Post Hearing Submissions

On Behalf Of

The Wiston Estate

1. The first part of this document provides a summary of the representations made on behalf of the Wiston Estate at CAH1 on Friday 17 May and 21 May 2024 by [redacted], of counsel. Where appropriate these also expand upon what was summarised at the hearing. The second part of this document summarises additional representations which the Wiston Estate confirmed would be provided as part of its Deadline 4 submission.

2. The following appendices accompany these submissions:

   Appendix 1 – Court of Appeal Judgment - R (oao FCC Environment (UK) Ltd) v SSECC [2015] EWCA Civ 55

   Appendix 2 – The Alternatives Chapter for the Environmental Statement for Rampion 1

   Appendix 3 – Viticulture Site Suitability Analysis by Knight Frank

3. As foreshadowed at the hearing, the Wiston Estate will also be submitting a report on mineral sterilisation and alternative routes from Avison Young. Due the illness of one of its authors this report has been delayed and will be submitted to the ExA as soon as possible.

4. It was striking that despite the Applicant being given an opportunity to respond to the points made by the Wiston Estate at the hearing, the Applicant chose a very limited number of points to reply on. We note below the points on which the Applicant did not respond.

5. Roughly 10% of the cable's length passes through Wiston Estate (work shown on sheets 22, 32, 24 and 25 of the Onshore Works Plans PEPD-005).

Extent of the Land Take

6. On Friday 17 May 2024 the Wiston Estate made representations concerning the fact that the Applicant had not justified the extent of the land take proposed. In particular, the width of areas proposed to be subject to compulsory acquisition ('CA') had not been justified.

7. Ultimately the Applicant has failed to conduct sufficient surveys to enable the Applicant to narrow down the land take at this stage and this has led it to include much more land in the CA of the order than is in fact required. This goes above and beyond the flexibility which this type of project would usually be expected to require.

8. In responding to a question from the ExA, the Applicant relied upon requirement 23(2)(f) of the Draft DCO in order to ensure that excessive land was not subject to CA. However, this simply provides that the method statement must 'confirm the cable corridor location and its

width through the relevant stage…'. This does not provide for the width of the construction area for the cable. Nor does it require the Applicant to minimise land take.

9. The Wiston Estate shares concerns raised by the ExA regarding the lack of provision in the DCO for the return of land once the cable has been constructed.

Minerals and Sterilisation

10. A few short contextual points were made on law and policy.

11. First, the test for compulsory acquisition ('CA') under s122 is not the same as s104 PA 2008. Therefore, the Secretary of State could find compliance with the NPS but nonetheless that there is no compelling case in the public interest. Equally the Secretary of State may find that the existence of a less harmful alternative is insufficient to defeat the application under s104 but the existence of a less harmful alternative may mean there is no compelling case in the public interest – R (oao FCC Environment (UK) Ltd) v SSECC [2015] EWCA Civ 55 paras 9-11) (Appendix 1).

12. Second, the Applicant must demonstrate that the Applicant is not acquiring more land than is reasonably required for the purposes of the development (Procedures for the compulsory acquisition of land (Sept 2013) ('CA Guidance') para 11).

13. Therefore the short points are that if there are materially less harmful alternatives available to the Applicant then there will be no compelling case in the public interest for CA. Further if there are alternatives available which involve less extensive and less harmful impacts upon a person's land there will be no compelling case in the public interest.

14. The Applicant argued that alternatives are only relevant in the context of CA if they fall within paragraph 8 of the guidance which states:

    'The applicant should be able to demonstrate to the satisfaction of the Secretary of State that all reasonable alternatives to compulsory acquisition (including modifications to the scheme) have been explored. The applicant will also need to demonstrate that the proposed interference with the rights of those with an interest in the land is for a legitimate purpose, and that it is necessary and proportionate.' (paragraph 8)

15. The first point is that the guidance is not exhaustive of when alternatives will be a relevant material consideration. The statutory test remains that there must be a 'compelling case in the public interest'. Clearly, if there is materially less harmful alternative available to the Applicant then this may well be sufficient reason to find that there is no compelling case in the public interest.

16. Second, and in any event, paragraph 8 requires 'all reasonable alternatives to compulsory acquisition to be explored'. It also requires that the proposed interference is 'necessary and

proportionate'. Clearly if there is a materially less harmful alternative available to the Applicant then the compulsory acquisition will not be necessary or proportionate.

17. The importance of alternatives in the context of the Wiston Estate is also underscored by Minerals Policy. EN1 para 5.11.19 states:

> 'Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place.'

18. Clearly, if there are alternatives which either (a) avoid the sterilization of materials or (b) sterilize less mineral than the proposed scheme then the Applicant will not have safeguarded mineral resources 'as far as possible'. The Applicant did not disagree with this at the hearing.

19. EN1 para 5.11.28 states:

'Where a proposed development has an impact upon a Mineral Safeguarding Area (MSA), the Secretary of State should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources.'

20. Again, if there are routes which involve the sterilization of less mineral within a mineral safeguarding area then the Applicant will not have mitigated the impact upon mineral resources. Equally, the Applicant must demonstrate that it has put in place measures to further mitigate such as prior extraction.

21. There is also local Policy M9 of the Joint Minerals Local Plan and NPPF para 216.

22. The proposed route crosses a soft-sand minerals safeguarding area ('MSA') in the vicinity of the Wiston Estate.

23. Chapter 24 of the ES, APP-065 'Ground Conditions', acknowledges this. It describes the cable has having 'significant negative effects' in relation to the MSA (para.24.11.6). However, it is not only the safeguarding area where minerals are present, there are also known minerals present in other areas outside of the MSA. This will be addressed in the report by Avison Young which is to be submitted by the Wiston Estate as soon as possible. The Wiston Estate made the Applicant aware of the existence of minerals outside of the MSA as early as 2021. It is therefore surprising that no analysis of this has taken place by the Appellant.

24. West Sussex County Council ('WSCC') D3 Submission [REP3-072] at para 2.75 makes the point that soft sand is a scarce and heavily constrained material and that there are limited reserves permitted at this time.

25. One of the other points made by WSCC is that it is not only sterilization of the area within the line of the cable that needs to be considered but also the potential for severance of areas around the cable (see p24 of ES chapter 24 'Ground Conditions' [APP-065]).

26. The Applicant claims, at chapter 24 of the ES APP-065 'Ground Conditions', that the cable corridor will interact with approximately 8.2ha of land within the Minerals Safeguarding Area (24.9.43 on page 88). It goes on to discount this as being less than 0.1% of the total MSA. It has calculated this as being a worst-case scenario of 1,160,000m cubed of sand (24.9.47).

27. The Applicant has provided very little justification for its calculation, it has not even provided any plans for the areas of mineral which it says it has counted towards its calculation – the Applicant is therefore requested to provide these.

28. In any event, it is clear to the Wiston Estate that the Applicant has grossly underestimated the impact of the cable because it has failed to take account of minerals outside of the MSA.

29. The Estate will be presenting the ExA with expert evidence with a reasoned and justified estimate of the mineral sterilization impact of the proposed scheme. This will demonstrate that the figure of 1 million cubic metres is a significant underestimate.

30. It can also be noted that the Applicant is not committing to prior extraction to mitigate the impact. This is wholly contrary to relevant policy. No good reason has been given for this approach. The Applicant did not take the opportunity to explain this at the hearing.

31. Whatever the estimate of minerals which will be sterilized – whether it's 1 million cubic metres or several times that (as will be set out in the Avison Young report), the point is that policy (EN1, the NPPF and Local Policy) requires the Applicant to safeguard minerals as far as possible. The Applicant did not disagree with this at the hearing.

32. Despite this, nowhere does the alternatives chapter of the ES [APP-044] consider minerals safeguarding as a material factor in decisions over the route (wholly contrary to the clear policy position which requires applicants to avoid sterilizing minerals). The Applicant did not dispute this at the hearing.

33. There are alternative routes available to the Applicant which would either (a) avoid the mineral resource altogether or (b) cause much less of the resource to be sterilized. The Applicant has failed to give adequate reasons why these cannot be pursued.

34. There is at least one major alternative which would avoid the sterilization of the mineral resource and would also be materially less harmful to the national park in particular - the major route alternative which goes to Ninfield rather than Bolney. [REP3-144] p5 shows a plan of that major route alternative.

    a. The onshore cable would be just c6km vs c38km;

b. It does not cross the soft sand MSA; and
c. It does not cross the national park at all.

35. The Wiston Estate has provided this plan based upon the description of the route given in the Alternatives chapter of the ES for Rampion 1 (Provided at Appendix 2).

36. The reasons given by the Applicant for dismissing this route out of hand are found in [APP-044] (Alternatives chapter of the ES). The summary of the reasons for dismissal are found in table 3-4 on p37:

'Requires crossing of SDNP. Prohibitive additional costs of a significantly longer marine cable Other issues include shipping, steep cliffs and ecological constraints including the Pevensey Levels SSSI.'

37. The problem with those reasons is that the route does not cross the SDNP. This is factually incorrect.

38. The Applicant has provided no justification for the £300m figure. In particular, it doesn't appear to have factored in the cost of the significantly longer onshore cable for the proposed scheme (35km for the proposed scheme vs 6km for Ninfield) but only purports to be the cost of the longer offshore cable.

39. The concern over the length of the offshore cable was expressed at Rampion 1, but it has to be considered that the Rampion 1 onshore cable is much shorter than is proposed for Rampion 2 (see table 1 of A3.1-4 Appendix 2) which gives the figure of 19-20km. As such, the overall cost differential between Bolney and Ninfield for Rampion 2 would be much less than Bolney and Ninfield for Rampion 1.

40. It is noted that the Ninfield connection was estimated for Rampion 1 as being an additional +£132-138m (also table 1 of A3.1-4, Appendix 2). Therefore the figure now given of an additional £300m is simply not credible, quite apart from the fact that it does not appear to have factored in the cost of the significantly longer onshore cable for the proposed scheme.

41. Finally on the issue of cost, merely because something costs more does not mean it is unviable. There is no evidence that additional cost would make the proposal unviable. The fact that an option is more expensive is not a reason to dismiss it, particularly where it would avoid mineral sterilization and would avoid the SDNP in its entirety.

42. There are no steep cliffs in the area where the cable would connect. The Applicant didn't dispute this point at the hearing.

43. The area of the Pevensey levels which is referred to is currently in use as a golf course and there is absolutely no reason why HDD couldn't be used to drill under it. The Applicant didn't dispute this point at the hearing.

44. At the hearing the Applicant added one more reason for not choosing Ninfield. The Applicant stated that Ninfield was not one of the substations put forward by the National Grid in their Infrastructure Notice Process. If this is a reason for not selecting Ninfield then it is extraordinary that the reason appears nowhere in the documentation before the Examination. Further, it is striking that the Rampion 1 Alternatives document expressly states that Ninfield did have sufficient capacity for a connection (page A3.1-3, Appendix 2). The Applicant has been asked by the ExA to provide the correspondence with the National Grid regarding Ninfield. This will no doubt include the National Grid's Infrastructure Notice Process Report. The Wiston Estate looks forward to receiving this and will comment further once it is received. However, it notes that the Applicant did not state that the National Grid stated that Ninfield was not feasible.

45. There are a number of other more localised alternatives available to the Applicant. Relevant to this, there are two potential land uses on the Wiston Estate which are particularly sensitive:
    a. Areas where there is soft sand;
    b. Land which is suitable to be planted for vines

46. The minerals area shown on p4 of [REP3-144] is not the full extent of the mineral resource and an explanation of that will be provided in the Avison Young report. But, even if one only considers the MSA, one can see that it is hard to conceive of a scheme which would sterilise more mineral.

47. Fields suitable for vines shown on the plan at p32 of the Estate's Written Representations – [REP1-172]. This is further supported by the report at Appendix 3 (Viticulture Site Suitability Analysis by Knight Frank). This shows that the Applicant's route will have a disproportionate impact on fields which have been identified as suitable for growing vines. The cable will cut east to west across the small triangular field to the south of 'the pike' (Appendix 2 to Appendix 3) and also the field to the north east of Buncton Manor. As the report states (on page 1) the ideal planting orientation is north to south to maximise solar radiation. As such, a cable which crosses east/west is clearly more harmful than one which crosses north/south.

48. There are a number of available alternatives to the Applicant in the local vicinity which would significantly reduce mineral sterilization and would avoid or lessen the impact on fields which are suitable for vines.

49. One is the blue route which was proposed by Wiston Parish Council – Plan at page 4 of [REP3-144] – this would run to the south of Washington and be separate from but broadly follow the gas pipeline which already has sterilized some mineral in this area and will also have impacted upon the ability to grow vines.

50. The Avison Young Report which the Wiston Estate will provide will show that this alternative and/or a slightly amended version will also lead to significantly less sterilization of minerals.

51. The presence and route of the gas pipeline doesn't present a reason for discounting this option, see:
    a. Chapter 27 of the ES 'Major accidents and disasters' [APP-068] which makes clear that the Applicant is proposing works in close proximity to gas mains (see HSE consultation response p20-21);

    b. Para 27.10.06 of chapter 27 states: 'The area surrounding the onshore elements of the Proposed Development is predominantly rural, but there are utility systems which are in close proximity or will need to be crossed by the onshore cable corridor. For any works in close proximity to gas pipelines including crossings, the appropriate safe methods of work will be agreed with the pipeline operator and suitable risk assessment undertaken';

    c. Part 5 of schedule 10 of the draft DCO contains protective provisions for Southern Gas Networks where development is within 15m, therefore there is no reason why the alternative route couldn't track the location of the gas pipeline whilst remaining 15m from it, save for where a crossing had to occur (as is the case at other locations on the proposed route);

    d. In fact, because the gas pipeline has already sterilized minerals either side it is obviously sensible to follow its alignment.

52. At the hearing the Applicant did not dispute the fact that the gas pipeline does not provide a reason for discounting the route.

53. One of the main reasons that the Applicant has given for not taking this route forward is that it would need to cross some ancient woodland. However, there is no reason why HDD couldn't be used to navigate this. Indeed, this is exactly what it is proposing in Calcott Wood, also on the Wiston Estate. Again, the Applicant did not dispute this at the hearing. This will be further addressed in the Avison Young report.

54. The Applicant also claims that access to construct this route from the A24 would be difficult. But that is clearly unjustified. There is a major slip road from the A24 in exactly the area of the alternative which served the chalk quarry (proposed alternative compound on the plan) – that slip road is clearly capable of hosting large construction traffic. There is no reason why it could not do so again. The Applicant did not dispute this.

55. There is also at least one more minor variation to the route which is on a plan before the examination and which would reduce the level of mineral sterilization and reduce the impact upon fields which are suitable for the planting of vines.

56. The yellow route on p22 of [REP3-142]. This follows the southern edge of the A283. The A283 has already sterilized some sand either side of it because there would have to be a buffer between any quarrying and the road. Therefore, running the cable alongside the road obviously reduces sterilization. Again, this will be addressed in the Avison Young report.

57. The Applicant states that this was discounted due to the proximity of the landfill at Windmill Quarry. However this ignores the fact that the proposed route already hugs the landfill site, within 50m of it.

58. Further, construction activities located on or adjacent to landfills have been scoped out as leading to potentially significant effects – ES chapter 24 [APP-065] p38. Page 79-80 of the same document states that given the presence of active control measures operated under the environmental permit at Windmill Quarry the risk of encountering contamination is considered to be 'low'.

59. As such, the fact that there will be some additional length of the cable adjacent to the landfill cannot reasonably be a reason to reject this route. Again, the Applicant did not take the opportunity to dispute this at the hearing.

60. The Applicant goes on to state that the area of sand to the south of the A283 is unlikely to be viable for extraction in isolation as a result of the need to cross the A283 (p22 [REP3-142]). That is wrong, the Wiston Estate owns all of the surrounding land in this area and minerals have been worked in this area for 80 years. As the estate owns land either side of the A283 it can facilitate access to this road, if necessary. Again, the Applicant did not dispute this at the hearing.

61. The reasons presented by the Applicant for not opting for either the blue route or more minor variations do not stand up to scrutiny and have failed to appreciate the fact that national and local policy requires the Applicant to avoid unnecessary sterilization of minerals. There are alternatives available which would either avoid the mineral resource or significantly reduce the impact. Therefore, it has failed, contrary to EN-1, to safeguard minerals or to mitigate its impact upon those minerals. The application should be refused on this basis.

62. The Applicant has also failed to give sufficient weight to sterilization of fields which are suitable for the planting of vines and thereby minimising the harm caused.

63. Overall, there are less harmful alternatives available and there is therefore no compelling case in the public interest for the Wiston Estate's land to be subject to compulsory acquisition.

Lack of Engagement

64. The statutory test requires there to be a compelling case in the public interest (s122 PA 2008).

65. The CA Guidance (Sept 2013) states:

'25. Applicants should seek to acquire land by negotiation wherever practicable. As a general rule, authority to acquire land compulsorily should only be sought as part of an order granting development consent if attempts to acquire by agreement fail. Where proposals would entail the compulsory acquisition of many separate plots of land (such as for long, linear schemes) it may not always be practicable to acquire by agreement each plot of land. Where this is the case it is reasonable to include provision authorising compulsory acquisition covering all the land required at the outset'

66. The CA Guidance also emphasises the need for alternative dispute resolution techniques to be used (see para 27).

67. The CA Guidance makes clear that further guidance is to be found in the Crichel Down Rules (para 45). This states in Part 2 that:

'The confirming authority will expect the acquiring authority to demonstrate that they have taken reasonable steps to acquire all of the land and rights included in the Order by agreement. Where acquiring authorities decide to/arrange to acquire land by agreement, they will pay compensation as if it had been compulsorily purchased, unless the land was already on offer on the open market.

Compulsory purchase is intended as a last resort to secure the assembly of all the land needed for the implementation of projects. However, if an acquiring authority waits for negotiations to break down before starting the compulsory purchase process, valuable time will be lost. Therefore, depending on when the land is required, it may often be sensible, given the amount of time required to complete the compulsory purchase process, for the acquiring authority to:

• plan a compulsory purchase timetable as a contingency measure; and
• initiate formal procedures

This will also help to make the seriousness of the authority's intentions clear from the outset, which in turn might encourage those whose land is affected to enter more readily into meaningful negotiations.'

