, non-faulty meters being removed at the point of the CH being exchanged resulting in a premature removal charge to the Energy Supplier which may add up to increased industry cost;
 - lessons learned from previous releases has shown that whilst devices met the Standards in place at the time, practical usage in real life scenarios showed that the behaviours required were over and above the Standards. This threat could cause delays in the programme, potentially causing CH supply issues and impacting suppliers’ ability to meet other Industry commitments around the 2G/3G end-date);
 - the rollout could stall if the CH&N programme encounters delays; and
 - Current service levels could deteriorate before the contracted end date.
94. One respondent also highlighted an additional threat that the 4G performance is not equal to current 2G/3G performance noting that it is a common experience that mobile phones switch to

2G/3G in remote UK locations where 4G is not available. Therefore, the respondent requested clarity on how that can be explained if 4G is superior. It was noted that although the lower frequency of 4G should penetrate through material better than 2G/3G, there is still a risk that 4G does not penetrate into meter locations in basements or under-stairs cupboards currently being serviced by a 2G/3G CH with an external aerial. The respondent asked how many aerials have been deployed and how will Energy Suppliers transition SKU2 mesh and T3 Aerial customers to 4G without losing smart connectivity for neighbouring mesh connected consumers.

DCC Response

95. DCC recognise the benefits brought by the 4G CH&N programme and opportunities to shift dates to the left are continuously investigated and considered as they arise. We note:
- the transition from 2G/3G to 4G orders will take into consideration any material risk for delay for 4G CHs – we will work with energy suppliers as we develop our transition strategy to seek their views on this approach;
 - DCC has a contract with specified minimum service levels on 2G/3G. We are assessing the longevity of the current solution to accommodate future traffic and investigating options for scaling and optimisation;
 - 4G coverage is improving as the Mobile Network Operator activate more sites across the network and there are also government led initiatives to improve rural coverage (e.g. Shared Rural Network [SRN]);
 - DCC has a contract with specified minimum 4G coverage of 99.25% using a single CH SKU i.e. no mesh CH or other variant is required. DCC will assure the 4G coverage delivers to this contractual requirement so that coverage is available to support CH deployment and compare it to the existing 2G/3G coverage; and
 - for similar site footprint, the 4G will provide a comparable if not better indoor penetration than 2G/3G since it operates at lower frequency band; and
 - On standards, DCC bases its design decision on current and known future requirements. We do and will continue to capture risks and develop mitigations to minimise their impacts.
96. DCC notes the additional threats identified by customers and will monitor and manage these internally.

3.7. Question 7

97. DCC sought views on the proposed approach to testing using GBCS version 4.1 asking: “Do you support DCC’s proposed approach to testing with GBCS versions? Please provide a rationale for your views.”.

Respondents’ Views

98. DCC received seven responses to this question.
99. The majority of respondents are supportive of the approach to baseline the technical design of the CH on GBCS v4.1, whilst maintaining the option reverting to an earlier version of GBCS if v4.1 is not ready in time. Two respondents recognised the risk of delays to the release of 4G CH that may arise due to the immature state of GBCS v4.1 firmware and noted that these must be avoided if at all possible. It was also noted that using GBCS v2.1 would not be beneficial as testing will not be completed on the latest available version of GBCS and will result in disparate versions operating in

the production environment. Therefore, it was expected that the new 4G CH will support GBCS v4.1 or a minor delta from GBCS v4.1.

- 100.** Two respondents also noted that several key principles should be considered by the DCC when considering which firmware to use for the 4G CH. These were:
- that the latest fit for purpose CH firmware should be used for the 4G CH and it is therefore critical that DCC takes on board the key learnings from the historical issues relating to CH firmware deployed into live, where it ended up with energy suppliers identifying critical CH defects in the field resulting in significant costs to suppliers and consumer disruption;
 - that DCC should take into account key learnings from the TCSO Subgroup (under TSIRS) in respect of proving the CH Exchange process, specifically in relation to the optimal CH firmware working with devices combinations, and considering recommendations for guidance (or more formal requirements in SEC) on ensuring devices on the HAN are using the latest set of firmware;
 - that SMDA testing should be undertaken ahead of pre-UIT for 4G CHs; and
 - if GBCS v2.1 is chosen, that DCC must test the firmware OTA path and share performance information.
- 101.** Additionally, respondents noted that to provide clarity to industry, DCC should add the GBCS v4.1 plan to the 4G CH&N POAP. It was noted that DCC Users, via SEC Panel and the relevant Sub-committees, should be involved in the governance decision-making regarding which GBCS version/firmware version should be used for the 4G CH. It was emphasised that DCC must be transparent about the decision-making process and when the decisions needed to be made regarding which GBCS version exits PIT.
- 102.** One respondent raised concerns in relation to the proposed approach, noting that they consider the risk introduced by using GBCS v4.1 so early in its own development adds unnecessary risk and uncertainty to the CH&N Programme. Therefore, their preferred option is to develop and test with the stability of GBCS v2.1 with a later transition to GBCS v4.1 once proven with existing CH. They also consider that there is no direct dependency on GBCS v4.1 and the potential use of emulators during PIT is a cause of concern.

