



**SCOTTISHPOWER
RENEWABLES**

East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Responses to Examining Authority's Written Questions 2

Volume 8 – 2.18 Transportation and Traffic

Applicants: East Anglia ONE North Limited and East Anglia TWO Limited
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Applicable to East Anglia ONE North and East Anglia TWO



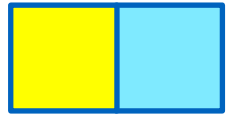
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001	n/a	n/a	Final for Deadline 6



This document is supported by the following appendices:

Appendix number	Title
1	Updated Appendix 26.21 Swept Path Analysis, Sensitive Junctions



Glossary of Acronyms

AIL	Abnormal Indivisible Load
ESDAL	Electronic Service Delivery for Abnormal Loads
HGV	Heavy Goods Vehicle
LHA	Local Highways Authority
LPA	Local Planning Authority
OCTMP	Outline Construction Traffic Management Plan
MMQ	Mean Maximum Queue
PCTMP	Port Construction Traffic Management Plan
PTP	Port Travel Plan
PRoW	Public Rights of Way
SZC	Sizewell C
SCC	Suffolk County Council



Glossary of Terminology

Applicants	East Anglia TWO Limited / East Anglia ONE North Limited
Cable sealing end compound	A compound which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Cable sealing end (with circuit breaker) compound	A compound (which includes a circuit breaker) which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Construction consolidation sites	Compounds associated with the onshore works which may include elements such as hard standings, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities and temporary fencing or other means of enclosure.
Construction operation and maintenance platform	A fixed offshore structure required for construction, operation, and maintenance personnel and activities.
The Councils	East Suffolk Council and Suffolk County Council
Development area	The area comprising the onshore development area and the offshore development area (described as the 'order limits' within the Development Consent Order).
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Generation Deemed Marine Licence (DML)	The deemed marine licence in respect of the generation assets set out within Schedule 13 of the draft DCO.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
HDD temporary working area	Temporary compounds which will contain laydown, storage and work areas for HDD drilling works.



Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables.
Jointing bay	Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Link boxes	Underground chambers within the onshore cable route housing electrical earthing links.
Meteorological mast	An offshore structure which contains metrological instruments used for wind data acquisition.
Mitigation areas	Areas captured within the onshore development area specifically for mitigating expected or anticipated impacts.
Marking buoys	Buoys to delineate spatial features / restrictions within the offshore development area.
Monitoring buoys	Buoys to monitor <i>in situ</i> condition within the windfarm, for example wave and metocean conditions.
National electricity grid	The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order but will be National Grid owned assets.
National Grid overhead line realignment works	Works required to upgrade the existing electricity pylons and overhead lines (including cable sealing end compounds and cable sealing end (with circuit breaker) compound) to transport electricity from the National Grid substation to the national electricity grid.
National Grid overhead line realignment works area	The proposed area for National Grid overhead line realignment works.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO / East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order.
National Grid substation location	The proposed location of the National Grid substation.
Natura 2000 site	A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive.
Offshore cable corridor	This is the area which will contain the offshore export cables between offshore electrical platforms and landfall.
Offshore development area	The East Anglia TWO / East Anglia ONE North windfarm site and offshore cable corridor (up to Mean High Water Springs).



Offshore electrical infrastructure	The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall.
Offshore electrical platform	A fixed structure located within the windfarm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the offshore electrical platforms to the landfall. These cables will include fibre optic cables.
Offshore infrastructure	All of the offshore infrastructure including wind turbines, platforms, and cables.
Offshore platform	A collective term for the construction, operation and maintenance platform and the offshore electrical platforms.
Onshore cable corridor	The corridor within which the onshore cable route will be located.
Onshore cable route	This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.
Onshore cables	The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables.
Onshore development area	The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.
Onshore infrastructure	The combined name for all of the onshore infrastructure associated with the proposed East Anglia TWO / East Anglia ONE North project from landfall to the connection to the national electricity grid.
Onshore preparation works	Activities to be undertaken prior to formal commencement of onshore construction such as pre-planting of landscaping works, archaeological investigations, environmental and engineering surveys, diversion and laying of services, and highway alterations.
Onshore substation	The East Anglia TWO / East Anglia ONE North substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.
Onshore substation location	The proposed location of the onshore substation for the proposed East Anglia TWO / East Anglia ONE North project.
Platform link cable	Electrical cable which links one or more offshore platforms. These cables will include fibre optic cables.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.
Transmission DML	The deemed marine licence in respect of the transmission assets set out within Schedule 14 of the draft DCO.



