

Connections Process Advisory Group

Meeting 4 Minutes

Date: 22/02/2024

Location: MS Teams

Participants

Attendee	Attend/Regrets	Attendee	Attend/Regrets
Merlin Hyman, Regen, CHAIR	Attend	Patrick Smart, RES Group	Attend
Neil Bennett, SSEN Transmission	Attend	Louise Sun, Department for Energy Security and Net Zero	Attend
David Boyer, ENA	Attend	Ian Thel, Department for Energy Security and Net Zero	Attend
Chris Clark, Emtec Group	Regrets	Spencer Thompson, INA	Attend
Catherine Cleary, Roadnight Taylor	Attend	Matt White, UKPN	Attend
Liam Cullen, Ofgem	Attend	Lee Wilkinson, Ofgem	Attend
Arjan Geveke, EIUG	Regrets	Michelle Young, Scottish Government	Attend
Ben Godfrey, National Grid Electricity Distribution	Attend	Salvatore Zingale, Ofgem	Attend
Garth Graham, SSE Generation	Attend	Camille Gilsean, ESO	Attend
Paul Hawker, Department for Energy Security and Net Zero	Attend	Robyn Jenkins, ESO	Attend
Eleanor Hoare, Welsh Government	Regrets	James Norman, ESO	Attend
Claire Hynes, RWE	Attend	Mike Oxenham, ESO	Attend
Jade Ison, National Grid Electricity Transmission	Attend	Mike Robey, ESO (Tech Sec to CPAG)	Attend
Allan Love, SPT	Attend	Atia Adrees, ESO	Attend
Holly Macdonald, Transmission Investment	Attend	Will Kirk-Wilson, ESO	Attend
Alasdair MacMillan, Ofgem	Attend	Ruth Matthew, ESO	Attend
Deborah, MacPherson, ScottishPower Renewables	Attend	Kelvin Mcwan, ESO	Attend
Jennifer Pride, Welsh Government	Attend	Sonia Poonian, ESO	Attend
Grant Rogers, Q Energy	Attend	Folashade Popoola, ESO	Attend
Oz Russell, ADE	Attend	Djaved Rostom, ESO	Attend
Andrew Scott, SSE Distribution	Attend		
Annette Sloan, SSEN-T	Attend		

Agenda

1. Welcome and matters arising	Merlin Hyman, James Norman
2. Minutes and actions from meeting 3	Mike Robey
3. Package 2 (fault level assessment, enabling works and CPAv2)	Djaved Rostom, Atia Adrees
4. Package 3	Mike Oxenham
5. Package 4.1 and Package 5	Mike Oxenham
6. Package 4.2, 4.3 and 4.4	Mike Oxenham
7. Substation bays	Shade Popoola
8. Disincentivising mod apps	Ruth Matthew
9. Next steps	James Norman
10. Any Other Business	Merlin Hyman

Discussion and details

Minutes from meeting, including online meeting group text chat during meeting, where referenced as “[From online chat]”

1. Welcome and Matters arising

- The Chair acknowledged the concerns raised by CPAG members regarding the volume of material circulated to CPAG members before the meeting and the limited time provided to review the contents and engage other stakeholders ahead of the meeting. Members asked for papers to be circulated further in advance of meetings to support this.
- ESO stated they were acutely conscious of the volume of content and cadence of fortnightly CPAG meetings. They noted that February and March were particularly intense periods with a significant number of papers associated with both the March 2024 milestones for actions detailed within the Connections Action Plan as well as key features to be resolved for the detailed design of the connection reforms.
- ESO felt there was limited scope to implement changes for CPAG meetings before the end of March, but from April it is anticipated that CPAG meeting frequency will reduce to possibly monthly. This will give more time to circulate papers further in advance of meetings. In the short term, two actions were identified:
 - **Action 4.1.1** ESO to look into sending papers in more than one batch, if this allows at least some to be circulated earlier.
 - **Action 4.1.2** ESO to trial pre-recording some presentations to introduce topics in advance of the meeting.
- For today's meeting the agenda has been re-ordered to give more focus to the strategic content for the meeting followed by shorter updates for other matters.

