



# Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions

Preliminary Environmental Information Report

**Volume 3**

**Appendix 26.1** - Transport ETG Meeting Minutes

April 2021

Title:	
<b>Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Preliminary Environmental Information Report Appendix 26.1 Transport ETG Meeting Minutes</b>	
Document no.: PB8164-RHD-ZZ-ON-RP-Z-0036	
Date:	Classification
29 <sup>th</sup> April 2021	<b>Final</b>
Prepared by:	
<b>Royal HaskoningDHV</b>	
Approved by:	Date:
<b>Jo Rodriguez, Equinor</b>	29 <sup>th</sup> April 2021

## Minutes

**HaskoningDHV UK Ltd.  
Industry & Buildings**

**Present:** John Shaw (JS) - NCC, Martin Dixon (MD) - NCC, Andrew Cuthbert (AC) - AECOM, Shamsul Hogue (SH) Highways England; Andrew Ross (AR) – RHDHV, Sam Taylor (ST) - RHDHV Maria Walentek (MW) - RHDHV; Jon Allen (AL) - RHDHV, Michael Corney (MC) – Equinor

**Apologies:** [Click to enter "Apologies"](#)

**From:** Maria Walentek

**Date:** Friday, 17 January 2020

**Location:** Maids Head Hotel, AC via Skype

**Copy:** Richard Stocks

**Our reference:** PB8164-RHD-ZZ-ZZ-MI-PM-0008

**Classification:** Project related

**Enclosures:** ETG presentation and agreement log

**Subject:** **Sheringham Shoal and Dudgeon Extension – Traffic ETG 2**

Number	Details	Action
<b>Introductions and purpose of the meeting</b>		
1	<p>Following introductions, MC summarised the project and consenting approach. Please refer to Expert Topic Group (ETG) meeting slides. Scoping report was submitted on 8<sup>th</sup> October 2019 and scoping opinion was received on 18<sup>th</sup> November 2019. Development Consent Order (DCO) application is scheduled for Q3 2021.</p> <p>MC indicated the DCO application would be for both projects, but will include an assessment of each project individually as well the effect of constructing both together (either concurrently or sequentially).</p> <p>The onshore site selection process is ongoing. The process is being informed by technical specialists from various disciplines including transport. The current focus of site selection is to narrow down the scoping area to identify a 200m wide corridor for surveys to be undertaken during 2020. It is also anticipated that a single preferred landfall option will be confirmed in Q1 2020 for survey and assessment work that will be reported in the Preliminary Environmental Information Report (PEIR).</p>	Equinor (MC) to re-issue ETG meeting slides with these minutes.
2	<p>MC confirmed that the onshore substation site selection process is ongoing. MD inquired if the Project was offered connection at Necton so that the project existing infrastructure could be utilised. MC stated that National Grid offered Norwich Main for the substation location and that new infrastructure will be required in order to deliver the project. MC also stated that there is no possibility for the project to share the Hornsea Three cable corridor.</p>	
3	<p>Both JS and MD stated that if Oulton is considered as a location for the compound the traffic impacts will need to be investigated MC stated that no decision has been made with regards to the compound location at this stage, or whether a main compound will be required</p>	