68. There have been recent high profile appeal decisions where the Secretary of State has refused to confirm CPOs at least in part due to lack of meaningful engagement. Two examples of this are:
    a. Vicarage Field – London Borough of Barking and Dagenham, this was a proposed regeneration scheme over c32,000sqm of land. Here, the Inspector noted largely ineffective attempts to acquire by agreement this included on the basis that offers were not market value.

b. Nicholsons Shopping Centre – Royal Borough of Windsor & Maidenhead, here the Inspector found no 'proper degree of constructive engagement'. The CPO was found not to be being pursued as a measure of last resort.

69. Here there has been a clear lack of meaningful engagement and CA is not being sought as a last resort.

70. [redacted] made the point that she should not be at the hearing, a major reason why she has been instructed is the level of frustration that the Wiston Estate has with the unreasonable behaviour of the Applicant and a refusal to enter into serious negotiations which have any real prospect of reaching an agreed settlement.

71. The Estate's written representations [REP1-172] go into some detail but the headline points are:

    a. From the beginning the Wiston Estate has sought to engage with the Applicant and has been willing to discuss the route and agree terms. The Estate can produce emails from 2021 when this was first set out by the Estate if necessary.

    b. Whilst the Applicant may have sent some emails and conducted the odd site visit/meeting there has been no real engagement. By real engagement we mean engagement which has any prospect of arriving at a negotiated settlement.

    c. This is a story which has gone on for more than 3 years. It's difficult to summarise this briefly but a few headline examples of the Applicant's approach are:

        i. In 2021 the Applicant came onto estate land without any written or verbal agreement to conduct surveys, this had significant ramifications for some of the farm tenants.

        ii. The Applicant opened negotiations by seeking rights over the entirety of the land titles – so c.1.5 thousand acres. It was only in November 2023 that the Applicant agreed to the rights being limited to the DCO boundary – that was after the DCO was submitted.

        iii. As such, when the Applicant states that it issued HoT prior to the DCO being applied for these were obviously unreasonable.

        iv. In any event a group of agents representing 40 of the landowners provided general comments on the HoTs – the Applicant's response to this in May 2023 was brief and dismissive. It didn't invite any further engagement or a meeting to progress discussions.

v. The Applicant even rejected an offer from the CLA to facilitate a meeting from the agent's group to progress discussions on the HoTs – see CLA [REP2-027].

vi. Even as matters progressed, the HoTs continued to lack key details such as construction and operational accesses. For example, it was only in February 2024 that the Applicant provided HoTs for the construction compound.

vii. As matters progressed, the HoTs have continued to ask for more than the DCO – until mid-May the Applicant was seeking a permanent 40m right to access land for construction and maintenance.

viii. The Applicant has wholly failed to engage with or explain or justify why they are not pursuing alternative routes which would be much less harmful to the Estate, including the mineral resource, despite the Estate spending time and money setting these out.

ix. The Applicant has failed to explain how minerals are to be dealt with. Worse than this – the Applicant has represented to the ExA that:

    1. 'Construction strategies will be implemented that will seek to maximise the reuse of excavated clean materials from the onshore cable construction corridor where practicable or feasible. Prior to the stage of construction, an MPP will be developed which outlines where excavated non-waste materials will be reused in line with the CL:AIRE (2011) Definition of Waste Code of Practice…' CoCP table 4-9, commitment C-69, [REP3-025] Rev C pp37-8

    2. This is re-iterated in the Ground Conditions chapter of the ES [APP-065] at para 24.9.48 page 8 which states that re-use would minimize the amount of sand sterilized.

x. In response to suggestions from the Wiston Estate that it should be compensated for the mineral, the Applicant has stated, contrary to the terms of the outline CoCP and its own ES, that it will not extract minerals from the land for use in the construction of the project because it doesn't have the necessary consents/permits.

xi. So, there is a situation where the Applicant is saying one thing to you the ExA and the exact opposite to the landowner.

xii. Finally, putting all of that aside, whatever has gone on before, whatever the meetings and emails, the fact is that the Applicant is refusing to offer fair compensation for the impact which the Wiston Estate will suffer. As such,

the three years which the Estate has spent considerable time and effort trying to negotiate sensibly is frankly pointless because unless and until the Applicant approaches this seriously there simply isn't scope for an agreement.

72. Notably, the Applicant did not disagree with any of the above points at the hearing.

73. Overall, what can be seen is that the CA powers are not being sought as a last resort and there has been no real attempt to acquire the land by agreement. As such, the Wiston Estate invites the ExA to find that due to the clear breach of the guidance there is no compelling case in the public interest for the CA powers to be confirmed.

Additional Representations

74. The Wiston Estate undertook to provide a written response to the Applicant's claim to be paying reasonable fees.

75. Initially the Applicant offered no fees when consulting on the project in 2021. The initial generic heads of terms issued in 2023 included an allowance for £750 capped agents' fees. Any additional payment would be forthcoming once heads of terms are signed. The £750 applied to all landowners, irrespective of the complexity of the issues.

76. The Applicant subsequently agreed to pay Agents fees in March 2024, and this has now been reflected in the updated Heads of Terms.

77. It is only in mid-May that the Applicant agreed to pay for affected Tenants reasonable professional fees to review the proposed legal documentation and HOT. In late May the Applicant verbally agreed to pay legal fees, although the Wiston Estate awaits the legal undertaking for this.

78. This piece meal approach to paying reasonable professional fees incurred by Wiston Estate in this matter, has not helped negotiations and has left the Estate unreasonably exposed to fees.

79. The Applicant refused to pay fees of the Wiston Estate's land agent to attend any DCO hearings or the accompanied site visit.

Neutral Citation Number: [2015] EWCA Civ 55

Case No: C1/2014/0666

IN THE COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
ADMINISTRATIVE COURT
MR JUSTICE MITTING
CO/5245/2013

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: Thursday 5th February 2015

Before:

LORD JUSTICE AIKENS
LORD JUSTICE SULLIVAN
and
LADY JUSTICE BLACK

- -

Between:

THE QUEEN (ON THE APPLICATION OF FCC ENVIRONMENT (UK) LIMITED)	**Appellant**
- and -	
THE SECRETARY OF STATE FOR ENERGY AND CLIMATE CHANGE	**Respondent**
- and-	
COVANTA ROOKERY SOUTH LIMITED	**Interested Party**

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David Blundell (instructed by **Treasury Solicitors**) for the **Respondent**
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Hearing date: 27th January 2015
Judgment
As Approved by the Court

Lord Justice Sullivan:

Introduction

1. This is an appeal against the Order dated 6th February 2014 of Mitting J dismissing the Appellant's claim for judicial review of the Rookery South (Resource Recovery Facility) Order 2011 ("the Order"). The background to the Appellant's claim is set out in Mitting J's judgment: [2014] EWHC 947 (Admin).

Facts

2. Covanta applied to the (now abolished) Infrastructure Planning Commission ("the Commission") for an order granting development consent under the Planning Act 2008 ("the 2008 Act") for the construction of a Resource Recovery Facility ("RRF"), comprising an Energy from Waste ("EfW") plant with an expected nominal throughput of 585,000 tonnes of residual waste per annum which would generate an average gross output of approximately 65 MWe, and a Materials Recycling Facility ("MRF") which would provide for the management of the incinerator bottom ash produced by the EfW plant, at the Rookery South Pit, near Stewartby, Bedfordshire.

3. The EfW plant was a nationally significant infrastructure project ("NSIP") for the purposes of the 2008 Act. The application for the order granting development consent also sought compulsory acquisition powers under sections 120 and 122 of the 2008 Act both to acquire land, including land owned by the Appellant and by local authorities and statutory undertakers, and to acquire rights over land, including a right to extinguish a restrictive covenant which benefits land owned by the Appellant.

4. A Panel of three Commissioners ("the Panel") was appointed to determine the application. Following an examination of the application between the 18th January 2011 and 15th July 2011, which included an issue specific hearing on compulsory acquisition between the 27th June and 1st July 2011, the Panel set out the reasons for its decision to make the Order in its "Panel's Decision and Statement of Reasons" ("SR") dated 13th October 2011. The Order was made by the Panel under section 114(1) of the 2008 Act on 22nd November 2011.

5. Because the Order authorised the compulsory acquisition of land belonging to local authorities and statutory undertakers which had made representations which they had not withdrawn, section 128 of the 2008 Act (now repealed) provided that the Order was subject to special parliamentary procedure. The Order was laid before Parliament on the 29th November 2011. Having considered petitions against the Order, the Joint Committee on the Rookery South (Resource Recovery Facility) Order 2011 reported without amendment on the 13th February 2013, and by virtue of section 6(1) of the Statutory Order (Special Procedure) Act 1945 ("the 1945 Act") the Order came into force on the 28th February 2013 when the Joint Committee's Report was published in Parliament.

Mitting J's judgment

6. Before Mitting J the Order was challenged on two grounds:

(1) The Panel had failed to give adequate reasons for its conclusion that there was a compelling case in the public interest for the grant of compulsory acquisition powers, because it had failed to explain why it had concluded that there were no reasonable alternatives to compulsory acquisition.

(2) The Respondent failed, in the light of the long delay between the making of the Order on 22nd November 2011 and its coming into force on 28th February 2013, to consider whether it was necessary to update the environmental information in the Environmental Statement which had accompanied the application, so as to ensure that his decision was based on "current knowledge and methods of assessment" as required by Article 5(1) of Directive 2011/92/EU ("the Directive").

7. Mitting J rejected both of these grounds. In grounds 2 and 3 of its appeal to this Court the Appellant contends that Mitting J erred in rejecting its challenge on grounds (1) and (2) (above). When dealing with ground (1), Mitting J accepted in paragraph 17 of his judgment the Respondent's submission as to the interrelationship between section 122(3) of the 2008 Act, which required the Panel to include the provisions authorising compulsory purchase in the Order only if it was satisfied that there was a compelling case in the public interest for the land to be acquired compulsorily, and section 104(3) of the Act which required the Panel (subject to subsections (4)-(8)) to decide the application in accordance with any relevant national policy statement ("NPS"). The relevant NPSs in this case were the Overarching National Policy Statement for Energy (EN-1), and the National Policy Statement for Renewable Energy Infrastructure (EN-3). These said that the need for new renewable energy projects was urgent (paragraph 3.4.5 of EN-1), and that the Commission "should act on the basis that the need for infrastructure covered by this NPS has been demonstrated." There is no challenge to this paragraph of Mitting J's judgment.

8. In paragraph 18 of the judgment Mitting J went somewhat further, and expressed his own view as follows:

> "18. For my part I find it difficult to conceive of circumstances in which the Panel in applying statutory guidance, as it must, which established an urgent need for development, could legitimately conclude that there was not a compelling case as a necessary element of the scheme, justifying compulsory acquisition of rights in land. To that extent, the established distinction between tests for the grant of planning consent and the grant of a power of compulsory acquisition (see Trusthouse Forte Hotels Ltd v Secretary of State for the Environment (1986) 53 P&CR 293 at page 299, paragraph 2 and page 300, paragraph 6) has been modified by statute."

Ground 1

9. In ground 1 of its appeal the Appellant contends that the reasoning in paragraph 18 of the judgment is erroneous in a number of respects. I can deal briefly with this ground of appeal because it was agreed by all three parties that:

(a) the judge did err in this paragraph of his judgment (see paragraph 10 below); but

(b) the error in paragraph 18 of the judgment does not affect the outcome of the appeal because there is no suggestion that the Panel made the same, or (subject to the challenge in ground 2 (below) to the adequacy of the Panel's reasons in the SR) any other legal error in its decision to grant development consent.

10. The parties were agreed that the relationship between sections 104 and 122 of the 2008 Act was correctly set out in paragraphs 35 and 36 of Mr. Blundell's Skeleton Argument, as follows:

> "35…..
>
> (1) Section 104(3) of the 2008 Act requires "the application" to be decided in accordance with any relevant NPS;
>
> (2) The tests for whether to grant powers of compulsory acquisition are set by section 122(2) and (3) of the 2008 Act and include, in section 122(3), that there must be "a compelling case in the public interest";
>
> (3) Where "the application" includes proposed powers of compulsory acquisition of land, in assessing whether there is a "compelling case in the public interest" pursuant to section 122(3), the decision-maker will have to make that assessment in accordance with the contents of any relevant NPS by virtue of section 104(3);
>
> (4) However, where, as in the present case, the NPS establishes an urgent need for development, this does not mean that the "compelling case in the public interest" test is automatically and necessarily met – section 104(3) means that, in assessing whether there is a "compelling case in the public interest", the need for the development must be treated as established and cannot be questioned, but it may be possible to meet the need without the use of the requested powers of compulsory acquisition;
>
> (5) This is a reflection of the fact that section 104(3) is a broad provision, dealing with the determination of the application as a whole and leading to an order granting development consent which may include compulsory acquisition provisions, whereas section 122(3) is a narrower test dealing specifically with compulsory acquisition powers;
>
> (6) The full and proper application of the section 122(3) test is guaranteed by section 104(6) which disapplies the requirement in section 104(3) where it would lead to unlawfulness under <u>any</u> enactment (i.e. including under a different provision of the 2008 Act) – thus, if there was any potential conflict between sections 104(3) and 122(3), the "compelling public interest" test in section 122(3) would not be overridden by section 104(3).

> 36. In this way, there is no conflict between section 104(3) and section 122(3). They each operate distinctly in the determination of the application overall (in the case of section 104(3)) and a request for compulsory acquisition powers (in the case of section 122(3)). To the extent that any conflict might otherwise arise because of the terms of particular provisions in an NPS, the conflict is avoided by virtue of section 104(6)."

11. The parties were also agreed that it was not, in fact, so difficult to conceive of circumstances where an examining Panel could conclude that there was no compelling case for compulsory acquisition despite an NPS having established an urgent need for development. Three examples were given in [redacted] Skeleton Argument:

> "(1) The land proposed to be acquired compulsorily may, on proper analysis, be found to be excessive because the development proposals can be constructed without needing that land to be acquired (in which case, the section 122(2) test would also not be met);
>
> (2) The acquisition of a right over the land, rather than its acquisition, might suffice; and
>
> (3) The land may be necessary but, during the course of the Panel's consideration of the application, the owner may agree to sell it willingly rather than by compulsion (a common scenario in compulsory purchase inquiries)."

To these examples the Appellant added the example of an NPS which did not require consideration of alternative sites for the purpose of deciding whether to grant a development consent for a particular kind of infrastructure development, but where the existence of an alternative site or sites would be relevant for the purpose of deciding whether there was a compelling case in the public interest for compulsory acquisition.

Ground 2

12. It is important to appreciate the very narrow focus of the reasons challenge to the SR. The Appellant accepts that the Panel did not fall into the error of assuming that because the "urgent" need for EfW plants, as established by EN-1 and EN-3, was such as to outweigh the adverse impacts of the development in visual and other terms so that development consent should be granted, it followed that compulsory acquisition powers should also be granted. The Panel recognised that a compelling case in the public interest had to be demonstrated (paragraph 7.12), arranged a hearing to deal specifically with the issue of compulsory acquisition (paragraph 7.15), and dealt with "Compulsory Acquisition Matters" in a separate Chapter, Chapter 7, of the SR.

13. The SR must be read as a whole. Although compulsory purchase matters are dealt with in a separate Chapter, it would not be right to read Chapter 7 of the SR in isolation. Having said in paragraph 7.12 that "compulsory acquisition must be justified in its own right" the Panel continued:

> "But this does not mean that the compulsory acquisition proposals can be considered in isolation from the wider consideration of the merits of the project: there will be some overlap. There must be a need for the project to be carried out and there must be consistency and coherency in the decision making process."

The Panel returned to this issue in paragraphs 7.86 and 7.87, as follows:

> "7.86 We are, however, mindful that the DCO considers both the development and compulsory acquisition powers and that the case for the grant of compulsory acquisition powers cannot properly be considered until the position regarding the development matters has been determined. There must be consistency and coherency and accordingly we have adopted a two-stage approach: we have first formed a view on the case for development, and then in this Chapter have proceeded on the basis of that conclusion.
>
> 7.87 Chapter 6 reaches the conclusion that in development terms consent should be granted. That being said, all the issues which arose in considering the case for development have also been considered in the case for the grant of compulsory acquisition powers. Some issues relevant to the consideration of the grant of development consent were examined further in the context of compulsory acquisition. For that reason, the Panel suggested to the Applicant and affected persons a number of areas which should be tested by cross-examination at the compulsory acquisition hearing. The areas in question were scale and need, alternative sites, and policy. However, the list was not exhaustive, and all affected parties were invited to suggest other areas that might be so tested, but none did so."

14. When considering alternative sites, the Panel considered "whether the need could be met on an alternative site or in an alternative way (not requiring the grant of compulsory acquisition powers) having regard to NPS EN-1" (paragraph 7.15). The Appellant (which was then called the Waste Recycling Group Limited, and is referred to as WRG in the SR) accepts that the Panel accurately summarised its case on this issue, as follows:

> **"Need** - the principal justification for the project is the national need for energy generation. However, this can be met by small scale installations as well as a large-scale installation…..
>
> **Alternatives -** …. The Applicant's approach…… has failed to examine a fundamental alternative, namely a dispersed or local waste management solution which would have led to a conclusion that there were alternative proposals which offer advantages over the proposed site."
> (paragraph 7.47)

> "7.50 the Applicant had failed to demonstrate a need for the facility or that other alternative sites are not either readily available or likely to come forward within similar time scales and that there were significant risks of material adverse consequences."

15. The Panel summarised Covanta's response to WRG's argument that there were alternative sites which could be used to meet existing need without using compulsory acquisition powers, as follows:

> "[1] in view of the urgent need for additional renewable energy generation and the scale of the current need, the sites should not be looked at as alternatives – all are needed. The Government has not sought to cap the volume of development coming forward: quite the opposite. Paragraph 3.3.24 of NPS EN-1 states '*it is not the Government's intention in presenting the above figures to set targets or limits on any new generation infrastructure to be considered in accordance with the NPSs'*;
>
> [2] none of the alternative sites put forward by WRG are as capable of meeting national policy objectives as Rookery South: apart from the fact that they could not process the same volume they have not reached the same stage in the development process and cannot be truly be regarded as alternatives; …."
> (paragraph 7.69)

16. In paragraph 7.92 the Panel rejected Covanta's contention [1] (above) that it was not necessary to look at the alternative sites which comprised the Appellant's dispersed solution:

> "The Applicant suggests that because of the deficit in waste recovery capacity in the catchment area and the need for renewable energy infrastructure, there is a requirement for other projects to come forward in addition to that proposed, and therefore discussion of alternatives is inappropriate. We note and understand the reasoning behind this suggestion but we have considered the case for alternatives argued both by the Applicant and WRG and reached our conclusion having regard to the guidance in paragraph 4.4.3 of EN -1 namely that *'the IPC should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security and climate change benefits) within the same timescale'"*

Thus far, the Appellant has no criticism of the reasoning in the SR.

