Meeting minutes

NOA Committee - October 2020

Date:	08/10/2020	**Location:**	MS Teams
Start:	13:00	**End:**	15:00

Participants

Present	Role	Role in meeting	Attend/ Regrets	Minutes(s) attended
Craig Dyke	Head of SO Strategy and Regulation – ESO	Chair	Attend	1-13
Julian Leslie	Head of Networks – ESO	Committee member	Attend	1-13
Roisin Quinn	Head of National Control - ESO	Committee member	Attend	1-13
Kayte O'Neill	Head of Markets – ESO	Committee member	Attend	1-13
Lauren Moody	Energy Analysis Senior Manager - ESO	Committee member	Attend	1-13
Nicholas Harvey	Network Development manager – ESO	Support member	Attend	1-13
James Greenhalgh	Electricity Customer Connections manager - ESO	Support member	Attend	1-13
Gary Dolphin	Economics Engineer – ESO	Presenter	Attend	1-13
Kelvin Lambert	Power System Engineer – ESO	Presenter	Attend	1-13
Sean Williams	Economics Engineer – ESO	Support presenter	Attend	5
Thomas Petty	Economics Engineer – ESO	Presenter	Attend	1-13
Ricky Moseley	Economics Engineer – ESO	Support presenter	Attend	5
Jingchao Deng	Power System Engineer – ESO	Presenter	Attend	1-13
Richard Proctor	Power System Engineer – ESO	Presenter	Attend	1-13
James Whiteford	System Capability manager – ESO	Spectator	Attend	1-13
Jason Hicks	Technical Economic Assessment team manager - ESO	Spectator	Attend	1-13

External Participant				
Le Fu	NOA Lead – NGET	Presenter	Attend	7-11
Nicola Todd	Connection Portfolio Manager – NGET	Presenter	Attend	7-11
Mark Perry	Network development - NGET	Presenter	Attend	7-11
Bless Kuri	Head of System Planning and Investment – SHE Transmission	Presenter	Attend	7-9
Roddy Wilson	Network Planning Manager – SHE Transmission	Presenter	Attend	7-9
David Adam	Transmission Network Manager – SP Transmission	Presenter	Attend	7-9
Eric Leavy	Head of Transmission Network – SP Transmission	Presenter	Attend	7-9
James Norman	Head of New Transmission Investment - Ofgem	Spectator	Attend	1-13
Niall McDonald	Ofgem	Spectator	Attend	1-13
Neil Copeland	Ofgem	Spectator	Attend	1-13

#	Topics to be discussed
1.	**Apologies and introductions** Mr Dyke welcomed all attendees and introductions were made.
2.	**Meeting governance and process** [Redacted due to administrative nature.]
3.	**Minutes of the NOA Committee meeting held on 06 May 2020** The draft NOA committee minutes for the meeting held on 06 May 2020 (the "Minutes"), as circulated prior to the meeting, were taken as read. Mr Dyke requested the members and attendees to provide any final comments. There were no further comments and accordingly the Minutes were **APPROVED** as an accurate record and **APPROVED** for signature by the Chair.
4.	**Outstanding actions from the previous meetings** [Redacted due to administrative nature.]

5. What's new with NOA 2020/21?

5.1 Impact of COVID-19

Mr Dyke invited Mr Lambert to provide an update on 'Impact of COVID-19' and the following points were noted:

- COVID-19 has had an impact in the NOA this year where the cost benefit analysis will be conducted remotely. The Bid 3 modelling and operability constraint is based in the UK Azure environment using virtual machines.
- The remote access software and study tools were tested in July to allow for sufficient training and testing to take place before the NOA CBA analysis. The testing of the tools was successful providing confidence for pursuing the approach in the autumn. As a last resort, physical machines are still available on site in Faraday House.

Mrs Moody asked about the impact the EMR update on demand due to COVID-19 would have on the NOA process. Mr Williams said that these updates would be taken into account under marginal options however further engagement would be needed with the EMR team. Mr Hicks added a further comment that this was discussed with Mr Harvey and Dr Wakeley, and Transmission Owners studies had been done on the original data set. This would therefore be challenging to reflect under the current NOA. However, this can be considered under sensitivities towards the end of the process.

Action 15.1: Mr Williams to Investigate the impact on demand due to COVID-19 on marginal options.

Mr Norman asked if the team were aware of any issues raised by the TOs with regards to COVID which would impact timeliness or quality of data provided for the NOA. Mr Lambert stated that at the start of lockdown was the same time that the NOA process was planned from end to end. This risk was factored into the plans and data was submitted on time. Mr Harvey added that all the requested data from the TOs was received on time and there has been minimal feedback on data quality issues. In comparison to other years, this is currently the best year.

