

**Submission by Stour Valley Underground, Colne Stour Countryside
Association, Dedham Vale Society and Bury Not Blight.**

(22nd June 2010)

1. All four Associations have consistently opposed any overhead pylons; contending that National Grid (“NG”) has not engaged in any real consultation on other possible alternatives.
2. There is a statutory obligation on NG to undertake a fair and constructive public consultation. NG is required to provide the public with sufficient information to enable them to determine whether NG’s case is sound.
3. This requires NG to fairly explain in sufficient detail how and why it has come to reject alternative proposals that are environmentally preferable, when it must have known that there would be very considerable objection to the 4 overland routes. Consultation involves enabling the public to properly understand and question their rejection, if necessary, with the benefit of independent expert scrutiny. Indeed paragraph 74 of the Guidance on pre-application consultation recognises this, by providing that it may be necessary for the promoter following the consultation process to proceed with *options significantly different from those consulted* (emphasis added). This shows that NG must engage in a proper open minded consultation with the public on other possible solutions. By the “public” one means ordinary, concerned, non-specialist members of the public. So far it has not.

Need for additional line not proven

4. When the public consultation started, the public was led to understand that the new 400 kV pylons were essential to accommodate the additional capacity from the new nuclear power station at Sizewell, the two gas stations at South Holland (awaiting consents - due 31/10 2014) and Kings Lynn B. (consents approved delivery 31/10 2014). Much was made of the input from Sizewell C, (David Mercer to Tim Yeo, 4 December: “The proposed Bramford to Twinstead 400 kV overhead line has a high power rating to cater for the major new generation projects in East Anglia including Sizewell C”). The potential input from the offshore wind farms was also mentioned, implying that this would add to the region’s on-shore transmission requirement (see

further below). In short the main emphasis was on the need for additional capacity, principally because of the two new gas stations and Sizewell. This is what the public fairly understood the proposals to be predicated on.

5. What then happened? We were then able to discover that there were two elements to NG's proposals; upgrading or reconductoring the existing lines and, separately, construction of a new 400 Kv line. Significantly, it now appears that upgrading the existing line will provide more than enough capacity for the 2 gas power stations. Reconductoring will add 2.2 GW (NG's written answer to David Holland) to the existing system and yet maximum output from the new stations is rated at less than 1 GW each (984 MW and 840 MW). Reconductoring can go ahead under the authority already held by NG.

6. As for Sizewell C, the anticipated date for the new nuclear station coming on line has slipped by four years and may slip much further. The original date for the first Sizewell reactor was 2016, and hence NG was saying that the new Bramford - Twinstead connection had to be complete by the same date. Recently, we have been told that EDF have chosen to slip the commercial load date of the first Sizewell reactor to 2020, and the second to 2021. Given the coalition government's reluctance to subsidise nuclear power, there is reason to question whether Sizewell C will ever happen.

7. If recondored the existing lines will provide adequate capacity for the new gas powered stations and as Sizewell C's power is not expected before 2020/21 at the very earliest, there is no urgency for the construction of the proposed line. This is important, as it will now allow NG to factor in the impact of changing Government plans which currently include Smart Grid and Undersea Grid implementation commitments, both of which may have a major impact on the case for any new pylon line. Indeed The Offshore Valuation Group's most recent report presses the need for such a North Sea Grid. Given the rapid rate of change in the power industry, it would be irresponsible to press ahead precipitously with the inevitable danger of creating redundant assets, i.e. erecting these hugely despoiling pylons, which in only a few years may be shown to have been unnecessary.

8. Returning to NG's failure to present the public with the real issues and allow the public to question NG's rejection of, or require it to consider, other solutions. In the

light of the slippage at Sizewell and having revealed that there will be more than sufficient capacity from re-conductoring the existing lines, there has been a change in the presentation of NG's case. Whilst public literature continues to talk about increased generation capacity, in recent meetings with councillors NG has emphasized the importance of the second overhead line to meet the current SQSS security criteria. So far as we are aware, the security issue didn't feature until meeting with NG on 15th February, 2 weeks before closure of consultation. It is likely that many members of the public concerned about this issue are still unaware of this.