17. The crucial paragraphs of the SR for the purpose of the Appellant's challenge on ground 2 are paragraphs 7.93 and 7.94:

> "7.93 A number of points were put to us in the course of the compulsory acquisition hearing including the following:
>
> - none of the alternatives is capable of delivering the same capacity;
> - none of the alternatives has the same prospect of delivering further carbon savings by CHP;
> - none of the alternatives would deliver the same benefits in terms of climate change or energy security (para 4.4.3 of EN-1 expressly emphasises the significance of such benefits in the context of alternatives); and
> - there is no material prospect of any comparatively sized facility coming online within the same timescale.
>
> 7.94 We are of the view that there are no alternative sites to Rookery South in terms of delivery and timescale. At the compulsory acquisition hearing the Applicant submitted a letter dated 29 June 2011 written by [redacted] (the Managing Director of Covanta Energy Limited) which confirmed the company's intention to progress the project with every urgency (APP/8.10). But owing to the timing of its submission, and the fact that the author was not present to respond to questioning on it, we afford limited weight to it."

This led the Panel to conclude in paragraph 7.118 that:

> "there are no sites which are an alternative to Rookery South in terms of delivery and timescale"

18. On behalf of the Appellant, [redacted] submitted that paragraph 7.93 of the SR simply records that the four bullet points were put to the Panel, it does not say that the Panel accepted those points (which had been put to the Panel by Covanta). It is true that the Panel does not expressly agree with the four bullet points, but I have no doubt that Mitting J's conclusion that they did so by necessary implication (see paragraph 20 of the judgment) was correct. The first sentence of paragraph 7.94 would make no sense if the Panel had not accepted the four bullet points listed in the previous paragraph.

19. We were referred to a number of authorities which deal with the proper approach to challenges to the adequacy of reasons in planning and compulsory purchase cases. With one exception, it is unnecessary to refer to those authorities in any detail. They are all very familiar, and the relevant principles were not in dispute between the

parties. The one exception is the following passage in the judgment of Slade LJ in *R v Secretary of State for Transport ex p de Rothschild* [1989] 1 All ER 933, in respect of a decision letter confirming a Compulsory Purchase Order:

> "In my judgment, it could not be right to analyse and pick to pieces each sentence of the Secretary of State's letter as if it were a subsection in a taxing statute. To accept the appellants' submission would, in my judgment, involve an altogether too analytical, indeed I would say perverse, construction of the language by which the Secretary of State expressed himself, when his letter is read as a whole. On a fair reading of the letter as a whole, it is in my opinion clear that the Secretary of State was intending to endorse the whole of the inspector's conclusions."
> (see p. 943 a – b)

20. The Appellant's submission that the Panel did not endorse the four bullet points in paragraph 7.93 is an altogether too analytical, and indeed a perverse construction of the language used by the Panel if the SR is read as a whole. If that is done, earlier passages in the SR do not leave any room for doubt that the Panel did agree with the first three bullet points. The fourth bullet point was uncontroversial. It is common ground that no (single) "comparatively sized facility" was put forward as an alternative. If there was an alternative it was the "dispersed solution" consisting of a network of smaller facilities put forward by WRG and the local authorities. The Panel had considered the merits of such an alternative in paragraphs 5.33 and 5.34 of its Report when considering whether development consent should be granted for the proposed RRF:

> "5.33 Several parties argued that the size of the proposed plant was excessive, and there were alternative ways of handling waste through a network of smaller plants. Obviously, if only waste from (the former) Bedfordshire and Luton area is to be accepted that would be the case. The Applicant's intent, however, is to accept waste from a wider area and the evidence of the WRATE Report submitted with the application is that the benefits in sustainability terms of having a single plant such as that proposed, would be significant as compared to the option of developing a number of smaller plants positioned more closely to the source of the waste (DOC/5.4). We agree.
>
> 5.34 In this regard, there can be no doubt that, if a plant of the size proposed were to be developed, fewer other plants would be required to deal with a given volume of waste. Indeed, some plants that might have otherwise come forward, including ones on sites close to the Rookery, may not do so. However, whilst several schemes were put forward during the examination as 'alternatives' to the Applicant's proposal, the evidence is that most are at an early stage of development and there is no certainty that they will progress (see para 7.92 et seq below)."

21. [redacted] accepted that the benefits in sustainability terms of having a single plant such as that proposed, which the Panel in paragraph 5.33 agreed would be significant as compared with the option of developing a number of smaller plants, included the benefits identified in the second and third bullet points in paragraph 7.93: delivering further carbon savings by CHP, and delivering benefits in terms of climate change and energy security. There can, therefore, be no doubt that the Panel did endorse the points listed in paragraph 7.93.

22. [redacted] submitted that it did not follow that the Panel's reasoning was adequate. It is common ground that the final bullet point in paragraph 7.93 does not deal with the dispersed solution of a network of smaller sized facilities. [redacted] submitted that the first bullet point was correct as far as it went – none of the suggested alternatives in the dispersed solution, if considered individually, was capable of delivering the same capacity – but it did not answer WRG's argument that, collectively, the smaller sized facilities in the dispersed solution were capable of delivering the same capacity as the proposed RRF at Rookery South.

23. [redacted] (whose submissions were adopted by [redacted] on behalf of Covanta) submitted that the references to "the alternatives" in the first three bullet points were references to the dispersed solution of a network of smaller sized plants, and that the Panel's consideration of whether they were "capable" of delivering the same capacity would have included its consideration of whether there was a reasonable prospect of the same capacity being delivered within the same timescale, and its conclusion that they were not "capable" reflected its earlier conclusion in paragraph 5.34 (which cross-referred to paragraph 7.92 et seq) that most of the alternatives were at an early stage of development and there was no certainty that they would progress.

24. [redacted] submitted that while the Panel's conclusion that "most" of the alternatives were at an early stage and there was no certainty that they would progress was adequate for the purpose of deciding whether to grant development consent because of the policy guidance in NPS EN-1 (see below), it was not an adequate basis for a conclusion that the dispersed alternative would not be capable of delivering the same capacity within the same timescale as the Rookery South proposal: the dispersed alternative did not rely on all, or even most, of the alternative sites coming forward. In paragraph 5.35 of the SR the Panel said:

> "In any event the Government's policy on capacity is clear. NPS EN-1, paragraph 3.1.2 advises that *'The Government does not consider it appropriate for planning policy to set targets for or limits on different technologies'*. In the following paragraph it states '*The IPC should therefore assess all applications for development consent for the types of infrastructure covered by the NPSs on the basis ….that there is a need for those types of infrastructure…'*. Paragraph 3.4.5 of the document records that *'The need for generation projects is therefore urgent.'*"

25. While there is some force in [redacted] submissions, it would be surprising if, having accepted the need to consider alternative ways to meeting the need (paragraph 7.15), and having accurately summarised the Appellant's case that the alternative way of meeting the need was a dispersed solution through a network of smaller plants

(paragraph 7.47), the Panel, in an otherwise thorough and comprehensive SR, had simply failed to address that alternative. In my view, on a fair reading of the SR as a whole, the Panel did not fail to address the alternative dispersed solution, it rejected it in paragraphs 7.93 and the first sentence of paragraph 7.94 of the SR. I have reached that conclusion for the following reasons.

26. I have already mentioned the fact that the parties are agreed that the fourth bullet point in paragraph 7.93 is concerned with the prospect of a single, comparably sized facility coming online within the same timetable. By contrast with that final bullet point, the first three bullet points all commence with the words: "none of the alternatives". Any informed reader of the SR would realise that "the alternatives" were not an alternative site (because there was no site on which there was any prospect of a comparatively sized facility coming forward) but a combination of smaller sites, and the network of smaller sites which comprised the dispersed solution was the only such alternative which had been put forward in any detail.

27. The Panel's agreement with the second and third bullet points reflects its earlier conclusion in paragraph 5.33 that a network of smaller plants would not have the significant sustainability benefits of a single plant such as that proposed. If the SR is read as a whole it is plain that "the alternatives" which would not deliver further carbon savings by CHP, or the same benefits in terms of climate change and energy security, are the network of smaller plants referred to in paragraph 5.33. There is no reason to give a different meaning to "the alternatives" in the first bullet point. If [redacted] submission was accepted, and the first bullet point was to be read as a statement that none of the alternatives, when considered individually (but not collectively) was capable of delivering the same capacity, it would add nothing to the fourth bullet point: there was no alternative, comparatively sized, facility.

28. I accept [redacted] submission that, when read in context, the Panel's conclusion that none of the alternatives is capable of delivering the same capacity is not simply a conclusion as to the capacity of the alternative dispersed solution, whether that capacity is measured in terms of tonnes of residual waste per annum or MWe, in the abstract, but is the Panel's response to the question posed by the policy guidance in paragraph 4.4.3 of EN-1, to which it had referred in the previous paragraph of the SR: was there a realistic prospect of the alternative delivering the same infrastructure capacity within the same timescale? Given the policy on capacity in NPS EN-1, it did not have to answer that question at the earlier stage, but the Panel did consider this issue, and it had reached the conclusion, in effect, that there was not a realistic prospect of the dispersed solution delivering the same infrastructure capacity within the same timescale because most of the 'alternatives' were at an early stage and there was no certainty that they would progress. The cross-reference in paragraph 5.34 to paragraph 7.92 et seq was inserted for a purpose: to make it clear that in the Panel's view its conclusion in paragraph 5.34 was also relevant for the purpose of its application of the guidance in paragraph 4.4.3 of EN-1 when considering the alternatives to compulsory acquisition. The Panel could have gone into greater detail on this issue (which was but one of very many issues dealt with in the SR) but it was not required to do so.

29. [redacted] submitted there was a further reason why it should be inferred that the four bullet points in paragraph 7.93 of the SR were not dealing with the dispersed solution; they were a summary of four points which had been put to the Panel by

Covanta in a paragraph of its closing submissions in which it had been dealing with a number of alternative sites owned by WRG about which WRG had been able to give more detail. Covanta had responded to the dispersed solution, which included those sites together with other sites not owned by WRG, in a later paragraph of its closing submissions in which it had described this alternative as "nebulous in the extreme and entirely lacking in substance." While Covanta in its Closing Submissions did deal separately with WRG's alternative sites and the "nebulous" dispersed strategy which included other sites, its criticisms of the former, if they were accepted by the Panel, would apply with no less force to the latter. In these circumstances, it would not be right to rely on the order in which Covanta put its points in its closing submissions as the basis for an inference that the first three bullet points in paragraph 7.93 of the SR were not addressed to the dispersed solution. On a fair reading of paragraph 7.93 the Panel dealt with the dispersed solution which comprised a number of smaller sized facilities in its first three bullet points, and the final bullet point then recorded that there was no prospect of a single comparatively sized facility coming online within the same timescale.

30. For these reasons, I would dismiss Ground 2 of this appeal.

Ground 3

31. It is common ground that when an Environmental Statement ("ES") is required, the environmental information it contains should be compiled on the basis of "current knowledge and methods of assessment.": see Article 5.1 of the Directive and the definition of "environmental statement" in regulation 2(1) of The Infrastructure Planning (Environmental Assessment) Regulations 2009 ("the Regulations"). The Appellant accepts that the ES which was submitted by Covanta in support of the application for the Order in August 2010 complied with this requirement. The Appellant's submission under ground 3 is that by the time when the Order came into force in February 2013 the environmental information in the ES was outdated, and had ceased to reflect current knowledge and methods of assessment.

32. In cases which are subject to environmental impact assessment the assessment, which includes the developer's ES, must be carried out before "development consent" is granted: see Article 2 of the Directive and regulation 3 of the Regulations. Article 1(2) of the Directive provides that:

> "(c) 'Development consent' means the decision of the competent authority or authorities which entitles the developer to proceed with the project."

Paragraph (f) defines 'competent authority or authorities':

> "(f) 'competent authority or authorities' means that authority or those authorities which the Member States designate as responsible for performing the duties arising from this Directive."

33. Mitting J accepted the Respondent and Covanta's submission that in the present case there was only one competent authority – the Panel acting on behalf of the Commission under the 2008 Act, and there was only one development consent - the

Order made by the Panel on 22nd November 2011. Parliament had not been designated as a competent authority for this purpose and its report on the Order without amendment to Parliament on the 28th February 2013 was not a development consent, even though by operation of statute (section 6(1) of the 1945 Act) the Order did not come into force until that date: see paragraphs 24 and 25 of the judgment.

34. I agree. [redacted] fairly accepted that, as a matter of domestic law, the conclusion reached by [redacted] was inescapable. However, he submitted that the Regulations had failed properly to transpose the requirements of the Directive because "development consent" had an autonomous meaning, and EU case law established the proposition that the decision that allowed a developer to commence the works for carrying out its project was a development consent: see *R (Wells) v Secretary of State for Transport, Local Government and the Regions* [2004] 1 CMLR 31, and *R (Barker) v Bromley London Borough Council* [2006] QB 764 at paragraphs 44 - 45. It was common ground that Covanta could not commence the development until the Order came into force on 28th February 2013.

35. [redacted] concluded that *Wells* and *Barker* were distinguishable. I agree. In paragraph 45 of its judgment in *Barker* the ECJ said:

> "It is apparent from the scheme and the objectives of Directive 85/337 that that provision refers to the decision (involving one or more stages) which allows the developer to commence the works for carrying out his project."

In paragraph 46 the ECJ said:

> "Having regard to those points, it is therefore the task of the national court to verify whether the outline planning permission and decision approving reserved matters which are at issue in the main proceedings constitute, as a whole, a "development consent" for the purposes of Directive 85/337: see, in this connection, the judgment delivered today in *Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland* (Case C – 508/03), post, p 501B, paras 101 and 102."

It is readily understandable that an outline permission, in which certain matters which may have effects on the environment are reserved for later approval, and the subsequent approval of reserved matters should constitute, as a whole, a "development consent." If they do not, there will have been no assessment of the environmental effects which were not identifiable until the reserved matters stage: see paragraph 47 of the ECJ's judgment.

36. The ECJ's reference in paragraph 48 of its judgment to a consent procedure "comprising more than one stage, one involving a principal decision and the other involving an implementing decision which cannot extend beyond the parameters of the principal decision" was made in the context of a two stage process – outline permission and approval of details – in which the environmental assessment at the first stage might not be comprehensive and would therefore need to be completed at

the second stage when those environmental effects which were not identifiable at the first stage had to be assessed.

37. That is not the position in the present case. The Order did not reserve any detailed matters which might have environmental effects for further consideration and approval by Parliament. The ES in support of the Order had to be, and was, a comprehensive environmental assessment of the development for which development consent was granted by the Order. Since the Joint Committee reported on the Order without amendment there was no change in the development for which consent had been granted which might have led to the need for a further assessment of its effects on the environment.

38. [redacted] accepted that if a Joint Committee considering an Order under the special procedure set out the 1945 Act reported that the Order be not approved so that the Order had to proceed as a Bill (see subsections 6(3) – (5)), then Parliament would be in a position to require a further environmental assessment under its Standing Orders. He submitted that a lacuna remained, because there would not necessarily be an opportunity for a further environmental assessment if a Joint Committee reported an Order with amendments (see subsection 6(2)). This point is wholly academic. If there was such a lacuna in our domestic legislation it no longer exists, section 128 of the 2008 Act having been repealed, and it has no bearing on the present case in which the Joint Committee reported on the Order without amendment.

39. I would dismiss this appeal.

Lady Justice Black:

40. I agree

Lord Justice Aikens:

41. I also agree.

Rampion Offshore Wind Farm

ES Section 3 – Alternatives

RSK Environmental Ltd **Document 6.1.3**

December 2012 **APFP Regulation 5(2)(a)**

Revision A

E.ON Climate & Renewables UK Rampion Offshore Wind Limited

CONTENTS

FIGURES

3 ALTERNATIVES

3.1 Introduction

3.1.1 This section describes the alternatives that have been considered in determining the design of the proposed Rampion Offshore Wind Farm (the Project). Details of the alternatives considered with regards to the offshore array site and the associated export cable to shore, and onshore infrastructure including grid connection, cable landfall, onshore cable route corridor and onshore substation are discussed, as well as alternative construction methodologies.

3.1.2 The section presents how the process of identifying the Project was undertaken, and describes how the Project evolved from the initial very broad definition of the offshore zone, and how this influenced the range of alternative options available for the connection of the wind farm to the grid.

3.2 Offshore Zone Definition

Strategic Environmental Assessment

3.2.1 On 10 December 2007, the Secretary of State for Business Enterprise and Regulatory Reform (BERR) announced the commencement of an Offshore Energy Strategic Environmental Assessment (OESEA) to examine the potential for 25GW of additional UK offshore wind energy generation capacity by 2020, effectively paving the way for a third round for offshore wind licensing in the UK (Round 3). The OESEA was undertaken in 2008/2009 and assessed the potential for siting offshore wind development in the UK Renewable Energy Zone (REZ) and the territorial waters of England and Wales in depths of 60m or less.

E.ON's own Round 3 Offshore Development Area Selection Study

3.2.2 In spring 2008, following the commencement of the OESEA and in anticipation of an announcement by The Crown Estate (TCE) of Round 3, E.ON Climate & Renewables (E.ON) conducted a comprehensive appraisal of potential areas for the further development of offshore wind development in the UK REZ. E.ON set up a steering committee to identify suitable development areas and to undertake site selection studies using internal expertise and knowledge, with the support of external consultants.

3.2.3 The initial assessment was undertaken using a GIS system to produce a 'heat map' of the entire REZ using known constraints to development (water depth, geology, ecology, shipping lanes, aggregates extraction, Ministry of Defence constraints, statutory nature designations and distance from shore). A second iteration was then undertaken using a weighting system in order to identify preferred areas for development in terms of likely environmental acceptance, consentability and constructability.

3.2.4 This assessment process defined a number of potential UK areas that may be suitable for offshore wind farm development, including an area adjacent to the Sussex coastline (see Figure 3.1). This area was not envisaged to necessarily be a very large single project, but was defined as an 'area of search' to enable assessment within this boundary of where development might be most appropriate.