2. Minutes and actions from meeting 3

- ESO shared progress with meeting 3 actions and noted the forthcoming workshop for the Gate 2 milestone on 28 February (Action 3.5.1). ESO also noted a correction to the circulated minutes of meeting 3.
- **Decision 4.2.1:** CPAG approved the meeting 3 minutes.
- **Action 4.2.1:** ESO to publish meeting 3 minutes.

3. Package 2

- Fault Level Assessment
- Construction Planning Assumptions (further development of)
- Enabling Works

- ESO noted that the current Construction Planning Assumptions (CPA) exercise utilising the revised modelling assumptions will deliver results in the summer, but it is not anticipated to deliver as large a benefit as originally expected due to the overall volume of connection applications.
 - [From online chat: a member noted that CPAs alone are unlikely to resolve queue issues, but that they still remain a significant positive step forward and they thanked ESO for pushing this through. They asked for industry to be kept informed of the final agreed CPAs across all TOs, noting that transparency is important.
 - Another member challenged whether the new CPA assumptions are being radical enough given the queue is not going away.
 - ESO responded that it is going to look at this further especially the link to the FES forecasts to test the value of revising CPAs.]
- ESO noted the growing gap between the contracted background and FES, which impacts the consideration of Enabling Works (EW).
- A member asked for clarification to the reference that the recommended approach would apply to existing projects, specifically would this apply to energised projects?
 - ESO clarified that the recommendation is to apply the revised policies to existing contracted projects within the connections queue, but not to energised sites.
- A member felt that the recommendations make sense for EW and Fault Level Assessment (FLA), but that it was not clear yet for CPA. The member also queried whether the approach could be different in Scotland.
 - ESO noted that CPA was being applied in Scotland but noted that there were some differences in the approach being adopted in Scotland compared to England & Wales reflecting their networks. ESO noted that the CPAs will be adopted for all new connection applications from March 2024
 - A member queried the status of connection applications that were submitted after the 2023 expression of interest exercise (for projects seeking an accelerated connection date) closed and before the March 2024 adoption of CPAs. It appears that these projects will miss the opportunity to benefit from potential acceleration.
- [From online chat: A member noted that to futureproof on Fault Level issues there needed to be more anticipatory investment, rather than to be led by customers.]
- [From online chat: A member asked ESO to clarify the scale of exceptions that are envisaged. Another member supported this question but noted that adoption of option 3 with a definition linked to a hard stop at MITS would remove the uncertainty (option 3 “A MITS Limit with no exceptions”).]
- A member noted that licensees have comments to input to the EW paper.
 - ESO confirmed that further discussion with Transmission Owners was needed. ESO noted that it was leaning towards option 2 within the EW paper (option 2 “A MITS limit with limited exceptions” to stay as close to the current Connect & Manage and MITS wording as possible), subject to further engagement.
 - [From online chat: A member supported a further workshop for ESO and TOs on EW, noting this was a complex area that impacts connections dates but also the integrity of the network also needs to be considered. They stated there is a need to review enabling and wider definitions beyond the economic definition noted in the paper (e.g. expand to understand network risk).]
- [From online chat: A member asked whether ESO envisaged a CUSC mod to address the definition of enabling works and MITS including any policy decision.
 - ESO noted that it depends upon which option is selected but the preferred option 2 of limiting works to MITS substation with clear exceptions defined, may require some clarifications regarding the definition of the MITS substation mostly in terms of which circuits would classify as Main System Circuits]

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- [From online chat: A member queried what consideration had been given to embedded projects impacted by the queue but trigger fault level – will the revised policies apply to those also, or only directly connected transmission connections.
 - Another member agreed that this was very important and needed to be worked through in detail and noting that there was an opportunity to bring to ENA SCG through ESO representatives. The member noted that there is an SCG sub-group working on the Distribution Forecasted Transmission Capacity (DFTC) who could feed into this discussion and develop solutions.
 - Another member asked for details to be clarified on which aspects would apply to embedded projects and to clarify aspects relating to Gate 2 and project progress.
 - ESO confirmed that once DFTC is allocated to projects it will have become a project in terms of the reformed process and have dates applied to it. Embedded projects would be able to apply for acceleration and this may be firm, or non-firm (where firm is not possible).]
 - The Chair summarised that it sounded like there was support for the recommended implementation approach (Option 3 “to apply the new approach to all new applications from Connections Reform and to existing contracted projects that have reached Gate 2”) with some specific aspects to be clarified.
 - **Action 4.3.1:** ESO to return to CPAG to share its updated recommendation for Package 2.
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4. Package 3