9. In very basic terms, SQSS - the Great Britain Security and Quality of Supply Standard - ensures power can be re-directed in the event of failure of one part of the transmission network - or a "double circuit outage condition" (N-2). Assumptions are made about the likelihood of this happening and the grid is modeled accordingly. This quality standard is being reviewed by the energy industry's SQSS Review Group. Acknowledging that "we need to be more proactive in the future in terms of keeping the industry apprised of progress", on 30 March 2010 the Group published an open letter setting out its proposals for progressing its review. It accepts that much more work remains to be done and proposes a phased approach. The letter states that the SQSS "underpins the case for development of the transmission network" and looks towards the implications of new 'SMARTer' technology. Urgency in this review work has already been requested by the House of Commons Energy and Climate Change Select Committee¹.

10. Despite the critical importance of the security review, the public is only being supplied with limited information and is being expected to take NG's interpretation of the review on trust. However given the review being undertaken by the SQSS Review Group, current academic studies relating to SQSS and the widespread interest in now transferring assessment from a deterministic to probabilistic basis, there needs to be explicit consideration and consultation into whether there is any need for a new line from Bramford to Twinstead on security grounds. The public is entitled to this opportunity.

¹ That report also noted that there are "some concerns that the existing regulatory framework is driving the case for transmission investment presented by the industry at the expense of other more cost-effective options that seek better to utilise the existing network infrastructure. The current fundamental review of the Security and Quality of Supply Standards (SQSS) therefore presents a major opportunity to address these issues."

11. Given the Sizewell delay there may well be other strategies to deal with both the security and transient instability issues on the existing circuits e.g:

- i) temporarily re-routing the power along the upgraded lines (or via possible NG suggested new lines) which may be constructed to connect from the Wash area to the South going circuits that run through Eaton Socon;
- ii) as expressed to us by an NG engineer, by placing a switching station at the Twinstead Tee so as to allow the two circuits going south to have their full capacity potential realised. Currently the circuit from Pelham to the Tee, then going south is highly underutilised.

Impression was clearly given at the recent meeting that NG has not looked at other possible solutions to the security issue if one takes Sizewell C out of the equation². All of the grid enhancement scenarios referenced in the Optioneering Report are predicated on the additional load from Sizewell C. This security and stability issue is just the sort of issue (which has only really featured very late on) where the public is entitled to be afforded a proper opportunity to get to the bottom of before any decision is taken on the preferred corridor. Is any new line of pylons really necessary just to meet security requirements? We believe we will be able to show the answer is no.

Wind Farms

12. The impression conveyed by NG concerning wind farms is misleading. In general, transmission systems designed to accept wind generation will require little reinforcement. Wind energy when brought directly ashore is a substitute to fossil fuel generation (a fuel saver) not a contributor to overall capacity.

² Indeed, the simplest solution to security problems arising after connecting King's Lynn & South Holland may be to connect and manage, i.e. to temporarily switch off some or all of the power being generated there (since thereby the system reverts to what it is now). NG appeared at the 14 June meeting to recognize that this is technically viable, but quoted commercial obstacles (depriving the generators in question of revenue). Such objections can be overcome, by paying suitable compensation. The questions then are, (i) does the Net Present Value of the likely such compensation exceed the NPV of the second Bramford – Twinstead pylon line? (ii) if it does, does the difference in NPVs exceed the environmental detriment of the pylon line? It seems clear NG have not considered this.

13. At the same time, NG has recently admitted that even if the new 400 kV line were erected this will not be sufficient to accommodate the proposed Round 3 wind farms if their output were brought directly ashore. A third high voltage overhead line across South Suffolk would be unthinkable even to NG. NG will therefore have to sooner or later (we say “sooner”) come forward with an alternative solution, namely, the undersea grid. We now know that the Coalition Government are likely to press for the implementation of these wind farms urgently and have recently committed to connecting them to an undersea grid (see e.g. section 10 of the Coalition Agreement). This again shows the untimeliness of the current proposals and that sensible decision making is near impossible at this point with such important matters unresolved.