Number	Details	Action
	(similar to Hornsea Three) or a number of smaller compounds will be utilised (similar to Norfolk Vanguard).	
4	MC stated that the project construction programme is still being developed. Currently it is envisaged that construction works could to start between 2024 and 2026.	
<b>Summary of the baseline and future assessment</b>		
5	ST identified that at this stage the final cable corridor and access locations had not been determined and therefore an initial study area was presented to show the extents of the assessment. ST noted that the initial study area focused upon the main 'A' roads only and that local roads would be added to the study area once final access locations are known. ST confirmed that this information would be provided within a Method Statement that will be shared with members of the ETG.	
6	ST highlighted that the study area presented has taken account of sensitive links at Horsford, Reepham, Cawston and Cromer and that where possible the access strategy will be developed to route traffic away from these communities.	
7	MD stressed that the assessment will have to take other projects into account (cumulative assessment). These projects include other windfarms and road projects. MD stressed that the local road networks would be under a lot of stress as result of all other projects and new options and out of box thinking might be required to address impacts from traffic.	
8	<p>JS stated that when establishing sensitive receptors/routes consideration should be given to routes where there would be higher seasonal holiday traffic and routes identified as 'traffic sensitive' by NCC (refer to one.network website).</p> <p>MD stated that similar to other projects, caps on vehicle movements might need to be agreed for certain road links. The cap values will be agreed by the members of ETG.</p>	
9	<p>Access to Norwich Main [substation site] was discussed. MD suggested that existing access to the Norwich Main via the A140 would be preferred as Hornsea Three had issues with accessing off the B1113 due to capacity constraints at Harford signalised junction (Harford Triangle opposite Tesco).</p> <p>JS indicated issues to consider – during the am concern raised by Highways England that traffic would back up onto the A47 slip road. Also need to examine the effect at the pm impact to traffic exiting the B1113.</p>	
10	JS informed the project team about the proposed Harford Triangle application for commercial land use/ industrial estate (the site located in the triangle of land between the A140 near Harford Bridge Tesco and the B1113). JR noted that these proposals would need to be	

Number	Details	Action
	taken account of for abnormal load assessment if access was to be taken from the B1113.	
11	MD and JR also identified roads between the A47 at Honingham and the Norwich Northern Distributor Road within the Wensum valley as another sensitive area. In particular would not support the use of U78206 Church Lane. The C174 Taverham Road was also highlighted as problematic. The roads in the area are narrow and heavily trafficked. The severity of impact will depend on the Norwich Western Link (NWL) status when the project starts construction. Currently construction of the NWL is proposed to start late 2022 and be complete by 2025. The NWL proposal is yet to be approved (impacts on Wensum valley designated areas identified) and therefore it is not clear if the NWL will be ready in time to be used by the project. The members of the ETG agreed that if available, the NWL should be used, however, the members of the ETG also agreed that a worst-case assessment of using local road may need to be developed.	
12	Other cumulative projects in the county that should be considered include the Third River Crossing Great Yarmouth. It was advised that work on this project is programmed to start next year.	
13	As the Outlon site might not be available for a works compound, MD suggested that another compound location could be Weston Longville airfield. However, it should be noted that the roads in that location are also narrow and not in good condition.	
14	JS and MD questioned the possibility of future proofing the project by providing an allowance to introduce additional cabling along the route for further project extensions. JA explained that it would be difficult as connections of any future projects are not known. In order to allow for the project to accommodate future cabling a wider cable corridor would be required, this would be extremely difficult to justify during compulsory acquisition process if there is no demonstrable need for the extra land.	
15	MD stated that future road widening should be considered when designing the project, for example there might be a need to install extended duct run for future A47 widening.  Western link will also cross River Wensum and a combined crossing should be considered if possible.	MD will put the members of the ETG in contact with the NCC's head of major development for further information. SH to provide contact to the managers of the A47 widening project.
16	ST discussed the proposed approach to distributing HGV and employee traffic. ST identified that a final supply chain would not be known at the time of application, however it would be likely that the majority of the materials would either be sourced from local quarries	