DCC Response

- 103.** Views from respondents regarding use of GBCS versions were mixed. Whilst one respondent did specifically prefer that DCC developed and tested using GBCS v2.1, more respondents supported DCC's planning assumption to use GBCS v4.1. In light of this, DCC can confirm that it will not change its planning approach and is planning to use firmware which incorporates GBCS 4.1 in PIT.
- 104.** As we initially stated, there are benefits and risks to this approach, and we will review this decision once testing of GBCS 4.1 firmware has completed its own SIT.
- 105.** We agree there is merit in presenting key GBCS 4.1 programme milestones along with the CH&N milestones, and will add these to our POAP, and will add then to the JIP so that they can be tracked by impacted stakeholders.
- 106.** As set out in the DCC response to previous questions, we can confirm that we will be incorporating lessons learned from previous firmware deployments. We will take into account learnings from the TCSO sub-group, and monitor their ongoing work, taking future learnings where identified. Finally, we can confirm that if we alter our planning assumption and test with GBCS v2.1, we will test the firmware OTA path and share performance information.

3.8. Question 8

107. DCC sought views on the DCC's assessment of the programme's interaction with other change programmes asking: "Do you agree with DCC's updated assessment of the CH&N Programme's interaction with other change programmes, and whether our approach to managing them is appropriate?".

Respondents' Views

108. DCC received seven responses to this question.
109. The majority of respondents agreed with the DCC's updated evaluation. It was emphasised that given the significant slippage in delivery dates against the initial plan, DCC needs to exploit opportunity to reduce timelines and, thereby, reduce the interaction with other change programmes. One respondent noted that the DCC needs to work collaboratively across all programmes, at an operational and detailed level, to ensure success and alignment. It was emphasised that cross programme interaction needed to be established at an operational level to ensure issues are known, the status of workstreams is co-ordinated and any delays are notified to all impacted parties as soon as possible.
110. Two respondents provided additional points for DCC to consider in the assessment of the interactions:
- there is a lack of information regarding capacity planning aspects that may impact the DCC ecosystem, specifically where Service Request Variants (SRVs) relating to CH Exchange and I&C may be impacted by the increase in traffic demand from MHHS;
 - the replan suggests ECoS is on a "happy path" with no issues expected, however, experience of previous delivery programmes suggest that this is not the case;
 - the potential concern on delays to the DSP re-procurement that could have an impact on DCC User's BAU activities for when 4G services go live have not been outlined; and
 - there is no reference to CSP contract renewals in 2028 (whilst noting it is not a specific DCC programme) and the CSP N Scaling and Optimisation programme, noting that DCC needs to consider 4G services for CSP N.
111. One respondent considered there to be a need for an overarching view of all programmes and inter-dependencies, for decision points or impacts, stating that this needs to be visible to DCC customers.

DCC Response

112. DCC is grateful for the responses on this question, and that respondents broadly agreed with our analysis. We also welcome specific comments on challenges and assumptions which provide a different perspective on industry change.
113. We share respondents' views on the importance of cross programme collaboration. DCC operates at a portfolio level, with processes and structures in place to manage its portfolio of change. We will continue to do this, with programme leads liaising with DCC's portfolio office to clarify the wider interdependences between CH&N programme and other DCC programmes, both in-flight and planned.
114. We welcome the additional comments provided by two respondents of specific areas for consideration. The CH&N programme is currently in the process of assessing these with portfolio colleagues and our intention is to report back to industry on these points in due course (most likely through engagement at IMF).
115. Recognising the variability inherent in portfolio management, especially regarding programmes which DCC does not control, we note that this review and update process needs to continue on

an ongoing basis. We will continue to monitor the programme's delivery against other programme timelines, updating on interactions and seeking stakeholders' views as we go.