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
2.18 Transportation and Traffic			
2.18.1	Applicants	<p>A12/A1094 junction at Friday Street</p> <p>Following the Applicants' submission of a Traffic and Transport Clarification Note [REP4-027], the ExAs note the Applicants' agreement with Suffolk County Council and East Suffolk Council to introduce a traffic signal scheme, and that a commitment will be included in the outline Construction Traffic Management Plan [REP5-028].</p> <p>To aid clarity and understanding of the Traffic and Transport Clarification Note [REP4-027]:</p> <p>a) please confirm that Appendix A should be Annex A to avoid confusion with Appendix A within it and should be entitled "Technical Appraisal: Three Arm Roundabout Scheme and Average Speed Camera Scheme" rather than "Traffic Signal Appraisal"; and that similarly Appendix B should be Annex B and be entitled "Technical Appraisal: Traffic Signals" rather than "Friday Street Note";</p> <p>b) Given that the Applicants' preferred option is traffic signals (22 July 2020 report at Appendix B), please explain the Applicants' assertion in paragraph 4.2.1 of the 28 January 2020 report at Appendix A that "a scheme of average speed cameras ... provides the best (sic) solution ..." and why traffic signals were not considered until later; and</p> <p>c) Please confirm that paragraph 1.1.1 of Appendix C to Appendix B (the Stage 1 Road Safety Audit) should also</p>	<p>a) The Applicants accept that providing Appendices within an Appendix could lead to confusion. The Traffic and Transport Clarification Note (REP4-027) has therefore been revised to refer to Annex A and B. This revised Sizewell C Cumulative Impact Assessment Note (Traffic and Transport) has been submitted at Deadline 6 (document reference ExA.AS-6.D2.V2).</p> <p>b) The Applicants and Suffolk County Council (SCC) initially agreed to consider two options for enhanced mitigation scheme for Friday Street, namely, a three-arm roundabout and average speed cameras. The outcome of this investigation work concluded that a scheme of average speed cameras meets all stated objectives and provides the best solution for an enhanced road safety scheme. This statement is made in the context of the two the schemes considered at the time. Following this, SCC expressed reservations with the average speed camera solution and accordingly, it was agreed to consider a third option of traffic signals. The statement therefore reflects the position at the time and prior to the Council suggesting a traffic signal solution be investigated.</p> <p>c) The Applicants can confirm that paragraph 1.1.1 of Appendix C to Appendix B (the Stage 1 Road Safety Audit) should also refer to East Anglia ONE North and not just to East Anglia TWO.</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
		refer to East Anglia ONE North and not just to East Anglia TWO.	
2.18.2	Applicants	<p>A12/A1094 junction at Friday Street</p> <p>Following your submission of a Traffic and Transport Clarification Note [REP4-027], the ExAs note your agreement with Suffolk County Council and East Suffolk Council to introduce a traffic signal scheme, and that a commitment will be included in the outline Construction Traffic Management Plan [REP5-028].</p> <p>With reference to the Traffic and Transport Clarification Note [REP4-027], please</p> <p>a) confirm that a three-arm roundabout cannot be constructed to standard within the existing highway boundary;</p> <p>b) confirm that construction of the traffic signal option will cause less delay to road users than construction of a three-arm roundabout within the highway boundary;</p> <p>c) explain how MMQ (paragraph 2.6.14 of Appendix B) translates into an actual queue length; and</p> <p>d) explain how delays during operation of the proposed traffic signals will be minimised and queueing traffic managed safely, particularly in respect of A12 southbound traffic.</p>	<p>a) The Traffic and Transport Clarification Note (REP4-027) identifies that it would not be possible to have a two-lane entry and exit to the roundabout for traffic travelling east to west on the A12 whilst maintaining standard compliant entry path deflection (within the highway boundary). The modelling of the three arm roundabout concept with a single lane entry/exit (to ensure standard compliance) shows that in a 2023 baseline situation (i.e. without the Projects traffic) the proposed junction would be operating close to capacity (4% and would therefore offer limited capacity for future growth and new development (A Ratio of Flow to capacity of 0.81 is modelled, a junction is considered to be approaching capacity at 0.85). This is in contrast to the proposed traffic signal scheme that is demonstrated to operate with spare capacity even with the application of Projects peak traffic and background traffic growth to 2028 (the junction operates at a minimum 16.4% practical reserve capacity am peak and 26.6% practical reserve capacity pm peak).</p> <p>b) The Applicants are not proposing to provide a roundabout at the junction of the A12 and A1094, however, intuitively retrofitting a priority junction with signal control requires significantly less alterations to the highway than converting the junction to a roundabout. It is therefore concluded that roundabout construction would cause substantially more delay than traffic signals during construction. In terms of operation of the solutions; as noted in response a), a three-arm roundabout would pose significant driver delay concerns</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
			<p>in a future year scenario. For a signal solution, there would be a maximum delay of 26 seconds for A12 southbound traffic during peak hours which is not considered to be significant.</p> <p>c) The junction was modelled using industry leading LinSig modelling software. It is typical that queues are expressed as a mean maximum queue (MMQ). The LinSig 3.2 User Guide (June 2018) produced by JCT Consultancy Ltd (June 2018) manual defines a MMQ as:</p> <p><i>“Mean-Max Queue is the sum of the Maximum Back of Queue in the modelled typical cycle and the calculated Random and Oversaturated Queue. The ‘Mean’ refers to the fact that it is the mean over a number of cycles of the maximum queue occurring each cycle”</i></p> <p>The LinSig model has been calibrated to observed baseline queuing to ensure correlation with the ‘real-life’ situations and the model ‘set-up’ including future year scenarios have been validated by SCC in their Deadline 5 comments (REP5-055).</p> <p>d) The design of the proposed traffic signal junction has been discussed with Suffolk County Council to ensure that the outline design is optimised to minimise delays and manage road safety. The junction modelling of the proposed signalised junction is presented in the Traffic and Transport Clarification Note (REP4-027) for the network peak hours. It can be noted (from response a)) that with the application of background traffic growth and the Projects Peak traffic demand for a 2028 scenario, the junction would operate with spare capacity therefore delays would not be significant.</p>