Number	Details	Action
	<p>or via existing ports at either Kings Lynn to the west or Lowestoft and Great Yarmouth to the east. ST noted that traffic movements from local quarries would not generate additional movements and can therefore be discounted, the members of the ETG agreed to this approach.</p> <p>ST identified that a gravity model approach using distance deterrence would be used to define the distribution of HGVs from Kings Lynn, Lowestoft and Great Yarmouth Ports. ST noted that the final methodology would be set out in the Method Statement. The members of the ETG were familiar with this approach from recent DCO applications and agreed with this approach.</p> <p>With regards to employee distribution, ST noted that this would be informed by the availability of workers with relevant skills from census data and the availability of hotel accommodation. The numbers of workers and hotel bed spaces would then be factored using a gravity model with distance deterrence. The members of the ETG agreed with this approach.</p>	
17	<p>JR and MD suggested that travel planning measures should be developed for the project. It was agreed that travel planning could focus upon a multi occupancy vehicle strategy. ST confirmed that detail of any embedded travel planning measures would be outlined within the Method Statement.</p>	
18	<p>ST set out the proposed approach to data gathering. ST enquired if the members of the ETG would accept the use of baseline traffic count data gathered for Hornsea Three or Norfolk Vanguard. This approach was suggested to allow consistency between the projects.</p> <p>JS and MD agreed that where existing traffic counts from Norfolk Vanguard and Hornsea Three are available these could be used to inform the assessment for roads managed by NCC.</p> <p>SM and AC noted that Highways England would require data to be less than three years old and therefore new data would likely be required. ST confirmed that new data would be captured for the strategic road network.</p>	
19	<p>ST explained the approach to gathering data for other cumulative projects and that any assessment would be based upon published data and timescales. The members of the ETG agreed with this approach.</p>	
20	<p>ST stated that further understanding of the project is required for the abnormal load assessment. At this time only high-level information is available.</p>	
21	<p>ST outlined the proposed scope of the Traffic and Transport Method Statement:</p> <ul style="list-style-type: none"> <li>• Baseline traffic data and reference years;</li> <li>• Traffic demand;</li> </ul>	

Number	Details	Action
	<ul style="list-style-type: none"> <li>• Delivery routes;</li> <li>• Traffic assignments; and</li> <li>• Route sensitivity.</li> </ul> <p>The members of the ETG agreed with the proposed content presented.</p>	
22	<p>ST questioned that onshore traffic movements associated with the offshore construction can be scoped out, noting a similar approach was adopted for both Hornsea Three and Norfolk Vanguard?</p> <p>The members of the ETG agreed that onshore impacts from offshore construction can be scoped out and could be dealt with by way of a planning Requirement.</p>	
23	<p>ST noted that PINs had raised a comment that the assessment of Road Safety and Driver Delay requires clear definitions of magnitude. SH and AC advised that a threshold of more than 30 two-way movements per hour could require assessment, however the effect may only be significant when traffic blocks back towards another junction or from a slip road on to the main carriageway.</p> <p>JS and MD noted that where junction geometry constrained two-way traffic, even a small increase in traffic could lead to significant delays. ST suggested that the driver delay assessment could consider capacity and geometry. The members of the ETG agreed with this approach.</p> <p>MD suggested reviewing mitigation measures proposed as part of the Hornsea Three project (for example proposed construction of laybys for HGVs).</p>	
24	<p>ST confirmed that the effect of increases in traffic upon pedestrian delay would be scoped in to the assessment at the request of NCC.</p>	
25	<p>ST noted that NCC scoping opinion had requested a Transport Assessment (TA). ST enquired if NCC and Highways England would be content that stand-alone TA would not be required so long as the detail was included in the ES chapter. The members of the ETG agreed with this approach.</p>	
26	<p>The potential for cumulative impacts and programmes of other projects were discussed:</p> <ul style="list-style-type: none"> <li>• Vanguard 2022-2024 with peak 2023</li> <li>• Hornsea 3 2021-2027 with peak 2023</li> <li>• Boreas 2024-2027 with peak 2026</li> <li>• Norwich Western Link 2025 completion</li> </ul> <p>It was discussed and agreed between the members of the ETG that at this stage TEMPro growth factors would be considered to be appropriate to account for all other developments.</p>	

Number	Details	Action
27	ST set out that the DCO would be supported by an Outline Traffic Management Plan and Outline Access Management Plan. ST enquired if the ETG agreed that a separate Travel Plan would not be required as the information could be contained within the Outline Traffic Management Plan. The members of the ETG agreed that a separate Travel Plan would not be required.	
28	MD and JR stated that the project will have to commit to removing of the temporary field accesses following construction unless otherwise agreed with the the highway authority.	
29	The next meeting to take place once Method Statement has been prepared, issued and reviewed by the ETG team.	