3.9. Question 9

116. DCC sought views on its engagement approach, asking: "Do you agree with DCC's overall engagement approach? Is there any activity which you consider necessary which has not been included?"

Respondents' Views

117. DCC received seven responses to this question.
118. The majority of respondents were critical of DCC's early engagement in the CH&N programme, with one noting that to date, the sharing of information seemed to have been limited and sporadic. A respondent set out that whilst there had been engagement with BEIS and Transitional and SEC Governance groups, wider industry engagement needed to improve, and that, going forward, DCC should extend its communication to all customers and interested parties and not just to attendees at particular forums. One respondent suggested that a monthly update call, open to all, as is provided by the ECoS programme, should be held to give a general update on progress and the position of the programme.
119. One respondent considered that the future approach, outlined in the consultation document, includes a sensible set of deliverables which is the right approach. They noted that the Customer Journey and key milestones described seem to be appropriate. Another respondent also noted that they would expect DCC to engage with Alt HAN Co directly though the fortnightly meetings to ensure activities, risk and issues are aligned as they emerge.
120. Four respondents requested that DCC share the 4G CH&N Business Case, specifically the Cost Benefit Analysis (CBA), at the earliest opportunity. It was recognised that whilst DCC may need to redact certain information that is commercially sensitive, those redactions should not prevent DCC Users from being able to understand the full impacts (commercial, financial and operational) that the programme will have on their businesses and consumers.
121. Finally, one respondent set out their expectation that further information and transparency should be provided at DCC's Quarterly Finance Forum, specifically on CH 'rental' fixed charges, and 'not redeployed' costs across all variant types. They set out concerns that adding in the 4G DBCH 'rental' will likely add another layer to the already opaque charging regime.

DCC Response

122. DCC is disappointed that some respondents have, to date, not been satisfied with our engagement approach. We take engagement seriously and are committed to making improvements so that we can engage with as many customers as possible, to a high standard.
123. In terms of our programme engagement thus far, DCC shares regular updates through IMF and SMDG, as well as engaging on programme milestones and artefacts through the SEC Panel and its sub-committees. We consider this is an important means of engagement and this will continue throughout the Design Build and Test phases of the programme.
124. DCC are working on a comprehensive engagement plan which will support delivery of the CH&N programme and will include a review on how DCC engages with those users who are not represented on the Transitional or Enduring Governance Groups.

125. Regarding the CH&N business case, since the consultation closed, DCC shared with industry (through the SEC Panel and its Ops Group and TABASC sub-committees) the Cost Benefit Analysis which underpins the programme. DCC have shared a redacted version of the Full Business Case, which laid out the benefits and costs associated with the programme both with SEC Panel and will share the same document with Quarterly Finance Forum Representatives. An executive summary which removed commercially sensitive material was shared with Panel under the Panel's Green Classification, and so all SEC Parties are able to view this summary.

3.10. Question 10

126. DCC sought any additional comments asking: "Please provide any additional comments you have on the revised plan. Where relevant please include a rationale for your view".