ExA. Question Ref.	Question addressed to		ExA. Question	Applicants' Response
				<p>The Outline Construction Traffic Management Plan (OCTMP) submitted at Deadline 6 (document reference 8.9) ...</p> <p>It should be noted that the clear objective of the A12/A1094 traffic signal scheme is to improve the baseline situation with regard to collisions. This requires a small trade-off with A12 southbound delays which is accepted by SCC in their Deadline 5 comments (REP5-055) which note the modelling outputs are acceptable and states "It is recognised that some users of the junction, most notably A12 southbound traffic, will experience additional delay beyond what would be experienced with the junction's existing layout; however, these impacts need to be considered against the impacts on road safety."</p>
2.18.3	Applicants		<p>A12/A1094 junction at Friday Street</p> <p>Following the Applicants' submission of a Traffic and Transport Clarification Note [REP4-027], the ExAs note the Applicants' agreement with Suffolk County Council and East Suffolk Council to introduce a traffic signal scheme, and that a commitment will be included in the outline Construction Traffic Management Plan [REP5-028].</p> <p>a) Please give the current position in respect of the Section 278 agreement with Suffolk County Council and East Suffolk Council.</p>	<p>a) Discussions have been held with SCC in relation to the terms of a S278 agreement and a draft is being prepared.</p>
2.18.4	Applicants		<p>A12/A1094 junction at Friday Street</p> <p>Following the Applicants' submission of a Traffic and Transport Clarification Note [REP4-027], the ExAs note the Applicants' agreement with Suffolk County Council and</p>	<p>a) In response to the Traffic and Transport Deadline 4 Clarification Note (REP4-027) SCC have responded at Deadline 5 (REP5-055) stating "SCC appreciates the efforts that has been made by the Applicants in looking to address its concerns relating to road safety at A12 / A1094 Friday</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
		<p>East Suffolk Council to introduce a traffic signal scheme, and that a commitment will be included in the outline Construction Traffic Management Plan [REP5-028].</p> <p>a) Please give the current position in respect of the details of the proposed scheme;</p> <p>b) Will the Applicants be monitoring traffic speeds and behaviour before commencement of construction and installation of these works, and also continuously after they are complete and in use, so as to be able to evaluate any benefits? and</p> <p>c) Depending on whether and, if so when the Sizewell C project proceeds, what would be the advantages and disadvantages of leaving the signals in place until the Sizewell C project replaces the existing junction with a new roundabout as part of the new bypass?</p>	<p>Street junction and that it is satisfied with the 'concept' design.</p> <p>The A12/A1094 concept design as detailed in Deadline 4 Traffic and Transport Clarification Note, Appendix B, Drawing P-PB4842-SK002 (REP4-027) is included The OCTMP submitted at Deadline 6 (document reference 8.9)</p> <p>Final details will be agreed as part of the approval of the CTMP under Requirement 28 of the DCO. It has been agreed with SCC that a Section 278 agreement is the appropriate mechanism for delivery of the works.</p> <p>b) The applicant is confident that the work undertaken to develop the traffic signal design concept together with the EIA (APP-074) has comprehensively captured the baseline environment with regard to traffic capacity, speeds and behaviour at the junction.</p> <p>During construction the baseline information will serve as a reference for the quarterly monitoring reports (see response 2.18.2)</p> <p>c)Following construction, the junction will be reinstated to the previous form or if directed by SCC, will be retained. As set out in their Deadline 5 comments, SCC would take into consideration a number of factors before making that decision. If the traffic signals are retained, the monitoring of road safety will be undertaken by SCC in accordance with their statutory duties.</p> <p>The draft S278 agreement will make provisions for the signal junction to be reinstated to previous form, unless agreed in</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
			writing with the Local Highways Authority (LHA) in consultation with the Local Planning Authority (LPA).
2.18.5	Applicants	<p>Cumulative impact assessment</p> <p>Both Suffolk County Council as highway authority and East Suffolk Council as local planning authority have raised concerns [RR-002, RR-007] relating to the scoping out of operations, maintenance and decommissioning activities, and they have reiterated [REP5-055, REP5-062] that they do not have all the information necessary to be able to assess fully the wider impacts of the projects as a whole. For example, in the Applicants' response to our ExQ1.18.20 [REP1-121], the Applicants propose that the works at Marlesford be assessed and approved post-consent.</p> <p>Please explain how the Applicants will ensure that the impacts associated with all relevant activities are all properly considered, assessed and mitigated within the dDCO.</p>	<p>The Applicants note that SCC's residual concerns with regard to operational impacts relate to the movement of Abnormal Indivisible Loads (AILs). It should be noted that the designated AIL route from Lowestoft to Sizewell (HR100) is administered by Highways England on behalf of the Secretary of State for Transport as are all applications for AIL movements.</p> <p><i>Draft Statement of Common Ground Highways England - Rev – 001</i> (REP1-065) confirms "The treatment of AIL within the ES and the proposed routing of AIL movements associated with the Projects are acceptable."</p> <p>With regard to the securing the local AIL route to Friston for AILs, the Applicant clarifies:</p> <ul style="list-style-type: none"> • There are no plans for operational AIL movements for the Projects' and NG's substations (save for an emergency failure of the transformers) In the event of a catastrophic transformer failure there would be a 12-24 month lead in time for the delivery of a replacement (during which the substation would operate at reduced capacity) allowing ample time for the agreement of an AIL access route and to co-ordinate the haul to avoid peak traffic periods ; • Highways England are not considering any requests for extending AIL routes; and • The guidance for the establishment of AIL routes <i>Roads Circular No 61/72 Routes for Heavy and</i>



