NORTON ROSE FULBRIGHT

24 September 2021

Norton Rose Fulbright LLP
3 More London Riverside
London SE1 2AQ
United Kingdom

Tel +44 20 7283 6000
Fax +44 20 7283 6500
DX 85 London
nortonrosefulbright.com

Direct line
[redacted]

Email
[redacted]

The Planning Inspectorate
National Infrastructure Planning
Temple Quay House
2 The Square
Bristol
BS1 6PN

Attention: Sizewell C Case Team

Your reference	**Our reference**
EN010012	SFIT/CARW/1001117461

Dear Sirs

The Sizewell C Project – Deadline 8: Comments on any additional information/submissions received by D7

1 Introduction

1.1 We act for the Heveningham Hall Estate (Unique Reference: 20026675) (the **HHE**) and write further to the publication of the following documents at Deadline 7:

(a) Document 9.71 – NNB Generation Company (SZC) Limited's (the **Applicant's**) Responses to the Examining Authority's (the **ExA's**) Second Written Questions (**ExQ2**); Volume 1 – SZC Co. Responses [**REP7-056**];

(b) Network Rail Infrastructure Limited's responses to the ExA's ExQ2 [**REP7-146**];

(c) Suffolk County Council's (**SCC's**) response to the ExA's ExQ2 [**REP7-163**];

(d) Document 9.73 – The Applicant's Comments at Deadline 7 on Submissions from Earlier Deadlines and Subsequent Written Submissions to ISH1-ISH6 [**REP7-061**].

1.2 Transport Planning Associates (**TPA**), acting on behalf of the HHE, comment on the above documents at paragraphs 2 and 3 below.

1.3 Please note that the fact the HHE has not commented on or responded to a particular point made or document published at Deadline 7 should not be interpreted as tacit approval of the same.

2 Comments on responses to the ExA's ExQ2

2.1 TPA comments on the Applicant and Network Rail Infrastructure Limited's replies to ExQ2 question TT.2.5 as follows:

"***Darsham Level Crossing – Safety Concerns***

Following ExQ1, TT.1.102 both parties were reviewing the situation with regard to the safe operation of this crossing. Provide an update on the progress of these reviews and whether any intervention is required as the result of the Proposed Development"

The Applicant's response to TT.2.5[1]	**TPA comment**
SZC Co. has agreed to provide a contribution for the upgrade of Darsham Level Crossing to a full barrier crossing. As this is an existing safety concern for Network Rail with future funding understood to be set aside for the work, SZC Co. has proposed to provide a contribution of 50% of the cost of the full upgrade. This is still under discussion between the parties. Darsham, of course, is not affected by Sizewell C trains and the issue at Darsham arises from the location of the station car park across the A12 from the station. The current half barrier can encourage or enable unsafe behaviour from rail passengers. The Northern Park and Ride will add to traffic levels on this stretch of the A12 but the issue is understood to arise when traffic is static and the level crossing is in operation. Cars destined for the park and ride coming from it or buses coming to and from it to Sizewell C main development site in those circumstances would add to any short-term queue on the highway and should not in themselves pose a safety risk. Network Rail is believed to measure these issues on the basis that any increase in traffic in these circumstances theoretically adds to the (existing) risk. SZC Co. has agreed a Framework Agreement with Network Rail which commits the parties to work together to address the issue and is willing to contribute towards Network Rail's planned improvement. SZC Co. does not regard this as a 'requirement' in the sense understood by planning policy.	While welcoming this acknowledgment of the impact on the Darsham Level Crossing, TPA remains concerned that a number of issues have been overly simplified. For example, in its response to ExQ2 TT.2.5 the Applicant writes: "*the issue at Darsham arises from the location of the station car park across the A12 from the station*" and "*any increase in traffic in these circumstances theoretically adds to the (existing) risk*" (emphasis added). Again, TPA would like to draw the Applicant's attention to the full list of issues identified by Network Rail in relation to this level crossing: ▪ *Crossing is Near a Station* ▪ *Large Numbers of HGVs* ▪ *Large Numbers of Users* ▪ *Sun Glare* ▪ *Deliberate Misuse or User Error* • *Blocking Back.* TPA notes that the Applicant has agreed a Framework Agreement with Network Rail and is willing to contribute towards Network Rail's planned improvement, but that it "*does not regard this as a 'requirement' in the sense understood by planning policy*." TPA disagrees. Given the safety issues, these measures are essential to ensure the impact of traffic associated with the Northern Park and Ride site is appropriately mitigated against and should be secured under the Development Consent Order. Without the installation of a full barrier crossing the impact on highway safety would be "unacceptable" in terms of paragraph 111 of the NPPF.
Network Rail response to TT.2.5[2]	**TPA comment**
NR have reviewed Level Crossings on the East Suffolk Line with the Applicant. NR are concerned by the increased risk at Darsham level crossing as a result of the proposed additional traffic.	