- ESO noted that the measures within Package 3 were being considered because of the size and continued growth of the connections queue. TMO4 (the recommended reformed connection process) and queue management through the adoption of CMP376 will take quite some time to have an impact, therefore Package 3 seeks to do more and quickly.
 - ESO explained that within the Package 3 stacking proposals projects meeting the requirements of Gate 2 would be provided with a queue position and connection date (including the potential for advancement), and before reaching Gate 2 projects would not be provided with a queue position and aspects of the offer would therefore remain indicative, which is different to what was originally proposed in TMO4. The proposal to stack projects is really about allocating queue position based on projects’ readiness and it could possibly also include stacking by technology and / or location.
 - A member queried whether in this proposal ESO would honour existing queue connection dates.
 - ESO responded that if this Package 3 proposal is adopted then No, existing dates would not be honoured for projects which have not met the Gate 2 criteria (but that they would be honoured for projects which have met the Gate 2 criteria and there would be the potential for advancement for projects that meet Gate 2). Before Gate 2 is achieved there would be no hierarchy or queue position, with projects effectively competing to get to Gate 2, where a queue position and firm connection date would be allocated.
 - [From online chat: A member suggested that changes to connection terms and conditions are governed by primary legislation, which flows through the transmission licence to the CUSC, so they believed this change would need to go through the full code change process (at speed) to avoid legal challenge later down the road. They reflected that using the urgency approach was legally robust, transparent, fair to all stakeholders (who can engage) with options given to Ofgem resulting in a clear decision that everyone can buy into.]
 - A member expressed concern about investor confidence in existing projects in the queue if additional fees are applied, such as a capacity holding charge. Instead, they challenged about delay charges also applying to TOs as well.
 - [From online chat: Another member stated that delay charges should be cost reflective and transparent.]
 - A member linked the discussion to the positioning of Gate 2, noting that if a connection date is not provided until (for example) planning consent has been secured this would give developers insufficient time to deliver the project. They encouraged ESO to investigate investor confidence in the proposals.
 - ESO agreed that the positioning of Gate 2 is key and noted that the costs and issues grow the later Gate 2 is within the process. ESO agreed that planning consent approval was too late for Gate 2, but also that Exclusive Land Rights may be too early for Gate 2, so
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- 'submitted planning' or thereabouts may be the best positioning but this remains to be confirmed as per the plans for an expert workshop in the near future.
- [From online chat: A member raised what consideration had been given to not only if Gate 2 is planning submitted or achieved, but definition of what the planning being progressed is for (to be mindful of the risk of gaming what "submitted planning" is).]
 - A member expressed concern that the proposals to increase costs and fees will deter smaller investors.
 - ESO recognised these concerns but noted that the Connections Action Plan (CAP) asks ESO to consider costs within the options.
 - A member reflected that the packages re-visit last year's discussion on the merits of reactive and proactive queue management approaches.
 - ESO has discounted the option for a one-off capacity auction as there was concern that it would take too long to introduce and focussed too much on money rather than supporting good projects. ESO believes Gate 2 being applied to the whole queue will address this better than an auction.
 - A member suggested not taking an auction off the table yet but acknowledged that this would be a drastic approach.
 - [From online chat: a member noted that if a technology neutral approach is adopted there is a risk of creating a 'new queue' / pipeline potentially greater than the capacity required for Net Zero and an inappropriate mix. Only to revisit this at a future date with potential stranded assets, higher costs all round and further knock investor confidence. What analysis or mitigation could be explored?]
 - [From online chat: A member expressed preference for the package 3 proposal (compared to package 4 or 5.)]
 - A member stated their Board were broadly comfortable with the recommendation for Package 3, accepting that the reforms bring risks, but they highlighted the need to see further details. They supported ESO's recommendation to discount the one-off auction option.
 - [From online chat: A member stated that a one-off auction would be fundamentally misaligned with the objective of allocating grid connections on the basis of projects that are in a position to use them. An auction would only reveal how much a party is willing to pay, not on their ability to use the grid. Several members supported this view.
 - Another member agreed that a price-only focussed auction should be discounted. However they noted that an auction could be established to focus on ability and timeline to deliver and make the connection and then have very stringent requirements to make sure the connection dates are delivered.
 - Another member supported the recommendation for Package 3 depending on the Gate 2 milestone being agreed.]
 - Government and Ofgem representatives re-iterated that CAP takes nothing off the table and that they were keen to hear feedback on the options.