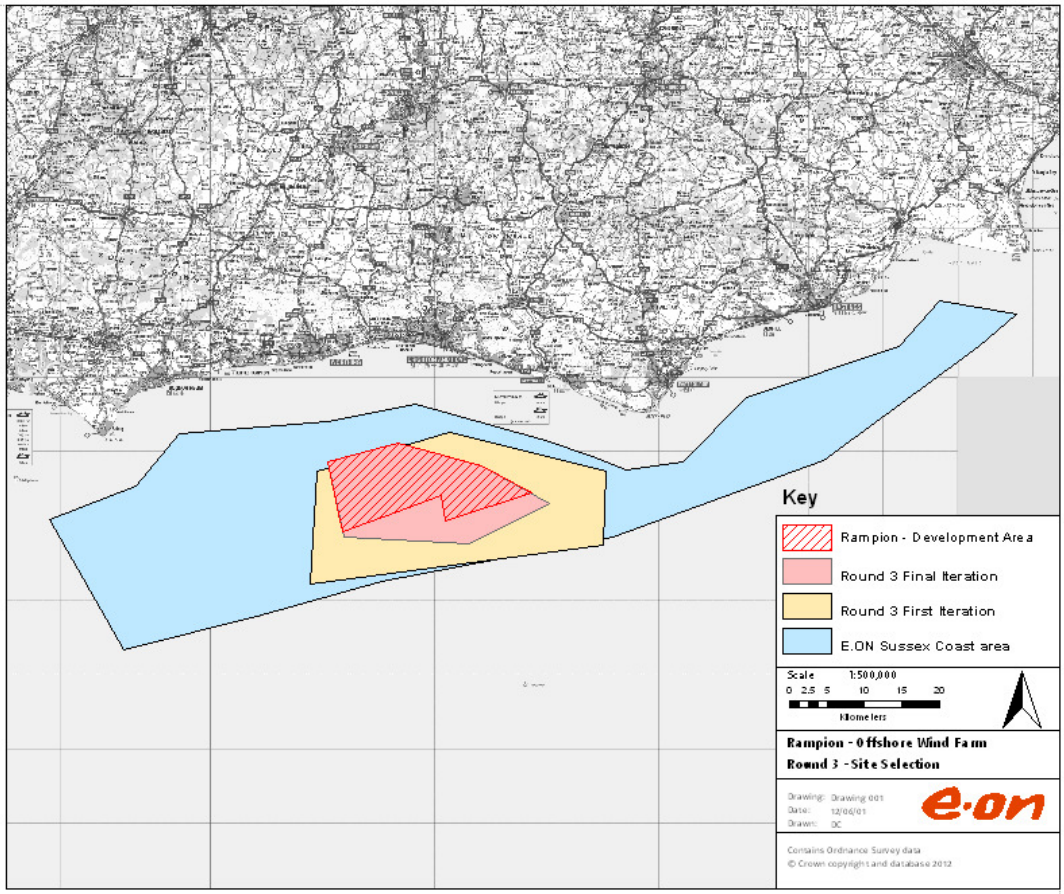


Figure 3.1: The South Coast Area of Search identified by E.ON showing subsequent evolution of the development area (to the point of consulting on the project)

The Crown Estate Round 3 Zones

3.2.5 On 4 June 2008, TCE issued its first iteration for Round 3. This first iteration identified several development 'zones' around the UK which included a zone adjacent to Brighton, falling within the area of search that E.ON had identified along the Sussex coastline. TCE invited potential bidders to feedback any information and or views on the zones. As TCE's process advanced, the final nine Round 3 zones (see Figure 3.2) were selected using TCE's Marine Resource System (MaRS) and the findings of the OESEA. The Round 3 Zone adjacent to Brighton initially identified by TCE was refined to the area known as Zone 6 (also referred by TCE as the 'Hastings' zone). In January 2010, following a competitive tendering process, TCE announced the successful bidders for each of the nine Round 3 offshore wind zones. E.ON was successful in securing the development rights for Zone 6 ('the Zone'), located off the Sussex coast.

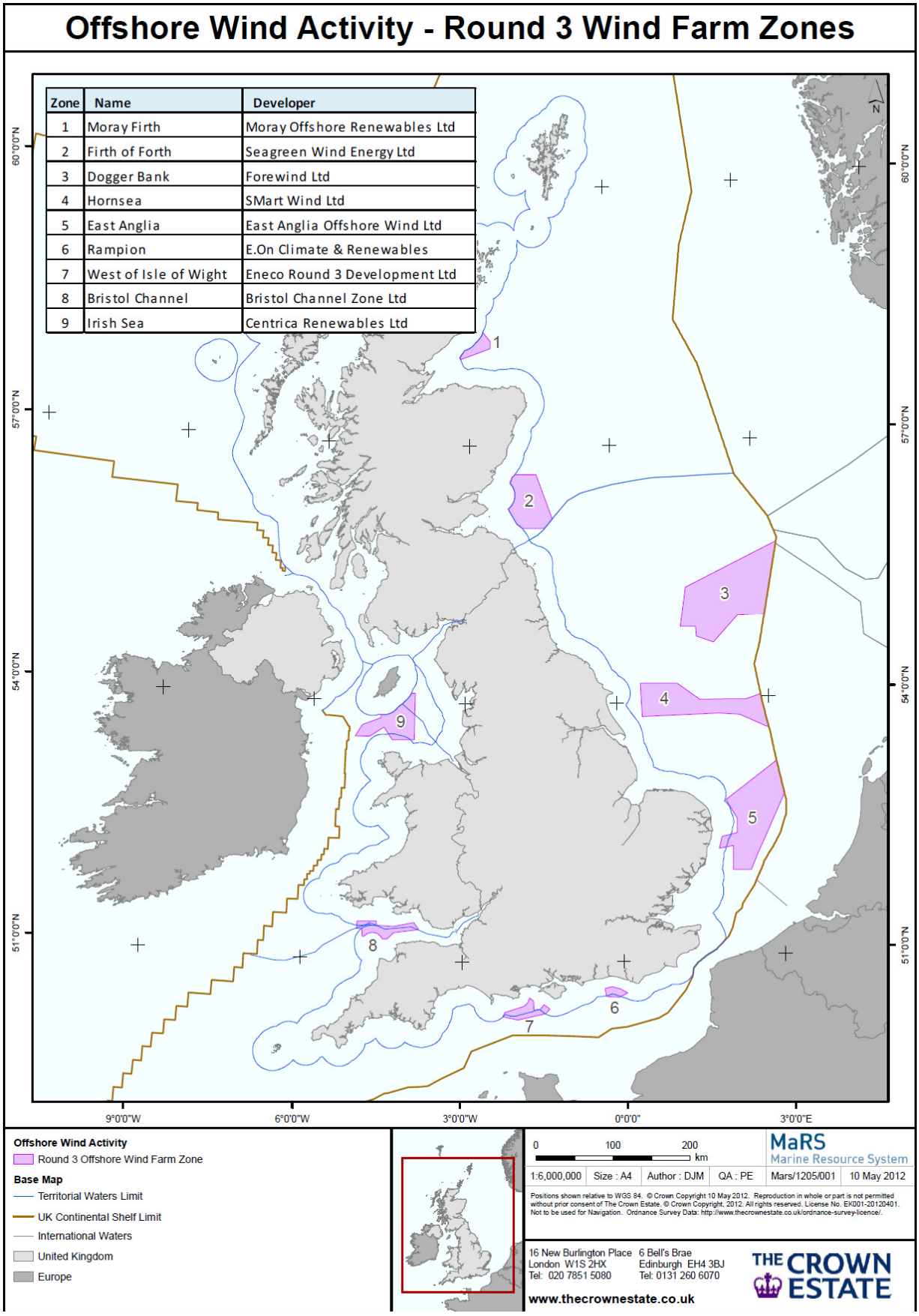


Figure 3.2: Round 3 Offshore Wind Farm Zones

Project Definition

3.2.6 Following the award of the Zone, E.ON revisited their initial assessment and undertook a refinement exercise to consider the feasible area for the development of a project within the Zone. The key constraint to the development of the entire Zone is water depth. Since the southernmost portion of the Zone lies in water of greater than 50m depth, E.ON determined that, at present, construction within this area would not be viable due to current technological limitations. The Project boundary was accordingly refined for the purposes of consultation, to an area of 167km^2 as shown in Figure 3.3. Following consultation, the Project boundary has been further reduced to the Rampion Offshore Wind Farm Site which has been assessed in the Environmental Impact Assessment (EIA). This comprises an area of 139km^2, as shown in Figure 1.1 in Section 1 (Introduction).

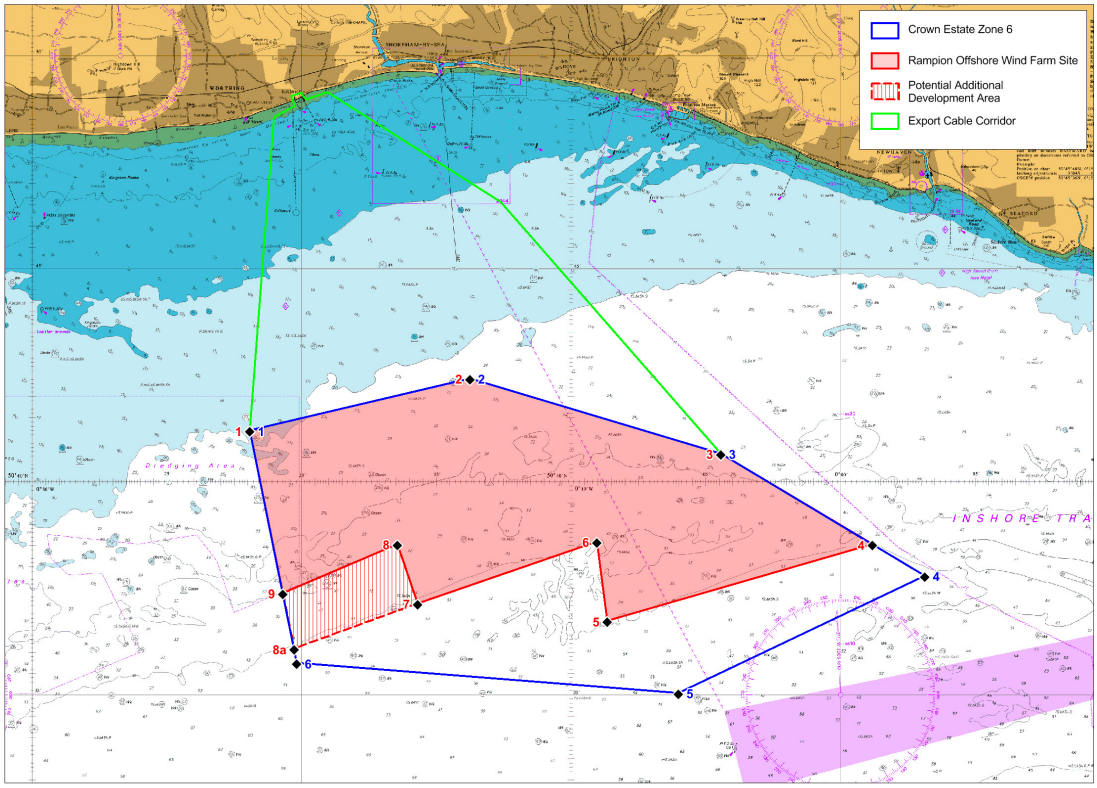


Figure 3.3: Site Boundary used for Consultation

3.3 Grid Connection

3.3.1 In parallel with assessing the offshore site, identification of a feasible grid connection was undertaken in order to determine the 'route to market' for the electrical output from the offshore wind farm.

3.3.2 Key considerations in choosing a suitable connection point include the capability of the existing network to accommodate the scale of generation to be delivered and the identification of a suitable landfall location and connection route from the wind farm to landfall and on to the connection point.

3.3.3 The UK electricity system is divided into two main areas – Transmission and Distribution. This is illustrated in Figure 3.4. The Transmission system operates at voltages of 275kV and 400kV and is used for the bulk transfer of power from large generation stations to 'demand centres', such as cities and towns. The Distribution system operates at voltages of 132kV and below and distributes the power across these demand centres to the consumer. At the Transmission level, electricity is transmitted at higher voltages to reduce power losses over large distances. At Distribution level, because the power flows are smaller and the distances shorter, it is possible to distribute the power at lower voltages.

3.3.4 Occasionally, smaller generating stations known as 'embedded generators' connect to the Distribution system and act effectively as a 'negative load', reducing the amount of power that needs to be taken from the Transmission system and, in cases of low demand, 'spilling' power back up to the Transmission system. Shoreham Power Station, rated at 400MW, is an embedded generator whose output is used as a negative load, offsetting local demand on the coastal Distribution system.

3.3.5 The electricity industry regulator Ofgem places obligations on the Distribution and Transmission network operators to maintain supplies to the consumer at all times, and therefore the system needs to be designed to operate under all scenarios of generation and demand throughout the year.

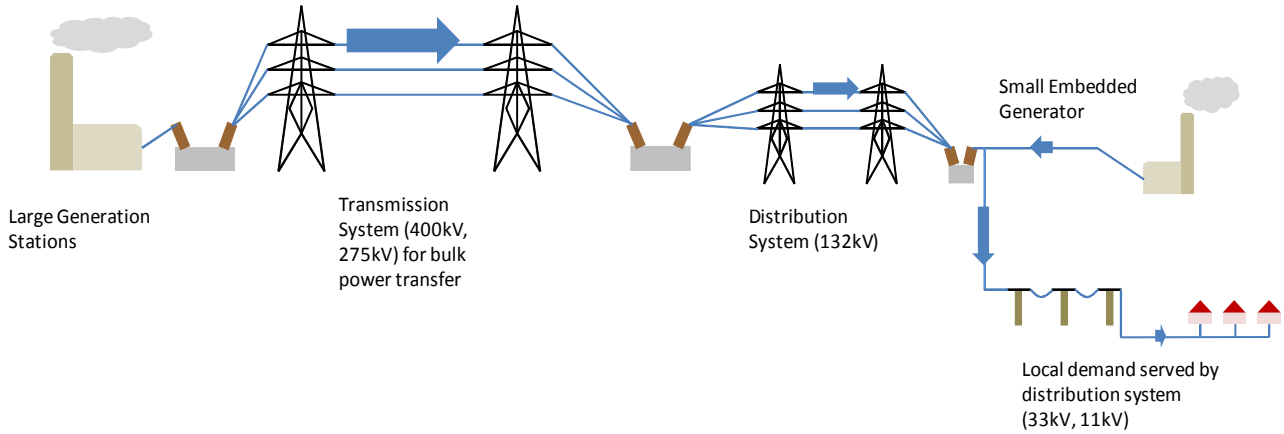


Figure 3.4: Illustration of how Transmission and Distribution Systems are linked

3.3.6 In the South East of England, a 400kV high voltage Transmission system runs from Lovedean 400kV substation in the west (north of Portsmouth) to Dungeness 400kV substation in the east. Intermediate grid supply points are located at Bolney 400kV substation (north of Brighton) and Ninfield 400kV substation (near Bexhill). Various 132kV Distribution circuits are fed from the 400kV Transmission system, and in turn a number of 33kV local substations.

3.3.7 Figure 3.5 shows the Distribution system in green and the Transmission system in red.

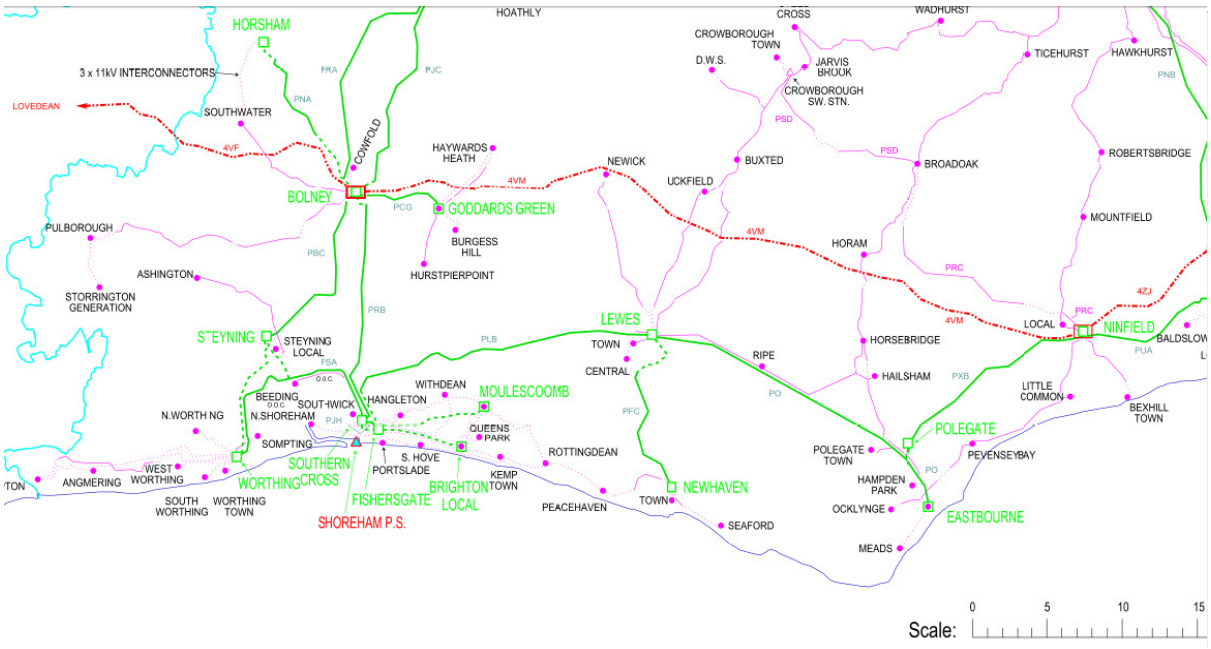


Figure 3.5: Electricity Distribution and Transmission system along South Coast, scale in km (Source: UK Power Networks)

3.3.8 During the initial appraisal of potential areas for the development of offshore wind farms by E.ON in 2008, a grid connection feasibility study was undertaken by Babcock & Brown Ltd (with input from PMSS and RPS) to determine the optimal grid connection locations for a potential wind farm off the South Coast. PMSS carried out a desktop analysis of potential landfall sites while RPS provided environmental feasibility assessment for the various potential connection options identified.

3.3.9 Potential Distribution and Transmission connections were reviewed, with relevant issues affecting grid connection feasibility considered, including:

- Electrical capacity of existing substations and power lines;
- System power flows;
- Physical space requirements;
- Constructability of new assets;
- Length of offshore and onshore cables required;
- Environmental implications; and
- Consentability of new assets.