Respondents' Views

127. DCC received eleven responses to this question.
128. Two respondents noted the challenge for DCC to efficiently managing continued 2G/3G CH supply in the lead up to 4G CH availability. They noted the following points:
- Energy Suppliers will need to maintain the rollout during the transition from 2G/3GCH supply to 4GCH supply. The potential for 4GCH programme delay and supply chain issues could pose a risk to this;
 - the potential for 3G sunsetting before 2G and any risk this might pose to the current service levels;
 - delays to the delivery of the 4GCH will increase the number of upgrades energy suppliers need to undertake; and
 - ensuring an efficient transition from 2G/3G to 4GCH orders so as to deliver value for money for customers.
129. Three respondents commented on the extended timeline of delivery and emphasised that delays will increase the number of upgrades energy suppliers need to undertake. The quick delivery needs to be balanced with ensuring sufficient testing to avoid any later issues. One of these respondents also commented that the incentive regime did not penalise DCC, stating that the claims that adopting a single 4G DBCH has not reduced the timescales for procurement as the DCC had claimed it would. They considered that timescales are padded slack and/or Governance inertia that must be removed, noting that DCC needs to take proactive responsibility to deliver efficiently and economically on behalf of its customers and stakeholders to actively drive an improvement to these timescales in the months before 4G CHs become available.
130. One respondent raised a general concern in that 4G CHs will lead to greater disparity in performance between regions and a two-tier network is unacceptable. It was also requested that 4G CHs needs to be backward and forward compatible, with the ability to work with 5G.
131. Two respondents raised matters in relation to CH returns and recycling. They noted that once a CH has been powered up on site it cannot be re-used without returning it to the DCC for 'resetting'. It was noted that this is costly and a waste of time/effort, therefore, they suggest the means of resetting CH be incorporated into the 4G design allowing straightforward reuse. One respondent raised a number of queries regarding the returns process for 2G/3GCHs. Finally, it was asked whether there are plans for recycling or refurbishment of devices in order to minimise environmental impact.
132. One respondent raised a concern regarding the risks of 4G upgrades for consumers already operating in prepayment mode, highlighting the risks this posed if rolling out 4G CHs in credit

mode as a test base. They stated that the I&C process must also be robustly tested across many device combinations and the 4G CH must be free of defects.

133. Several respondents requested further information on matters which were not clear in the consultation document. These included that:

- it is important to understand when the updated WAN Coverage Checker is made available as this will allow Energy Suppliers to make operational decisions on deployment and targeting of Alt HAN depending on the knowledge of where WAN is available;
- it is not clear what the full Network Evolution Transitional Migration Approach Document (NETMAD) will cover, however, if there are specific considerations related to the existing equipment connected to CHs that need upgrading, then these should be considered in the approach;
- it is implied that there will need to be procurement and re-design of the logistics processes and CH order management capacity, but it is unclear why existing (generally effective) processes need to change and further changes always have wide ranging impacts including financial charges to Energy Suppliers (and ultimately Consumers), which the DCC should seek to reduce and minimise wherever possible;
- DCC needed to provide an updated version of the Ordering Management System plan to industry and governance groups as soon as the details are known; and
- the change to the ZigBee stack in the 4G CHs was surprising, as DCC had previously assured that this would not be changed, and there is a potential this may impact on installed and future compatibility with meters.

DCC Response

134. DCC welcomes the additional comments from respondents.

135. We acknowledge the challenges faced by Energy Suppliers in managing the roll-out of smart meters through a period of technology transition. As noted in our response to Question 1, whilst the management of risks relating to the end-dates of the 2G/3G mobile networks is out of the scope of this programme, DCC plans to use its series of transition workshops starting in February 2023, to consider how we work with Energy Suppliers to ensure there is no disruption to CH supply.

136. DCC agree there is a need to prevent a two-tier service between the regions and technology. The scope of the programme is limited to providing Central and South Regions and will meet the minimum SEC requirements.

137. DCC's 4G CH will not be forward compatible with the 5G network. The use of 4G/5G modems in CHs was discounted on economic grounds. Whilst this is the case, the 4G CH product is being designed to incorporate 5G modems with minimal design change

138. DCC recognises the challenges identified in relation to the resetting of CHs and benefits that could be achieved if this facility were to be made available. The resetting of CHs is currently an open SEC modification (SECMP0010 Introduction of triage arrangements for Communication Hubs), and currently SECAS are in discussions with DCC to explore solution options. Should this SEC modification progress to approval DCC will work with service providers to incorporate this capability into the 4G service in accordance with final SEC requirements.

139. Current SEC obligations set out that 2G/3G CHs must be returned to DCC and there are currently no plans to change this. As per the current returns process, CHs will be returned as either faulty or non-faulty and should there be a continued need to some CHs may be refurbished for redeployment as 2G/3G assets into the forward logistics supply chain. However, once the need to

refurbish has ended the remaining Comms Hubs will be destroyed and securely disposed in line with ISO 27001 obligations.