ExA. Question Ref.	Question addressed to		ExA. Question	Applicants' Response
				<p>Abnormal Roads does not make provisions for establishing AIL routes for infrequent movement.</p> <p>The Circular was published by the then Ministry of Transport in response the publication of the 1970 National Ports Council (NPC) Report. Section 5 of the Circular <i>IMPROVEMENT AND EXTENSION OF THE GRIDS</i> notes that LHAs can make application for the extension of AIL routes If experience shows that the grids[routes] can be improved on or extended to cater for <u>frequent</u> abnormal load movements.</p> <p>It is therefore not considered appropriate or proportional to secure AIL routes for whole life of the project. The OCTMP submitted at Deadline 6, clarifies the processes for securing the AIL route for the Projects' construction phase including the treatment of Marlesford structure. More details on AIL assessment and mitigation are set out in the Applicants response to Q2.18.8, Q2.18.9 and Q2.18.10.</p>
2.18.6	Applicants		<p>Cumulative impact assessment</p> <p>In its response [REP5-055] to the Applicants' comments [REP4-025] on Suffolk County Council's response to our ExQ1.18.3 and 1.18.4, Suffolk County Council disagrees with the Applicants' conclusion that a project impact which is lower than the ES threshold should be immediately discounted, given the need to understand whether such an impact would, when considered alongside impacts from other relevant projects, result in cumulative impacts which do require assessment. Examples given are the safety and delay impacts of the proposed works at Marlesford and the</p>	<p>The submission of a revised Sizewell C (SZC) transport strategy to PINs (SZC Examination Library Reference AS-266) has necessitated a review of the cumulative impact assessment. To inform this review the Applicant has engaged with SCC to find common ground on the cumulative assessment and understand the consequences for a revised SZC transport strategy.</p> <p>Noting, that SCC have reservations with some of the GEART applications, the discussions focused on impact outcomes.</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
		<p>increase in HGV traffic at Yoxford, which are all just below the 30% GEART threshold.</p> <p>Please explain how the Applicants have ensured that no impact has been prematurely discounted which might, when taken cumulatively with other relevant impacts, result in an overall impact which requires to be assessed.</p>	<p>Accordingly, the following links were identified as having potentially significant cumulative amenity impacts with no confirmed mitigation strategy.</p> <ul style="list-style-type: none"> • Link 2 (the A12 through Yoxford); • Link 3 (the A12 through Marlesford); and • Link 11 (Lovers Lane). <p>It should be noted these findings are consistent with those of the Sizewell Projects Cumulative Impact Assessment (Traffic and Transport) (REP2-009) and do not represent a change of position for the Applicants.</p> <p>With regard to Link 2 and 3, the cumulative assessment relied on SZC mitigation. It is noted that SZC and SCC have not established common ground on this matter, therefore, to move matters forward the Applicants are investigating pedestrian amenity mitigation in the form of footway improvements proportionate to the Projects' contribution to the cumulative impact. These improvements would not conflict with future schemes proposed by SZC or SCC.</p> <p>For Link 11, SZC are proposing embedded mitigation in the form of Public Rights of Way (ProW) improvements and a signalised crossing. It has been agreed with SCC that this scheme will mitigate cumulative impacts with the Project's and is likely to be delivered prior to significant cumulative impacts manifesting. Therefore, there is no further mitigation required of the Projects at this location</p> <p>An updated the Sizewell Projects Cumulative Impact Assessment (Traffic and Transport) (document reference</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
			ExA.AS-6.D2.V2) has been submitted to the examination at Deadline 6.
2.18.7	Applicants	<p>Port related traffic</p> <p>We note the contents of the Applicants' Abnormal Indivisible Load Access to the Proposed East Anglia TWO and Proposed East Anglia ONE North Offshore Windfarm Substation [APP-529], outline Port Construction Traffic and Management and Travel Plan submitted at Deadline 3 [REP3-047] and Submission of Oral Case at ISH4 [REP5-028].</p> <p>In order for us to understand the total impacts of each project better, both alone and cumulatively, and in particular the route to be used by AIL, please:</p> <p>a) explain how ports will be used for both onshore and offshore construction;</p> <p>b) state whether ports other than Lowestoft and Felixstowe are currently under consideration;</p> <p>c) summarise the expected final position regarding the Applicants' choice of preferred base port or ports, explaining the advantages and disadvantages of each port considered;</p> <p>d) explain how this assessment has informed the Applicants' assumptions about cumulative traffic generation, both in the study area and further afield, both for onshore and offshore construction and operations;</p> <p>e) consider whether the assessment the Applicants have undertaken is sufficiently flexible and robust to provide the</p>	<p>a) and b) the Abnormal Indivisible Load (AIL) Access to the Proposed East Anglia TWO and Proposed East Anglia ONE North Offshore Windfarm Substation (APP-529) outlines that both Felixstowe and Lowestoft ports could potentially accommodate AIL deliveries associated with the Projects transformers. The transformers would be delivered to the selected port and then transferred by road.</p> <p>Highways England on behalf of the Department for Transport manage the movement of AILs in England and have a policy known as the 'Water-preferred policy (Guidelines for the movement of abnormal invisible loads)' (2019) for the transport of AILs.</p> <p>The water preferred policy identifies that: <i>"it is government policy to avoid road transport as far as possible by using alternative transport modes, such as water. To reduce the distance that abnormal loads move by road, coastal waters will continue to be the preferred transport mode over longer distances. This means taking the load by road to the nearest coastal port unless there is a nearer suitable abnormal load landing facility"</i></p> <p>Consequently, where an application is sought for the movement of a Special Order load (such as the proposed by the Applicants for the transformers) by road, the Department for Transport, via Highways England will turn down the application where it is feasible for a coastal or inland waterway route to be used instead of road (by definition the</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
		<p>worst case scenario in respect of total cumulative onshore traffic and transport impacts, whichever port is chosen; and</p> <p>f) explain how and where these impacts have been assessed in the ES.</p>	<p>shortest feasible highway route from the waterway must be promoted)</p> <p>Based upon a review of the availability of suitable port facilities by industry heavy haul experts Wynns, ports at Lowestoft and Felixstowe were identified as being the nearest ports that could accommodate AIL deliveries. Therefore, in accordance with the water preferred policy, the Applicant promotes Lowestoft as a preferred AIL route with Felixstowe assessed as a contingency.</p> <p>Ports may also be used for the import of materials and components during the onshore construction phase (see response e) and for the construction and operation of the offshore facilities. Based on feedback from East Anglia One Project, the offshore port activities will likely include:</p> <ul style="list-style-type: none"> • Delivery of all the turbine components (towers, nacelles, switchgear and blades). • Assembly of towers and shipping to the windfarm site • Crew Transfer Vessel port. <p>At this stage, the Applicant has not identified the port(s) to be used for offshore construction or for the ongoing operational management of offshore facilities. Accordingly , the Outline Port Construction Traffic Management and Travel Plan submitted at Deadline 6 (document reference ExA.AS-9.D6.V2) has been developed to capture a framework of measures and commitments to be implemented should the need for a Port Construction Traffic Management Plan (PCTMP) and / or a Port Travel Plan (PTP) be established by the relevant highway authority after consultation with the</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
			<p>relevant planning authority for the selected offshore construction port(s) or operation port(s).</p> <p>C) It is not for the Applicants to choose the final port as a matter of preference, rather government policy is that the closest available port of access should be used for the delivery of such oversize items. Lowestoft is the closest port, although its availability to receive the AIL delivery can only be established once the AIL delivery schedule is established. Felixstowe is a greater distance from the onshore development area and could only be used in the event that Lowestoft was unavailable.</p> <p>d) A clarification note was submitted at Deadline 2 (REP2-009) which provides an assessment of the potential for cumulative impacts between the Projects' onshore construction traffic and Sizewell C and Sizewell B (the Sizewell Projects). This note has been updated at Deadline 6 (document reference ExA.AS-6.D2.V2). The cumulative impact assessment is informed by HGV assignments originating from port origins (see response to e).</p> <p>The updated Outline Port Construction Traffic Management Plan and Travel Plan submitted at Deadline 6 (document reference ExA.AS-9.D6.V2) clarifies the traffic demand at the Port will be screened to determine if there is a requirement for a Transport Assessment. It is further clarified that should that need for a Transport Assessment be identified, the scope would be agreed with the relevant LHA and LPA. This process will secure any requirement for a cumulative assessment with other projects.</p>