Packages 4.1 and 5

CPAG member comments:

- [From online chat: With the current queue situation, both options 4.1 and 5 should be kept on the table. They noted conversations with multiple customers trying to access the same site / connection point.
- A member expressed strong opposition to customers trading capacity, highlighting that it will cause all sorts of issues.]
- How could Package 5 be done without a code change to make it legally robust? They also noted that they did not see Package 4.1 as having any more substantial costs than Package 5.
 - ESO clarified that Package 5 sees no money change hands in the process.
- Support discounting 4.1a and 4.1b for now and stated that they would need a lot of convincing that Package 5 is workable.]

Packages 4.2, 4.3 and 4.4

- ESO stated that if one of 4.2, 4.3 and 4.4 was being taken forward, they felt the capacity holding charge or security (Package 4.4) would be the best of these options.

CPAG Member comments:

- How would the Capacity Holding Charge (or Security) (CHC) option work with queue management milestones?
 - ESO noted that queue management may result in the termination of some projects and the CHC could lead to the self-termination of some projects (to avoid incurring the CHC). ESO noted the need to further explore the potential links between queue management and a CHC charge. Another consideration could be to increase the CHC as projects progress through the milestones.
- Would the CHC be used to offset other developer costs?
- Agree with the recommendation not to modify securities and liabilities regime. The member highlighted that user commitment liabilities are currently a postcode lottery and not cosy-reflective and they felt it was more important to tackle the existing inconsistencies than consider adding to the user commitment.
- ESO has not considered what level of CHC would be appropriate and this would need to be fully considered before submitting a code change if this option was pursued.
- A member reflected that some securities are more onerous than others and suggested a wholesale change to CUSC Section 15 is needed.
- A member reported that the DFTC approach proposes no liabilities being applied to embedded projects until these customer projects are confirmed. This may mean DNOs taking on some of the risks and liabilities until these can be applied to the right customers.
 - A member raised a concern as to whether DNO would be disadvantaged if it was not documented that all embedded projects had met Gate 2 and therefore distributed generation could be disadvantaged by being a step removed from the contract discussions.
 - [From online chat: A member noted that they needed to have visibility of the DFTC proposal to be able to provide substantive feedback on the interacting points with the Packages options.]
 - ESO noted that it was discussing this with DNOs and that a fuller discussion was needed CPAG and that this would be brought to a future CPAG meeting.
 - A member supported the broad direction of travel for the Transmission Charging sub-group under the ENA SCG.]
- A member suggested that some of the charge could be refunded upon connection, therefore working to remove 'zombie projects' from the queue without disadvantaging those serious projects wanting to connect.
- A member agreed with the recommendation not to prioritise an auction and noted no strong desire to increase fees. Concern about investor confidence and that incremental increases to a CHC would adversely impact more complex projects.
- [From online chat: A member raised whether a 2-stage fee could be considered with a fee for Gate 1 and a higher cost for gate 2. They expressed concern that the option to introduce a capacity holding charge would add even more to securities which they felt were already over-stated.
 - ESO noted that it could be possible to create a capacity holding charge in a way which has a different calculation for those that have met Gate 2.
 - ESO noted that options to increase fees would have the intention of supplementing the financial cost / risk of holding capacity in addition to existing user commitment calculations / arrangements.
 - The member responded that this approach only works if the numbers are accurate and attributable. They felt that there was evidence of overstating at the moment, probably due to the volume and high level of assessments.
 - In the context of the option within package 4 to increase application fees, ESO reflected that this would mean making fees non-cost reflective and that is what ESO is not sure is worth pursuing (as you'd probably need a code change to do it and the impact would be uncertain

(i.e. what is the right fee to have the impact you want?). Therefore, why not instead focus on another option that would be more impactful than this?]