- 140.** As part of the disposal process raw materials are recycled where possible and DCC can provide further clarity on this, should it be required.
- 141.** On testing and ensuring that customers using prepayment mode are not impacted, DCC is committed to ensuring that its testing, and trialling in IPV, is comprehensive and robust. As with all DCC testing, we will make use of independent expertise in the form of the Testing Advisory Group to review and assure our approach, as well as working with customers to ensure that IPV meets their and consumers' needs. The Install and Commission process will be robustly tested.
- 142.** Regarding the points where additional clarity was sought, DCC can confirm:
- that decisions on the dates for the provision of the WAN Coverage Checker will be informed through discussion with Energy Suppliers as part of our Transitional engagement. Whilst the WAN Coverage Checker will comprise enduring functionality, we agree that clarity on its availability during the transition period is important – including whether and when it will be available through the SSI or using DUIS SRVs. On this basis we will confirm the dates of availability of the WAN Coverage Checker on or before 30 June.
 - on the NETMAD, BEIS is still consulting on its incorporation into the SEC through a new Section F13. Whilst this work is ongoing and subject to change, we expect the scope of the NETMAD to cover all Network Evolution Arrangements, allowing additional or varied provisions to be set out in the SEC to facilitate transition, including for the CH&N programme. DCC is required to consult on the NETMAD before its incorporation into the SEC, which will allow customers the opportunity to contribute to its contents.
 - on ordering and logistics, an OMS is required for 4G CH ordering. The current OMSs are provided via current CSPs for their own products. DCC sees benefit in consolidating ordering via a single OMS solution, and we are in the process of setting out proposals in this area (in accordance with DCC's Licence when DCC undertakes procurements of Relevant Service Capability). DCC will continue to update and seek feedback from customers on its proposals for a 4G CH OMS solution; and
 - finally, on the change to the Zigbee Stack. DCC considers that incompatibility between different Zigbee stacks poses a low risk in terms of installed and future compatibility with meters. Every new Zigbee stack is tested by the Stack vendor (Silab) with devices with lower Silab stack versions. Additionally, DCC's test approach will incorporate the use of existing meters which are selected through an externally TAG governed and assured selection methodology.