[1] EXL REP7-056.
[2] EXL REP7-146.

NR explored with the Applicant the option of moving the station car park to mitigate this risk. This was deemed not possible by the Applicant, within the timescales available and would necessitate a change in the planning application for the land requested (Temporary to Permanent change).	
It was concluded by both parties that the only suitable mitigation would be to upgrade to a full barrier crossing.	
The cost is likely to be in the order of circa £4m (based on previous interventions of similar size/design).	
In principle NR agrees that a 50/50 split of funding would be appropriate (due to existing ongoing reviews of this crossing) however NR cannot commit to this due to not having confirmed funding secured.	
NR will be applying for funding for this enhancement as part of its funding submission for CP7 (Mar 2024). However, should funding not be secured, the mitigation works could not be delivered and NR could not NR support the Park & Ride car park operation due to the unacceptable risk.	
An inability to provide the identified mitigation would result in an unacceptable risk due to the increase in traffic as well as a change in risk profile caused by landscape changes. The impacts will cause rail passengers further inability to traverse the road from the car park and any proposed new floodlighting would impair visibility or potentially create glare additionally impairing visibility for both users wanting to cross the road and drivers using the road.	The installation of a full barrier crossing should be secured pursuant to the Development Consent Order. TPA agrees operation of the Northern Park and Ride should be conditional on the full barrier crossing being secured and delivered. In terms of timing, however, rather than this form of mitigation being in place within 6 to 12 months of the opening of the Northern Park and Ride, to ensure any safety risks are appropriately mitigated the enhancement works should be completed prior to the opening of the Northern Park and Ride site. Any risks, including in relation to funding, should be borne by the Applicant.
This level crossing is currently under review by NR. Additionally, it also has a higher profile of interest from the Office of Rail and Road (ORR). NR intended to include upgrades to a full barrier level crossing at Darsham in its CP7 settlement. The timescales of such would preclude delivery ahead of any proposed construction activities.	
NR note that the legal framework agreement provides that the Park & Ride at Darsham can only become operation if mitigation is secured and delivered within 6 to 12 months.	As above. Rather than this form of mitigation being in place within 6 to 12 months of the opening of the Northern Park and Ride, to ensure any safety risks are appropriately mitigated, the enhancement works

	should be completed prior to the opening of the Northern Park and Ride site.

2.2 TPA comments on the Applicant and SCC's replies to ExQ2 question TT.2.17 as follows:

"***Yoxford Roundabout – Size of Roundabout***

The Heveningham Hall Estate (HHE)'s representation [REP5-278] maintains their view that a smaller diameter roundabout would serve the predicted traffic flows. Previous responses on this issue have focused on whether the proposed roundabout is acceptable. The point being made relates to whether a smaller roundabout with less land take could be operationally acceptable. Respond to this specific suggestion."