3.3.10 E.ON's goal was to minimise the extent of the onshore infrastructure required to connect the project, since this would limit the environmental impacts that would arise from this element of the project, it would also likely be more cost effective and more straightforward to construct. In particular a key preference was to avoid the

need to undertake unnecessary development within the South Downs National Park (SDNP), which lies north of the developed coastline. Therefore the feasibility of connecting into the existing coastal Distribution system, thus avoiding the need to develop any new connections through the SDNP, was a prime focus of initial assessment.

Distribution (132kV or less) Connection Options

3.3.11 The Babcock & Brown study identified a potential 132kV connection point at Southern Cross and a 33kV option at Fishersgate (both located within Adur District), along with 33kV options at Worthing and Newhaven. However, based on the electrical capacity limits of these substations and the interconnecting 132kV network, the study concluded that a connection at any single point on the Distribution network would not be feasible. See Appendix 3.1 for further technical information.

3.3.12 Consideration was also given to the feasibility of splitting the Project into several smaller connections across a combination of these substations. In order to accommodate this, each connection point would require a new Rampion substation adjacent to the existing substation sites, as well as the identification of suitable multiple landfall locations.

3.3.13 In addition, when generation on the Distribution system exceeds demand, the excess power needs to flow back onto the Transmission system, i.e. from Southern Cross (which is a common 'node' on the system between the other local Distribution substations and therefore a bottleneck) back up to Bolney. The existing overhead lines from Southern Cross to Bolney could only potentially accommodate a further 250-300MW of generation.

3.3.14 For anything in excess of 250-300MW, major new electrical infrastructure work (underground cable or overhead line) would be required to be constructed through the National Park between Southern Cross 132kV and Bolney, as well as significant reinforcements at the various connection points.

3.3.15 Therefore, in order to connect an offshore wind farm of up to 700MW into the Distribution system, new infrastructure would be required adjacent to existing infrastructure. Assuming physical space constraints could be overcome, this would result in significant environmental impact over a wider area and additional disturbance to local communities than would occur with a connection directly into the 400kV Transmission system (see below). This is because as well as the new Distribution infrastructure referred to above, there would still be a need to traverse the SDNP up to Bolney which feeds this part of the Distribution system. This approach is also much less cost effective than a single point of connection proposal.

3.3.16 The above findings were verified through discussions with EdF Energy Networks (the then operator of the Distribution system prior to UK Power Networks (UKPN)) who advised that connecting into the 132kV network closer to the coast than Bolney would require significant reinforcement of the circuits from the connection point to

Bolney, due to the resulting excess generation present on their system flowing back up towards the Transmission system.

3.3.17 It was concluded on the above basis that a Distribution connection would not be feasible for the Project. Further information on this is contained in Appendix 3.1 which provides further technical information in relation to the grid connection constraints considered.

Transmission (275/400kV) Connection Options

3.3.18 There are no 275kV circuits on the Transmission network in and around Sussex, therefore a transmission connection would need to be onto the 400kV network.

3.3.19 The Babcock & Brown study identified that the output of the proposed wind farm scheme could be comfortably accommodated at either of the existing 400kV Transmission substations at Bolney in West Sussex or Ninfield in East Sussex. Neither option would require reinforcements to the wider 400kV Transmission system (e.g. upgrades to overhead lines running east to west, with additional environmental and consent implications). Lovedean in Hampshire was discounted as an option as it is significantly further from the Rampion site (30-40km further depending on route) and would involve more extensive offshore and onshore cable sections (see Appendix 3.1).

3.3.20 Given the geographical location of Bolney substation, it was clear that a direct Transmission connection at this point would require the wind farm export circuits to run through the South Downs National Park. For a potential connection at Ninfield, while it could potentially facilitate a route avoiding the SDNP, it would require a significantly longer (approximately three times as far) offshore connection.

3.3.21 The Bolney and Ninfield connection options were therefore taken forward into the next stage of assessment to consider the broader implications of connecting into each substation.

3.3.22 In particular, it was necessary to further understand the likely landfall options for bringing the cables to shore, the cable distance from wind farm to landfall and the potential onshore route corridors from landfall to connection point. In the early development phase of the proposal, the connection and landfall options were assessed in parallel for this reason.

3.4 Landfall Selection Process

3.4.1 A desk based analysis was undertaken by PMSS in 2008, supported by site visits (also attended by Babcock & Brown and RPS staff), to assess potential landfall options for a connection into either Bolney or Ninfield. Following award of the zone development rights to E.ON, further site visits were conducted in 2010.

3.4.2 In selecting a suitable landfall location for the wind farm, several factors were taken into consideration, including:

- Engineering feasibility including space and overall length for major Horizontal Directional Drilling (HDD) rig and offshore cable barge access (if this type of installation method is required);
- Onwards cable route feasibility towards the grid connection point;
- Degree of permanent and temporary environmental impacts that the landfall and resulting onward cable route would have;
- Degree of permanent impact and temporary disruption to local residents and businesses that the landfall and resulting onward cable route would have; and
- The overall cable route lengths (offshore and onshore) and economic viability.

3.4.3 The degree of urbanisation along the Sussex coastline meant that potential landfall locations were extremely limited in terms of meeting criteria to avoid significant impacts on areas of residential or commercial properties, major disruption to busy roads and overall impact on communities. The assessment of suitable landfall locations not only had to consider the immediate vicinity of the landfall but also the onwards routing of the cable from this point.

3.4.4 For the Bolney connection option, steep cliffs and complex topography ruled out a route directly to the east of Brighton, and taking a route west of Worthing would have resulted in unnecessarily long offshore and onshore cable routes with associated environmental and economic impacts. In practice, the only realistic landfall options for a Bolney connection lay in a limited number of gaps in the built environment between Worthing and Shoreham.

3.4.5 For a connection into Ninfield, routes via the west, or east, of Bexhill, were considered.

3.4.6 Appendix 3.1 shows the ‘long list’ of landfall options considered which includes three options originally considered at the screening stage that were discounted.

3.4.7 Based on the initial desktop and field based assessments undertaken, the following combinations of grid connection points and cable landfall windows were considered to be potentially feasible options:

- Option 1: Bolney / Worthing East (Brooklands Pleasure Park);

- Option 2: Bolney / Shoreham (Widewater Lagoon);
- Option 3: Bolney / Shoreham (Norfolk Bridge);
- Option 4: Ninfield / Bexhill West (Cooden); and
- Option 5: Ninfield / Bexhill East (Glyne Gap).

3.4.8 Brief descriptions of these landfall options are given below.

Option 1: Bolney / Worthing East (Brooklands Pleasure Park)

3.4.9 A potential landfall location was identified at Brooklands Pleasure Park, situated between Worthing and Lancing. This location represents the single largest gap in the heavily built up coastline stretching from Worthing to Brighton. The site features local authority owned golf courses (Par 3 and pitch and putt), parkland, a lake and other leisure amenities, which would need to be temporarily disturbed in order to lay cables from the wind farm. Constraints to the onshore route include the SDNP.

3.4.10 This is the landfall option ultimately selected and forms the basis of the proposal set out within this Environmental Statement (ES). See Figure 2b.1 in Section 2 Project Description (Onshore).

Option 2: Bolney / Shoreham (Widewater Lagoon)

3.4.11 This potential landfall option lies at the easternmost end of Widewater Lagoon, Shoreham-by-Sea. There is a public car park immediately north of the beach, with a lagoon oriented in an east to west direction. However, this landfall is restricted by a number of residential properties between the lagoon and the A259. Restrictions on the laying of cables underneath properties would mean the compulsory acquisition and demolition of 6-7 homes. It was a view shared by E.ON, as a socially responsible developer, and Adur & Worthing Councils, that this would not be an acceptable proposition. Further information on the difficulties associated with this landfall option is presented in Appendix 3.1. Constraints to the onshore route include the SDNP.

Option 3: Bolney / Shoreham (Norfolk Bridge)

3.4.12 A third potential landfall area for Bolney was identified close to Norfolk Bridge at a small gap in the built environment north of Beach Green where a children's play area is currently situated. A sizeable community of residential houseboats line the south bank of this stretch of the River Adur, with similar difficulties as Widewater Lagoon in terms of not being able to lay cables under dwellings and the need to remove 8-10 of the houseboats from this community. Again, this was not considered to be an acceptable proposition in the view of E.ON or Adur & Worthing Councils. This landfall option would also require the laying of cables through the Adur Estuary (the minimum route being to the Adur Recreation ground) which is designated as a Site of Special Scientific Interest (SSSI) and Royal Society for the Protection of Birds (RSPB)

Nature Reserve (see Appendix 3.1). Constraints to the onshore route include the SDNP.

Option 4: Ninfield / Bexhill West (Cooden)

3.4.13 A landfall to the west of Bexhill at Cooden was evaluated. This would require a considerably longer offshore cable than any of the Bolney landfall options, but with shorter onshore cable distances. This option is complicated by the Pevensey Levels SSSI and Ramsar site, comprising an area of low lying grazing marshes intersected by a complex system of ditches supporting a variety of wetland communities, which would form part of the route. Any proposal to lay cables across this area was considered to have likely unacceptable onshore environmental impacts.

Option 5: Ninfield / Bexhill East (Glyne Gap)

3.4.14 To the east of Bexhill an alternative landfall for a Ninfield connection was identified at Glyne Gap which would require significantly longer offshore and onshore cable distances than a connection to the west via Cooden. The beach at Glyne Gap is locally designated for nature conservation importance. The onshore route between the landfall around the edge of Bexhill is very constrained for the first 2-3km. Constraints to the onshore route include a sewage works, landfill and ancient woodland.

Conclusion on Preferred Connection and Landfall Combination

3.4.15 Aside from constraints to the onshore routing of the cable, a major concern in determining the feasibility of the Ninfield option was whether such a long offshore export connection from the wind farm site would be economically viable. Appendix 3.1 - Table 1, shows the offshore cable length associated with a connection into Ninfield (approximately three times as long as the Bolney option) and estimated costs compared with the Bolney option. During the broad evaluation of the options against environmental, technical and economic criteria, it became evident that the significantly higher cost of such a connection via landfall Options 4 or 5 would be cost prohibitive and would almost certainly make the overall project uneconomic.

3.4.16 In addition, a connection into Ninfield, via a route to the west of Bexhill, was considered to have likely unacceptable onshore environmental impacts on the Pevensey Levels SSSI and Ramsar site. Routing the cable to the east of Bexhill would take an even longer and less economic route.

3.4.17 Therefore both routes via Bexhill were discounted which meant that a connection into the transmission system at Ninfield was not pursued any further.

Potential Impact on the South Downs National Park

3.4.18 It was recognised that pursuing a Bolney based connection would necessarily require a route through the SDNP. In considering potential grid connection solutions and their likely associated environmental impact, a strong weighting was placed on the importance of the SDNP. The decision to designate the South Downs as a National

Park was made in 2009, further to its existing status as an Area of Outstanding Natural Beauty (AONB). In April 2011 the South Downs National Park Authority (SDNPA) was established and became the statutory Planning Authority for the National Park area. Early discussions in 2010 with the SDNP and other statutory bodies including Natural England and other local authorities, underlined the need for any development within the SDNP to be sensitive to the character of the National Park and minimise environmental impact.

3.4.19 The approach taken was to seek to select a means of connection to minimise permanent impacts to the SDNP, identify an environmentally acceptable and technically feasible route, and develop appropriate construction methodologies and mitigation to limit the temporary impacts as far as possible.

3.4.20 It was also clear that for a connection to Bolney, only the Brooklands landfall option provided a means of bringing the cables ashore without having a major adverse and permanent impact on communities in the area, with Norfolk Bridge also having environmental issues associated with the Adur Estuary SSSI and RSPB Nature Reserve. Therefore the Widewater Lagoon and Norfolk Bridge landfall options were not pursued further.

3.4.21 In conclusion, it was decided that the combination of grid connection into Bolney, via a landfall at Brooklands Pleasure Park in East Worthing, would form the basis of the onshore elements of the Rampion Project.

Verification by Other Studies

3.4.22 An independent grid feasibility study commissioned by TCE for their entire Round 3 portfolio in 2008, reached the same conclusion with regards to Bolney being the only feasible and economically viable connection option. The study, carried out by electrical engineering specialists Senergy Econnect, considered alternative connection points for Zone 6 into the existing Bolney and Ninfield National Grid 400kV substations. The study discounted Ninfield as a potential connection point as a result of the significantly longer cable route and likely prohibitive cost.

3.4.23 A second independent study by National Grid, known as the Connection Infrastructure Options Note (CION) (August 2011), reached the same conclusion. The CION forms part of National Grid's obligations as a regulated transmission operator to the electricity industry regulator Ofgem. National Grid is required to demonstrate that the most 'economic and efficient' connection solution is being progressed (in terms of limiting unnecessary costs to the end consumer).

3.4.24 National Grid subsequently made a connection offer for the Project to connect at Bolney substation.

3.5 Connection Type and Methodology

Overhead Line versus Underground Cable

3.5.1 The decision to underground the entire cable route was made very early in the development process, following initial discussions with the SDNPA and Natural England, in order to minimise permanent impacts associated with the installation of additional large pylons across the South Downs.

3.5.2 While the approach of undergrounding the cables is significantly more expensive than the equivalent overhead line option, it was considered necessary to avoid any permanent visual impact across these environmentally sensitive areas. It was clear from early engagement with stakeholders that temporary impacts arising from an underground cable route would be likely to be more acceptable than any permanent impacts associated with overhead structures and cables.

3.5.3 Further to the decision to underground the cables, work was carried out to develop a construction methodology using ducted cable circuits, rather than direct burial, which has significant benefits in terms of allowing quicker reinstatement of the cable working area. This is detailed further in Section 3.9 – Alternative Construction Techniques. Specific mitigations for the most sensitive section of the cable route, crossing a section of chalk grassland at Tottington Mount on steep slopes, were also developed as described in Section 2b – Project Description (Onshore).

3.6 Onshore Cable Route Selection Process

3.6.1 In common with other types of linear development, the effect that a cable may have on the environment largely depends on the route selected.

3.6.2 Careful selection of a route is of primary importance in avoiding, wherever possible, and thereafter minimising, potential adverse impacts on the environment, socio-economic features and public amenity in the vicinity of the route. In recognition of the above, a systematic route selection process was adopted, consisting of the following stages:

- Identification of an area of search;
- Identification of a broad potential route corridor within the area of search based on an assessment of desk-based information;
- Selection of a preferred route corridor;
- Identification of a preliminary cable route within the preferred route corridor; and
- Identification of the preferred cable route during the conceptual and detailed design stages of the Project, based on the results of increasingly detailed surveys,

studies and consultations with statutory bodies, environmental advisory organisations and landowners.

Cable Area of Search

3.6.3 Initial consultation on the Project was carried out via the Rampion Offshore Wind Farm Scoping Report (E.ON/RSK, September 2010). Responses received are presented in the Infrastructure Planning Commission (IPC) Scoping Opinion (IPC, October 2010). A copy of the Scoping Report and Scoping Opinion including consultee comments are included in Appendices 5.1 and 5.2 respectively. The Scoping Report identified an indicative 'Area of Search' (see Figure 3.6) for an onshore cable corridor based on a grid connection at Bolney substation via one of the landfall Options 1-3 (all three being still under consideration at that stage). The start and finish points for the onshore cable corridor are the high water mark on the coast between Worthing and Shoreham, and Bolney substation respectively.

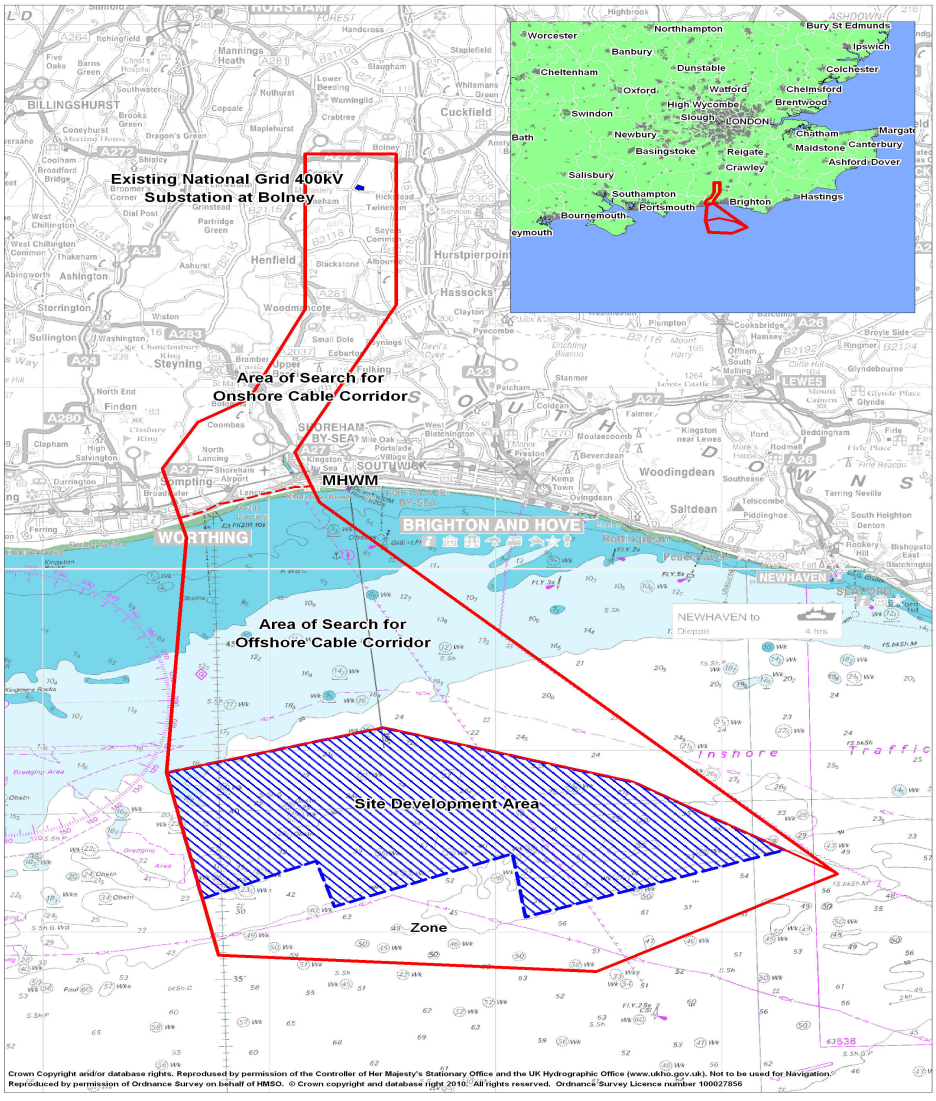


Figure 3.6 Indicative Areas of Search

Cable Corridors Identified within Area of Search

3.6.4 Within the onshore area of search, a constraints mapping exercise was conducted to identify potential cable route corridors. The following environmental, engineering and construction considerations were taken into account in identifying and selecting route corridors:

- The start and end points of the cable;
- The width of corridor to accommodate the required number of cable circuits;
- Avoidance of centres of populations as far as possible;
- Avoidance of significant environmental features as far as possible (including Ramsar sites, SSSI, Special Protection Areas (SPAs), Special Areas of Conservation (SACs), National Parks, RSPB Reserves, Ancient Woodland, and Local Nature Reserves);
- Where a route potentially crosses major roads, ensure sufficient space to allow for a methodology to minimise disruption (i.e HDD);
- Avoidance of potentially difficult construction areas, such as sustained steep slopes, tight bend radii, side gradients and so on, as far as possible;
- Land ownership; and
- The shortest distance, where possible (noting however that a balance needs to be struck between a shorter more sensitive route versus a longer less sensitive route).