ExA. Question Ref.	Question addressed to		ExA. Question	Applicants' Response
				<p>e) and f) The Traffic and Transport study area was agreed with SCC and Highways England during pre-application engagement. Section 26.6.1.3 of Chapter 26 Traffic and Transport (APP-074) outlines that the assignment of Heavy Goods Vehicle (HGV) traffic assumes that all HGV traffic would originate from an origin/destination outside of the onshore highway study area. The assessment therefore considers a sensitivity test whereby 100% of the Projects peak construction traffic demand is assigned to the A12 south (towards Ipswich and Felixstowe) and also 100% is assigned to the A12 north (towards Lowestoft and Great Yarmouth). It is therefore concluded that the assessment includes the flexibility for deliveries to travel from multiple supply chain origins (including ports).</p> <p>With regard to offshore (landbased) traffic scenarios the Outline Port Construction Traffic Management Plan and Travel Plan submitted at Deadline 6 secures a flexible and robust approach to assessing cumulative impacts.</p>
2.18.8	Applicants		<p>Abnormal Indivisible Loads (AIL)</p> <p>We note the contents of the Applicants' Abnormal Indivisible Load Access to the Proposed East Anglia TWO and Proposed East Anglia ONE North Offshore Windfarm Substation [APP-529], outline Port Construction Traffic and Management and Travel Plan submitted at Deadline 3 [REP3-047] and Submission of Oral Case at ISH4 [REP5-028].</p> <p>Please confirm that:</p>	<p>a) and c) Appendix 26.6 (APP-532) shows the extent of the Heavy and High Routes within England and Wales published by Highways England (formerly the Highways Agency). A copy of the plan is currently provided upon the gov.uk website available at: https://www.gov.uk/government/publications/preferred-routes-for-high-and-heavy-abnormal-load-movements.</p> <p>Heavy Route 100 (HR100) is shown from Lowestoft to Sizewell B/C Nuclear Power Station. The A14 from Felixstowe and A12 north of Ipswich are not identified as Heavy Routes. c) The abnormal load routes are designated</p>



