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12th October 2021
Our Ref: DW/2031/D10-121021

Dear Sizewell C Case Team

Application by NNB Generation Company (SZC) Limited for an Order Granting Development Consent for The Sizewell C Project (PINS ref: EN010012)

Deadline 10 submission by Dominic Woodfield (IP reference: 20025964)

This submission is intended to update the Examining Authority on the following matters:

1. Discussions held between the Applicant's ecologists (Alan Lewis, Martina Girvan, Liam Price and Emily Wilson) and Mr Paul Collins, myself and Mr Tom Langton at a meeting held online on 21st September;
2. Actions arising from that meeting, in particular the release of the Applicant's Metric 2.0 calculations, and;
3. Subsequent further work enabled by the release of that information to explore the veracity of the Applicant's claims of adequate compensation for ecological impacts arising from the proposals.

Each of these matters is discussed in more detail below, after which I offer some brief concluding submissions.

1) Meeting on 21st September to explore areas of common ground

The Examining Authority requested that a meeting be held between the Applicant and Mr Paul Collins to discuss areas of disagreement around the figures submitted by the Applicant in support of their claims of delivery of 'net gain' in biodiversity. This meeting duly took place online on 21st September. The Applicant was represented by Alan Lewis (Aecom) and by Martina Girvan, Liam Price and Emily Wilson (all Arcadis). As well as Mr Collins, myself and Mr Tom Langton also attended that meeting (at Mr Collins' request) due to this issue also closely concerning us and (in cognisance of the imminent end of the examination) in order to most efficiently explore whether any of the grounds of dispute could be set aside as part of the process of seeking to agree a Statement of Common Ground with the Applicants on the specific matter of their net gain calculations.

2) Actions arising from the meeting of 21st September

At this stage there is no agreed written note of the 21st September meeting but it is anticipated that separate submissions may be made by others on this, potentially including the transcript and/or recordings that were made.

The main area of progress was that Mr Lewis, representing the Applicant, finally agreed to release the spreadsheet containing the Applicant's Metric 2.0 calculations.

After some follow-up chasing, the Applicant's Metric 2.0 spreadsheet was received on 27th September. Some further chasing was required to obtain an area-by-area breakdown of the aggregate input figures that had been used, and this was finally received on 29th September, a little over two weeks from the end of the examination.

Thus, a matter of a little over two weeks before the end of the Examination, we have finally obtained the essential information from the Applicant that the ExA will recall I first requested over fourteen months ago, prior to the start of the Examination. There remains no meaningful explanation given by the Applicant as to why this information (which I demonstrated by means of my last submission at Deadline 7 (REP7-182) to be essential to the understanding and independent review of the Applicant's net gain assessment), was not previously released in response to the multiple and repeated requests from myself and others for it since July 2020. The Applicant's refusal to release these 'workings out' until right at the end of the examination has undoubtedly hindered the examination process and caused prejudice to those participating in it. I ask that this be noted and put on record.

3) Independent verification work enabled by the release of the Applicant's calculations

On 1st October, two days after having received the Applicant's Metric 2.0 spreadsheet and breakdown, I travelled to the Main Development Site (MDS) and met Tom Langton and together we undertook a sample number of independent verification checks of the Applicant's Metric 2.0 inputs in terms of the baseline habitat type and condition on the MDS. For the avoidance of doubt, I am a professional ecological consultant with over twenty-seven years of experience of habitat surveys, classification and condition assessment. I am also closely familiar with the various iterations of the Biodiversity Metric that are relevant to this case, in particular the Beta Test Metric 2.0 released in July 2019 and Metric 3.0 which significantly improves upon and supersedes it and was published by Natural England in July 2021.

