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Note / Memo

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Subject: **Summary of Onshore Substation Site Selection RAG Methodology & Matrices**

The purpose of this note is to provide a summary of the methodology, assessment and matrices associated with the Red Amber Green (RAG) scoring in the Onshore Substations Site Selection RAG Assessment report (to be provided in full with the Preliminary Environmental Impact Report Chapter 4 Site Selection and Assessment of Alternatives).

Methodology

A Red / Amber / Green (RAG) methodology has been used to inform site selection. This is considered appropriate to compare a number of sites for similar infrastructure, given the ability to capture and classify the main differentiating issues in 3 fundamental categories. A RAG assessment of this type enables a clear and direct comparison between each site.

Development considerations captured within the RAG assessment include archaeology / heritage, ecology, landscape, hydrology and hydrogeology, engineering, community, landscape and visual, property and planning. These were assessed by a team of specialists comprising engineers, Environmental Impact Assessment (EIA) consultants, landscape, archaeology and ecological experts throughout the site selection process. This was undertaken using the RAG system which ranks the influence of the consideration on future development, either using defined parameters, professional judgement, or assessing the issue relative to the other potential options.

RAG is a standard assessment tool used in the pre-EIA process to assess the potential risks to proposed development options.

Each development consideration is given a score of Red / Amber / Green. These scores indicate the adverse or positive attributes to development respectively. The specific definition of each Red / Amber / Green category is detailed in Appendix A. It should be noted that if a site is awarded a Red score, this will not necessarily prevent an option being taken forward as preferred into the next stage if, overall, it performs better than others.

The surveys and desk-based investigations undertaken to date and the performance of the options relative to one another, along with professional judgement, have influenced the criteria of the Red / Amber / Green as well as the scores given. Information about the considerations is provided within the individual cells of the RAG assessment tables.

The method presents all the identified development considerations equally, i.e. there is no weighting of different development considerations relative to each other. Whilst any weighting is not incorporated in the RAG assessment findings, professional judgement, specific guidance and feedback through the consultation process is taken into consideration to inform decisions.

Assessment

Feedback from the previous East Anglia ONE and East Anglia THREE developments indicated that onshore substations for different projects, accessing the same national grid connection point, should preferably be located together. However, a process was undertaken to identify a preferred location in which to locate a single onshore substation so that all potential onshore substation locations could be assessed individually under the RAG scoring system. The development considerations were:

- Archaeology;
- Ecology and nature conservation;
- Landscape and visual;
- Hydrogeology and flood risk;
- Engineering and design;
- Community;
- Property; and
- Planning

The RAG assessment has been undertaken for each of the onshore substation site options individually (E1, E1a, E2, E2a, E3, E3a, E4, E4a, W1, W1a, W2, W2a, W3, W3a). Criteria selected for the RAG assessment are based on criteria for judging environmental parameter capacity and sensitivity, for example proximity to, susceptibility, sensitivity / presence of environmental receptors and opportunities for mitigation. Each criterion is given a score of Red / Amber / Green, indicating the relative scale of adverse or beneficial attributes to siting development, of the nature proposed, in each location. RAG assessment scores are based on professional judgement, desk study and a field survey visit to each site location.

Onshore substation site options to the west of Leiston (W1, W1a, W2, W2a, W3 and W3a) will require a cable route from landfall to substation that crosses the Aldeburgh Road. Initial high-level engineering review of Aldeburgh Road cannot identify a suitable crossing point for a cable route that would not require the removal of woodland. As such, a Red score will be attributed to the "Proximity to mature woodland" parameter for all western NG substation site options (i.e. west of Aldeburgh Road) as this is in conflict with one of SPR's site selection principles to not interact with mature woodland

Summary Table of SPR Substation RAG Assessment
By summing the combined substation Red / Amber / Green scores for each onshore substation site option individually, the scoring for each substation zone is totalled.