4. Changes to the plan

143. Based on the feedback received, DCC proposes to make the following changes to the plan.

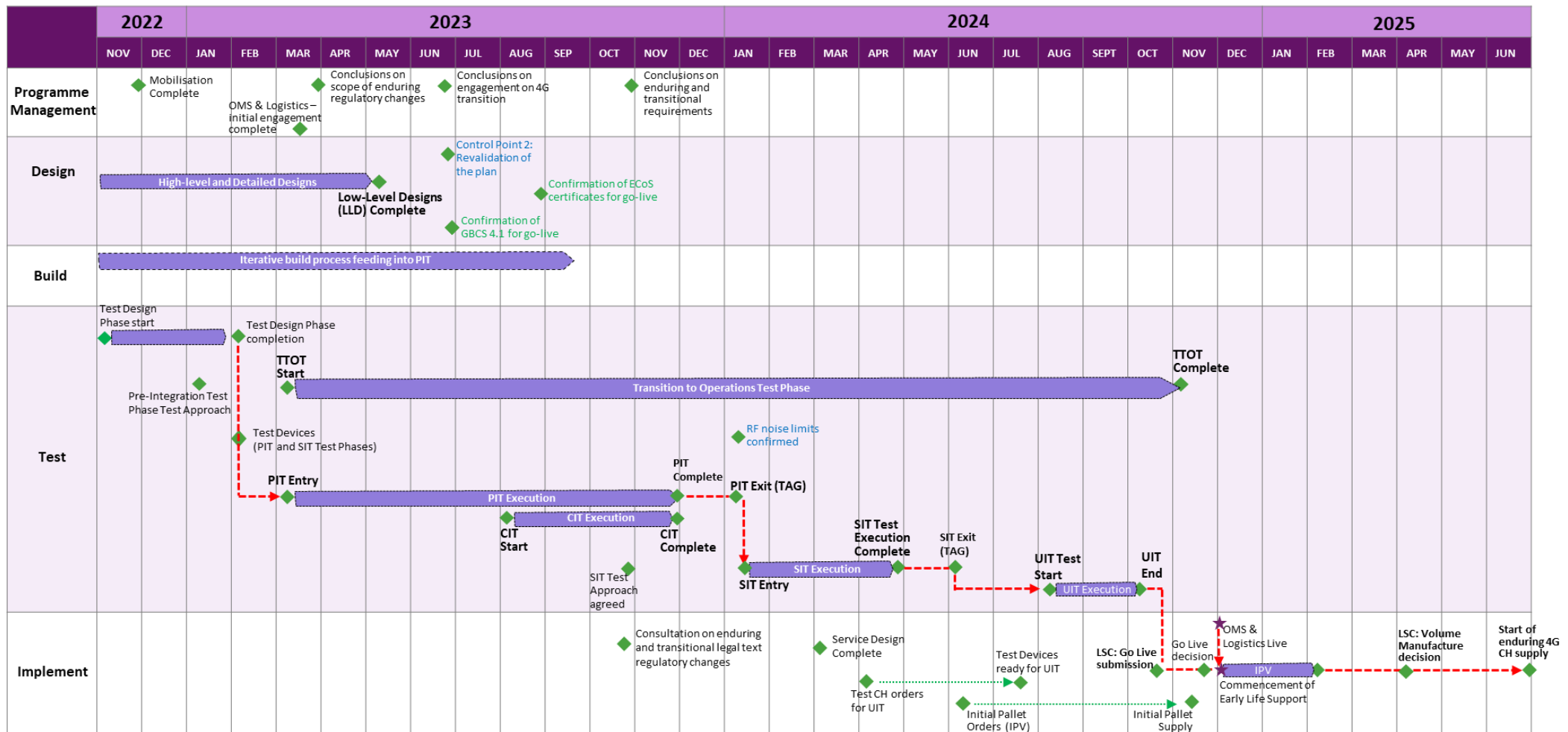
- DCC will be adding a new milestone which is the latest date by which it will confirm its current assumption to use GBCS version 4.1. We have added this to the plan for 30 June 2023.
- DCC will also add a new milestone which is the latest date by which it will confirm its current assumption to use ECoS certificates. We have added this to the plan for 31 August 2023.
- In order to make full use of customer feedback on and engagement on transitional issues, we have moved Control Point 2 from the date of completion of Low-Level Design (8 May 2023) to 30 June 2023, to coincide with the issuing of our conclusions on our approach to transition. This provides DCC with time not only to review the complete low-level design and assess whether this impacts plan delivery, but to also assess transitional issues (for example the duration of IPV);
- We have corrected the date for the start date of RF Noise Testing (to 10 Jan 2024), which was incorrectly set at the start of PIT, when it should have been the end of PIT;
- We have amended the descriptions of our milestones relating to OMS readiness, so it is clearer that capability will be in place for Suppliers to order Communications Hubs for IPV in June 2024 such that they will be ready for deployment in live for the IPV start date, and that the OMS will be fully operational (and ready for returns processing) at the start of IPV;
- We have amended the description of our final milestone in the plan – the 30 June 2025 date following the decision to commence mass-manufacture of 4G CHs. To add a more precise definition, in line with the contracts DCC has agreed with its Service Providers, we now describe it as 'Point at which unconstrained volumes of 4G CHs will be in the UK with logistics providers ready for delivery to DCC customers', to reflect that it is from this point that 4G CHs will arrive in unconstrained volumes with DCC logistics providers and are ready for onward delivery to DCC customers.

144. Where respondents have highlighted inconsistencies between the POAP and the Milestone table, we have corrected the POAP so it accurately reflects the Milestone plan.

5. Next Steps

145. DCC has submitted the revised Milestone Table to BEIS on 27 January 2023. We anticipate that the Secretary of State will shortly make a determination on whether or not to approve the LC13B plan delivery milestones. Where approved, some of those milestones will be incorporated into the Joint Industry Plan and its progress monitored through SMIP Transitional Governance.