During this visit I confirmed on the ground a suite of problems with the accuracy of the Applicant's baseline habitat classifications (by reference to the Phase 1 survey information underpinning their Appendix 14E Biodiversity Net Gain Report REP1-004[1]) and also the condition assessments applied to various habitats. These errors have been transposed by the Applicant into their Metric 2.0 calculations and significantly skew the outputs. Some examples are given below:

Misclassification of woodland habitats

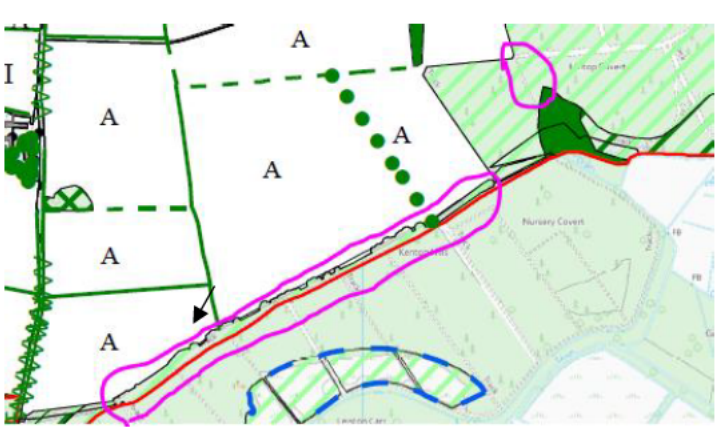
The Kenton Hills and Goose Hill/Dunwich Forest components of the MDS are mapped by the Applicant as more or less a uniform stand of poor-quality coniferous woodland. This has led to over 45ha of the MDS being entered into the Metric calculator as a very low scoring, low distinctiveness habitat. In fact, several areas mapped as coniferous woodland by the Applicant are higher-scoring mixed, or even purely deciduous, woodland.

An example of such error is illustrated overleaf. The image to the left is an extract from Figure 1 of the Applicant's BNG Report and the image to the right is a recent aerial photo of the same part of the MDS. Magenta has been used to outline two areas where higher scoring mixed or deciduous woodland has been incorrectly mapped as lower-scoring coniferous woodland. Other examples occur further east of these locations, including misclassification of deciduous woodland as lower-value mixed woodland. Below the two images is a photo, taken on 1st October at the location and direction of view shown arrowed in the upper images. This photo demonstrates that around half of this boundary strip, which falls within the redline and is to be lost to a screening bund, comprises an old field boundary

[1] See Figure 1 at internal page 108.

with a significant complement of mature and over-mature oak trees and other deciduous components. It does not take an expert eye to agree that this is not 'other coniferous woodland' of 'poor' condition.

Cumulatively, these types of woodland classification error amount to several hectares of habitat that will be lost to the proposals being undervalued in the metric calculations. The effect of such errors on the Applicant's metric outputs is discussed later in this submission.



*as an aside, the scarce arable plant corn spurrey *Spergula arvensis* was noted in the arable field margins at the location this photograph was taken, supporting comments made to the examination previously by myself and others that the sandy arable habitats in the MDS may warrant a higher score than the low default they are given in Metric 2.0.

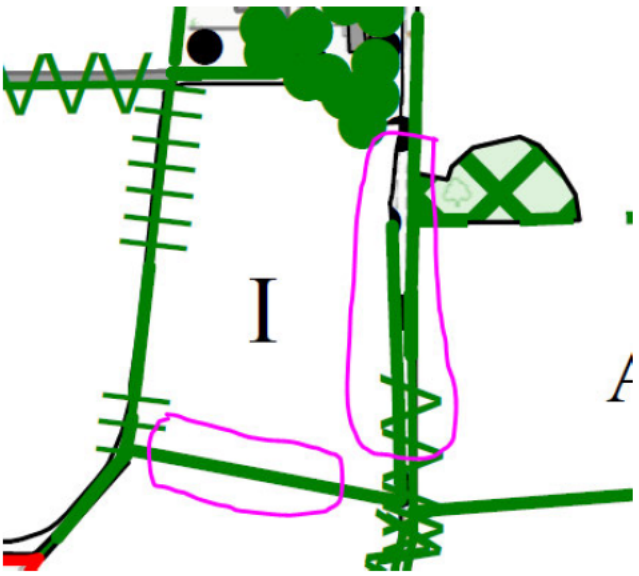
Condition assessment of coniferous woodland habitats