3.6.5 Environmental constraints maps were prepared (see Figure 3.7) and aerial photography was referenced in order to select a broad cable corridor. Note that it was only after receipt of the Scoping Opinion that the final decision to drop landfall Options 2 and 3 was made, following meetings with consultees including Adur & Worthing Councils.

3.6.6 Appendix 3.1 explores alternative corridors which were discounted, including routing northwards via a lowland route through the Adur Valley. Constraints formed by the adjoining settlements of Steyning, Bramber and Upper Beeding, together with the steep and complex topography of the valley slopes within which they are situated, meant that there was no exit route from the valley to the north, towards the Weald. These constraints informed the decision that the cable route would need to ascend the uplands part of the route via Tottington Mount.

3.6.7 Also presented in Appendix 3.1 is information relating to rationale for the particular crossing point chosen to drill under the A283 and the River Adur, again highly constrained by topographical considerations.

3.6.8 The conclusion that exiting the valley in the vicinity of Steyning/Bramber/Beeding would not be feasible, together with the identification of a preferred crossing point under the A283 and River Adur, heavily influenced the route selection between the Brooklands landfall and the river crossing point. Following a northwards route from Brooklands, the cable was then routed east to Steep Down, heading across agricultural land with gentle gradients towards the river crossing point.

Onshore Cable Route Refinement

3.6.9 In August 2010, land agents were appointed to commence land referencing for the wider cable corridor.

3.6.10 A meeting was held with the project design engineers, land agents and environmental experts to feed the results of the land referencing exercise into the cable route selection process. A preliminary cable route was selected based upon the same engineering, environmental and social constraints that had been earlier identified, and on initial discussions with landowners.

3.6.11 Walk-over surveys of the preliminary cable route were then carried out by the project design engineers, land agents and ecologists. A landscape and visual vantage point assessment of the preliminary cable route was also carried out to review landscape and visual issues relating to it. Additional local environmental designations (including chalk grassland, Sites of Nature Conservation Importance (SNCIs) and updated Ancient Woodland records) were also considered at this stage.

3.6.12 The results of the walk-over surveys, vantage point survey, desk-based assessments and comments received from landowners were used to refine the preliminary cable route over the period October 2010 to February 2011 within the route corridor, so that more detailed surveys and further assessment work could commence in February 2011. The following refinements were made to the preliminary cable route in early 2011:

- Route amended to avoid a Scheduled Monument (cross dyke, a linear earthwork structure) on the west slope of Steep Down;
- Route amended in various locations to maximise distance to landowner properties and minimise disruption during construction;
- Route amended to avoid trees east of New Erringham Farm; and
- Route amended to avoid a number of badger setts identified during winter walk-over.

3.6.13 A range of further surveys, studies and consultations were carried out, as part of the EIA process, culminating in the publication of the draft ES. These included a comprehensive suite of ecological surveys, archaeological field reconnaissance, a landscape and visual appraisal and engineering land surveys. A number of further refinements were made to the cable route during this period including:

- Route amended to avoid SNCI at Steep Down;
- Route amended to minimise impact on SNCI at Applesham Farm Bank;
- Route amended to minimise landscape and visual impact and impact on chalk grassland at Tottington Mount;
- Route amended in various locations to account for landowner preferences;
- Working width minimised at ecologically sensitive hedgerow and water course crossings; and
- Working width minimised at Old Erringham Farm SNCI to avoid the slope to the north which supports unimproved chalk grassland.

3.6.14 Following community and statutory consultation in 2012, specific cable laying techniques to minimise disruption at the most sensitive section of Tottington Mount, where the cable route passes through chalk grassland on steep slopes, were developed and discussed with the SDNPA.

3.6.15 The proposed route for the onshore cable is shown in Figure 2b.1. This is the route that is the subject of this ES.

Summary

3.6.16 Due to the requirement to connect at Bolney and the geographical extent of the SDNP, the cable route necessarily has to pass through it. The proposed route has been selected in order to minimise potentially permanent or significant impacts from what are effectively fixed points at Bolney and at the landfall at East Worthing, and along the route, to designated sites, ecologically important sites and sites of cultural heritage.

3.6.17 The length of cable in the current proposal which passes through the SDNP, circa 14km, is longer than the theoretical shortest route 'as the crow flies' which is approximately 4km (though in practice any route via this shortest route along the Adur Valley, if such a route had been feasible, would in practice be more like 6-7km on the ground due to the winding nature of the Adur Valley). The principal factors here are:

- The selection of landfall at Brooklands Park, compared with a landfall in the vicinity of Shoreham combined with taking a route through the Adur valley. Such a route would represent a shorter cable route length, but presents overriding environmental and technical constraints as are presented in 3.6.6-3.6.8 and Appendix 3.1;
- The fact that there is no practicable feasible way to exit the Adur valley in the north, due to the built up areas of Steyning, Bramber and Beeding and complex topography either side of these settlements, as described in Appendix 3.1; and

- The majority of the route within the SDNP is routed through relatively low ecologically sensitive agricultural land, with the notable exception of high ground and a small area of chalk grassland near to Tottington Mount, and any impacts will be largely temporary in nature.

3.6.18 Figure 3.8 summarises the overall decision making process which was undertaken in selecting the grid connection point, landfall and cable route within the current proposal.

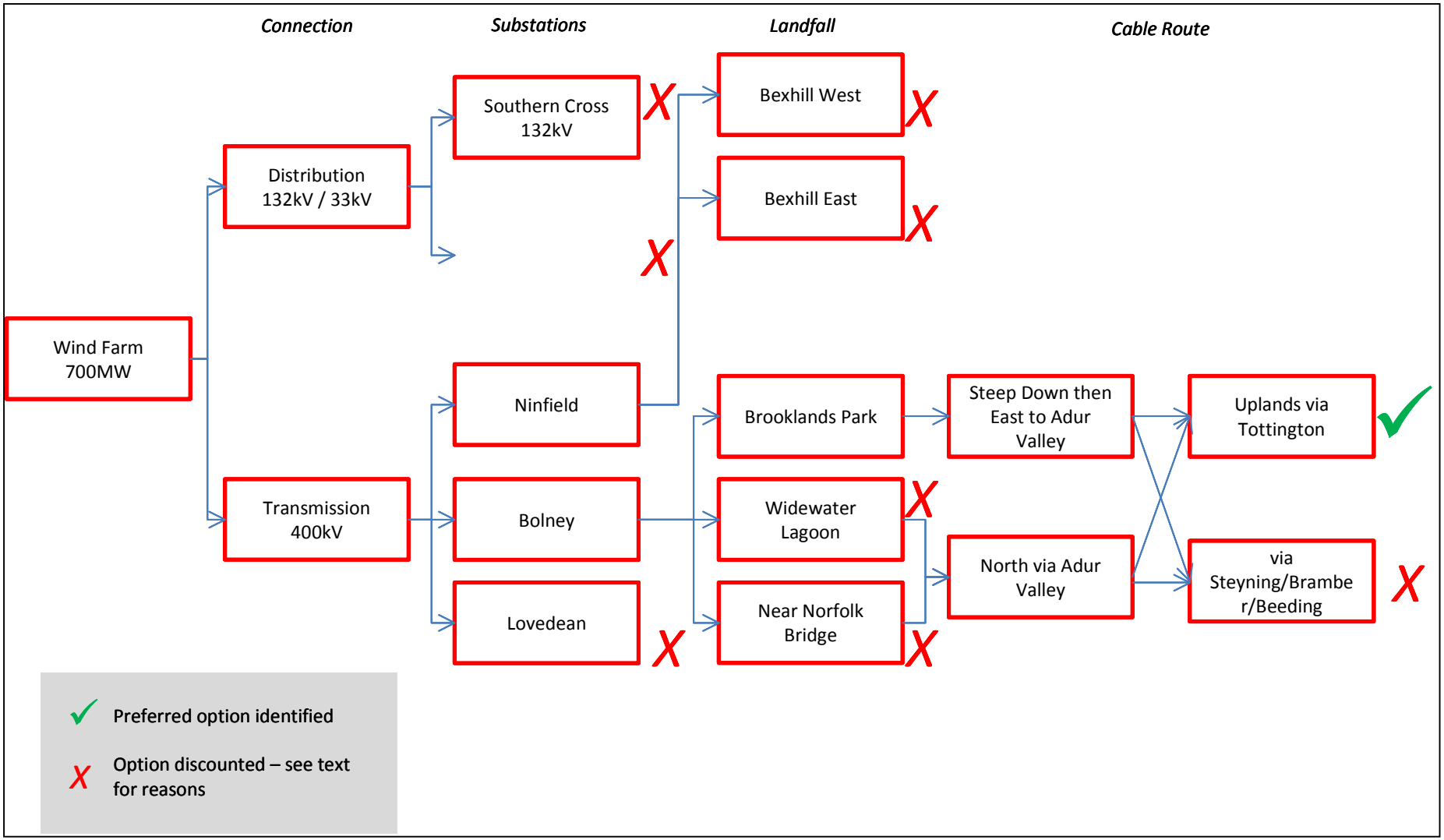


Figure 3.8 Decision Making Process

3.7 Offshore Cable Route Selection Process

Area of Search

3.7.1 In order to define an offshore cable corridor, it was first necessary to explore the grid connection and landfall options as described in earlier sections.

3.7.2 The Rampion Scoping Report (September 2010) identified an indicative area of search (see Figure 3.6) for the offshore cable corridor based on a grid connection to Bolney. The start and finish points for the offshore cable corridor are the Project's offshore wind farm site substation(s) and the high water mark on the coast between Worthing and Shoreham where the offshore cable will join the onshore section of the cable. Between these locations lay the three landfall options which were considered in detail. The indicative offshore cable corridor area of search was centred on an approximately direct corridor between these connection points.

3.7.3 Baseline data on potential environmental constraints were collated for the indicative area of search from publicly available sources.

Offshore Cable Route Corridor Identification

3.7.4 Following consultation, the offshore cable corridor was narrowed as shown in Figure 1.1 (Section 1 – Introduction). This corridor still provides flexibility for the detailed routing of the cables, which will be further refined on the basis of future seabed investigations and engineering design work.

Identification of Preliminary Offshore Cable Route

3.7.5 The corridor currently defined is still relatively broad, reflecting the need to maintain flexibility on exact alignments at this stage in the development. The corridor width will be refined pending outcome of currently ongoing work and consultation feedback, although it will still need to provide a flexible corridor to allow micrositing of cables if required during construction if, for example, local ground conditions require. A detailed geophysical and geotechnical survey of the refined cable corridor will assist in confirming the feasibility of the refined corridor.

Offshore Cable Route Refinement

3.7.6 The following factors will also be considered when determining the final cable route (n.b. there will be up to 4 cables installed, 2 from each substation):

- The start and end points of the export cable;
- Avoidance of BAP/Annex I habitats;
- Avoidance of identified wrecks;
- Avoidance of the anchoring area for Shoreham harbour;

- Avoidance of areas of rock outcrop;
- Avoidance of outfall pipe crossings;
- The minimum cable separation will be 50m, except at the beach crossing and on approach to the offshore substations;
- Route deviations will not exceed 20° with a separation of at least 1.5 times the water depth;
- Where possible the route will follow the palaeochannels;
- Where possible the route will avoid areas of high concentrations of boulders and magnetometer contacts; and
- The four cables will be kept in the same route corridor as far as possible.

3.8 Onshore Substation Site Selection Process

Generic Description of the Substation Site Selection Process

3.8.1 Initial requirements for substation sites are established based on the connection capacity and system operational requirements of the project. Potential transmission connection points adjacent to existing overhead lines, ideally with an existing substation to connect into, are highly preferable in order to minimise the wider transmission system reinforcement required to facilitate the connection. Potential locations and site layouts are then subject to identification, review and refinement in order to identity a preferred connection solution.

3.8.2 To ensure that the substation site selection process takes account of the environmental considerations from the earliest stage, E.ON has adopted the guidelines set out in National Grid's 'Horlock Rules' for the siting of new substations. These rules set out seven key criteria to inform the substation siting and design process to ensure the environmental impacts are minimised. These criteria are summarised below;

- Consider environmental issues from the earliest stage during site selection in order to balance technical and cost implications against the consequential environmental impacts;
- Seek to avoid altogether internationally and nationally designated areas of amenity, cultural or scientific value;
- Protection as far as reasonably practicable of areas of local amenity value;
- Take advantage of screening provided by landform and existing features;
- Keep visual, noise and other environmental effects to a reasonably practicable minimum;

- Consider the land use effects when selecting the site of new substations; and
- Consider at an early design stage how the effect of circuit entries, equipment, buildings and ancillary equipment at an early stage can be minimised as far as reasonably practicable.

3.8.3 In addition to the guidelines set out in the Horlock Rules, the substation site selection criteria included the following considerations:

- Proximity to existing transmission infrastructure in order to minimise the level of transmission system development required;
- Distance from residential properties;
- Engineering and constructability considerations such as topography and flood risk;
- Access for construction and inspection and maintenance staff and equipment; and
- Land ownership.

Site Selection Process for the Project's Onshore Substation

3.8.4 In order to connect the onshore cable to the electricity network, the need for a new substation on land near to the existing National Grid 400 kV substation at Bolney (location of National Grid connection offer) was identified. This new substation would house the necessary plant and equipment to facilitate the connection of the Rampion offshore wind farm into the transmission system.

3.8.5 A desk based assessment and early discussions with landowners identified potential substation sites within an area surrounding the northern, eastern and southern boundaries of the existing Bolney substation.

3.8.6 Through 2011, further assessment of environmental and technical factors led to the potential area for a substation site being narrowed down to an area of search extending from the east of the existing substation site round to the north of the site. The area to the south of the existing substation was discounted due to the presence of several UK Power Networks 132kV underground cable circuits running along the southern boundary of the existing substation. The area adjacent to the northern boundary of the existing substation was also discounted due to the requirement for National Grid to retain this area for operational reasons.

3.8.7 Two potential substation locations were identified within this area of search (see Figure 3.9). Option A was an area of land located to the north-east of the existing substation bounded by existing 400kV and 132kV overhead lines. Option B was located north of the existing substation adjacent to Wineham Lane. Both of these sites were presented during consultation on the Project as potential options for the substation location.

Figure 3.9: Potential Substation Locations

3.8.8 An assessment of these siting options was carried out against the criteria set out in the 'Horlock Rules', along with the additional assessment criteria set out by E.ON, in order to establish a preferred substation location based on a combination of environmental, technical and landowner considerations.

3.8.9 From an ecological and environmental perspective, arboricultural surveys undertaken at both substation options note that trees located in Option B are generally in better condition than Option A. Option B has a high number of long-lived, healthy, mature trees around its perimeter and part of its northern boundary abuts an Ancient Semi Natural Woodland. The eastern of the two fields in Option B consists of species-rich unimproved grassland which represents the best example of the UKBAP Priority Habitat - Lowland Meadows in the onshore Project survey area, compared with semi-improved grassland in Option A which are species poor.

3.8.10 From a noise perspective, Option A would be preferable to Option B due to the distance from the nearest receptors.

3.8.11 From a technical perspective, both substation sites offer sufficient space to accommodate all the required plant and equipment. Option A would result in a shorter underground cable route from the new substation to the existing substation at Bolney, as well as a marginal reduction in onshore export cable route length. Both substation options would require diversion or crossing of existing UKPN distribution

assets, with Option A requiring the diversion and potential undergrounding of an existing 11kV overhead line than runs across the substation site.

3.8.12 Following this assessment, Option A was identified as the preferred option for the substation site.

Access for Construction

3.8.13 Alternative construction accesses were considered based on the selection of Option A for the substation. There are three potential access routes:

- Access from Bob Lane from the west (via A272 and Wineham Lane);
- Access from Bob Lane from the east (via Twineham); or
- Access directly from Wineham Lane via a new junction and access track to be developed for temporary use during construction following which reinstatement would take place.

3.8.14 Due to limited width and tight bends an access from Bob Lane from the east was discounted as not feasible for the nature and number of loads requiring delivery during construction of the new substation equipment.

3.8.15 Responses from the consultation process and face-to-face meetings with residents living near to the Bolney substation indicated a strong preference for construction traffic not to use Bob Lane and instead access the site directly from Wineham Lane.

3.8.16 This has been incorporated into the final proposals assessed within this ES. The existing access route from Bob Lane will only be utilised for a brief period during site establishment to provide initial access for a limited number of vehicles. Otherwise the vast majority of construction vehicles will use the Wineham Lane access route to access the substation site via a temporary construction access track.

3.8.17 During the operation of the substation, access for vehicles engaged in operation and maintenance will gain access via the existing track from Bob Lane.

3.9 Alternative Construction Techniques

Offshore Construction Methodology

3.9.1 Detailed design work later in the engineering process will determine the construction methods which will be used offshore to install the foundations, turbines and cables that constitute the wind farm. At the current stage in design, many options still exist for installation of the different components. Section 2a – Project Description (Offshore) includes descriptions of the methods being proposed with some which could be used across the wind farm, while others may have restrictions on their usage by factors such as water depth or seabed conditions. The impacts sections in this ES consider the 'worst-case' scenario in environmental terms for each of the installation options that are being considered.