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		<p>a) the A14 and A12 between Felixstowe and Lowestoft, and the B1122 from Yoxford to Lover's Lane are currently designated as heavy load routes and used by AIL;</p> <p>b) who is currently using these routes and how often; and</p> <p>c) that these routes will continue to be available for use on these projects, during construction, operation and decommissioning.</p>	<p>by Highways England on behalf of the Secretary of State for Transport. The Applicants through engagement with Highways England have not been advised of any proposals to change or remove this designation. Draft Statement of Common Ground Highways England - Rev – 001 (REP1-065) confirms "The treatment of AIL within the ES and the proposed routing of AIL movements associated with the Projects are acceptable."</p> <p>b) The Applicants are not aware of any publicly available data relating to the user or frequency of use of the Heavy and High Routes. However, the Applicants are aware that the route has historically been used during the construction and maintenance of the nuclear power stations at Sizewell.</p>
2.18.9	Applicants	<p>Abnormal Indivisible Loads (AIL)</p> <p>Beyond the current heavy load route, the Applicants propose that AIL are to access the onshore substations (both for the East Anglia projects and the National Grid substations) via the B1122 through Leiston, the B1069, A1094 and B1121 through Friston.</p> <p>a) Given that rights over the land required for improvements at the B1069/A1094 junction are not to be acquired permanently, how will AIL movements be managed over the lifetime of the projects?</p> <p>b) If this route is to be used for the movement of AIL, and given that Highways England is no longer minded to include additional routes, how would the Applicants propose to support the local highway authority in getting a route to the substations assessed, for example in relation</p>	<p>In response the Applicants would offer the following Clarifications:</p> <p>a) The Projects' transformers are designed not to fail and should not need to be replaced during the lifetime of the Projects. Any replacement would be due to an unplanned failure / emergency only and would be a rare event. Routine maintenance would not require the replacement or removal of the transformers. It is therefore expected that once the transformers are installed, there would be no requirement for AIL movements for the lifetime of the Projects. Notwithstanding, in the unlikely event of a failure, the Applicants advise that the lead in time for delivery is 12 – 24 months, this would provide time to agree the routes to be used with stakeholders and mitigate as necessary through</p>



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		<p>to strength and condition of below-road culverts, and designated?</p> <p>c) could such a designation, including any necessary upgrade works, limit or compromise the ability of the local highway authority to undertake improvements to the route, for example traffic calming, pinch points, cycle lanes and footways, to encourage walking and cycling?</p> <p>d) If this route is not to be designated as a heavy load route, how would the route be properly maintained and access for AIL protected for the lifetime of the projects?</p>	<p>the established application process known as Electronic Service Delivery for Abnormal Loads (ESADL).</p> <p>b) The Highways England Heavy and High Routes (known as Grids) are designated by Highways England on behalf of Secretary of State. The Department for Transport Circular 61/72 outlines how the Grids were selected and how routes can be improved and extended. With regards to extending or improving the grids the circular notes that:</p> <p><i>“If experience shows that the grids can be improved on or extended to cater for frequent abnormal load movements in their areas, Highway Authorities are requested to advise Regional Controller (R&T) [now Highways England] of the changes or additions they wish to make.</i></p> <p>Recognising there would be no anticipated requirement for AIL movements for the lifetime of the Projects (as detailed in part a) an extension to the grid would not meet the stipulation of circular 61/72 for <u>frequent</u> abnormal movements. Notwithstanding, should there be a failure, and a requirement for AIL movements, the routes to be used would be agreed with stakeholders through the established application process known as Electronic Service Delivery for Abnormal Loads (ESDAL).</p> <p>The ESDAL process requires the haulier to consult with the bridge authority and agree if the proposed route is suitable for the load. Should the bridge authority have concerns with the ability of structures to accommodate the load further surveys of the structures can be undertaken to understand if the concerns are material or not. Should the surveys indicate</p>



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				<p>a remaining issue, the haulier would be required to develop a suitable solution, examples include:</p> <ul style="list-style-type: none"> • The use of an alternative vehicle to allow spreading of the load; • Repairs to the structure; or • Use of steel plates or temporary bridges to spread the load away from the structure. <p>c) noting the clarification provided in b) no designation in proposed.</p> <p>d) Part b) provides clarification with regards to the established ESDAL process for ensuring routes are suitable to accommodate AILs. The 12 – 24 month lead in time for the delivery of transformers would provide sufficient time for investigations and any mitigation measures to be undertaken and developed. OFTO entities would also have powers under the Electricity Act to acquire any rights</p>
2.18.10	Applicants		<p>Abnormal Indivisible Loads (AIL)</p> <p>The Applicants' response to our ExQ1.18.30 indicates that the Applicants do not propose to use the haul road direct from the B1069 as this would require it to be strengthened.</p> <p>a) Would an assessment of the Applicants' proposed access route also indicate that upgrading and strengthening, for instance in respect of culverts and drains running beneath the road, would also be required?</p> <p>b) Have the benefits of using a strengthened purpose built haul road as a permanent access both to the cable route</p>	<p>a) Please refer to the Applicants response to 2.18.9</p> <p>b) The Applicants' strategy for HGV access applies a hierarchical approach utilising the Suffolk Lorry Route network for the majority of journeys (i.e. for 96% of peak demand) to reduce the impact of HGV traffic on the most sensitive communities. The assessment of highway impact is proportional, acknowledging the deemed suitability of these routes for HGV traffic. It can be noted from Appendix 26.2, Table A26.3 (APP -528) that during construction peak the</p>