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- A member advocated more of a carrot than stick approach around fees, with the network companies giving more support and data upfront to projects.
- [From online chat: a member felt strongly that 4.2, 4.3 and 4.4 should not be applied as not really disincentivising customer, more penalising and not cost reflective.
- A member noted that there is already debate in play on S&Ls which will now pick on the SSEN-T STC mod. They thought there is a danger of any options considered here coming into conflict with other developments. Wider consideration on changes to CUSC Section 15 is required. Options 4.2, 4.3 and 4.4 look like they create new barriers to entry rather than facilitation of viable projects moving forward.

Conclusion of discussion on Packages 3, 4 and 5

- The Chair reflected:
 - General support towards the recommended package 3 approach to apply Gate 2 to the whole queue (and not pursue a one-off capacity auction), but with more detail working up including how to maintain investor confidence.
 - Nervousness on the complexity and difficulty with package 4.1 and 5; and
 - Possible interest in the capacity holding charge from amongst the package 4.2, 4.3 and 4.4 options, but nervousness on any cost increases.
 - And general concern to better understand the implications for embedded projects in these packages.
 - Encouraged members to consult their networks with the information already provided ahead of the next CPAG meeting.
- ESO noted their intention to rationalise the options and the work through the remaining options in more detail to bring to the next CPAG meeting and then on to the 21 March Connections Delivery Board meeting. ESO reiterated that all of these packages are options for additional changes and not yet confirmed as actually going ahead for implementation.
- **Action 4.4.1:** ESO will take forward the options Packages 3.1, 4.4 and 5 for more detailed discussion.

5. Substation Bays

Re-allocation:

- A member agreed with the recommendations and asked for further details of how bay re-allocation will work with application windows. Can a later window applicant at gate 2 take a window 1 bay space?
 - ESO agreed to look into this.
- Like the recommendation but would like more clarity. Looking at the TO/DNO boundary and contestability; who owns the breaker inside the fence?
 - ESO confirmed that it is looking at substation boundaries and CUSC could be amended to clarify this.
- A member highlighted the need to clarify who gets the re-allocated bays and how this is determined.
 - ESO agreed and recommends that the TOs develop and publish formal policy on this for transparency.
 - The member supported this approach.
- [From online chat: A member noted the need to be careful on bay allocation in terms of cost allocation. For example in project X terminated, cost of bay £1m overall, or which £400k applied to the terminated project X, then bay allocated to project Y, what does project Y pay? £600k of £1m (and if £1m, does project X get some/all of the £400k it paid back (less TO fees)?

Bay sharing

- ESO is recommending that NGET take up bay sharing. There are issues to be addressed about bay ownership boundaries which may need changes to CUSC and there are also some physical / spatial issues to consider.
- [From online chat: A member raised the need for consideration of the ownership of the bays, noting there were inconsistent views across the country between DNOs/TOs causing asset risk issues downstream.]
- A member noted NGET would need to work with the Scottish TOs to understand how bay sharing can be done. It may not always be possible for existing substations but would be a good element of future substation design.
- [From online chat: A member recognised the challenges for NGET in shifting to a bay sharing model but highlighted that the size of the prize is big, so worth taking forward. They noted that the term bay sharing may be being used to discuss two separate types of connections design:
 - Scottish TOs might use a bay for multiple connections by teeing customers into TO owned circuits out of that bay.
 - Bay sharing could also mean the TO allowing two customers to connect into a single 400kV or 275kV bay, which is what would more likely apply in England & Wales. They felt this needs further investigation and could include providing disconnectors on outgoing site of AIS bays to facilitate two customer connections. They noted that multiple customers they had spoken to were very interested in this.]
- A member supported reviewing this. They highlighted that voltage considerations should be looked at, noting the differences between transmission systems in Scotland and England and Wales.

Bay Standardisation:

- ESO recommends taking bay standardisation forward and this requires changes to CUSC. It would increase TO asset ownership, which the Authority will need to consider.
- [From online chat: A member asked ESO to clarify if ESO was proposing a single approach to standardisation across Great Britain, rather than a separate approach for each TO.
- A member felt that CUSC2.12.1 is clear and applied uniformly by TOs. They noted the difference is that Scottish TOs build out to the generator site, so the switchgear in question in 2.12.1 is on the customer site and the bay back at the TO substation is wholly owned by the TO.]