The Applicant's response to TT.2.17[3]	**TPA comment**
The Yoxford roundabout is designed as a 55m Inscribed Circle Diameter (ICD) roundabout to ensure the safe movement of Abnormal Indivisible Loads (AILs) between the northern arm of the A12 and the B1122. The size of the roundabout is principally driven by the need to accommodate the movement of AILs, as well as geometry of approach arms. The proposed design, shown on drawing no. SZC-SZ0204-XX-000-DRW-100019 [AS-132] shows an overrun through the central island for AILs to traverse, under police escort. During normal operation, vehicles would be prevented from using the overrun area by removable arrow and chevron signs, as well as physical separation between the overrun track and circulatory carriageway.	TPA welcomes the fact the Applicant has acknowledged the roundabout is designed as a 55m ICD and not 60m ICD roundabout as repeatedly claimed, including in the TA. In terms of the size of the Yoxford Roundabout, TPA notes that the proposed roundabout at the northern end of the Middlemore Link is only 50m ICD roundabout, notwithstanding the fact that this roundabout also needs to cater for the same AILs that are to use the Yoxford Roundabout. On the assumption the Applicant has tested the Middlemore Link Roundabout for AILs (no assessments have been provided, such as swept path analysis), it is reasonable to conclude that, as a minimum, a 50m ICD roundabout at Yoxford would be able to accommodate AILs. Any suggestion that the Yoxford Roundabout must be at least 55m ICD to ensure AILs can manoeuver safely is therefore unfounded.
The 40m ICD roundabout shown in Appendix 3 of the HHE note prepared by their traffic consultant TPA (Transport Planning Associates) **[REP2-287]** attached to the Heveningham Hall Estate (HHE) representations **[REP5-278]** is not designed to geometric standards set out in the Design Manual for Roads and Bridges (DMRB), in particular CD116 – Geometric design of roundabouts. It appears to be a screenshot from a traffic modelling software (VISSIM), which is not appropriate for geometric design of junctions. Furthermore, the AIL vehicle used by TPA to create the swept path shown in Appendix 4 of the TPA note **[REP2- 287]** is smaller (2.55m wide and 27.6m long) than the largest AIL that the Yoxford roundabout has been designed for	The drawing appended to the HHE's Written Representation showing a 40m ICD roundabout was illustrative. The Applicant should, however, demonstrate that a smaller roundabout would not be able to accommodate AILs. In this regard, TPA notes that the Applicant has not submitted any swept path analysis as part of the application. This is particularly noteworthy given the considerable width (5.7m) of the anticipated AILs. Further information is required about how vehicles carrying such wide loads would be able to manoeuvre, not just while using the Yoxford Roundabout but also along the whole route, including all junctions leading to the Site from the Strategic Road Network and the B1122.

[3] EXL REP7-056.

(up to 5.7m wide) for Sizewell C and Sizewell B, which does not have a beach landing facility. The AIL will therefore require a greater area within the road than shown in the TPA sketch. The TPA assessment of a 40m ICD roundabout is therefore not based on accurate information.	Finally, noting the AIL requirement associated with Sizewell B given the absence of a beach landing facility, the Applicant should provide information about the current arrangements or what would happen if development consent is not granted for the Sizewell C nuclear power station.
SZC Co. commissioned Wynns, a specialist consulting engineer for AIL movements, to carry out an assessment of the AIL routes from the north and south to the Sizewell C main site, as described in the CTMP [**REP2-054**]. Tracking the correct AIL through a 40m ICD roundabout would result in the need to remove a substantial proportion of the central island and provide that area as an over-runnable carriageway. This design would result in an unsafe situation during normal operation. Car and HGV drivers approaching the roundabout would expect to be able to use the overrun area unimpeded, and consequently this could result in collisions with street furniture or side swipes. Drivers may perceive the circulatory carriageway width to include the overrun area, approach at higher speeds and try to take a straight line through the roundabout.	As per above, the Applicant is requested to provided its swept path analysis. The information provided in the Applicant's response is qualitative only and should be supported by drawings.
The proposed roundabout of 55m ICD allows a large enough central island to create a dedicated AIL track through the island, which is separated from the circulatory carriageway. This arrangement is much safer during normal operation. Police will be in control of the junction during escorting operations, when signs are removed from the AIL track.	As above.
A material reduction in the ICD of the roundabout would result in a situation where the AIL track could not be kept separated from the circulatory carriageway; resulting in the safety concerns as presented above. However, highway designs submitted within the application are subject to technical approval of Suffolk County Council post DCO, and therefore design of the roundabout may be optimised through detailed design process. The draft DCO (Doc Ref. 3.1(G)), Schedule 2, Requirement 22 requires that highway works are carried out in accordance with the approved drawings, limits of deviation, and save to the extent that alternative plans or details are submitted to and approved by SCC.	As above.
See SZC Co.'s response to ExQ1 CA.1.17 in relation to consideration of alternatives to compulsory land acquisition and provisions within the draft DCO, that could reduce the area of outright acquisition	

