

**MINUTES OF THE MEETING OF
THE NETWORK OPTION ASSESSMENT COMMITTEE (the “NOA Committee” or the
“Committee”)**

Held in

**National Grid House, Warwick Technology Park, Warwick CV34 6DA
On**

Friday 27 April 2018 at 09:00

Present: Duncan Burt (Chair)
Mike Breslin
Cathy McClay*
Julian Leslie
Marcus Stewart

In attendance: Hannah Kirk-Wilson – Technical Secretary
Nicholas Harvey – Network Development Manager
Audrey Ramsay – Future Operability and Incentives Manager*
James Greenhalgh – Electricity Customer Connections Manager
Marc Vincent – Economic Assessment Manager
Kelvin Lambert – NOA Lead
Jason Hicks – NOA CBA Lead
Mark Pearce – NOA CBA Technical Specialist
Jingchao Deng – NOA Publication
Andrew Dobbie – Interconnector Modelling Manager
Alex Haffner – Power Modelling Manager – for minutes 1 to 8
Kirsten McIver – Senior Design Engineer, SPT – for minutes 5 to 11*
David Adam – Lead Design Engineer, SPT – for minutes 5 to 11*
Bless Kuri – Transmission Planning Team Leader, SHET – for minutes 5 to 11*
Paul Neilson – Technical Policy Manager, SHET – for minutes 5 to 11*
Mark Perry – System Design Manager, NGET TO – for minutes 5 to 11
Le Fu – NOA Lead, NGET TO – for minutes 5 to 11
Wayne Mullins – Load Related Forecasting and Intelligence Manager, NGET TO – for minutes 6 and 7
Duncan Sluce – Load Related Forecast Analyst, NGET TO – for minutes 7 and 8
Clothilde Cantegreil – Head of RIIO Electricity Transmission, Ofgem

*Joined by teleconference

1	MEETING GOVERNANCE
1.1	Welcome and apologies for absence [Redacted due to its administrative nature]
1.2	Interests [Redacted due to its administrative nature]

1.3	NOA Committee Outstanding Actions Schedule
	[Redacted due to its administrative nature]
1.4	Matters arising
	[Redacted due to its administrative nature]
2	REFRESH OF TERMS OF REFERENCE
	Dr Deng presented the revision of the Terms of Reference to reflect learnings and changes to the proposed meeting schedules.
	There were no further comments and accordingly the Terms of Reference were APPROVED by the NOA Committee.
3	MINUTES OF THE NOA COMMITTEE MEETING HELD ON 10 JANUARY 2018
	The draft NOA Committee minutes for the meeting held on 10 January 2018 (the “ Minutes ”), as circulated prior to the meeting, were taken as read. Mr Burt 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	ACTIONS ARISING FROM THE NOA COMMITTEE MEETING OF 10 JANUARY 2018
4.1	General NOA publication and non-marginal option actions
	<ul style="list-style-type: none"> Action 1.5 is due in October so remains open. Action 2.1 – the NOA document was updated ahead of publication on 29 January 2018. The action is CLOSED.
4.2	Major Project Actions
	<ul style="list-style-type: none"> Action 2.2 – the disaggregation of the benefit of each individual Eastern link will be considered by the Eastern SWW initial needs case which is currently ongoing, due for submission to Ofgem in October. The action is CLOSED.
4.3	Other
	<ul style="list-style-type: none"> Action 2.3 – the Terms of Reference were updated to reflect the change in meeting frequency and approved by the Committee. The action is CLOSED.
5	NOA METHODOLOGY UPDATE
	The following document, presented by Dr Deng and distributed prior to the meeting, was taken as read: <ul style="list-style-type: none"> NOA methodology update <p>Mr Burt invited Dr Deng to highlight the key changes to the NOA methodology for this year. The following points were noted:</p> <ul style="list-style-type: none"> The key changes to the NOA methodology this year include:

	<ul style="list-style-type: none"> ○ Extending competition to cover connections ○ Consideration of wider year-round analysis and ○ Delivery of pathfinding projects to expand the needs which the NOA considers. ○ The committee noted that further detail on the pathfinding projects is included in the ESO forward plan and Network Development Roadmap. <ul style="list-style-type: none"> • The Committee discussed what was intended by the term “challenging year-round conditions” and that the methodology could be clearer in what is intended in the wider year-round analysis. <ul style="list-style-type: none"> ○ Action 4.1: revise the wording in the NOA methodology to articulate better what is meant by challenging year-round conditions and wider year-round analysis. <p>Mr Vincent then highlighted the key changes for the NOA for Interconnectors methodology which are as follows:</p> <ul style="list-style-type: none"> • The NOA for Interconnectors methodology is now included in the NOA methodology so all annual processes are covered by a single methodology. • The methodology has been updated to reflect that the analysis will use the NOA outputs as the base network when considering the optimum connection levels. • The analysis will use all four GB FES including the new European FES so that each foreign market will now have varied scenarios aligned to GB FES. • The assessment will also be expanded to include a Cap & Floor type analysis for ancillary services to consider the impact of interconnectors on ancillary services and whether interconnectors could meet that need.
6	INTERTRIPS AND ACCELERATION OF WORK – UPDATE
	<p>Mr Burt invited Dr Pearce to provide an update on the consideration of intertrips. Dr Pearce presented material on the consideration of intertrips for the northern boundaries, highlighting that an intertrip covering B6, B7 and B7a does not make any impact on the reinforcements on B8. Mr Perry questioned whether advancing some of the reinforcements for these boundaries would deliver benefits. The Committee agreed that this would be beneficial.</p> <ul style="list-style-type: none"> • Action 4.2: Mr Perry to look at advancing the projects for Penwortham-Padiham & Penwortham-Carrington reconductoring (CPRE) and Cellarhead-Drakelow reconductoring (CDRE) for consideration of what benefit they provide. <p>Dr Pearce outlined the proposal of how intertrips would be considered as part of the NOA process. An intertrip can be used for planning but does not provide boundary capability, this means the TO must seek derogation from Ofgem against SQSS. Technical studies have been conducted and identified that an intertrip could be beneficial but that the location of plant has an impact on the benefit delivered.</p> <p>Mr Burt asked that the consideration and assumptions on the use of intertrips are agreed with Cathy McClay’s Commercial team and Mike Breslin’s Operational Team.</p>