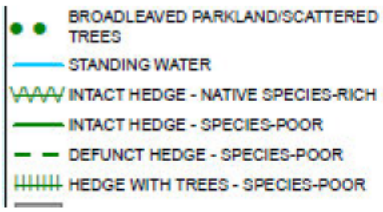
As well as mapping the large blocks of woodland at Kenton Hills and Goose Hill/Dunwich Forest as uniform coniferous woodland, when they are in fact a more intimate matrix of coniferous plantation with areas of deciduous and mixed plantation and some self-set areas, there has been uniform attribution of 'poor' condition to these woodland habitats. In-field application of the condition assessment guidance accompanying Metric 2.0 in fact classes these areas as on the cusp between 'poor' or 'moderate' condition. This is on account of their open structure, well vegetated field layer and other criteria. This result is made clearer if one applies the more up to date and refined Metric 3.0 guidance for the woodlands habitat group. Logic would therefore require that these woodlands be entered into the metric as in no worse than the intermediate category 'fairly poor' condition. This would also be more consistent with their designation as a County Wildlife Site. Due to the large extent of area concerned (some

45ha), making this ostensibly slight correction has a further, significant effect on metric outputs, as discussed later in this submission.

Misclassification of hedgerow habitats

An inconsistent and at times wholly inaccurate approach appears to have been applied to classifying and mapping the hedgerow resource on the MDS. For just one example, the left-hand image below clearly shows structurally diverse lengths of hedgerow with trees, including large and mature trees that are, by contrast, shown on the Applicant's Phase 1 map (right hand image) as species-poor hedgerows without trees. These are not 'differences of professional opinion' – these are habitat survey errors of the most simple and fundamental kind.

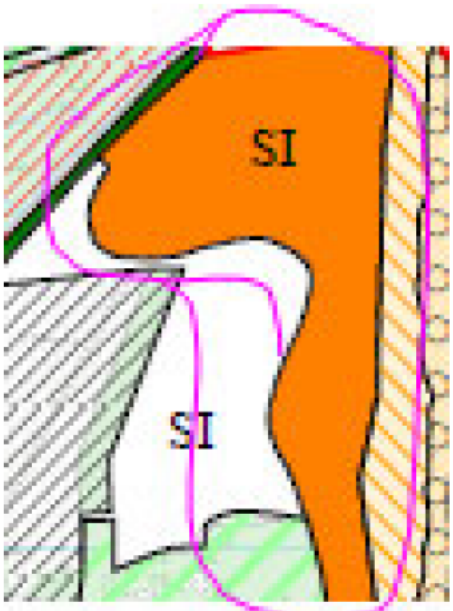




Misclassification of grassland habitats

Extensive areas of scrub and grassland north of the power station site have been incorrectly mapped as 'neutral grassland, semi-improved' or even 'poor semi-improved grassland' in the Applicant's baseline habitat survey and input to the metric as 'modified grassland'. As the aerial and ground level photos overleaf show, these areas actually

contain significant expanses of open structured unimproved acid grassland on sandy substrates, characterised by species such as cudweeds (*Filago* spp) and *Cladonia* lichens. These areas, which will be lost to the development, should be mapped and scored as higher value acid grassland with some parts actually closer in character to disturbed representations of the high distinctiveness dune grassland that is present on adjoining land.