SCC's response to TT.2.17[4]	TPA's comment
There are two parts to this question, the first relates to the junction operating in terms of traffic capacity, whilst the second relates to design, including the need to cater for abnormal loads. Both elements can affect the scale and design of the junction. However, in the case of the Yoxford roundabout, the second element will have more greatly affected the roundabout's design.	
Regarding capacity, the results for the junction are set out at [**REP4-005**]; the junction has been modelled both within the Yoxford VISSIM model and using Junctions 9.	
SCC has consistently sought robust assessments of junction performance to be undertaken; this has been previously noted in our response to Seasonal Traffic Effects at [**REP5-173**] with regards to the inclusion of outage workers and it is also worth noting the Applicant's response at paragraphs 1.11.7 to 1.11.11 of [**REP5-115**] with regards to the expected potential reduction in growth forecasts, which would likely result in slightly reduced traffic flow in any future year assessment. The assessment also includes reductions to capacity on approaches to reflect unequal lane usage. SCC believes the methodology used for modelling the junctions is reasonable and robust.	TPA notes SCC's comment that "*The assessment also includes reductions to capacity on approaches to reflect unequal lane usage. SCC believes the methodology used for modelling the junctions is reasonable and robust*". The application of robust assumptions, such as the supposition that the approaches would in practice operate as one lane approaches (differently from the actual two lanes at give-way lines) results in the model overestimating capacity.
The outputs of the Junctions 9 modelling indicate that the junction will function with some spare capacity, whilst the VISSIM model indicates some queuing on the A12, but not that which would be considered to be significant. These results are considered acceptable despite the increase in delay for A12 southbound traffic in particular. There is of course elements of professional judgement in determining what junction operation would have been considered acceptable based on traffic capacity; and it may have been that a junction operating over capacity for very short periods of time would be considered acceptable depending on the frequency and year this was predicted to occur, as well as whether blocking back to other junctions or a level crossing would have resulted. It is likely on this basis that a junction functioning worse than modelled may have been considered acceptable. This would indicate that in terms of traffic capacity there would be some potential to reduce the scale of the junction; however, in order to determine the exact scale this	TPA agrees with SCC's final statement "*in terms of traffic capacity there would be some potential to reduce the scale of the junction; however, in order to determine the exact scale this would need to be an iterative process that would need to be undertaken by the Applicant*".

[4] EXL REP7-163.

would need to be an iterative process that would need to be undertaken by the Applicant.	
The second element of the design is to accommodate Sizewell C traffic including the scale of vehicles that required for construction of SZC , which includes abnormal loads; SCC considers that the roundabout has been designed to safely cater for these movements whilst also providing an acceptable roundabout layout during normal operation, however, the Applicant is likely to respond in more detail on this issue.	
The necessity to deliver the roundabout offline is also likely to affect the roundabout's geometries, most notably the deflection which subsequently affects the required diameter.	
SCC as the Local Highway Authority have assessed what has been proposed by the Applicant to ensure that it is feasible in planning terms. The Applicant has confirmed that there are no departures from standards in the design. The highway designs submitted within the application are subject to technical approval by SCC. The draft DCO [REP6-006] Schedule 2, Requirement 22 requires that highway works are carried out in accordance with the approved drawings, limits of deviation, and save to the extent that alternative plans or details are submitted to and approved by SCC.	

3 Response to the Applicant's Comments at Deadline 7 on Submissions from Earlier Deadlines and Subsequent Written Submissions to ISH1-ISH6

3.1 TPA comments on the Applicant's response on the HHE's Deadline 6 submission **[EXL REP6-073]** as follows:

The Applicant's response to the HHE's comments[5]	TPA comment
Results from the Yoxford VISSIM model reported in the **Consolidated Transport Assessment** [REP2-045 to REP2-052] are aggregated to individual hours, so the specific timing in the model of traffic queues at the level crossing is of less importance than the overall representation of traffic across the full modelled period. Indeed the stochastic nature of VISSIM is intended to produce a range of slightly different results which reflect natural day-to-day variation. All results were therefore reported as an	This explanation does not explain the evident large differences in the queues. TPA is aware of the stochastic nature of the model and how averages are calculated. The Applicant has still not addressed why the observed queues were in some instances considerably different from not only the average outputs of the model but also any simulation run (i.e. smaller than the minimum or larger than the maximum values).