## Minutes

**HaskoningDHV UK Ltd.  
Industry & Buildings**

Present: Shamsul Hoque (SH) – Highways England, Andrew Cuthbert (AC) AECOM, Martin Dixon (MD) - NCC, Claire Curtis (CC) - SNDC, John Show (JS) – NCC, John Paul Hipkin (JPH) – AECOM, Jon Allen (JA) - RHDHV; Maria Walentek (MW) - RHDHV; Sam Taylor (ST) - RHDHV, Callum Draper (CD) - Equinor, Mike Corney (MC) – Equinor

Apologies: Magnus Eriksen (ME) – Equinor

From: Maria Walentek

Date: Friday, 18 September 2020

Location: skype

Copy: [Click to enter "CopyTo"](#)

Our reference: PB8164-RHD-ZZ-ON-MI-PM-0010

Classification: Project related

Enclosures: ETG presentation and agreement log

**Subject: Sheringham Shoal and Dudgeon Extension – Traffic ETG2**

Number	Details	Action
<b>Introductions and purpose of the meeting</b>		
1	MC informed ETG members that Weybourne has been chosen as the landfall location and that substation options have been narrowed down to two sites (please see presentation slides: sites 1 and 2&4). These sites were chosen following the public consultation in July and will be taken forward for further assessment into the PEI.	
2	MC stated that several onshore surveys and studies are underway to support the assessment including ecology, geophysical surveys and engineering concept study. An engineering concept study is being delivered by Murphy's and will confirm HDD and potential compound locations.	
3	Public consultation was undertaken using virtual exhibition room and maildrop. Over 1,700 visited the website over the consultation period.	
4	ST stated that the purpose of the meeting was to discuss the content of the Method Statement (issued in July 2020) and request any comments and feedback from the ETG prior to commencement of the PEI.	
<b>Review of study area, proposed access and HDD locations</b>		
5	ST asked for initial feedback to the access strategy presented in the Method Statement and reiterated that Murphy's is undertaking the engineering concept study which will confirm location of the HDD crossings and other traffic related aspects so there was still opportunity to provide input into the access selection process.  ST presented maps showing proposed assess locations and routes to accesses and asked ETG members for feedback	

	<p>(see ETG slides and Traffic MS). Following comments were made:</p> <ul style="list-style-type: none"> <li>■ MD stressed that A149 and A148 in the coastal area during the summer season takes a lot tourism related traffic, (window 23rd May to end of September) therefore traffic sensitivity is upgraded and vehicle caps (similar to adopted by Hornsea Three, Norfolk Boreas and Vanguard) may be required for these links during these periods.</li> <li>■ MD added that for A148 caps should be considered for the commuting times, same as for A1067. HGV caps should be considered for more sensitive times morning and evening commuting peaks.</li> <li>■ MD highlighted issue of the A140 and the western link and A1067 closer to Norwich, (depending on timescale might overlap with Norwich Western Link construction and result in increase in the morning commute), B1149 through Horsford (access to the NDR is now busy). ST stated that this commitment has already been taken on board that the Method Statement shows that B1149 through Horsford is not to be used.</li> </ul>	
6	ST confirmed that the cable route will pass to the east Cawston and will not require HGV traffic to pass through Cawston.	
7	MD enquired if direct material transport from port to site is assumed for the Project or if storage compounds are proposed to be used. ST stated that engineering concept study Murphy's will confirm which approach will be taken forward but for now direct transport was assumed as part of the Method Statement.	
8	MD requested that for B1436 a HGV cap is required due holiday season traffic. MD stated that caps for links 71, 74, 75, 76 and 78 links vehicle traffic caps at least in the morning should be considered as a starting point.	
9	<p>MD stated that for link 90 Hornsea Three proposed localised junction improvements as part of their proposed mitigation.</p> <p>AC stated that links 88 and 86 junction mitigation was provided by Hornsea Three and suggested review of the Hornsea Three statement of common grounds.</p> <p>AC was also information on flows on links 29-31 as this could be accessed via the A47</p>	
10	AC asked if access was proposed from the A47 and noted potential concerns with high traffic speeds. ST stated that for accesses A21/22, A23/34 A25 a proposal is to take direct access from A47 to balance impacts on local communities. ST asked if Highways England would accept access from this location if a suitable design including measures to address speeds could be implemented. AC confirmed that Highways England would be willing to consider access proposals at this location.	

