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Project name:
West Burton C (Gas Fired Generating Station)

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To:
Planning Inspectorate

From: Richard Lowe, AECOM

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Memo

Subject: Biodiversity Loss and Gain Calculations: Summary of Revisions Since Issue of the First Draft of the Landscaping and Biodiversity Management and Enhancement Plan (LBMEP)

Overview of the Approach to Calculation of Biodiversity Loss and Gain

The first version (dated April 2019) of Document 7.5: Landscaping and Biodiversity Management and Enhancement Plan (LBMEP) [APP-139] prepared for the proposed West Burton C (Gas Fired Generating Station) Order presented an assessment of habitat losses and gains based on the Defra Pilot Biodiversity Offsetting Metric (the 'Defra biodiversity metric'). A summary of the relevant data, as presented in the first issue of the LBMEP is provided within Table 1 of this note.

Subsequent consultations with Nottinghamshire Wildlife Trust (NWT) on the LBMEP raised queries over the habitat loss and gain calculations. These have been discussed through the draft Statement of Common Ground between NWT and EDF Energy (Thermal Generation) Ltd.

NWT considered that the habitat enhancements proposed within the LBMEP had not been adequately placed in context with those habitats that had previously been provided in 2012 as part of the West Burton B Landscape and Creative Conservation Plan (WBB LaCCP) required under the Section 36 consent for that development. NWT considered that the habitat creation required under the 2012 WBB LaCCP within the area referred to in the LBMEP as 'Area 5' may not have been adequately undertaken. NWT considered that the grassland within Area 5 needed to be assessed as if it was in optimal condition, as the objective of the habitat creation and management regimes specified in the 2012 WBB LaCCP was to establish high quality grassland habitat in accordance with the Section 36 consent.

As requested by NWT, the Applicant has recalculated the biodiversity loss and gain calculations for the Proposed WBC Development assuming a future baseline where the condition of habitats present within Area 5 reflects the objectives of the 2012 WBB LaCC plan. When updating the calculations, it was also identified that the Defra biodiversity metric had been superseded. In the intervening period after submission of the LBMEP, Natural England had published an amended biodiversity metric (Biodiversity Metric 2.0; Natural England, 2019), with an associated calculation tool ('workbook') to provide a prescribed way of measuring and accounting for biodiversity losses and gains resulting from development or land management change.

Given the requirement to update the original habitat loss and gain calculations to meet the requirements of NWT, the opportunity was therefore also taken to update the calculations for the Proposed Development using Biodiversity Metric 2.0 and its associated workbook.

This note provides the outcome of the updated biodiversity loss and gain calculations. The summary results of the original calculations made using the Defra biodiversity metric are also re-presented (see Table 1, below) to permit cross comparison with the results of the revised calculations made using Biodiversity Metric 2.0.

Results of the Original Calculation Using the Defra Biodiversity Metric

The results of the biodiversity offsetting calculations are summarised in Table 1. The full calculations and the rationale behind them are available in the first issue of the LBMEP [APP-139].

A conservative approach was used within the Defra biodiversity metric calculations to account for uncertainties regarding timeframes and impacts prior to the detailed design stage of the Proposed Development. For example, in calculating the biodiversity value of existing habitats, it was conservatively assumed that all habitats within the Site, excluding enhancement areas, would either be lost or damaged. In addition, when estimating the time delay for like-for-like restoration of habitats, it was assumed that this would take place at the end of the construction phase. However, in many cases habitat restoration would be completed sooner than this, where individual elements of the Proposed Development are completed in a shorter timeframe.

When estimating the time taken for habitats in enhancement areas (outside construction areas) to reach target condition, it was assumed that habitat management works would commence during construction, in order that improvements in biodiversity value could be achieved as soon as possible.

Protected species are not included within the Defra offsetting metric, because there is an existing legal process in place to mitigate impacts on protected species.

The Defra biodiversity metric confirmed that, with the implementation of the proposed restoration and enhancement measures, there would be no net loss of biodiversity, and a net gain for biodiversity can be achieved as a result of the Proposed Development.

