PUBLIC CONSULTATION

ON

NATIONAL GRID
BRAMFORD TO TWINSTEAD
400KV OVERHEAD LINE PROJECT

Response by

Bury Not Blight

February 2010

1 Introduction

The following document is a formal response from Bury Not Blight (BNB) to National Grid's Public Consultation on the Bramford to Twinstead 400KV overhead line project.

BNB is a local campaign group made up of concerned local people who see the answer to National Grid's requirements as undergrounding. On this basis, BNB has always held the view that if National Grid were to give a commitment to undergrounding, then Corridor selection would not be an issue, as the majority of local people would be happy to see the cables laid underground in their area.

In light of the above, BNB consider the National Grid consultation to be flawed and invalid, and on this basis reject all 4 proposed Corridors, in favour of undergrounding.

2 THE CASE FOR UNDERGROUNDING IS SIMPLE

The following aspects will be positively addressed by choosing the underground alternative:

- Our responsibility as guardians of the countryside for future generations will be fulfilled.
- Our tourism industry and areas of scenic beauty will be preserved.
- Our heritage and landscape areas will be protected.
- Our environmental and ecological responsibilities will be better served.
- Our land and properties will not be devalued.
- Our fears and anxieties in relation to health risks will be alleviated.
- Our agriculture and farming industries and communities will not be penalised.

3 VISUAL IMPACT AND TOURISM

The future of Suffolks tourism is closely associated with the quality of our environment. Suffolk's distinctive scenic landscapes, historic buildings and cultural heritage are the bedrock upon which Suffolk tourism has been built. Suffolk is marketed heavily both nationally and worldwide for its "natural scenic landscapes" and for its environment and historic buildings.

Undergrounding will minimise the impact on Tourism and associated businesses.

4 HERITAGE AND LANDSCAPE

Our heritage is inextricably linked to our identity as people, communities and as a nation.

Our heritage, although dynamic and constantly evolving, is a non-renewable asset and resource that requires careful and informed management. It plays an essential role in maintaining a high quality of life and is a crucial basis of our tourism industry.

Future generations will not thank us if we needlessly erode the special character and quality of Suffolk's landscape. It would be a fitting legacy to National Grid if, while they facilitated economic development, they still took the time to provide a sound basis for protection of what is one of our irreplaceable assets, the Suffolk landscape.

Undergrounding will minimise the impact on our Suffolk Landscape.

5 ENVIRONMENT AND ECOLOGY

The subject of climate change and our responsibilities in relation to greenhouse gas emissions has been brought to centre stage. Undergrounding of the proposed pylons and future proposed extra high voltage lines is significantly more environmentally responsible than the increased construction of overhead pylons, for a number of reasons:

There will be reduced greenhouse gas emissions through reduced power transmission losses:

• Transmission losses represent a loss in value and an increase in fuel burn and environmental impact. In Europe, transmission line losses alone represent the waste of around 20 million tonnes of coal, 3.1 million tonnes of gas and 1.7 million tonnes of oil. The annual loss in value is around €12 billion. The annual increase in greenhouse gas emissions is around 60 million tonnes of carbon dioxide per year. In some countries, older transformer infrastructure and lines can yield losses as high as 21%. By not being prepared to embrace new technologies, National Grid's transmission grid losses will be above the European average.

There will be a reduced carbon footprint by using less land and materials:

• Underground cables and overhead lines have significantly different footprints through the countryside when completed. While an overhead line requires a strip of around 60 metres wide to be kept permanently clear for safety, maintenance, and repair, an underground cable of the same capacity requires approximately 20 metres.

Undergrounding eliminates noise pollution associated with overhead lines

• Noise is one of the most pervasive pollutants of the modern world. Overhead Extra High Voltage lines contribute to noise pollution.

Undergrounding eliminates collision and electrocution hazards related to wildlife, especially birds

• Above-ground power lines pose three main risks or perils to birds: risk of electrocution, risk of collision and loss of habitat quality in staging and wintering areas.

Undergrounding will, in the long term, be less of an impact on the Environment and Ecology along the chosen corridor.

6 LAND AND PROPERTY DEVALUATION

Studies have been carried out over the last fifty years to assess the impact of overhead power lines on the value of residential property and land in close proximity to pylon towers. The results of numerous such studies show that power lines have a statistically significant negative impact on both land and property values.

Furthermore, properties with unrestricted views of such overhead lines are also significantly negatively affected.

Over sixty studies have been carried out over the last fifty years to assess the impact of overhead power lines on the value of residential property in close proximity. The most common effects identified and cited in court cases in the US are claims of reduction in market price, properties being slower to sell and a decrease in sales volume. Factors such as unsightliness, visual and noise pollution were often identified as negative influences on property values.

A study carried out in Britain in 2007 showed the value of detached properties at a distance of less than 100m from overhead transmission lines was 38 percent lower than comparable properties. The effect of devaluation has been seen up to two and a half kilometres from such lines.