	<p>Mr Burt noted the regulatory reporting consideration and asked for TO feedback on that.</p> <ul style="list-style-type: none"> • Action 4.3: Consider how multiple use of intertrips needs to be considered and documented from both regulatory reporting and SQSS – joint action between NH and the TOs <p>Dr Pearce highlighted the approach to be taken for this year for approval. The proposed approach of considering the intertrip post timing of options in the CBA was NOT APPROVED. The Committee requested that a process is developed to include the intertrip in the CBA assessing commercial solutions against asset solutions noting that there is an overlap with the considerations against SQSS requirements.</p> <ul style="list-style-type: none"> • Action 4.4: Develop process to include commercial solutions in CBA to be compared against asset options. <p>Dr Pearce outlined the impact of accelerating the options in the optimal path by 2 years.</p> <ul style="list-style-type: none"> • Action 4.5: Dr Pearce to feedback detail of the assessment of accelerating projects in the northern region back to the TOs. • Action 4.6: Request to all TOs for multiple spend profiles for large reinforcements for submission into the NOA.
7	UPDATE ON FUTURE ENERGY SCENARIOS
	<p>The following document, presented by Mr Haffner and Mr Dobbie and distributed prior to the meeting, was taken as read:</p> <ul style="list-style-type: none"> • Update on 2018 FES Scenarios <p>Mr Burt invited Mr Haffner and Mr Dobbie to highlight the key points and the following points were highlighted:</p> <ul style="list-style-type: none"> • Change in axis from FES 2017 to FES 2018 means the scenarios cannot be directly compared. • [Redacted due to its commercially sensitive nature] • [Redacted due to its commercially sensitive nature] • [Redacted due to its commercially sensitive nature] • [Redacted due to its commercially sensitive nature] <ul style="list-style-type: none"> ○ Action 4.7: The Committee requested Mr Haffner to circulate assumptions on onshore wind as they may have significant impact on investments.
8	EUROPEAN MARKET MODELLING
	<p>Mr Burt invited Mr Vincent to outline the context for discussions on European Market Modelling. Mr Dobbie then presented material and highlighted the following:</p> <ul style="list-style-type: none"> • Current pan-European modelling assumes a single view of Europe. This has now changed and European scenarios have been developed to ensure greater consistency in assumptions and make recommendations more robust. • Key driver changes we are now able to consider are: <ul style="list-style-type: none"> ○ [Redacted due to its commercially sensitive nature] ○ Expect significant growth in renewables in decarbonised scenarios ○ [Redacted due to its commercially sensitive nature] <p>Mr Vincent then went on to present how the European markets are modelled in</p>

	<p>the NOA process. The following points were highlighted:</p> <ul style="list-style-type: none"> • Entire ENTSOe area is fully optimised at individual plant to get interconnector flows between all European countries. Constraints are identified and GB market re-dispatched, including interconnectors. • Interconnector balancing actions are not seen as any different to other local GB generation in terms of pricing. • Detailed sensitivities for interconnectors are considered in SWW assessments only.
9	MAJOR PROJECTS UPDATE
	<p>Mr Hicks presented an update on the Eastern SWW. The key driver in 2017 was wind in Scotland. The forecast for wind for 2018 has increased. The Committee also noted that an initial discussion about an initial SWW needs case submission for the South Coast has also occurred.</p>
10	NOA SIMULATION TOOL
	<p>Dr Pearce presented an update on a tool to provide stakeholders with an indication of the level of reinforcement that may be viable across each boundary. This aims to simulate a CBA in NOA so parties can see how options perform. Dr Pearce highlighted its capabilities and limitations.</p> <p>All agreed that this was a promising step forward.</p>
11	PATHFINDING PROJECTS
	<p>The following document, presented by Mrs Kirk-Wilson and distributed prior to the meeting, was taken as read:</p> <ul style="list-style-type: none"> • Pathfinding projects update <p>Mr Burt invited Mrs Kirk-Wilson to present the material and the following points were highlighted:</p> <ul style="list-style-type: none"> • RDP output reports are due by the end of April. Looking to start drafting learning output in parallel should there be any further delays to meet milestones. • The high volts project is running and DNOs in 2 of the three areas identified are engaged. There are risks around data alignment of DNO and SO forecasts in one area however the other area is progressing on track. • Voltage screening has been delayed by data access but looking to dedicate resource to this over the ETYS / NOA study period rather than pause to catch back up. • Some case studies are being progressed to evaluate the use of thermal probabilistic assessment against the current approach. This is highlighting some differences in boundary capabilities which are being investigated.
6	DATE OF NEXT MEETING
	24 th September 2018
7	ANY OTHER BUSINESS
	As there was no other business the meeting was closed.

	CONFIRMATION OF ALL ACTIONS FROM THIS MEETING
	[Redacted due to its administrative nature]

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Chairman

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Date