Zone E1	2 x red	18 x yellow	26 x green
Zone E2	3 x red	21 x yellow	22 x green
Zone E3	8 x red	12 x yellow	26 x green
Zone E4	9 x red	10 x yellow	27 x green
Zone W1	2 x red	7 x yellow	37 x green
Zone W2	2 x red	15 x yellow	29 x green
Zone W3	3 x red	16 x yellow	27 x green

The RAG assessment did not complete the decision-making process for substation site selection. Following the RAG assessment, Zone E1, Zone E2 and all of the western sites scored below three red scores in the RAG assessment and therefore all of these zones were recommended for further investigation (as outlined at Friston Working Group presentation – AONB impact appraisal study; AONB planning policy legal discussions; traffic & access feasibility study; further landscape & visual site visits and appraisal) and discussion with statutory consultees.

Appendix A – RAG Assessment Criteria

Definitions of Red / Amber / Green for development considerations – SPR onshore substations

Consideration	Criteria	Source / survey
Archaeology		
Proximity to National Designations (SMs, grade 1 Listed Buildings)	Amber = <500m Green = >500m (or <500m but screened)	MAGIC
Proximity to Regional Designations – Local Historic Environment Records, grade II Listed Buildings	Amber = <500m Green = >500m (or <500m but screened)	MAGIC
Ecology		
Proximity to National Designations – SSSI / SPA	Amber = <500m Green = >500m	MAGIC
Proximity to Local Designations – Local Nature Reserves (LNR) / Suffolk County Wildlife Site	Amber = <500m Green = >500m	MAGIC
Proximity to mature woodland	Red = Encroaching into woodland Amber = <500m Green = >500m	OPEN site selection desk based assessment / site visit
Landscape		
Potential to affect the special qualities of the AONB	Red = Higher potential identified Amber = Moderate Green = Lower	OPEN site selection desk based assessment / site visit
Proximity to Special Landscape Areas (SLA)	Amber = If present within the sector, local authority level policy applies Green = Absent	OPEN site selection desk based assessment / site visit
Landscape character and sensitivity to development	Red = Higher identified sensitivity Amber = Moderate Green = Lower	OPEN site selection desk based assessment / site visit
Opportunity to utilise existing features for screening	Amber = Reduced identified opportunity Green = Assessment identified opportunity	OPEN site selection desk based assessment / site visit
Visual sensitivity to development	Red = Higher identified sensitivity Amber = Moderate Green = Lower	OPEN site selection desk based assessment / site visit

Consideration	Criteria	Source / survey
Hydrology / hydrogeology		
Proximity to licenced abstraction points	Red = <50m Amber = <100m Green = >100m	Environment Agency
Presence of potentially contaminated land	Amber = Present Green = Absent	Envirocheck
Source Protection Zone	Red = Sector falls within Inner zone Amber = Sector falls within the Outer zone Green = Outside all zones	Environment Agency
Proximity to fluvial flood risk	Red = <50m Amber = <500m Green = No flood risk	Environment Agency
Engineering		
Site efficiency	Amber = No identified ability to co-locate substation and NG asset Green = Option to co-locate	SPR engineering team
Highway access (construction and operational)	Red = Major constraints identified in regards to gaining access Amber = Minor constraints to gaining access Green = No constraints to access	OS 10k colour raster mapping
Proximity to high voltage electrical transmission infrastructure (overhead lines)	Red = >1km Amber = 500m – 1km Green = <500m	OS 10k colour raster mapping
Community		
Presence of residential properties	Red = Residential properties within 50m Amber = Properties located within close proximity (<250m) Green = No residential properties within 250m	OS 10k colour raster mapping
PRoW / National trails (NT)	Amber = PRoW / NT within close proximity of (<100m), or crossing site Green = No trails within 100m of	ERoY database

Consideration	Criteria	Source / survey
	site	
Agricultural Land Classification	Red = Grade 1 Amber = Grades 2 and 3 Green = Grades 4 and 5	Natural England
Sensitive land uses (schools and hospitals)	Red = Within 50m Amber = Within close proximity (<250m) Green = None present within 250m	EDUdatabase
Property		
Number of landowners	Amber = < 1 landownerships at site Green = Site within one landownership	SPR land team
Planning		
Current planning applications or knowledge of other developments	Amber = Presence of other proposed developments which may affect siting Green = No proposed developments	SPR land team