In relation to non-residential holdings a rigorous and comprehensive study in Canada over 20 years ago found that the per acre values from more than 1,000 agricultural property sales were 16-29 percent lower for properties with easements for transmission lines than for similar properties without easements.

Undergrounding will minimise the devaluation of people's homes and properties, for which the majority will not receive compensation.

7 HEALTH

There are two aspects of relevance:

• Concerns over the potential health effects of overhead lines.
• Health effects caused by the stress and anxiety of being near to these lines.

The majority of people and a considerable number of leading experts believe that electro-magnetic fields from overhead electricity lines adversely affect health.

Issues of Concern to the Public

• The International Agency for Research on Cancer classifies Extra High voltage overhead transmission lines as a "possible carcinogen (group 2b)" for childhood leukaemia.

• Threshold levels for exposure to electromagnetic fields should be set well below the level where there is a documented risk of developing childhood leukaemia. Current international compliance limits, however, do not reflect this requirement, as they are set at 250 times above the levels observed to double the risk of developing childhood leukaemia.

• Since the year 2000 there have been 107 scientific papers published in peer reviewed journals. Sixty nine of those linked electromagnetic fields to various forms of cancer, thirty were inconclusive and only eight showed no links.

• A significant body of research by Professor Draper of Oxford University in 2005 in Britain found that living within 200 metres of high power lines increases a child's chance of getting leukaemia by 69% and within 600 metres it was increased by an average of 20%. National Grid have no minimum distance for pylons close to homes, despite guidelines that new houses should not be built within 100m of power lines.

• A report in 2007 by the UK Government Stakeholder Advisory Group on electromagnetic fields notes that there is a cost/benefit analysis for all health issues of 1:50. That is, €1 million spent reducing electromagnetic field exposure is recouped in €50 million worth of health benefits. The use of high quantities of steel and concrete in the construction and placement of pylons on land adds greatly to the carbon footprint, in comparison with the latest advances in underground cabling.

Undergrounding will have positive health benefits to residents living close to the power lines.

8 AGRICULTURE

Agriculture and farming is an integral part of the region affected by the proposed Bramford to Twinstead line. Farmers and landowners are opposed to these pylons being placed on their land. There are a number of practical reasons for this:

Overhead pylon towers and lines represent intrusion, invasion and inconvenience to farming:

• Overhead pylon towers are a source of significant intrusion and invasion onto farmers' lands, both in the construction phase and when established as permanent fixtures.

Everyone involved in farming knows how troublesome and time-consuming it is to have to work around poles, never mind pylons, in fields from a machinery and working the land perspective. Undergrounding eliminates all of these problems forever.

• Farmers and their employees' health and safety are affected. Farmers and their employees will be at most risk from overhead lines. The public at large worry about how far away they will be located from these lines, but farmers on a daily basis will have to walk and work under these lines.

• There are numerous studies highlighting the negative impact of overhead lines on livestock, bloodstock and indeed crops. Bloodstock in particular are well known to react negatively in the vicinity of such lines. Additionally, detrimental effects associated with overhead lines have been recorded in a range of species, such as bees, where their directional sensing becomes distorted

• Farmers are very concerned about exposure to future litigation issues. This relates to the legally uncertain area of a possible link between land ownership and responsibility for health claims that might ensue from neighbours and neighbouring properties where pylons are located in adjacent farmers' fields.

Undergrounding will minimise the impact of these new cables on Farming businesses and the natural habitats on farm holdings.

9 TECHNICAL AND COST CHALLENGES

For over a century electrical transmission systems have been based mainly on overhead transmission lines. The principal reason for this has been the cost advantage when compared to high-voltage underground transmission. Up to the late 1990's this cost premium against underground transmission was in the range of 5 or even 15 times the traditional overhead transmission alternative. However, this comparison is already out of date and multiples can now be as low as equal to or only twice the capital cost of overhead transmission lines. This can be seen in the increasing utilisation of underground cable methods throughout the world and in Europe in particular. National Grid have consistently refused to be open and transparent in providing accurate costings for undergrounding, despite promises by Nick Winser to this effect.

A number of factors are affecting this change:

• Environmental restrictions are increasing the costs and implementation time for overhead transmission. It has been highlighted that the time from design to construction of an underground cable project is 4 years, compared to 7.25 years for a 400kV overhead line.

The reality is that this is being exceeded in many cases, resulting in 10 to 15 year delays because of landowner and public opposition.

• Technological developments in recent years by companies such as ABB have significantly reduced unit and capital costs of underground line construction. With new burial and jointing techniques, underground cable projects that once took years to complete can now take only months to install.