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		<p>and the substations for the lifetime of the project by both the Applicants and NG been assessed against the safety, operational and environmental concerns and impacts associated with continuing via the B1069/A1094 and the A1094/B1121 junctions and through Friston up the Saxmundham Road?</p>	<p>Projects' HGV demand would represent 3% of the daily traffic flow on the A1094.</p> <p>The use of the temporary substations haul road would be a longer route and would be more disruptive to farming practices due to the severance of agricultural land holdings, whereas the proposed operational access road follows field boundaries and does not result in such severance issues.</p>
2.18.11	Applicants	<p>Local issues and effects – HGV traffic</p> <p>The junctions on the A1094 with the B1122 and the B1069 have been assessed by the Applicants as sensitive, and the Applicants have undertaken swept path analysis.</p> <p>In relation to this swept path analysis and diagrams (Appendix 26.21 Swept Path Analysis Sensitive Junctions [APP-547]), some information appears to be missing and in order to aid our understanding of the diagrams we asked about it in our ExQ1.18.50.</p> <p>The Applicants' response to our question 1.18.50 indicates that we were not clear so, to give more detail:</p> <ul style="list-style-type: none"> a) The top left-hand diagram on both the drawings in Appendix 26.21 Swept Path Analysis Sensitive Junctions [APP-547] appears not to show the entry vehicle; b) Please also add the entry vehicle to the bottom left hand diagram and the exit vehicle to both right hand diagrams on the second drawing; and c) please add arrows showing clearly the direction of travel of each vehicle on each diagram. 	<p>The Applicants welcome the ExA clarification and have amended the drawings as requested. A copy of the revised Appendix 26.21 (APP-547) drawings are provided within Appendix 1 of this response (document reference ExA.WQ-2.D6.V1_A1).</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
2.18.12	Applicants	<p>Local issues and effects – HGV traffic</p> <p>The junctions on the A1094 with the B1122 and the B1069 have been assessed by the Applicants as sensitive, and the Applicants have undertaken swept path analysis [APP-547].</p> <p>In respect of the A1094/B1122 junction at Aldeburgh, the Applicants' response to our ExQ1.18.51 states that this swept path analysis <i>“demonstrates that an articulated HGV would oversail into the opposite lane when turning from the A1094 onto the B1122. If this lane was blocked by an oncoming vehicle the HGV would not be able to make the manoeuvre. The HGV or oncoming driver, may therefore have to reverse which may not be possible with following traffic, leading to driver delay. A pilot vehicle would run ahead of the vehicle it is escorting. At the junction of the A1094 and B1122, the pilot vehicle would stop any oncoming traffic to allow the following HGV to pass any oncoming traffic.”</i></p> <p>We have visited this junction and observed its operation [EV-007c, EV-007d], noting in particular the presence of vehicles parked on both the A1094 and B1122 arms close to the roundabout junction. These are not shown on the swept path analysis, which appears to assume no obstructions on the highway.</p> <p>Given the presence of parked vehicles, is it still the Applicants' intention to route HGV and large tipper vehicles through the A1094/B1122 junction? If so:</p>	<p>a) and b) Appendix 26.21 has been revised to address the ExA clarifications provided at 2.18.12. This revised plan (provided in Appendix 1) also now includes the existing parking restrictions in advance of the roundabout on the A1094 and B1122. These include 'zig-zag' markings on the A1094 (associated with the zebra crossing) and double yellow lines around the roundabout and on the B1122. The swept path analysis presented in Appendix 1 is based upon no drivers parking illegally.</p> <p>With regards to the presence of oncoming vehicles, cyclists and pedestrians' drivers would follow the same rules as all other road users in giving way to oncoming traffic at the roundabout, or pedestrians and cyclists. Appendix 1 demonstrates that a large HGV tipper vehicle can make the manoeuvre within its own lane and would therefore not conflict with oncoming traffic. Appendix 1 further demonstrates that an articulated HGV could sweep slightly out into the oncoming lane when turning from the A1094 to B1122. The use of a pilot vehicle is therefore proposed to manage this potential conflict.</p> <p>c) The use of a pilot vehicle is common practice for escorting loads throughout the UK, for example, mobile homes and large farm machinery. The Traffic Signs Manual Chapter 8 (2009), published by the Department for Transport outlines that an operative can stop traffic for up to two minutes through the use of the 'Stop-Works' sign.</p>



ExA. Question Ref.	Question addressed to	ExA. Question	Applicants' Response
		<p>a) please demonstrate whether and if so how both an HGV and a large tipper can safely negotiate this junction in the presence of parked vehicles, oncoming traffic, and other road users such as cyclists and pedestrians;</p> <p>b) Given that the lane is already partially blocked by parked vehicles, please explain in more detail how the presence of a pilot vehicle would safely assist; and</p> <p>c) Would the driver of the pilot vehicle have the necessary legal powers to stop traffic?</p>	
2.18.13	Applicants	<p>Local issues and effects – HGV traffic</p> <p>The junctions on the A1094 with the B1122 and the B1069 have been assessed by the Applicants as sensitive, and the Applicants have undertaken swept path analysis [APP-547].</p> <p>In respect of the A1094/B1069 junction, we note that the swept path diagrams show that HGV oversail on both manoeuvres and that the tipper oversails making the right turn out of the B1069 onto the A1094.</p> <p>We have visited this junction and observed its operation [EV-007a], noting in particular the poor visibility in both directions on the A1094, particularly for vehicles turning right from the B1069 onto the A1094.</p> <p>In view of this:</p> <p>a) would a pilot vehicle also be used at the B1069 junction?</p>	<p>Appendix 26.21 (APP-547) identifies that a vehicle can turn from the A1094 to the B1069 without oversailing into the oncoming lane. There is a small area of over sail associated with vehicles turning from the B1069 to the A1094, this area is however hatched out to accommodate these types of existing manoeuvres. Appendix 26.21 has been revised to highlight this area of hatching and a copy of the revised drawing is provided within Appendix 1 of this note.</p> <p>a) noting the clarification provided above there would be no requirement to provide a pilot vehicle;</p> <p>b) no pilot vehicle is proposed; and</p> <p>c) no measures are proposed at this junction as the swept path analysis provided within Appendix 1 indicates that the junction can be negotiated by HGVs. Furthermore, a review of the existing road safety baseline at the junction presented within the Chapter 26 (APP-074) has not identified any existing road safety issues that would be exacerbated by the Projects' traffic.</p>