14. Although the optioneering report (issue date 06/11/2010 - after consultation had started) ruled out an undersea alternative on cost and technical grounds, NG conceded at our meeting on the 15th February that it was not as comprehensive as it could have been. However, this report was prior to NG realising that the Round 3 wind farms are unlikely to be accommodated by any new 400 Kv overhead line. This means that an East Coast – London undersea connection must now be a very realistic possibility. The consultation period must allow for a proper understanding of what NG will have to do for Round 3. If there is in any event to be an undersea grid for the wind farms, this can also take account of Sizewell C, if it ever happens. There is now more than sufficient time for NG to come forward with a solution fit for the 21st century.

15. In short, security/transient instability has now become the only immediate reason for NG claiming there is any pressing need for these pylons. We believe that, if given a proper opportunity to examine this, the public will be able to show this is unnecessary.

Environmental issues not evaluated

16. Obviously pylons have a significant and detrimental impact on the areas through which they pass. If this were not so, the whole consultation would be redundant.

17. All four overland corridors are very similar. Many communities would be seriously affected by more than one corridor. All four will follow closely similar routes cross the same Stour Valley and through to Twinstead. The public are entitled to have the benefit of (and comment on) a suitable and sufficient environmental

assessment of the impact of pylons during stage 1 consultation. This is essential in not just enabling the public to comment on which corridor would be environmentally less harmful but, more importantly, to comment on whether there should be any overland route at all. Environmental assessment is not only a stage 2 alignment issue (as NG contend).

18. NG offers detailed information on environmental issues only at stage 2. This is in inverse relation to the importance of environmental factors, where overwhelmingly the most important ones arise at stage 1.

19. Furthermore NG has not provided the public with a “thought through” position on which parts to underground, that is capable of objective scrutiny and testing. NG appears to consider that a sufficient case against undergrounding is made by quoting cost differences or cost ratios between pylons and undergrounding. This simply fails to address the issue. The question is not whether undergrounding (or other environmentally friendly options) cost more. The question is whether the cost savings of pylons exceeds their environmental detriment³.

20. The only reference in NG’s consultation material to environmentally-friendly options is to state their policy of considering undergrounding in AONBs⁴”.

21. This does not mean that undergrounding will definitely be done throughout the AONB should the chosen route go through it, since an underground option did not even feature in the stage 1 consultation. It appears it is intended to mean that undergrounding is precluded outside the AONB. But this is not the case, since undergrounding took place outside the AONB in the recent Yorkshire case.

22. Even if it was clear that NG policy is to consider undergrounding only in the AONB,

- a. no justification has been offered for this⁵;

³ It should also be noted that the cost differences are unaffected by the status of the land in question, whether AONB or not. To concede that undergrounding is considered in the AONB – see following paragraph - is to concede that in some circumstances the excess cost of undergrounding is justified.

⁴ And similar “severely constrained areas” such as conurbations or estuaries, but none of those apply in the present Bramford – Twinstead case

- b. no rationale or process has been offered for the decision as to whether to underground within the AONB.

23. The cost difference between pylons and undergrounding is not so large as to mean it is incredible that environmental considerations outweigh it:

- a. The cost of undergrounding all pylons in National Parks would be a few ££ per year per household. It is not obvious that this is excessive;
- b. The excess cost of the proposed offshore wind power, against the same wind power capacity onshore, represents at least 10 times the cost of undergrounding in National Parks. The reason for generating offshore rather than onshore is environmental, and the generic environmental objections to on-shore wind farms are closely analogous to those to pylons (namely that both are arrays of huge industrial structures, alien to their surroundings).
- c. Undergrounding of high voltage transmission is done without question in conurbations.

24. On the process for deciding whether to underground and to what extent, NG's position appears to be that it is for NG to decide unilaterally. It may be that this position is distorted by regulatory considerations. We have been given to understand that if NG volunteer undergrounding, Ofgem is liable to exclude the cost from NG's regulatory asset base, whereas if undergrounding flows from a decision by some other authority (eg a planning inspector) NG are entitled to have the cost added to their regulatory asset base. This may explain why NG has not been open either on the process for evaluating environmental considerations against cost (Who decides), or on the methodology (How environmental considerations are weighed against cost). But it does not make the consultation any more satisfactory. The public should know at stage 1 which, if any parts, NG intend to underground and the reasoning applied.