• There is general industry acceptance that underground cables are far more reliable, have lower maintenance costs, and have greater longevity. Several studies confirm the reliability of underground transmission:

_ North Carolina Utilities Commission (Nov. 2003) found that underground outage rates are 50% less than overhead rates

_ Maryland Public Service Commission (Feb. 2000) found that underground systems of urban utilities have lower frequency and duration of outages

_ Australian Government (Nov. 1998) found that high voltage underground systems had 80% less outages than overhead lines

Accordingly, maintenance costs are substantially reduced to approximately 10% of those for overhead power lines.

• **Improved Monitoring:** To reduce outage time, power system operators can monitor underground cables through built-in temperature sensors. In the rare event of a cable fault, advanced monitoring will allow faults to be located immediately to within 1 metre and repairs to be carried out in a much shorter timeframe than in the past.

Undergrounding therefore improves security, efficiency and monitoring of electricity transmission.

10 COST BENEFIT ANALYSIS

When analysing a power project, **consideration must be given to the costs over the life-cycle of the system installed** as well as to the up-front costs:

• The up-front cost is paid in the first instance.

• The life-cycle cost includes not only the up-front cost, but also the costs of maintenance and cost of power losses in the system over time.

Efficient modern systems of any kind usually cost more up-front, but save money in the long term. While every cable system has project specific costs, the cables running from Bramford to Twinstead would be cheaper because the flat terrain provides favourable conditions for laying cables.

BNB examined a number of cost models using the above parameters. Based on the reduction in transmission loss alone BNB believes that no additional costs would ensue to the consumer if underground costs were even 2.4 times that of overhead lines over a 30 year lifecycle. BNB estimates that **even at the extremely unlikely multiple of 15 times the cost of overhead lines the additional cost passed on to the consumer would be no greater than 30 pence per annum.**

Undergrounding Makes Sense -

Worldwide, the use of underground transmission is increasing rapidly. Currently, there are approximately 5,500 km of high voltage underground cable in Europe. In the past ten years there has been a 73.1% rise in underground cabling. Denmark, for example, now has 19.43% of all of its transmission lines underground. The UK has 8.04%. In France, 25% of all high tension lines must now be placed underground.

11 HINTLESHAM VILLAGE

Hintlesham is one of very few villages that is effected by 3 out of the 4 Corridors. Corridors 1 and 2 affect both sides of the village, with Corridor 3 affecting the periphery. This consultation process could have split the village with residents battling each other in favour of different routes. This would have been a repeat of the problems that Chattisham and Hintlesham had when a bypass was proposed in the late 1980's. A new set of pylons on Corridors 1, 2 or 3 would see additional blight to a village with high landscape value (including a Special Landscape Area) that is already impacted by overhead pylons.

The majority of active supporters and members of BNB are Hintlesham and Chattisham residents, as well as villagers from Burstall, Layham, Polstead and other villages along Corridors 1 & 2. All of these villages already have a large number of pylons passing through their countryside, and to see yet more pylons would be devastating. No members of these communities will wish to see additional pylons in their villages.

Undergrounding will ensure Hintlesham and these other villages are not blighted further by additional pylons.

12 PETITIONS

BNB in conjunction with Chattisham and Hintlesham Parish Council have submitted two petitions, both containing over 400 signatories to Suffolk County Council Cabinet and Babergh District Council Strategy Committee. The petitions urged the Councils to pass a resolution to positively support the undergrounding of the proposed National Grid power lines and resulted in both Councils favouring undergrounding on their chosen Corridors.

In addition, a petition on the No. 10 Downing Street website has also received in excess of 575 signatures (as at 24th February 2010) supporting the undergrounding proposal. This is a clear indication of the strength of public feeling to these pylons and it is something that National Grid should have high regard to.

Undergrounding would reflect the wishes of most of the people living on the Four proposed Corridors.

13 THE HOLFORD RULES

National Grid have their own “Holford Rules” which provide guidelines on how to minimise the impact of pylons on the landscape. The four proposed Corridors breach 6 out of 7 of the Holford Rules.

Corridors 1 and 2 already contain lines of pylons which breach 6 of the 7 Holford Rule.

How could National Grid consider adding more pylons to these corridors without making a mockery of their own industry guidelines.

Undergrounding would ensure these proposals do not breach the Holford Rules.

14 SUMMARY

This response to the National Grid consultation has shown that the argument for undergrounding is overwhelming for many reasons, as detailed above.

The main point is that undergrounding is an affordable and viable option of achieving National Grid's objectives of establishing a new power line between Bramford and Twinstead. This will result in people's lives not being seriously impacted by the proposals, and will ensure Suffolk residents and businesses are no worse off as a result of these proposals.

All of us (including National Grid) have a moral duty to protect and preserve the environment for future generations. Technology is available to allow this to happen. National Grid must embrace this technology and not hide behind the issue of costs and profits.

The irony is that the electricity the proposed cables will carry is generated by re-newable power source of 21st century design. However National Grid with your 1950's technology and blinkered approach are set to destroy the very countryside that Green Energy has set out to preserve.

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