5.2 NOA Interested Person

Mr Dyke invited Mr Lambert to provide an update on NOA Interested Persons' and the following points were noted:

- This is a new license obligation as part of the C27 condition.
- A new submission process was developed for non-TO parties to submit potential options to be assessed in the NOA. Guidance was published on the NOA webpage here.
- Two approaches were tried to bring the option into the NOA CBA process: through the NOA Constraint Management Pathfinder or consider commercial solutions in the NOA. Continuous discussions are undergoing on how to improve this process, including the potential provider on how storage could be used as part of the NOA.

Mr Norman queried if other companies had provided feedback. Mr Lambert replied that feedback was requested from all companies that expressed interest. Mr Norman asked is there anything what should be looked at, in that process of engagement. Mr Lambert said there is a slight overlap with the Early Competition Project and are working together.

5.3 Offshore Wider Works

Mr Dyke invited Mr Lambert to provide an update on Offshore Wider Works and the following points were noted:

- Offshore Wider works is a license requirement.
- For NOA 2020/21 this year, six simple offshore wider works options were developed, covering from Dogger Bank to East Anglia. Design work, costs and EISD calculations have been done for each of these.

- The economic process has been adapted to study the options. The options will be studied after the optimal paths have been concluded, with TO and ESO-led options. This will allow us to compare the result with the optimal paths options and know how the offshore wider works options perform against with onshore options. The NOA report will include narrative on this topic.

5.4 Clean Energy Package

Mr Dyke invited Mr Lambert to provide an update on the Clean Energy Package and the following points were noted:

- Article 13 paragraph 5 of the Clean Energy Package covers the proportion of renewable generation being dispatched and redispatched. There are two routes to compliance with the package.
  - Have total energy volumes of more than 50% renewables or
  - Redispatch less than 5% renewables energy volumes
- For less than 50%, NOA process will decide to investigate and redispatch plan to compare against 5% threshold.
- If it exceeds 5%, NOA process will decide to investigate the changing enforcement profile with help. More details can be seen in this year's NOA methodology section 2.97.
- This will be commented on in the report and what happens if the reinforcement profile does not help.

5.5 Contracts for Difference (CfDs)

Mr Dyke invited Mr Petty to provide an update on CfDs and the following points were noted

- Renewable Obligations Certificates (ROCs) were used previously in the modelling for all future renewable plants, these have now been replaced with CfDs for the first time.
- Several assumptions are made as part of the CfDs
  - Bid prices are set to subsidy lost, as is consistent with ROCs in the model
  - All new offshore and onshore wind plants are assigned a CfD
  - The strike price is set from the Department for Business, Energy and Industrial Strategy (BEIS) predicted future strike prices
  - The CfDs are modelled to expire after 15 years
- The outputs from the economic analysis tool BID3 have been validated and are currently working as expected. Constraint cost have reduced as compared to the modelling with ROCs.
- Further sensitivity studies have been performed and have shown that there are significant renewable generations across the majority of scenarios, so it is important that the model is accurate.
- Next steps have been identified as updating allocation round for CFDs in 2021. With additional historical data of actual CfDs in operation this will allow verification of how they operate in practice and improve modelling for NOA 2021/22.

Ms Quinn said that the move to CfDs is justified. Mr Petty said that as the bid price is set to reflect the lost subsidy, the issue of how to treat plants after the CfD has expired (15 years) was discussed. The economic principal applied to such plants remains consistent – the bid price will reflect any lost subsidy, which will be zero after the CfD has expired. Next year, we will undertake further analysis on the expected behaviour of plants operating without subsidy. Ms Quinn reflected on the uncertainty and difficulty and shows just how many elements go into the NOA and is worth recognising.

Mr Norman asked if there have been lessons learnt from Shetland final needs case as similar discussions took place with regards to ROCs and CfDs with issues being identified. Mr Dolphin said modelling has been built on results from the Shetland project. The approach has now improved and is more refined.

5.6 Least Worst Weighted Regret (LWWR)

Mr Dyke invited Mr Petty to provide an update on LWWR and the following points were noted:

- Work has been carried out with the University of Melbourne that studied the current economic analysis of Least Worst Regret (LWR) in the NOA and assessed the decision making framework.
- LWWR explores the entire probability space, finding the optimal solution at each point.
- Can be noted as a sensitivity study varying the probability of every scenario.
- This method can give confidence or concern for the current proposed solution.
- This tool will be available during the discussion of marginal options.

Mr Leslie asked if options will still be assessed using the current LWR and when will the trigger be to use LWWR. Mr Petty responded that this tool will be used under marginal options and is related to the stability of the options.