25. It seems clear that public willingness to pay to avoid environmental detriment is relevant to these decisions. We asked NG for any information they possessed on the

⁵ For example, NG has not acknowledged that the incremental cost of undergrounding might be materially cheaper when extended beyond the AONB, nor that environmental benefits outside the AONB might be as great or greater than inside it.

subject but have received no reply. Assessing public willingness to pay, and incorporating it in the decision-making process, is well established in other areas eg transport safety. There is no good reason for not applying such techniques in this area.

26. In summary:

- a. The essence of this issue is the conflict between cost and environmental detriment;
- b. NG have excluded all environmentally-friendly options from the consultation;
- c. NG have provided no tenable justification for this;
- d. NG have put forward no methodology or process for evaluating the environmental detriment avoided by alternatives to pylons and assessing it against the additional cost;
- e. NG have put forward no methodology or process for evaluating the different environmental detriments associated with the different route corridors, and assessing them against the different costs;
- f. For NG to contend that the decision as to the trade off between cost and environmental detriment is theirs, unilaterally and without offering justification, is to defy the consultation process and indeed the subsequent IPC process;
- g. It is reasonable to believe that on proper comparisons, and considering similar trade-offs in related fields of energy policy, and using relevant techniques of environmental cost-benefit analysis, the decision would be against pylons.

27. NG should now seek, and publish, advice on how best to enable the alternatives, including environmentally-friendly alternatives to be evaluated at stage 1, so as to ensure thereby that the public can fairly consider and comment on whether NG's decision to reject these alternatives is sound. NG must ensure that there is a process and methodology which enables the broad environmental factors which operate at a regional and national level (ie excluding fine detail such as local habitats and individual listed buildings, but taking account of large-scale features such as AONBs)

can be weighed against cost factors, so as to enable independent appraisal of the reasonableness of its decisions.

28. This work should include assessment of public willingness to pay to avoid environmental detriment. It is not for the public to have to commission this work.

Failure to provide relevant information in adequate time

29. In all of its consultation documents National Grid states that stage 1 was designed to consider route corridors; *alignment* was for stage 2. But for the villagers of Burstall and Hintlesham in particular the exact alignment from the Bramford sub-station is a major determinant in evaluating relative merits of the 4 corridors.

30. However, very late in the consultation period NG announced details of a new 2C corridor which requires towers in two new parishes (Sproughton and Copdock) never previously included in the consultation. This has resulted in confusion leading to division within the community and insufficient time to discuss all three corridor 2 options and present opinions before the relevant parish and district council meetings.

31. Effective consultation has also been limited due to the continued omission of relevant EDF power lines from NG's published maps. This includes the map in the latest newsletter. NG staff have been told about this repeatedly.

Failure to comment on conflicting evidence of the cost of undergrounding:

32. Europacable (Federation of European Associations of Cable Manufacturers) presentation of June 2009 points to significantly lower costs (ratios around half those suggested by NG).

33. NG's answer has been that lower cost examples are based on lower transmission capacities. However, it appears this has never been checked (David Mercer in a letter to Tim Yeo MP dated 4th December 2009 said "I know some of your consultants have quoted lower cost ratios from overseas but, although *I cannot be certain without checking the details*, it is likely these are lower rated or lower voltage cable systems"). No further clarification has been provided.

34. So far NG have failed to provide any accurate costed figure for undergrounding the entire length from Bramford to Twinstead.

Conclusion

35. To summarise, we are requiring the consultation process to be put back so as:
- a. to enable the public to obtain a better understanding of what will have to happen with the North Sea wind farms;
 - b. to enable both NG and the public to have a better understanding of the implications of the introduction of Smart Grid technology and the commitment to an East Coast Undersea Grid;
 - c. to enable the public to examine the transmission security issue and require NG to examine other possible security solutions not yet looked at;
 - d. to require NG to produce and apply a satisfactory process and methodology for taking the relevant environmental factors into account before deciding on whether any of the corridors should be selected; and
 - e. to provide for finalisation of the National Policy Statements.

It would be a calamity if these pylons were to go ahead only to see that they were unnecessary in four or five years time.