Appendix A – Plan on a Page



Appendix B – Licence Condition 13B Milestone Table

#	Milestone	Proposed dates (Consultation Dates where different)	Description
1*	PIT Start	07/03/2023	Start of PIT phase for CH, DM, WAN, subject to earlier TAG approval of the corresponding Testing Approach Documents.
2	Transition to Operations Testing (TTOT) Phase Start	07/03/2023	Start of DCC's Transition to Operations test phase (TTOT), which includes Operational Acceptance Testing and Business Acceptance Testing stages.
3*	OMS and Logistics – initial engagement complete	15/03/2023	Initial engagement with stakeholders complete: DCC has captured SEC Party business needs relating to the OMS and Logistics capability. DCC has an understanding of the impacts on Users of the options available including its proposed approach.
4*	Conclusions on scope of enduring regulatory changes for the programme	31/03/2023	Latest date by which DCC will issue a conclusions document on the scope of regulatory changes required to deliver the CH&N programme.
5	Low Level Design complete	08/05/2023	Completion of Service Provider low level designs for the WAN, CH and Device Manager approved with DCC's Design Authority
6*	AMENDED - Control Point 2 – Revalidation of plan following Low-Level Design completion	30/06/2023 08/05/2023	Following the completion of Low-Level Design and conclusions of Transition engagement, DCC will use a control point to evaluate its detailed plan, submitting changes to the JIP if necessary.
7*	NEW - Confirmation of GBCS version	30/06/2023	DCC to confirm, based on the results of testing progress on the GBCS programme, that the planning assumption to use version GBCS 4.1 for 4G Comms Hubs to be installed in premises is valid
8*	Conclusions of engagement on 4G Transition	30/06/2023	Latest date by which DCC will issue a conclusions document on proposals for how to manage transition from 2G/3G CHs to mass supply of 4G CHs
9*	NEW - Confirmation of Change of Supplier (CoS) Certificate Type	31/08/2023	DCC to confirm, based on the progress of the ECoS Programme, the planning assumption that ECoS (rather than the current TCoS) certificates are to be used
10*	Conclusions on enduring and transitional legal text regulatory changes for the programme	31/10/2023	Latest date by which DCC will issue a conclusions document (following a written consultation document) on tracked changes it proposes are made to the SEC to reflect the enduring and transitional requirements for the 4G Communications Hubs & Networks Programme.
11	CH Financing, Insurance and Warranties – capability in place	29/12/2023	Point at which capability to finance, insure and warrant CHs will be put in place
12*	PIT Exit	10/01/2024	DCC gets Panel approval of Completion of PIT phase for DSP, CH, DM and WAN

13*	AMENDED - RF Noise Limits confirmed	10/01/2024 <i>07/04/2023</i>	Updated ICHIS published including RF noise limits for 4G CHs following DCC consultation, with requisite testing environments and equipment made available
14*	SIT Start	15/01/2024	Start of SIT phase after successfully meeting entry gate criteria
15*	Test CH Orders	01/04/2024	AMENDED - Test 4G CHs available for ordering by Testing Participants, <i>which will be delivered within 12 weeks of being ordered.</i>
16*	SIT Exit	07/06/2024	DCC gets Panel approval of Completion of SIT phase
17*	Initial Pallet Orders	07/06/2024	AMENDED - CHs required for IPV are available for ordering by Suppliers <i>such that they will be ready for deployment in live for the IPV start date</i>
18*	NEW - CPA Certification received	07/07/2024	CPA Certification received for 4G CH
19*	UIT Start	05/08/2024	Start of the UIT, including testing of changes to the Order Management and Logistics capabilities based on agreed set of entry criteria
20*	UIT Complete	07/10/2024	End of the UIT window based on an agreed set of exit criteria
21*	LSC: Go-Live submission	21/10/2024	Live Services Criteria submission to BEIS and SEC Panel for consideration prior to start of IPV and prior to DCC's deployment of changes to Live Systems
22	TTOT End	07/11/2024	Completion of DCC's Transition to Operations test phase (TTOT), which includes Business Acceptance Testing
23*	Initial Pallet Supply	18/11/2024	CHs ordered for IPV phase are delivered to Suppliers
24*	LSC: Go-Live decision	29/11/2024	Response from BEIS for approval prior to deploying changes to Live systems, following SEC Panel recommendation
25*	OMS and Logistics – Live	02/12/2024	AMENDED - New OMS and logistics capabilities will be <i>fully</i> operational, <i>including returns processing.</i>
26*	Initial Pallet Validation Start	02/12/2024	Start of Initial Pallet Verification pilot window in production
27*	Initial Pallet Validation End	07/02/2025	Completion of the Initial Pallet Verification pilot window in production
28*	LSC: Volume M/f submission	17/02/2025	Live Services Criteria submission to BEIS and the SEC Panel for consideration prior to DCC's Volume Manufacturing Decision
29*	LSC: Volume M/f decision	07/04/2025	Decision from BEIS prior to Volume Manufacturing, following receipt of SEC Panel advice
30*	Start of enduring 4G CH supply	30/06/2025	AMENDED - <i>Point at which unconstrained volumes of 4G CHs will be in the UK with logistics provider ready for delivery to DCC customers</i>

* Milestones/Control Points are proposed for inclusion in the JIP