Created habitats – classification and condition

While there has been some development of acid grassland from arable reversion at Studio Fields, at Aldhurst Farm there are clear and substantial problems with high soil fertility such that extensive parts of this area present something closer to a set-aside aspect[2], than an acid grassland or (as was noted to be incorrectly claimed on the public interpretation boards), 'heathland'. This poor outcome at Aldhurst Farm has been commented on by others[3]. In this context, while an argument might be made for limited parts of Studio Fields being half-way to achieving 'fairly good' condition after 25 years, by contrast the prospect of the non-wetland habitat at Aldhurst Farm doing so is extremely questionable.

[2] Of no more than academic botanical interest in these set-aside type habitats was the presence of the hybrid *Erigeron acris x Conyza sumatrensis/canadenis*

[3] Friends of the Earth (Suffolk Coastal) representations REP2-460 and REP7-233.

The effect of correcting habitat classification and condition assessment errors on the Metric 2.0 and Metric 3.0 outputs

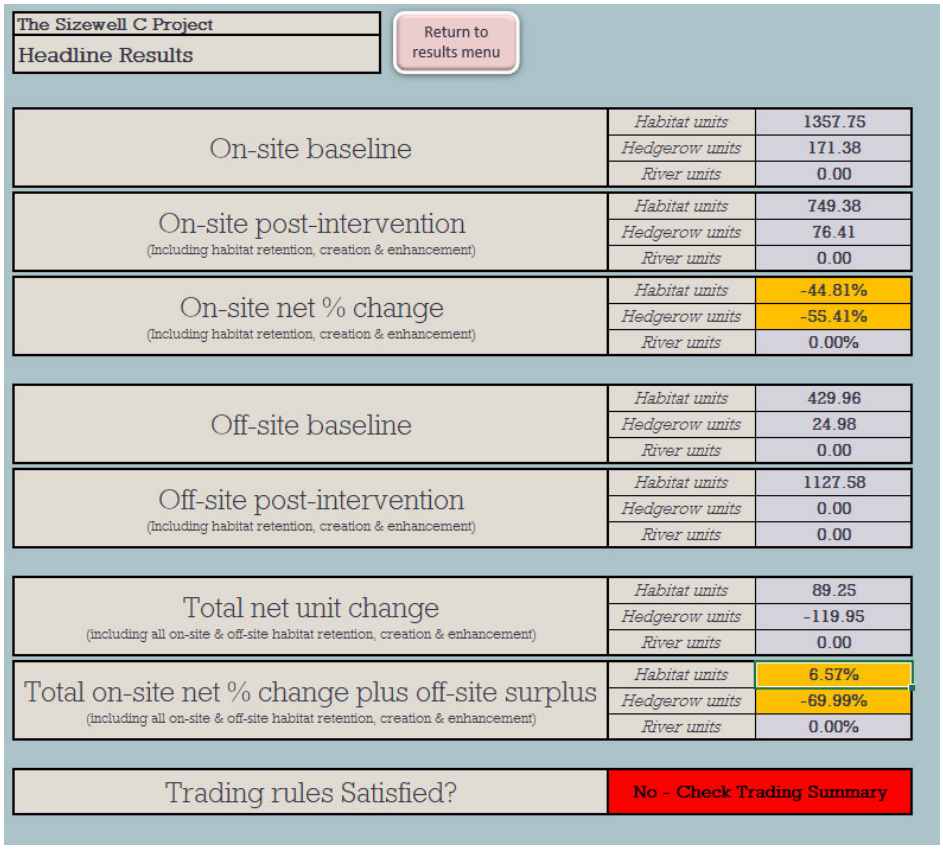
The above few examples, obtained by sampling at a few locations within the constraints of limited time and access in a single day, illustrate the types of systematic error and/or artificial suppression in baseline habitat classification that pervade the applicant's submissions on biodiversity net gain. Simply correcting the baseline inputs in the applicant's Metric 2.0 calculations to reflect the above examples has the effect of putting the impact on the hedgerow resource within the MDS significantly into net loss, and it reduces the area-based habitat balance to a figure less than 10%, even allowing for the compensatory habitat creation at Aldhurst Farm and Studio Fields. However, and as discussed at some length in the submissions of Mr Collins, Metric 2.0 is now superseded by Metric 3.0 and it is the latter, not the former, system that will be applied to the measurement of net gain, including for energy NSIPs[4], in the near future.