	SH noted that this section of the A47 may be widened and stated that he will consult Highways England's RIS team with regards to proposed timescales.	
11	AC highlighted that there is a collision cluster turning right at access A25 location. Hornsea Three proposed road widening at this location which will be kept permanent. AC suggested reviewing the statement of common ground in relation to this junction. JS stated that for link 90 works will be designed to be kept permanent. He also requested that link 91 should not be used (this would require similar level of mitigation as Hornsea Three).	
12	MD stated that traffic movements along links 101 and 103 should be limited. ST confirmed that the Method Statement set out limited movements along these links.	
13	AC stated that link 118 is considered good junction with A11 and that he has no specific comments. However, link 120 should not be used (railway crossing is very tight, HGV use should be avoided and has height restrictions). The ETG agreed that access to accesses A4 and A5 for HGVs should be via link 118 rather than link 120.	
14	MD stated that that access A1 (A140) already has a speed limit 40 mph and this should mitigate some of the impacts. However, A1 also services national grid and quarry and this should be considered when designing the access.	
15	AC outlined that a capacity model may be required for the junction of the A47 and A140. ST outlined the proposals to include proposed traffic flows within the PEIR and asked if modelling could then be undertaken as part of the ES once the highway authorities had seen the forecast traffic flows. The ETG confirmed that this approach would be acceptable.  AC also noted that Hornsea Project Three committed to avoid peak commuting times at the A47/A140 area.	
16	JS stated that for link 60 traffic calming measures would be going in October and the study area should therefore be amended in this location to route traffic via Heath Dr rather than Hempstead Road.	
17	The ETG confirmed that they had no other comments on the remaining access routes proposed.	
<b>Review of study area, proposed access and HDD locations (HDD locations)</b>		
18	ST reiterated that Murphy's is undertaking the engineering concept study which will confirm location of the HDD crossings.  As part of an initial exercise HDDs are proposed for all A roads and most B roads, however where possible open cut will be proposed as HDD is itself a traffic intense activity (please see Method Statement for plans where HDD and open cut is needed). The proposed open cut locations were agreed with the exception of the following locations where HDD was advised:	

	<ul style="list-style-type: none"> <li>■ Inkwood Lane - MD suggests HDD but would not insist.</li> <li>■ Taverham Road – MD suggested HDD but would not insist due to cumulative impacts and access routes, please review as high level of traffic.</li> <li>■ Ringland Lane HDD to be considered</li> <li>■ Oulton Street</li> <li>■ B1149 (double check if not mislabelled)</li> </ul>	
19	AC enquired if in the area of A11 and railway crossing one HDD will be proposed. JA confirmed that this will be a single HDD.	
<b>Proposed data collection methodology</b>		
20	<p>ST stated that as agreed during the first ETG meeting it is proposed to re-use data gathered for Norfolk Boreas, Norfolk Vanguard and Hornsea Three projects where DEP and SEP are using same links and gather data for others.</p> <p>JS confirmed that minor road network approach is fine, however there might be changes to traffic flows as result of NDR. JS stated that NCC does not hold data for minor roads but would be happy to review any information collected. MD confirmed that NDR has changed traffic flows.</p> <p>ST stressed that new surveys will need to accommodate changes to traffic caused by Covid-19.</p> <p>ST stated that a note summarising approach to data collection will be issued in advance of the surveys being undertaken. The ETG agreed to review this note and provide feedback.</p>	
21	Collision data was discussed. ST presented potential collision clusters identified (27 cluster sites). ST proposed to collect Stats 19 data for all identified clusters sites for the period last five years. AC advised that that the 5 year period should finish before March 2020 (Covid-19 lockdown).	
<b>Impact assessment methodology</b>		
22	ST outlined the impacts that would be assessed (slide 17).	
23	<p>ST noted that it was previously agreed to scope out traffic impacts associated with employee and HGV movements to the base port for construction and operation.</p> <p>The ETG agreed that the impacts associated with the offshore construction and operational phases of the Projects could be dealt with by means of a requirement for a Port Traffic Management Plan. JA agreed to review commitments that other projects made and replicate these.</p>	
24	<p>ST presented the proposed sensitive receptors. The ETG agreed the assigned receptor sensitivity with the following proposed changes:</p> <ul style="list-style-type: none"> <li>■ 11, 13 and 100 should be high.</li> <li>■ 10 and 12 should be high in the summer (outside of summer they can be medium).</li> </ul>	