Onshore Cable Construction Methodology

3.9.2 Once the decision was made to underground the onshore circuits to eliminate any permanent visual impact along the route, various options were considered on the cable installation methodology to minimise the temporary disturbance during the installation period. In order to minimise the time that any section of cable trench would have to be open, the project chose to employ a ducted cable installation methodology in preference to a direct burial approach. A ducted approach involves the installation of PVC ducts during the trenching process, which allows the trench to be backfilled in advance of the cable installation process. At a later date, the cable can then be pulled through the installed ducts via small joint bays located at intervals of approximately 600m-1,000m.

3.9.3 While this approach is marginally more expensive than a standard direct burial approach, by removing the requirement to leave the trench open until the cable has been installed, the backfill and resultant reinstatement operations can commence at a significantly earlier stage. This allows the temporary disruption associated with the trenching activities along the cable route to be minimised.

3.9.4 Appendix 3.1 compares the pros and cons of direct and ducted cable burial (including a comparison with an overhead line).

3.10 References

Round 3 Offshore Wind Farm Connection Study Version 1.0, Senergy Econnect, December 2008.

Connection Infrastructure Options Note (CION), National Grid, August 2011 (not public domain due to National Grid commercial and security sensitivities).

Rampion Offshore Wind Farm

ES Section 3 – Alternatives

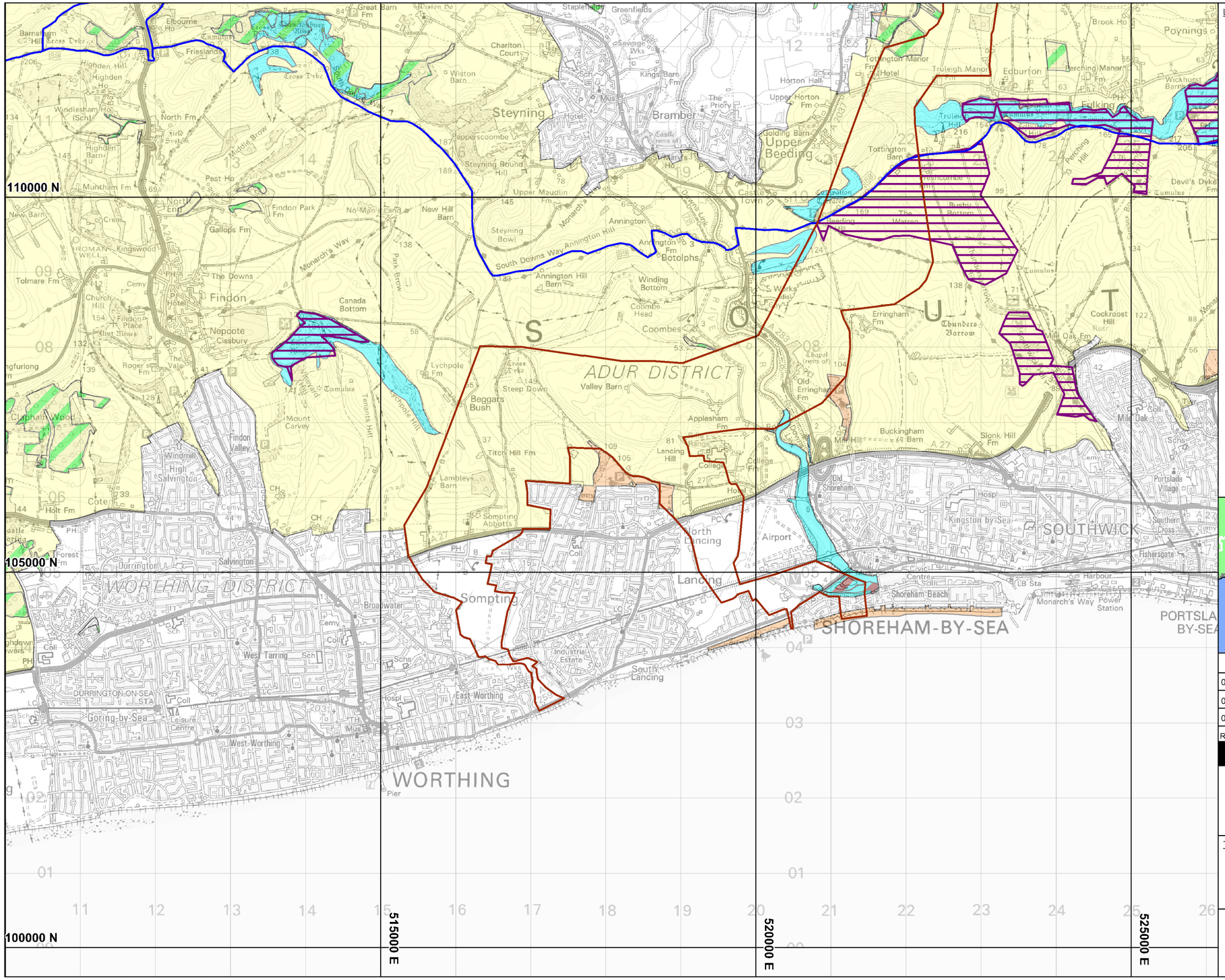
Figures

RSK Environmental Ltd **Document 6.2.3**

December 2012 **APFP Regulation 5(2)(a)**

Revision A

E.ON Climate & Renewables UK Rampion Offshore Wind Limited



125000 N

120000 N

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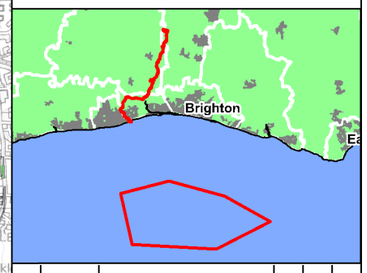
520000 E

525000 E

530000 E

Legend :

- Cable Route Corridor
- Special Protection Area
- National Nature Reserve
- National Trust Land
- Special Area of Conservation
- Ramsar
- RSPB Reserve
- Ancient Woodland
- Site of Special Scientific Interest
- Local Nature Reserve
- National Park
- National Trail



Rev	Date	Description	Drn	Chk	App
02	23.10.12	New Layout	DL	KB	DW
01	06.03.12	New Layout	LG	KB	DW
00	25.01.11	First Draft	LH	KB	DW

Rampion Offshore Wind Farm

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Title :

Figure 3.7 - Cable Route Corridor - Environmental and Landscape Constraints (Map 2 of 2)

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kilometres

Scale = 1:50,000 @ A3

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Rampion Offshore Wind Farm

ES Section 3 – Alternatives

Appendix 3.1

Moore Marine Services Ltd **Document 6.3.13i**

December 2012 **APFP Regulation 5(2)(a)**

Revision A

E.ON Climate & Renewables UK Rampion Offshore Wind Limited

APPENDIX 3.1 Alternatives Supporting Information

1. Grid Connection Options

Distribution System

The distribution system around the landfall options identified is primarily served by the Bolney 400kV substation, which feeds the local distribution network from a 132kV ring running via Steyning, Worthing and Southern Cross substations. From this ring, radial 132kV links run to Fishersgate, Moulsecoomb and Brighton Local substations from Southern Cross. Only Southern Cross is a 132kV substation, with all other substations 33kV. The 400MW embedded generation provided by Shoreham Power Station connects to Southern Cross substation at 132kV.

The Bolney 132kV ring is linked to the 132kV ring served by Ninfield 400kV substation by a single 132kV overhead line route running via Lewes and Polegate substations, with a 132kV radial link to Eastbourne (see Figure 1).

When considering the potential for a distribution connection for the wind farm, Southern Cross 132kV substation was identified as the optimum potential connection point due to it being a substation proximate to the coast and near the likely wind farm landfall. Also, being the only 132kV substation in the area, a connection at Southern Cross would not require significant substation replanting to upgrade from 33kV to 132kV in order to accommodate the wind farm 132kV export cables.

A summer demand of approximately 257MW is served from Southern Cross substation, therefore, when Shoreham Power Station is at full output (400MW), approximately 143MW of generation will spill from Southern Cross substation. This excess power will be shared across the three 132kV circuits running from Southern Cross – two running to Bolney substation and the 132kV circuit running from Southern Cross to Lewes. The combined summer transfer capability of the Southern Cross - Bolney (434MW) and Southern Cross – Lewes (111MW) circuits is 544MW, which is adequate capacity to accommodate these flows.

If an additional 700MW of generation from the Rampion Project was connected in at Southern Cross, the potential excess generation at Southern Cross would increase to 843MW in low demand conditions. This level of excess generation cannot be accommodated on the existing 132kV links to Bolney and Lewes, triggering the need for additional capacity on the 132kV circuits running from Southern Cross.

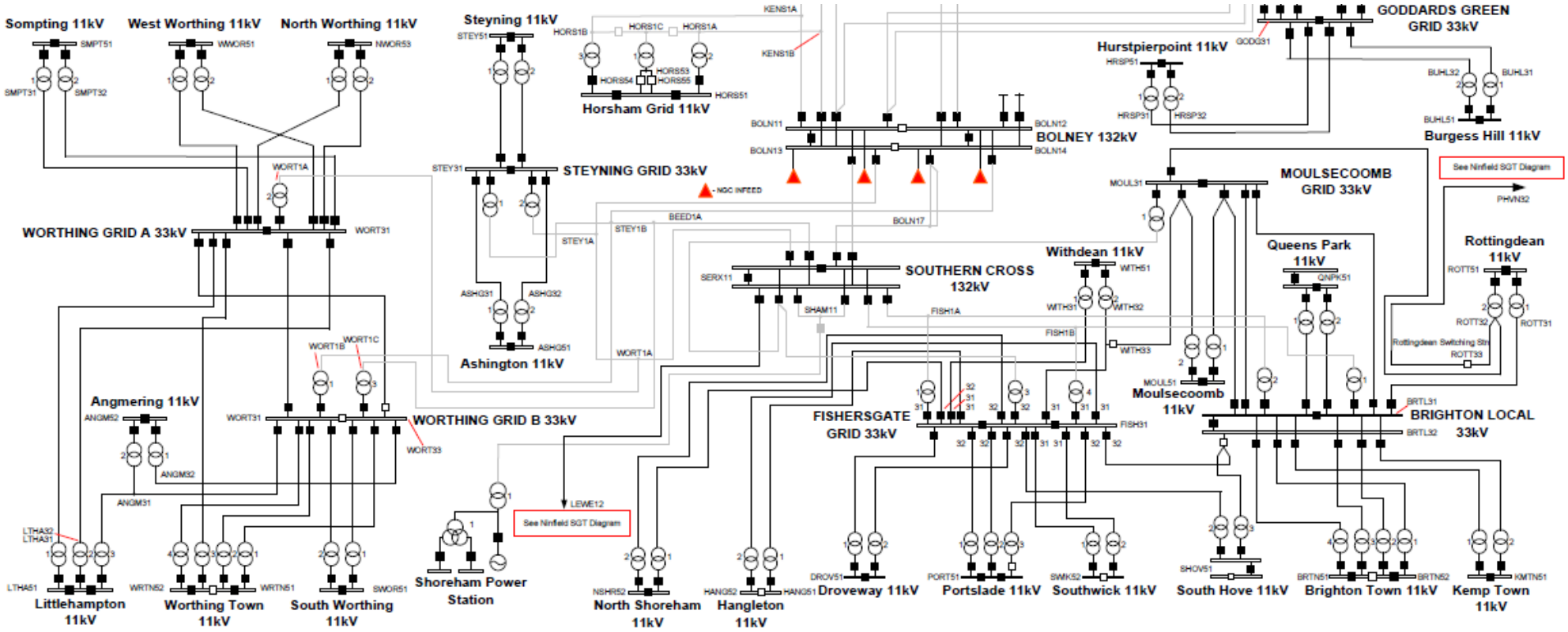

Figure 1: Electricity Distribution and Transmission system along South Coast

Given that the circuit to Lewes would be feeding a finite demand that is also served by Ninfield, the vast majority, if not all of this additional generation will flow back towards Bolney 400kV substation. Additionally, the export limit on the circuits running from Lewes would also make Newhaven an unsuitable connection point as, in addition to the upgrades to on the circuits up to Bolney, the Lewes – Southern Cross circuits would require extensive reinforcement.

The connection point at Southern Cross would therefore require the transfer capacity on the Bolney - Southern Cross 132kV circuit to be almost doubled from the current summer rating of 434MW to close to 843MW. It is therefore clear that a distribution connection at a single point would not be possible without very significant reinforcement of the 132kV network between Southern Cross and Bolney, or by reducing the wind farm size to around 250-300MW, which would make the scheme uneconomic.

Multiple Distribution Connections

Once the option of a single distribution system connection point was deemed infeasible, the possibility of multiple distribution connection points was considered in an attempt to distribute the power from the wind farm across a wider network area.

A search of the substations near the potential landfall locations identified Worthing Grid and Fishersgate substations as potential additional connection points.

Both Worthing Grid and Fishersgate substations are 33kV substations, meaning that any connection would require extensive expansion and reinforcement in order to accommodate a 132kV connection from the wind farm. More significantly, both substations are served by Southern Cross 132kV substation. This would mean that, even if the connection challenges could be overcome and multiple distribution connections achieved, it would not remove the requirement for a significant increase in transfer capacity between Southern Cross and Bolney. In fact, the likely additional requirement to upgrade the Worthing – Southern Cross and the Fishersgate - Southern Cross circuits, would make the overall impact of this solution less favourable than a single connection option at Southern Cross.

On this basis, the option of a distribution connection for the wind farm was not considered further.

Transmission System

There is no 275kV transmission network in and around the Sussex area, therefore a transmission connection would need to be onto the southern 400kV network running from Sellindge to Lovedean.

The output of the proposed wind farm can be comfortably accommodated on the existing 400kV transmission substations at Bolney or Ninfield without any significant reinforcement to the wider 400kV transmission system. Lovedean was discounted as an option as it is significantly further from the Rampion site and would involve more extensive offshore and onshore cable sections. Of the remaining options of Bolney and Ninfield, National Grid

concluded that the Bolney connection with a landfall east of Worthing was the most economically efficient connection option. The Ninfield connection would require a significantly longer offshore cable route and corresponding major increase in the connection cost, which would make the project uneconomic, as shown in Table 1 below.

Table 1: Comparison of 400kV connection points

Connection Point	Offshore distance	Onshore Cable length estimate	Budget Cost of Connection	Conclusion
Lovedean	15-19km	50-60km	Not considered – cost prohibitive	Not economically viable due to onshore and offshore cable route length
Bolney	15-19km	19-20km	Baseline	Identified by NGET to be most economic and efficient connection option
Ninfield	54km	6km	+ £132m to £138m	Not economically viable 60km on the limits of AC technology, HVDC could add further £17m overall

Connection Types

The decision to underground the entire cable route was made very early in the development process, following initial discussions with the South Downs National Park Authority (SDNPA) and Natural England, in order to minimise permanent impacts from the installation of additional large pylons across the South Downs.

While the approach of undergrounding the cables is significantly more expensive than the equivalent overhead line option, it was considered necessary to avoid any permanent visual impact across these environmentally sensitive areas.

Further to the decision to underground the cables, further work was done to develop a construction methodology using ducted cable circuits, as opposed to direct burial, which has significant benefits in terms of allowing quicker reinstatement of the cable working area. A comparison of connection types is presented in Table 2.

Table 2: Comparison of connection types

Methodology	Advantages	Disadvantages
Overhead Line	Most Cost Effective Easier to install over difficult terrain (hills, etc.) Potential to re-string to increase capacity if necessary to upgrade/increase rating	Visual impact More at risk from adverse weather (ice load, wind)
Underground: Direct burial	No permanent visual impact Marginally cheaper than ducted burial solution	Trench reinstatement linked to cable delivery/installation programme Fault repair would require excavation to recover/repair the cable
Underground: Ducted	No permanent visual impact Quicker trench reinstatement than direct burial approach	More expensive than direct buried cables Requirement for small joint bays to be excavated at cable installation stage

2. Landfall Options

Prior to selecting Brooklands Park in East Worthing as the preferred landfall location, other landfall options in the vicinity of Shoreham were originally considered. The original long list of options for a connection at Bolney is as presented in Table 3.

Table 3: Long list of potential landfall options for a connection at Bolney

Option	Location	Description	Initial screening
1	Brooklands, East of Worthing	Brooklands Pleasure Park - golf course, park, lake and other leisure amenities	Considered feasible landfall option.
2	Airport West	Landfall east of Widewater Lagoon	Initially identified as good beach landing site, but no break in the built environment. Would require demolition of substantial number of homes and issues with immediate onward cable route. **Not pursued further.**
3	Widewater Lagoon East	Landfall east of Widewater Lagoon	No clear gap in built up area but relatively narrow part of urban coastline. Assessed further as below.
4	Norfolk Bridge	Landfall at Beach Road play area	Break in the urban environment but includes established house boat community in the Adur as well as beach huts and childrens' play area. Assessed further as below.
5	Shoreham Port and up the River Adur	Cable installed through port entrance and up the River Adur	Would result in significant disruption to port operations and environmental impact due to ploughing/jetting 4 marine cables in the riverbed of the Adur Estuary SSSI. **Not pursued further.**
6	Portslade/Shoreham Port	HDD drill under the harbour wall and tunnel across to harbour	Would result in significant disruption to port operations and no clear technical solution to cross harbour and onward cable route. **Not pursued further.**

The two options other than Brooklands Park with most potential from the initial screening exercise, namely the Widewater Lagoon and Norfolk Bridge options, are described below in more detail.

Widewater Lagoon

Figure 2 shows the Widewater Lagoon landfall option, which would come ashore west of Shoreham Beach, although this option in practice is heavily constrained due to the presence of residential properties between the lagoon and the A259. A long horizontal directional drill (HDD) would be required underneath the lagoon and the A259. The indicative corridor shown in red in Figure 2 is approximately 40m in width (requiring greater separation of circuits than the standard trenching method of cable installation due to the nature of the HDD methodology). Even this alignment of the corridor, which manages to avoid direct conflict with properties on the north side of the road by taking an angled route, would be in conflict with a number of existing properties on the south side.

Industry practice does not permit the laying of major electricity transmission cables underneath permanent dwellings for a number of reasons including the risk of causing structural problems to the properties, the inaccessibility of cables in the event of fault and the perception of potential health issues associated with electromagnetic fields (EMFs).

This option was discounted due to the requirement to compulsory acquire and demolish an estimated 6-7 homes on the south side of the A259 as well as land to the north of the road.