The difference between Metric 2.0 (as preferred by the Applicant) and the more up to date version that supersedes it - Metric 3.0 – is of particular relevance to the determination of this DCO application because Metric 3.0 allows for an additional 'time lag' factor to be applied where there is a significantly delayed start to compensatory habitat creation. This is of particular relevance with the Sizewell C project given the duration of habitat loss to the construction phase. With the benefit of now having the applicant's input figures, Metric 3.0 can be employed to run a basic audit on both the positive effect of the applicant's advance habitat creation at Studio Fields and Aldhurst Farm, and the negative effect of the construction phase time lag which, for these purposes, is assumed to be twelve years.

The result of factoring these elements in is illustrated overleaf. It is an output Metric 3.0 figure for area-based habitats of +6.57%, and a figure of minus 69.99% for hedgerows[5]. While the area-based figure remains above zero, (albeit only fractionally above the standard 'margin of error' allowance of up to 5% either side of zero), suggesting a very fractional net gain, it should be remembered that only a limited number of corrections of habitat classification and condition assessment errors have been able to be made in the time available. There can be no doubt that there are many more. It should also be noted that the application of Metric 3.0 flags up a failure here to satisfy the 'trading up' rules. This is a means of preventing losses of high value habitats being compensated by large scale creation of poor-quality habitats. The Applicant has not acknowledged this at any stage, even though its own Metric 2.0 outputs flag the same problem.

[4] A June 2021 amendment to the Environment Bill (which has just completed its third reading in the Lords and is now moving towards Royal Assent) extends the requirement for net gain to be delivered to new 'nationally significant' infrastructure projects in England – including for transport and energy. Metric 3.0 will be the system used to determine this.

[5] It will be noted by the ExA that this differs from Mr Collins' output from Metric 3 as included at Table 2 to his submission on 3rd October. This is due to the outstanding and additional refinements he refers to on the final page of his submission. It is considered likely that the above figures would worsen if full access were available to check all baseline habitat classifications and condition assessments – potentially taking the project into net loss overall.



The Sizewell C Project

Headline Results

Return to results menu

On-site baseline	*Habitat units*	1357.75
	Hedgerow units	171.38
	River units	0.00
On-site post-intervention (including habitat retention, creation & enhancement)	*Habitat units*	749.38
	Hedgerow units	76.41
	River units	0.00
On-site net % change (including habitat retention, creation & enhancement)	*Habitat units*	-44.81%
	Hedgerow units	-55.41%
	River units	0.00%
Off-site baseline	*Habitat units*	429.96
	Hedgerow units	24.98
	River units	0.00
Off-site post-intervention (including habitat retention, creation & enhancement)	*Habitat units*	1127.58
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	89.25
	Hedgerow units	-119.95
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	6.57%
	Hedgerow units	-69.99%
	River units	0.00%
Trading rules Satisfied?	No - Check Trading Summary	

Concluding submissions

The habitat loss impacts arising from the Sizewell C proposals include the direct loss of over 6.5ha of SSSI habitat regarded as essentially irreplaceable (>3ha of which will be permanent loss) with a much wider area of SSSI and scarce M22 fen meadow habitat put at high risk of degradation via indirect impact vectors. The Applicant proposes compensation for the direct and permanent SSSI impacts (albeit only latterly conceding that it should be compensating for loss of wet woodland habitat from the SSSI as well as fen meadow[6]), but that which has already been delivered at Aldhurst Farm is not of equivalent type or quality to what will be lost, nor even remotely heading in that direction. There are also significant problems with the suitability of the proposed compensation site at Pakenham, over and above its distance from the Suffolk Coast and its differing ecological context. In short there remains significant uncertainty about the Applicant's ability to successfully create even a poor facsimile of the key habitats of the SSSI elsewhere, let alone an adequate quantum or complexity of them in a relevant coastal fenland locale to serve the purpose of compensation. In the context of this proposed fragmentation and uncertainty, the Applicant cannot purport to deliver an overall net gain in biodiversity, even if their BNG calculations for non-SSSI habitat were robust. Yet they have and continue to do so in public-facing literature and there are concerns that this has erroneously shaped public and statutory body perception.