Mr Harvey added that this is a useful tool for the NOA committee to provide supporting evidence on the marginal options. The result provided by LWWR depends on the input data and it is hard to predict if the outcome will be useful before seeing the results. Ms Quinn emphasised that this method would be well supported in the NOA committee and is a good step forward in the decision-making framework.

Ms Moody added that there are challenges in the FES, and the individual weighting of each scenario. There would be a benefit to sharing the learning process across the teams in order for their to be consistent messaging on the probabilities of each scenario. Mr Harvey responded that one of the benefits is that the FES can remain as four equiprobable scenarios. The advantage is that this can be done after the main analysis to understand the probability and how stable decisions are.

Mr Norman is aware of some internal Ofgem work where a group of academics were involved in a similar topic and wanted to make sure they have been informed. Mr Harvey responded that the aforementioned work regarded implied probability with the recommendation to allow the NOA committee to assess the options, adding another layer to the NOA decision making process. The work with University of Melbourne is valuable and complementary.

6. NOA Pathfinder Projects

Mr Dyke invited Dr Deng to provide an overview of the current state of the pathfinder projects and the following points were noted:

6.1 NOA voltage pathfinder project – recently published an EOI for short term service

- EOI for a short-term service to cover April 2021 to March 2022 for Mersey area was published in early Sept 2020. Procurement approach is now being decided based on feedback received.
- Technical assessment for the next high voltage region – Pennine region – is being carried out. The technical requirements are expected to finalise and run tender in Q3 this year.

6.2 NOA stability pathfinder project – Received many responses from the industry and processed all the feedback. Working on resolving issues with the TOs and working with them

- Stability phase 2 RFI was published in June 2020 with feedback and next steps published in August.
- Phase 2 tender process has now started with the EOI published in Sept 2020.
- NOA team are working with TOs on the scope of connection review process as well as pre-application process.

6.3 NOA constraint management pathfinder project (CMP) – Relieve congestions in the network for post-fault constraints. Approved to go forward for a tender and will be announced at the end of the Q2 2020

[Redacted due to commercially sensitive nature]

6.4 NOA year-around probabilistic tool – POUYA

- Post-fault actions and automated optimal post-fault actions are now included to the tool the NOA team are developing. These actions include QB tapping, smart-wires setting, and Inter-trips. This will allow us to compare the results from the tool against PF. An update will be provided in Dec meeting
- Probabilistic voltage assessment project will be updated in ETYS 2020.
- POUYA have been used in the latest 2020 TYNDP studies. 3 boundaries were also analysed in ETYS 2020 with the probabilistic approach and the newly developed post-fault action feature.
- A joint market and network module is under development to see the constraint cost difference between the detailed network model and the current boundary capability approach.

TOs enter meeting

7. Regional commentaries and options - Scotland and the north of England

7.1 Regional commentaries – north

Mr Dyke invited Dr Proctor to provide an update on regional commentaries and the following points were noted for the north region:

- There is high generation capacity growth expected for renewables in the north, similar to last years expectations.
- The 2020 FES has 3 of the 4 scenarios meeting the 2050 net zero target. No significant change in the beginning but 2030 shows a larger increase in generation capacity extending out to 2050. Variations in demand can be seen across all scenarios.
- Impact on the network is similar to last year, where the renewable capacity is concentrated in the North as Onshore and Offshore wind farms and solar. Constraints can be seen in North to South power flow, combined with interconnectors in the south coast.
- Under high wind conditions, power is expected to be exported to the rest of Europe. Under less wind conditions, more power can be imported from Europe.
- An example of a heavily constrained North boundary is B7, located in the Midlands. Higher constraints are expected where Leading the Way scenario shows the highest renewables.

7.2 Options – north

Mr Dyke invited Dr Proctor to provide an update on options and the following points were noted for the north region:

- The FES show high north to south network boundary transfers. This year's submission shows new network options as well as resubmission of previous year options.
- New HVDC/AC options in Scotland and new circuit options will the main options that will help relieve constraints.
- The Eastern HVDC link options were critical from last year's analysis and four were recommended to proceed. This year, the same options have been submitted as compared to last year, plus some new variations, however metallic return options have not been submitted as they did not receive a proceed last year.
- Additional reinforcements have been submitted in the north of England. These new options being put forward by TOs have been well received.