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		<p>b) If so, would the driver of the pilot vehicle have the necessary legal powers to stop traffic? and</p> <p>c) if not, what measures are proposed to safeguard other road users at this junction?</p>	
2.18.14	Applicants	<p>Local issues and effects – HGV traffic</p> <p>We note that whichever port is chosen as the base port, the A1094 will not be available for AIL and they will be routed via Yoxford.</p> <p>a) Given the operational conditions on the A1094, particularly in the summer months, and in the interests of a simpler HGV strategy, have the Applicants considered sending all HGV traffic along the A12 via Yoxford rather than using the A1094 through Snape, and bringing forward in conjunction with the Sizewell C project construction of the new access route south of Yoxford?</p> <p>b) If the A12 route via Yoxford were used for all HGV traffic, would the signal scheme at Friday Street be required?</p>	<p>a) The strategy suggested by the ExA would reduce the numbers of movements along the A1094 through Snape. However, it would induce additional traffic movements through high sensitive communities of Yoxford and Theberton and also result in traffic having to pass through high sensitive communities which the Applicants' strategy precludes, namely Leiston, Knodishall and Coldfair Green.</p> <p>b) The Friday Street signal scheme has been designed to improve baseline road safety conditions. It can be reasoned that the scheme would be beneficial regardless of the Projects' HGV assignments.</p>
2.18.15	Applicants	<p>Local issues and effects – B1353 crossing</p> <p>We note that following consultation the B1353 is no longer to be used for access, but that it will still be necessary to cross it.</p> <p>How have the Applicants addressed any residual concerns about the operation of the proposed signal-controlled haul road crossing?</p>	<p>Concerns were raised by stakeholders at PEIR with the proposals to route HGV traffic along the B1353 to a landfall access to the west of Thorpeness. The Applicants therefore committed to the removal of the landfall access from the B1353, necessitating a crossing point for the Projects' construction traffic. This intervention has been largely welcomed and the Applicants are not aware of any concerns raised in relation to the proposed signal controlled crossing of the B1353.</p>



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			<p>The design of the signal controlled crossing of the B1353 has been developed in accordance with principles of the Design Manual for Roads and Bridges and has been subject to an independent Road Safety Audit.</p>
2.18.16	Applicants	<p>Local issues and effects – access to cable route section 3b)</p> <p>The Applicants' response to part a) of our ExQ1.18.39 states that the Applicants wish to retain all three options for access to cable route section 3b).</p> <p>Please outline these options briefly and explain why it is necessary to retain all three options.</p>	<p>The three options are:</p> <ul style="list-style-type: none"> • Direct access off the B1122 Aldeburgh Road at access 5 and 6 (shown on Figure 26.2 - Access Locations and Associated Onshore Infrastructure (APP-307)), which is estimated to comprise up to 10 two way HGV vehicle movements per day (5 in and 5 out). • Direct access from Snape Road at access 9 (shown on Figure 26.2 - Access Locations and Associated Onshore Infrastructure (APP-307)); or • Direct access from Snape Road at access 2 (shown on Figure 26.2 - Access Locations and Associated Onshore Infrastructure (APP-307)). <p>The Applicants have sought to (and will continue to) minimise the use of Aldeburgh Road for HGV movements during construction of cable section 3b. As a consequence, in order to ensure the required HGVs and workforce continue to have safe and efficient access to cable section 3b, the Applicants require the above accesses to be available. It is noted that HGVs accessing cable section 3b via access 2 cannot cross the Hundred River as the temporary haul road does not span the river. However, vehicles accessing via access 9 would access the area to the west and east of the Aldeburgh Road.</p>



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2.18.17	Applicants	<p>Local issues and effects – A12 at Marlesford Bridge</p> <p>It is our understanding that works would not be required here if Lowestoft is selected as the base port for these projects. Until that decision is taken:</p> <p>a) would small AIL (over-heavy loads carried on standard HGV trailers) as well as standard C&U HGV loads still use the A12 at Marlesford?</p> <p>b) has the local highway authority said that it is content that this issue is deferred and agreed at the time that a decision is taken on which base port is to be used; and</p> <p>c) how have the impacts of the proposed works been assessed in the ES? Is there a worst case assessment of impacts?</p>	<p>a) Small abnormal loads would use Marlesford Bridge subject to the ESDAL process described in the Applicants' response to Q2.18.9. Standard loads would also use the route.</p> <p>b) The Applicant is in discussions with SCC and anticipates updating the SoCG by Deadline 8.</p> <p>c) To provide further assurance of the low impacts of the Marlesford Bridge access strategy, the Applicant has retained industry heavy haul experts Wynns to evaluate the process for securing AIL access over the Marlesford Bridge. They advise as follows:</p> <p>Prior to the movement of the transformers, the Applicants will undertake a three-stage process:</p> <ol style="list-style-type: none"> a. Obtain structural information from SCC to inform an initial comparative assessment. This will clarify if the load can be transported with no structural intervention and what haul precautions would need to be observed. b. If the comparative assessment is negative or inconclusive, a more detailed survey will be undertaken to clarify bridge bearing capacity; c. If stage b) proves negative, a detailed engineering assessment will be undertaken to determine the form of temporary intervention. <p>Noting that the bridge span is 6.1m the most likely structural intervention (if required) would be a temporary steel bridge placed over the existing bridge deck. There is potential for</p>



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			<p>this intervention to be implemented under single lane closure, for a period of two days, to avoid the requirement to divert traffic.</p> <p>The lead in time for a Transformer is between 12 and 24 months enabling advanced notice to be served to all highway stakeholders and a programme to be agreed with SCC to avoid major events. It is therefore concluded that the driver delay impacts of the roadworks would not be significant</p> <p>The works area (Work No. 37) represents the land within which a temporary working area will be required for inspection access and to service the temporary structural intervention if required (i.e. lay down, craneage, welfare and access).</p>