Table 1: Summary of the Defra Biodiversity Metric Calculations

HABITAT	AREA (HA)	BIODIVERSITY UNITS
Habitats to be lost during construction		
Plantation broad-leaved woodland	0.54	4.32
Semi-improved neutral grassland	5.91	42.80
Scrub	1.07	4.28
Wet Woodland	0.15	2.70
Reedbed	0.08	0.96
Wet Ditch	0.03	0.24
Total units lost		**55.30**
Habitats to be restored like-for-like following construction		
Semi-improved neutral grassland	1.91	7.71
Scrub	0.64	1.51
Wet Woodland	0.15	1.35
Wet Ditch	0.03	0.17
Habitat enhancements		
Scrub	3.95	15.59
Reedbed management	0.14	0.70
Habitat succession		
Tree planting	2.89	5.78

HABITAT	AREA (HA)	BIODIVERSITY UNITS
Additional Measures Excluded from Biodiversity Metric 2.0 calculation (Table 2, below)		
Scrub re-instatement (this has been omitted from Table 2 because the location was uncertain and it potentially represented double-counting)	1.20	8.47
Grassland management (this has been omitted from Table 2 given changed assumptions on the future baseline i.e. current condition)	6.56	21.87
Total units gained		**63.16**
Net change in biodiversity units		**+7.86%**

Updating the Calculations using Biodiversity Metric 2.0

The updated calculations using Biodiversity Metric 2.0 have been made within the associated Excel workbook published by Natural England. A summary of this is provided below as Table 2, in a format to allow cross-comparison against Table 1 (above). The updated calculations were also provided as a Deadline 3 submission to this DCO Examination [Document 10.4 – The Biodiversity Metric 2.0 – Calculation Tool].

The results of the updated calculations do not change the conclusions of the previous calculations using the Defra biodiversity metric i.e. that the Proposed Development can achieve no net loss of biodiversity, and also that net gain can be achieved. The workbook with the results of the Biodiversity Metric 2.0 calculations has been shared with NWT.

For the purposes of clarity for all parties it has been considered appropriate to confirm the implications arising from use of Biodiversity Metric 2.0 and revision of the LBMEP. There have been no changes to the habitat data used for the calculations, other than those changes arising from the consultation with NWT. Specifically, the calculations using Biodiversity Metric 2.0 are made with reference to:

- the same baseline habitat survey data and Phase 1 habitat map utilised for the original Defra biodiversity metric calculations; and
- the same habitat type and area loss and gain data utilised for the original Defra biodiversity metric calculations. This data was presented in Appendix B of the original (April 2019) LBMEP [APP-139], but has been removed from the updated LBMEP (Revision 2 – submitted with this document at Deadline 4) as it no longer needs to be included in this document as all of the relevant data are captured in the submitted Biodiversity Metric 2.0 workbook (submitted at Deadline 3); and
- habitat condition values remain unchanged from those used in the Defra biodiversity metric calculations, except that the assessment of the current condition of the neutral grassland of Area 5 has been amended in accordance with the approach agreed with NWT. It is also no longer assumed that the grassland of Area 5 can be enhanced as the agreed future baseline requires the assumption that this grassland is optimally managed and of good condition.

It should also be noted that the current calculations using Biodiversity Metric 2.0 take account of:

- habitat enhancement measures that are no longer considered valid (as clarified above in Table 1). Such measures are omitted to avoid over-stating habitat gains arising from enhancement of existing habitats; and
- the current design for the Proposed Development;

- the habitat creation and enhancement specification as set out in the updated LBMEP (Revision 2 – submitted with this document at Deadline 4). This is consisted with the April 2019 version and has only be amended to reflect use of Biodiversity Metric 2.0 as described above; and
- requirements arising from the need for mitigation within Area 5 to address losses of great crested newt terrestrial habitat. The shadow GCN translocation licence application has been reviewed and accepted by Natural England such that they have issued a letter of no impediment (dated 28th November 2019) to the future granting of a Translocation Licence for GCNs from the Proposed Development Site.