6. Disincentivising mod apps

- There was insufficient time to discuss ESO's recommendation.
- [From online chat: two members recorded their support for the recommendation.
- Another member agreed with the recommendation and noted that there is still a benefit to redefining what is a modification app (some change ratings equipment, not just increase TEC) along with developing your view of what can be applied for through secondary processes in the MVP connection process.]
- **Action 4.6.1** ESO to return to CPAG to discuss disincentivising mod apps

7. Next steps

- The next CPAG meeting is scheduled for Thursday 07 March.
- [From online chat: A member offered to have an offline chat with ESO before the 07 March CPAG meeting's scheduled update on the code change strategy.
 - ESO advised that the code change update may be a slide or verbal update and was happy to meet next week to discuss when the ESO colleague returned from leave.]

Decisions and Actions

Decisions: Made at last meeting

ID	Description	Owner	Date
4.2.1	Meeting 3 minutes to be published	Merlin Hyman	22/02/2024

Action items: In progress and completed since last meeting

ID	Description	Owner	Due	Status	Date
4.1.1	ESO to look into sending papers in more than one batch, if this allows at least some to be circulated earlier.	Mike Robey	29/02/2024	In progress	
4.1.2	ESO to trial pre-recording some presentations to introduce topics in advance of the meeting.	Mike Robey	04/03/2024	ESO to trial	
4.2.1	ESO to publish Minutes of meeting 3	Mike Robey	29/02/2024	Complete	26/02/2024
4.3.1	ESO to return to CPAG to share its updated recommendation for Package 2.	Djaved Rostom	21/03/2024	Ongoing	
4.4.1	ESO will take forward the options Packages 3.1, 4.4 and 5 for more detailed discussion.	Mike Oxenham	07/03/2024	On agenda	07 March
4.6.1	ESO to return to CPAG to discuss disincentivising mod apps	Ruth Matthew	07/03/2024	On agenda	07 March
2.3.1	ESO to scope code defects and bring them to a future CPAG meeting	Paul Mullen	07/03/2024	On agenda	07 March

Decision Log - Decisions: Previously made.

ID	Description	Owner	Date
3.2.1	Minutes of meeting 2 approved for publication	Mike Robey	25/01/2024
2.1.1	Terms of Reference v2 approved for publication	Mike Robey	25/01/2024
2.2.1	Minutes of meeting 1 approved for publication	Mike Robey	25/01/2024

Action Item Log - Action items: Previously completed.

ID	Description	Owner	Due	Status	Date
3.2.1	ESO to publish the minutes of meeting 2	Mike Robey	22/02/2024	Complete	16/02/2024
3.5.1	ESO agreed to look into holding a targeted workshop on Gate 2 to gather more views	Paul Mullen	28/02/2024	Scheduled	28/02/2024
3.7.1	ESO will bring fuller details on packages 3, 4 and 5 to the next CPAG meeting, providing clear links to the Connections Action Plan	Mike Oxenham	22/02/2024	Complete	22/02/2024
3.7.2	ESO to re-issue slides to address a typo on slide 36	Mike Robey	08/02/2024	Complete	08/02/2024

ID	Click or tap here to enter text.	Owner	Click or tap to enter a date.	Status	Click or tap to enter a date.
2.2.1	ESO to publish Terms of Reference	Mike Robey	08/02/2024	Complete	08/02/2024
2.2.2	ESO to publish minutes of meeting 1	Mike Robey	08/02/2024	Complete	08/02/2024
2.4.1	ESO to bring update on queue position allocation to the 08 February CPAG meeting	Paul Mullen	08/02/2024	Complete	08/02/2024
2.5.1	ESO to bring bay re-allocation and standardisation back to CPAG	Shade Popoola	22/02/2024	Complete	22/02/2024
1.2.1	ESO to circulate the updated Terms of Reference document	Mike Robey	25/01/2024	Complete	22/01/2024
1.3.1	ESO to share its analysis of the impact of CMP376 on the existing TEC queue.	Kav Patel	08/02/2024	Quarterly updates to be provided	Ongoing
1.4.1	ESO to look at how and when details of the outcome of the ongoing transmission works review can be shared	Robyn Jenkins	08/02/2024	Update shared	08/02/2024
1.4.2	Technical secretary to follow-up liaison and co-ordination with CDB	Mike Robey	25/01/2024	In place	24/01/2024
1.4.3	ESO to confirm how much detail of code mods will be taken to CPAG before going to code mod working groups.	Paul Mullen	25/01/2024	Discussed 25 January	25/01/2024