As to the question of whether the Applicant's claims of delivery of net gain for non-SSSI impacts *are* robust, it has been a feature of this examination that the Examining Authority's and Independent Parties' ability to take account of such issues and scrutinise the Applicant's claims of net gain, have been hindered by the Applicant's persistent refusal, until barely two weeks before the conclusion of the examination, to provide the figures behind their much-publicised net gain claims.

[6] See FOE SC submission REP5-275

Now that those figures have been released, it has been possible to elucidate that they are based in large part on survey errors and misclassifications which have the effect of artificially suppressing the baseline habitat value of the impacted areas. A further source of error arises in their being founded on very optimistic (to the point of unrealistic) assumptions about the success of future habitat creation. These are assumptions that are not well supported by ground-truthing of current progress in the places where advance habitat creation has already been attempted, such as Aldhurst Farm.

In my last submission, the Examining Authority was asked to note the fragility of the Applicant's BNG claims and their vulnerability to challenge once the supporting calculations are subject to independent scrutiny and examination. This fragility is now emphasised by the release of the Applicant's own calculations and by the examples of error detailed earlier in this submission. The Examining Authority is therefore asked to contemplate this matter again, both in its own terms but also to consider what this implies about the weight that can be reliably attached to the Applicant's claims in respect of SSSI protection and compensation, the claims around marsh harrier compensation, delivery of suitable habitats for protected species mitigation and indeed the conclusions on ecological effects generally in the submitted EIA and HRA.

The Applicant has made attempts to compensate in advance for the long-term damage of the Sizewell C proposals in habitat creation efforts visible at Studio Fields and Aldhurst Farm. The habitat changes to these sites are not insignificant interventions and it would be churlish to suggest they are worthless on their own terms. But the fact that they are shown by the application of biodiversity metrics to be insufficient to deliver substantive compensation for the losses incurred (and the duration of those losses), merely underlines the inherently damaging nature of this project, a product of its siting within an exceptionally sensitive area. In short, the compensatory provisions are not like for like and hold substantial risk of failure.

The Applicant has shown itself to be reluctant to improve the compensation offer beyond the minimum it thinks it can get away with, meaning there is no over-provision as a failsafe and little safety factor or security built-in. Through the course of the examination it has nevertheless come to recognise that the magnitude of damage to statutory and non-statutory designated sites and to habitats and species that will be caused, is far greater than it first believed. One consequence is that during the course of the examination, the compensation offer for the loss of part of the Sizewell Marshes SSSI has increased, at least in magnitude. This is a step in the right direction, albeit it is ironic that (using the BNG Metric systems as a measure of independent calibration), the quantum falls far short of what would be required if these were <u>not</u> SSSI habitats. However, the reluctant and obdurate attitude that the applicant has taken towards requests for transparency in its application of quantitative measures to assess long-term net biodiversity change, does not suggest it is privately confident in the veracity of its public claims. This attitude is relevant to the decision making process as it suggests that even if a raised level of future compensation were able to be attained that was sufficient in quality and magnitude to outweigh the very significant and long-term habitat and species losses and indirect impacts across such a sensitive area, the Applicant could not be relied upon to apply itself to the long-haul in achieving that target position, were a consent to be granted and the spotlight of the public examination process be directed elsewhere.

Yours sincerely

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Director