It is emphasised that the conclusions of the Biodiversity Metric 2.0 calculations derive from the weightings built into the metric and not from the data that AECOM has populated into the workbook. As described above, there have been no changes to the habitat data used for the calculations, other than those changes arising from the consultation with NWT.

The main difference between the original calculation (Table 1) and the revised calculation using Biodiversity Metric 2.0 (Table 2) is the calculation of biodiversity units. The revised calculation records a higher unit loss and is therefore more precautionary than the original calculation. This is in part due to the increased weighting placed on the neutral grassland in Area 5, as a result of the NWT consultation. But it will also reflect revisions to the wider metric between the Defra biodiversity metric and Biodiversity Metric 2.0, including the potential for accelerated succession through tree planting.

Table 2: Summary of the Biodiversity Metric 2.0 Calculations

Habitat	Area (ha)	Biodiversity Units	Location on Metric 2.0 workbook
Habitats to be lost during construction			
Plantation broad-leaved woodland	0.54	7.13	Tab A-1 cell Z12
Semi-improved neutral grassland	5.91	78.01	Tab A-1 cell Z16
Scrub	1.07	9.42	Tab A-1 cell Z19
Wet Woodland	0.15	1.98	Tab A-1 cell Z13
Reedbed	0.08	1.74	Tab A-1 cell Z22
Wet Ditch	0.03	0.40	Tab A-1 cell Z23
Total units lost		**98.67**	(Sum)
Habitats to be restored like-for-like following construction			
Semi-improved neutral grassland	1.91	14.77	Tab A-2 cell S12
Scrub	0.64	6.58	Tab A-2 cell S13
Wet Woodland	0.15	0.42	Tab A-2 cell S14
Wet Ditch	0.03	0.31	Tab A-2 cell S16

Habitat	Area (ha)	Biodiversity Units	Location on Metric 2.0 workbook
Habitat enhancements			
Scrub	3.95	50.38	Tab A-3 cell AH12
Ruderal/ephemeral	1.45	5.18	Tab A-3 cell AH13
Habitat succession			
Tree planting	2.89	185.17	Tab A-4 cell AH12
Total units gained		**262.82**	(Sum)
Net units gained		**88.04**	Tab Headline Results
Net change in biodiversity units		**+32.51%**	Tab Headline Results

Conclusion

Referring to the 'Headline Results' tab on the Biodiversity Metric 2.0 – Calculation Tool, the proposed scheme is estimated to achieve a c32% net gain. This percentage net gain is calculated relative to the baseline number of biodiversity units shown on tab 'A-1 Site Habitat Baseline' of the tool. On tab A-1 it is shown that the baseline number of biodiversity units is 270.86 (cell Q259), and the biodiversity units lost as a consequence of the scheme is 98.67 (cell Z259). Therefore the biodiversity units retained equal 172.19 (270.86 minus 98.67).

The tool also shows that the biodiversity units gained by habitat creation (tab A-2, cell S259) equals 22.09, the biodiversity units gained by habitat enhancement (tab A-3, cell AH258) equals 55.56. Finally, the biodiversity units gained by accelerated succession (tab A-4, cell AH258) is 185.17. Therefore, the total number biodiversity units gained equals 262.82 (22.09+55.56+185.17).

By then subtracting the number of retained biodiversity units (172.19) from the total number biodiversity units gained (262.82), the total net gain in biodiversity units equals 90.63. If this figure is expressed a percentage of the baseline number of biodiversity units (i.e. 270.86), the percentage biodiversity net gain is 33.46%.

These numbers are different from the 88.04 units and 32.51% net gain shown in the Metric 2.0 calculator tool (see Headline Results tab). It is understood that there may be rounding errors within the calculator tool (Nick White, Natural England pers. comm), and this may be a contributing factor to the difference in percentage net gain observed.