As a socially responsible developer, E.ON did not believe such an impact to be acceptable. An initial meeting in November 2010 with senior officers from Adur & Worthing Councils, where the three shortlisted landfalls (Brooklands Park, Widewater Lagoon and Norfolk Bridge) were discussed, supported the conclusion that Widewater Lagoon would not be an acceptable landfall location.

Figure 2: Potential landfall location at eastern end of Widewater Lagoon, showing indicative HDD corridor requirement (red)

Norfolk Bridge

Figure 3 shows the Norfolk Bridge landfall option, which would come ashore at Beach Green in Shoreham. A relatively straightforward HDD would be required for the shore landing into an area currently used as a childrens' play area, but would then require an additional HDD of approximately 700-800m across the Adur Estuary, emerging in the Adur Recreational Ground.

As can be seen in Figure 3, situated along the south bank of the Adur is an established riverside settlement of houseboats. The indicative HDD corridor shown in red is approximately 40m in width (requiring greater separation of circuits than the standard trenching method of cable installation).

Since major electricity transmission cables cannot be laid underneath permanent dwellings, as with the Widewater Lagoon option, this would require a significant number of compulsory acquisitions and the removal of an estimated 8-10 houseboats from this established river-based community. E.ON did not consider this to be an acceptable solution and this was the consensus in the meeting to discuss landfall options with Adur & Worthing Councils in November 2010.

In addition to the challenges of a long drill under the tidal Adur Estuary, the estuary is designated as a SSSI, which would require significant disruption during the drilling period.

Figure 3: Potential landfall location south of Norfolk Bridge, showing indicative HDD corridor requirement (red)

3. Cable Route Options

Route from Brooklands to the River Adur

Heading north from the selected landfall at Brooklands Park the cable route enters the South Downs National Park (SDNP) north of the A27. The cable is then routed eastwards around difficult topography and a Site of Nature Conservation Importance (SNCI) at Steep Down, whilst also avoiding complex topography further north at Winding Bottom (see Figure 4). Existing overhead lines pass further north, but running in parallel with this route would not be feasible for trenched underground cables.

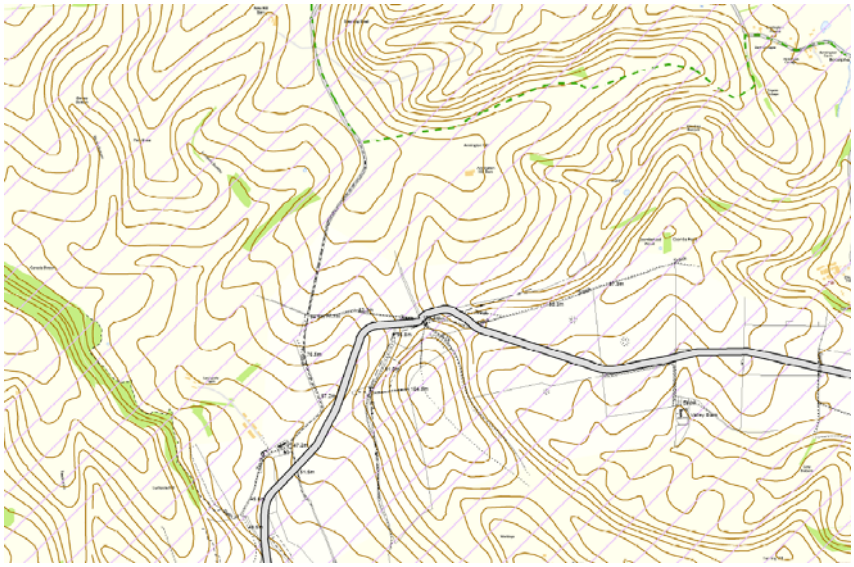

Figure 4: Cable routing eastwards between challenging terrain of Steep Down SNCI to the south and Winding Bottom to the north

River Crossing Point

The preferred crossing point of the River Adur (see Figure 5) has been selected for a number of reasons. Firstly, it is at a point where the river and the A283 run relatively close to one another, reducing the overall length of the drill. Secondly, with most of the terrain to the east of the A283 being extremely steep and not possible to cable up, the chosen route has a flat section of sufficient area to allow a HDD site to be established, with a relatively shallow gradient for the ongoing cable route.

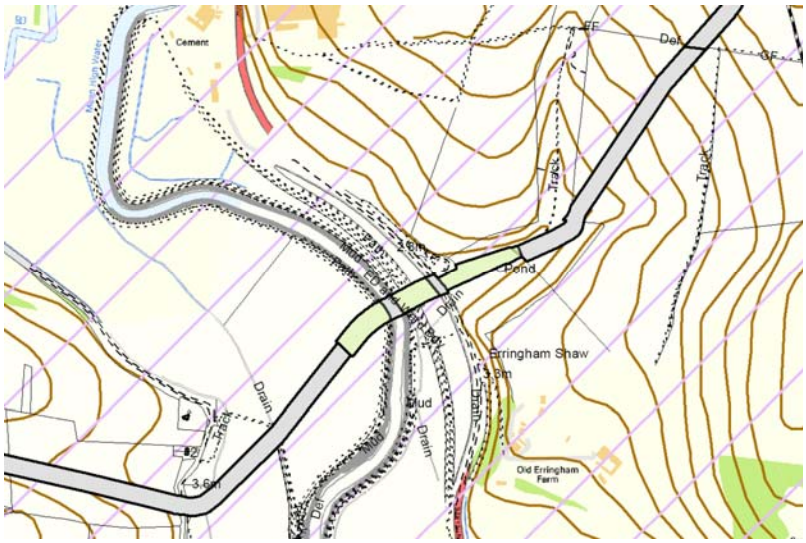

Figure 5: Selected crossing point under River Adur

Other points along the A283 either have no room for a HDD area to be established or, where there is room, the surrounding terrain is so steep as to make an onwards cable route not feasible, as shown in Figure 6.

Figure 6: Typical steep escarpment on east side of the River Adur constraining locations for crossing the river

Adur Valley

Although a cable corridor running along the Adur Valley (along the disused railway and/or the riverbed) for part of the cable route was also considered, a number of constraints were identified with this option including:

- The tidal part of the Adur Estuary is a SSSI of favourable condition noted for its littoral sediments. Disturbance to these and the river embankments would cause environmental impact to the SSSI (note that the ruling out of Norfolk Bridge landfall made a route running along this southern part of the Adur could not be pursued in any case);
- The route would run along a disused railway line for some distance; this is significantly narrower (approximately 6-8m, see Figure 7) than the corridor width required for the construction area and permanent cable easement, and in fact is insufficiently wide for the cable easement and haul road required to install the cables, even if some means of temporarily storing topsoil and subsoil offsite were practical;
- The disused railway is lined on both sides with mature trees, vegetation and valuable habitats, approximately 3km of which would need to be removed to accommodate the construction corridor;
- Embankments along the disused railway line would be unsuitable for extensive trenching to accommodate the four cable circuits, therefore extensive major re-sculpting of the landform would be required to bring the railway line elevation

back down to the level of the valley and losing evidence of the former railway which may not be acceptable in heritage terms;

- The disused railway is also in use as a public right of way, the 'Downslink'. The cabling works would require the closure of this route for a significant period of time;
- There are a number of issues preventing the cables being installed under the riverbed itself. The installation would be similar to an offshore installation requiring specialist vessels and large cable laying equipment, which would cause major disruption to other users of the river. Also, the installation would be highly constrained by the width and depth of the river, as well as the clearance to bridges. Installation of cables alongside the river presents its own problems due to it being within the floodplain. In addition to the installation difficulties caused by the ground conditions, the risk associated with a cable or joint failure due to ingress of moisture is elevated in these floodplain areas; and
- A lack of suitable crossing locations and very steep gradients/residences on the eastern side of the Adur would prevent a crossing point further north than the selected route proposed.

Further north the route is highly constrained by the adjoining settlements Bramber and Upper Beeding, therefore a crossing of the Adur south of this built up area would be required in order for the route to continue north towards Bolney (see, 'Route exiting Adur Valley to the north' below).

Figure 7: Typical section of the Downslink path with mature trees approx 3km from southernmost extent to point at which the former railway crossed the River Adur

Route exiting Adur Valley to the north

Instead of the route heading across higher ground to the east of the Adur and ascending Tottington Mount, options were explored to establish a route either between the settlements of Steyning, Bramber and Beeding, or circumnavigating to the west or east of the built up area.

The previous comments about issues of laying underground cables in the flood plain (see 'Adur Valley' above) should be noted.

Such a route could potentially deliver a shorter cable length through the SNDP as well as avoiding the most challenging section (in both environmental and engineering terms) of the route at Tottington Mount.

Figure 8 highlights the built up areas in blue, with Steyning in the west, Bramber in the centre (including Bramber Castle on an elevated mound highlighted in green) and Upper Beeding to the east. These settlements nestle in the valley between steep and complex topography of the South Downs. Arrows show the three indicative routes for passing through this area:

- To the west of Steyning through complex and steep topography would have no benefit in reducing the length of cable route within the SDNP and would elongate the River Adur flood plain crossing and the overall cable length, this was therefore discounted;
- To the east of Upper Beeding presents challenging topography in terms of being able to safely trench and effectively reinstated steep slopes (with slopes perpendicular to the direction of cable route being especially difficult to traverse), potential small reduction in distance of cable through the SDNP; and
- Routing by/under Bramber Castle (which would be the route which minimises cable length through the SDNP).

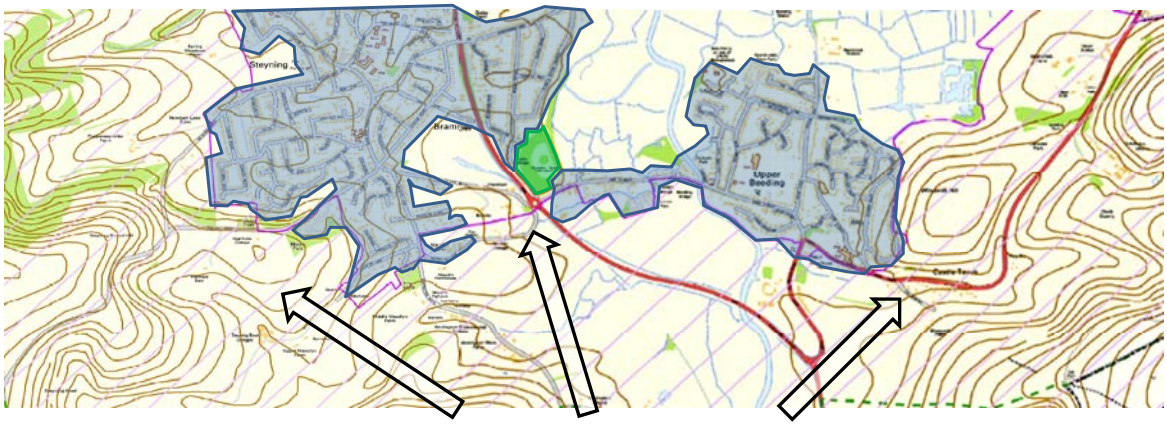

Figure 8: Settlements of Steyning, Bramber and Upper Beeding at the head of the Adur Valley

East of Upper Beeding

There are effectively two sub-options if routing to the east of Beeding.

Sub-option 1
Keeping east of the A2037 presents prolonged steep side slopes and complex topography which would be very difficult to safely lay trenches using typical cable laying techniques. This can only be done using 'zig-zag' techniques that would mean route length saving in SDNP would not be as great as if it was 'as the crow flies'. Cable trenches would require significant 'benching' into the hillside which are more likely to create prominent scars, as well as making effective reinstatement more difficult (and prone to wash out during long periods of rain).

Sub-option 2
Taking a route via Windmill Hill would require a HDD through the hill, as the topography would make trenching over the top or around this hill challenging, or routing on side slopes would have the same practical and safety issues as noted above. In addition to these challenges, the onward route either side of Windmill Hill is highly constrained due to presence of residential properties, roads and other steep gradients. This means that, even if a methodology for traversing of Windmill Hill was identified, the onward the overall route would still not be viable.

Four HDD drills of approximately 600m each would be required to cross under Windmill Hill. The main challenge would be the effective drill depth of at least 30m and resultant thermal de-rating of the cable. Essentially, the ground has a thermal insulating effect around the cable which, along with the depth that cable is buried to, limits how much current each cable can carry without overheating. Certain soils including chalk, have a particularly high thermal resistance. This would require additional drills, cables and likely require cooling systems to achieve the ratings required for the circuits. For cable circuits laid at this depth, typically a tunnel with forced air cooling is used to ensure the cable ratings are maintained (e.g. Elstree – St Johns Wood National Grid 400kV circuit). This would be cost prohibitive for such a short section.

Due to the technical constraints identified above, these options were discounted.

Via Bramber Castle

Bramber Castle is a Scheduled Monument and Grade 1 listed building. The castle is owned by the National Trust and managed by English Heritage. Due to the presence of adjacent St Nicholas Church and graveyard (the oldest Norman church in Sussex) and nearby residential properties, the only way to pass through this area would be a very long and deep HDD route. A route starting south of the A283 roundabout (see Figure 9) under the castle mound would be the only potential means way of continuing the cable route north of Bramber and Upper Beeding.

Figure 9: A283/A2037 roundabout looking towards Bramber Castle and St Nicholas Church

Subsidence on a large scale led to the ruin of the castle during the 16th century, this could be a risk factor of drilling several large cable circuits under what now remains of the castle. The same issues apply as noted above for Windmill Hill in relation to thermal rating problems of cables buried at significant depths.

If a HDD were feasible and acceptable, the cable route would need to then progress through a large flood plain area which is also designated as a SNCI and also features a Scheduled Monument (group of salterns low grassy mounds which are the remains of salt-making in the Middle Ages and earlier).

On the basis of significant technical uncertainties and environmental issues, this option was discounted.

Date: 31st May 2024
Our reference: Ref

To whom it may concern

Viticulture Site Suitability Analysis - Land at Wiston Estate

Knight Frank's Viticulture team have been asked to conduct a site suitability analysis of the Land at Wiston Estate in order to determine whether the site is suitable for vineyard establishment and consequently, whether it could achieve a higher price on the open market owing to its suitability.

I have utilised our bespoke mapping tool in order to analyse the topographical and climatic aspects of the site (**see plan at Appendix 1**) and set out my findings, below.

An assessment of the Property's suitability, against key climatic, terrain and geological criteria is below:

- Growing Season Temperature – the accepted range for sparkling wine is above 14 - 16 degrees Celsius, The Property average is 14.61 degrees Celsius, therefore within the accepted range.
- Growing Season Precipitation – the accepted range is below 500mm, The Property average is 483mm, therefore at the higher end of the accepted range.
- Ground Frost – the accepted range is below 40 days, The Property average is 28 days therefore within the accepted range.
- Soil Type – Free draining loamy soil. Vines require free draining soil, and it is encouraging to see that The Property possesses this soil type.
- Elevation – the accepted range is below 150m, The Property ranges from 60m – 40m therefore well within the accepted range.
- Slope Orientation – the accepted range is a SW to SE arc, The Property has two blocks with slope directions to the SW and SE, both of which are acceptable.
- Planting Orientation – the ideal planting orientation is north to south as this will maximise solar radiation and improve the ripening ability. Rows should typically be no longer than 200m to ensure the integrity of the trellising system.

Based upon my assessment, it is my opinion that the Land is well suited as a vineyard site in general terms, with the exception that rainfall is higher than the ideal range. This does not preclude it from being suitable although may bring additional spraying costs. **Appendix 4** highlights that there are approximately 30 vineyards within a 15-mile radius further indicating that The Property is situated in a prime wine growing region. Overall, if sold on the open market, it could be expected that a purchaser may be willing to pay a price more commonly seen in the viticulture sector when compared with traditional agricultural values.

I hope that you find this useful, and I would be pleased to discuss this further if required.

Yours sincerely

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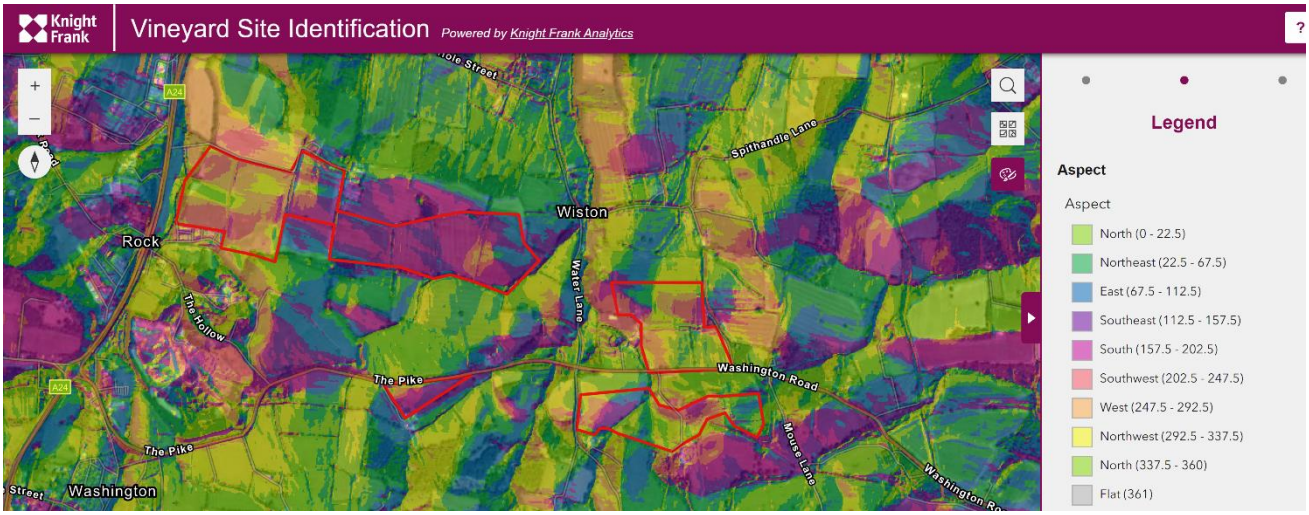
Appendix 1 – Red line boundary of the Land at Wiston

Appendix 2 – Aspect Map



Appendix 3 – Area Growing Season Averages

- Temperature: 14.51-14.61 Deg C
- Precipitation: 483mm - 500.95mm
- Sunlight Hours: 1,325 - 1,328 hours
- Ground Frost Days: 28 – 29 days
- Wind speed: 3.48 – 3.68 Knots

Appendix 4 – Vineyards within a 15-mile radius