	<ul style="list-style-type: none"> <li>■ 14 should be medium as this had seasonal restrictions on other projects.</li> <li>■ 4, 5, and 6 should be medium.</li> <li>■ 46 can stay low but if traffic adjustments should be considered for planned seasonal activities, e.g. cycling events and Cromer carnival, as part of the Construction Traffic Management Plan (CTMP). ST confirmed that the CTMP would include measures to manage traffic flows during planned events, such as cycling events.</li> <li>■ 52 and 53 should be medium.</li> </ul>	
25	<p>ST presented the proposed impact assessment methodology. The ETG agreed assessment methodology with the following amendment to driver delay (road closures):</p> <ul style="list-style-type: none"> <li>■ MD suggested that the assessment should include consideration of whether roads service sensitive infrastructure, for example schools, bus routes or hospitals.</li> </ul>	
26	<p>MD suggested that the Construction Traffic Management Plan should include a strategy for liaison between the local community, highway authorities and Contractor to ensure any unforeseen or unplanned issues can be managed.</p> <p>It was discussed how this is proposed to work for similar projects and it was noted that Norfolk Vanguard/Boreas has a liaison strategy and is appointing a specific person to take role of a traffic liaison. ST committed to including an outline of a liaison strategy within the Construction Traffic Management Plan.</p> <p>It was discussed that the Construction Traffic Management Plan should also take into account seasonal sensitivities and planned events.</p>	
27	<p>ST outlined the proposals to scope out assessment of operational and decommissioning impacts. The ETG agreed to scope out operational and decommissioning.</p>	
28	<p>Traffic demand and distribution was discussed. ST stated that PEI will consider a worst case scenario (DEP and SEP being built together). The ETG agreed with the approach to calculating and assigning HGV traffic to the highway network.</p>	
29	<p>JH questioned if travel times during the peak hours had been used in the gravity model. ST to double check if peak hours was used.</p> <p><b>Post meeting note: The morning peak hour was used 07:00 – 08:00.</b></p> <p>AC stated that he would need to review the employee distribution further and would provide comments.</p>	
30	<p>ST stated that in 2024 only early enabling works are proposed with construction proper activities starting in 2025. The ETG agreed to the use of 2025 as the assessment year.</p>	

31	ST stated that it would be proposed to use TEMPro growth factors to derive future 2025 year flows. The ETG agreed with the use of TEMPro.	
32	<p>ST presented the projects that would be considered cumulatively. The ETG agreed with list of projects to be considered cumulatively.</p> <p>JS asked if consenting delays on other windfarm projects would be considered. JA stated that it is currently understood that the consenting delays should not lead to a delay in starting construction. However, the project will monitor programme of other projects and update the assumptions regarding potential overlaps if new information is published.</p> <p>AC also raised the A47 works and that we may need to consider scenarios where the A47 works may already be complete, or occurring at the same time as our works.</p> <p>MD also asked that the third river crossing be shown on the list of projects even though it's a 2021/2022 project.</p>	
<b>Next meeting</b>		
33	Next meeting subject to agreement but otherwise following submission of the PEI.	