[5] EXL REP7-061.

average of multiple simulation runs in line with best practice. The Yoxford VISSIM models have been developed in accordance with DfT guidelines and subject to technical review by SCC and its appointed consultants. The models have been agreed with SCC and ESC as an "acceptable basis for assessing the transport effects of the proposed development" as stated in the **Initial Statement of Common Ground** [REP2-076].	
The purpose of the traffic modelling is to identify the potential traffic impacts of Sizewell C considering a range of time periods which cover existing peak hours and times when there may be more Sizewell C traffic outside of the existing peak hours. The process to identify the hours for modelling is set out in **Appendix 6A** to the **Consolidated Transport Assessment** [REP2-046] and these hours were agreed with SCC and ESC. The assessment of a development in transport terms should consider the typical traffic flows of the development; the Sizewell C traffic that has been assessed is based on the peak estimations of both workforce and HGV volumes in each phase of the development, and in reality these are not likely to coincide, so this is already considered to provide a robust level of Sizewell C traffic on the network. The model also includes non-work trips made by all non-home based workers (including those on campus and in caravans) on a typical day (for example shopping). It is acknowledged that there would also be workers travelling to and from the campus/caravan site, as well as other non-home based residences, at the beginning and end of a shift rotation, for example on a Sunday evening or Friday evening (referred to as the 'weekend effect'). However, given that the assessed Sizewell C traffic generation assumes that 100% of the construction workforce would be present on an average weekday, and on Fridays only around 85% of the workforce would be present due to the proposed shift rotations, this is already considered to provide robust assessment of the Sizewell C traffic impact and the addition of 'weekend effect' trips would overestimate the likely realistic traffic levels. Sundays do not represent a period of significant existing traffic or Sizewell C traffic levels therefore it was not considered appropriate to assess this period when there may be 'weekend effect trips' present, as other time periods have been assessed which contain more traffic.	Given the quantum of workers this 'weekend effect' affects (three thousand workers), TPA would have expected such phenomenon to have been captured in the modelling. There is no explanation as to how such significant tidal movements have been captured in the gravity model. While acknowledging that some movements would occur off-peak, TPA would still expect such a large 'weekend effect' to be modelled, as even 10% (as an illustrative figure) of the three thousand workforce would result in 300 staff movements not having been included in the assessment.
As set out in [REP5-114], the park and rides will be allocated based on postcode and not Census output area and judgements will be made but the assessed	The issue is not that the Applicant used Census data but that the Applicant has assigned vehicles to one of the two park and ride sites on the basis of quickest

number of workers allocated to each park and ride is considered to be a reasonable estimation for the purpose of the assessment.	journey time to the main development site, rather than geographical proximity. This would result in some workers using a park and ride site located further away from their home than the other park and ride site. This approach affects the Applicant's assessment of predicted demand, particularly in relation to the Northern Park and Ride site.
Parking spaces at the park and ride sites will not be individually allocated to a specific worker in the way suggested in HHE's response. If parking spaces were allocated to individual employees it would lead to a much greater demand for spaces, due to the fact that employee shifts would mean that each space would only be occupied for a part of the day, and empty otherwise. By allowing employees to park anywhere on arrival, the occupancy of each space is maximised, and the overall size of the car park kept to a minimum. The car parks have been design in accordance with the theoretical capacity is described in the Institute of Highways and Transportation (IHT) document 'Guidelines on the Preparation of Parking Strategies and Management' (2005).	The two park and ride sites have been overdesigned, with the maximum occupancy not justifying the total number of proposed spaces. Please see the HHE's previous comments [**EXL REP6-073**].

Yours faithfully

[redacted]

Norton Rose Fulbright LLP