8. East coast SWW

Mr Dyke invited Ms Todd (National Grid Electricity Transmission), covering for Ms McIver, to provide an update on “East coast SWW, and the following points were noted

- A briefing note was circulated ahead of the committee meeting and the note as taken as READ.
- The Initial Need Case is being progressed and is due to be submitted to Ofgem imminently. Discussions regarding the submission have taken place with ESO and Ofgem.
- Routing and development work has been progressed for onshore and offshore works for E2DC and E4D3 options that received 'Proceed' recommendation in NOA 2019/20.
- The E2D2 option to Cottam also received a “Proceed” recommendation in January 2020. The updated NOA submission has revised the EISD for this project to 2030. This is partly due to the requirement to prioritise works on the E2DC and E4D3 options following the NOA 2019/2020 recommendations, and partly due to changes in the assumed onshore cable route for the connection to Cottam. It was noted that while this could be represented as a two-year change In NOA (given EISDs are shown as years) even if it is not necessarily a full 24 month change to the project delivery date

Mr Leslie asked, in terms of programming delivery, if there any larger known or unknown risks that could impact the delivery/connection date. Ms Todd provided a response and the following points were noted:

- No further significant risks to the EISD have been identified to date, including environmental risks. However, development work is ongoing and marine surveys still need to take place.
- Stakeholder engagement is currently still ongoing and will continue to adapt the approach given the potential impact of COVID-19.

9. Earliest in Service Dates (EISDs) in NOA 2020/21

[Redacted due to commercially sensitive nature].

Scottish TOs exit meeting

10. England and Wales excl. the north of England

10.1 Regional commentaries – south

Mr Dyke invited Dr Proctor to provide an update on regional commentaries and the following points were noted for the south region:

- General trend of the south region is that interconnectors are still a significant driver to future network constraints.
- The south coast boundaries show a wide variations in the power flows, due to the southern interconnectors, similar to last year. The general trends show higher exports to Europe due to the additional renewables and increased generation capacity which does not match growth in demand.
- Large wind capacity growth can be expected across East Anglia (EC5) with faster growth in some scenarios, as compared to last year. This is a highly constraint boundary, similar to previous NOA, and the same is expected in this year's analysis.

10.2 Options

Mr Dyke invited Dr Proctor to provide an update on options and the following points were noted for the south region:

- South West options – Due to the low constraint expectations in the south-west part of the network, fewer options have been submitted this year.
- South East options – The offshore HVDC bootstrap that was recommended last year has been resubmitted this year. More options have been submitted as compared to the previous year, especially new circuits across East of London and Thames Estuary as well as additional circuit options which across the north of London. Feeding power across to interconnectors is the reason for more options in that area. The results in December will reveal the recommendations in this year's NOA.

Mr Perry expressed that new circuits may or may not get proceed and many of the circuits are dual purpose. Mr Perry queried about how the NOA in the future will respond to connection offers with an agreement with a generator. Some options are not only providing boundary capability, they are providing multiple functions. Mr Leslie asked if these circuits are enabling works to which Mr Perry responded that they were and these circumstances will increase their occurrence.

Ms Todd mentioned that works which are customer driven, when costing, certain elements have been omitted that are clearly customer driven. For example, the chosen route may go via the coast to pick up customer connections, however the new substation would not be factored into the costs at the coast because that does not provide boundary capability on its own. This is an element that should be considered in the NOA and how the costs are processed.

11. South coast SWW

Mr Dyke invited Mr Fu to provide an update on "south coast SWW" and the following points were noted:

- A briefing note was circulated ahead of the committee meeting and the note as taken as **READ**.
- Option SCD1, was submitted for the first time in last year's NOA, and received a recommendation of "proceed".
- Large number of strategic options were considered, some of which included onshore overhead line project options as alternatives to the DC link offshore. A range of reinforcement options have been submitted into this year's NOA. These options help solve the anticipated East Anglia and South Coast boundary constraints.
- Customer connection needs to be taken into consideration also with the plan to start the needs case in early 2021, if a proceed signal is given in this year's NOA.

NGET exit meeting

12. Date and time of next meeting

The next NOA committee meeting will be held on Monday 7 December 2020.

13. AOB

None

Action Item Log

Note – this document contains in-progress items and a rolling history of completed items since the previous NOA Committee meeting.

Action items: In progress and completed since the last meeting

ID	Description	Owner	Due	Status	Date
13.1	Investigate whether a conceptual interconnector would perform better for relieving GB system constraints. This action supersedes action 12.2.	Mr Vincent	01/04/2020 (revised due date: 08/10/2020)	Complete	08/10/2020
13.2	Following action 13.1 and the April NOA Committee meeting, discuss with Ofgem congestion costs and location of interconnectors.	Mr Vincent	30/06/2020	Complete	08/10/2020

Action items: New

ID	Description	Owner	Due	Status	Date
15.1	Investigate the impact on demand due to COVID-19 on marginal options	Mr Williams	07/12/2020	New	08/10/2020