From: NectonSubstationAction Messenger

To: <u>Norfolk Boreas</u>

Subject: Norfolk Boreas Project – EN010087

Date: 13 October 2019 12:39:12

Attachments: Report.docx

Dear Planning Inspectorate

During the Vanguard consultation we submitted a report on the documented jet crash on the site of both Vanguard and Boreas, with possible contamination of the soil. We can see that the developer appears to be eliminating Boreas from any issue with this. That is not correct. The crash 'cone' went in the direction of Boreas from Vanguard, so is equally likely to be affected.

I have reattached the report on the plane crash to this representation, as Vattenfall appear to have left it out of the Boreas documents. They cannot claim (as they did with Vanguard) to know nothing about it, as it is all documented and commented on in the Vanguard examination.

If you would also like to have sight on the various documents used to compile this report, they are quite big files, (and could be accessed by yourselves from the Vanguard documents, so please let us know if you need them from us.

Regards

Necton Substation Action Group

Introduction

RDAF F-16(B) crashed near Necton on 11th December 1996, impacting between Ivy Todd Road and Necton Wood, the debris **covering 3 fields**. It is directly on the area Vattenfall plan to build 2 x 18.5 acre substations and dig a deep cable corridor. **Vattenfall failed to mention the crash and contamination on its Environmental Report** despite being told about it on 5th June 2018 by Norfolk County Council and before that by local people.

Co-ordinates of impact: 52°39'29''N 00°47'83''E Approximately 16 km east of RAF Marham on a W to E trajectory. (doc M).

Contaminants mentioned in documents as listed throughout this report.

Radioactive substance (Doc G) warned of by IPC (an ex MOD department within the RAF according to the Environmental Agency – see doc P) – has been used in F-16s and their ammunition. Two missiles (of a possible 6) and 200 shells (of a possible larger number) were recovered. Depleted Uranium is also commonly used as counterweights in aircraft both military and commercial.

<u>Hydrazine</u> (doc A)

Oil (doc A)

Aviation Fuel (doc A)

Composites, such as Carbon Fibre (doc A)

There is one document still being withheld by the RDAF. As radioactive substance clearing is not reported in the redacted clean-up documents so far given, we have to ask if this is why the RDAF report is being withheld.

F-16 crash site was recovered in 1996/1997 with a view to restoring it for **arable use only**, and only within the constraints of the knowledge available at the time. The clearance was not adequate either for **large scale development** or to comply with current standards and knowledge.

The worst case scenario must be adopted – which is that contaminants may remain in the soil at a deep level, and any disturbance could create an environmental disaster, especially with regard to water supplies. Vattenfall's onshore infrastructure will also entail the use of pile-driving. The vibration from this invasive procedure could disturb contaminated ground at depth, and from there contaminate water supplies.

With the complexity and spasmodic nature of the task, carried out in extreme weather, with documented anomalies to the prescribed procedures, lack of data (at that time) on the long term breakdown of hazards in plane crash sites of this type, which necessitated further monitoring for just arable use, the lack of wreckage recovered, the sensitivity of information still being withheld, and the importance of public credibility of the whole operation, it would be prudent not to disturb the crash site. We therefore urge the Planning Inspectorate to refuse Planning Consent on the site proposed, as it is **not a suitable site**. It is **disingenuous of Vattenfall to have ignored the plane crash** and contamination in their Environmental Impact Report.

The full report compiled by the RDAF which is still withheld was apparently supplied to the MOD with an expectation of confidentiality. It was subjected to a

Public Interest Test, and was adjudged 'The PIT found that the public interest in maintaining the confidence of the Royal Danish Air Force (RDAF) outweighed the interest in releasing documentation, held by the Ministry of Defence, which originated with the RDAF' (See doc L)

<u>Details of clearance and demonstrations of it being inadequate to accommodate large scale development of the site</u>

- Impact Crater, referred to in documents variously as being both 9m x 19m x 2m deep and spread over 3 fields, (doc A) and 30 feet deep (doc L)
- The aircraft carried 6000lbs of fuel (doc A)
- The aircraft broke under such intense force that only a few pieces of wreckage were longer than 50cms. (doc A). Surely an impact of that force would create a crater more than 2m deep.
- Debris said to cover 1 square mile (doc B)
- Parts of aircraft recovered are mentioned as being a wing, the engine and jet pipe, the hydrazine tank, which had split open leaving several deposits, 2 acquisition missiles and 200 rounds of 20mm ball ammunition. (doc D)
- The ARO said he, 'was of the opinion that the body of the aircraft was buried in the bottom of the crater.' (doc E) but no mention is made of finding the body of the aircraft. The ARO also advised digging 50cm deep trenches outside the 5m contaminated area around the crater before wreckage recovery commenced. This would limit deep excavations for recovery of the plane to the area enclosed by these trenches. If one takes even the smallest reported crater size version of 19mx9mx2m deep, this equates to 547 tons of soil being moved in a fraction of a second, so the amount of energy released by such an impact could reasonably be expected to push wreckage beyond the 5m trench-imposed limit. If the 30 feet deep crater mentioned in the original reports is correct, the tons of soil moved and the possible spread of wreckage would be very much greater. This would explain why such a small amount of the aircraft was reported as being found, as excavations outside the trenches would not have been deep enough to locate it.
- Contaminated soil was **mistakenly added to the clean soil pile** by members of the clean-up crew. (doc E)
- In addition to this, a blizzard obliterated the site on 31st December 1996, which kept the clean-up crew away from the site. (doc D). When the clean-up crew returned to the site on 7th January, they found that **the contaminated soil had been transferred to a hard standing by persons unknown**. (doc E). This moving around of the soil (at least 4/6 times) may have enabled carbon fibres to have been spread all around the area. In time it would have become untraceable (as it bonds to soil) and is likely to still exist under and in the soil all around the area.
- This is confirmed by the monitoring strategy which was advised for the whole site, for any further environmental impact, including the possibility of carbon fibres entering the food chain. It was admitted that at the time **no data was available on the long term breakdown of carbon composite fibres from aircraft crashes**. And that an area of approximately 1200m2 was contaminated carbon fibres to varying depths. (doc E) There are no available reports on any on-going assessments and it is unknown if they were carried out.

- Further, the PHMDiv were asked to continue monitoring for 're-emergence' of carbon fibre. (doc E) There is no information on whether this monitoring for environmental damage ever took place. The word 're-emergence' implies that contamination was indeed suspected at levels lower than what was examined.
- Consultations with the Environment Agency and a subsequent ground water vulnerability survey, confirmed that the aircraft crashed in the vicinity of a major chalk aquifer used for the abstraction of private and public water supplies. The aquifer is covered with a 20m layer of boulder clay and flint. The soil structure has a moderate ability to attenuate diffuse source pollutants, but liquid discharges could penetrate this soil layer. The local Environment Agency officer expressed the opinion that there was little risk to either the aquifer or the nearby stream. (doc E). However this did not take into account what might happen if a future deep excavation disturbed the soil again.
- Tile drains over all 3 fields were wrongly identified by the clean-up crew as being mole drains. This showed an unfortunate lack of expertise in arable matters. (doc E)
- The danger to health from burnt carbon fibre was underestimated by modern standards, limited only to mentions of the possibility of needlestick injury. (doc E) Carbon Fibre is harmless in normal use but if exposed to high impact and high heat at the same time, this causes the polymer to melt away and the fibres (which can be inhaled and also penetrate skin) to float free, also bonding to soil.
- Modern thinking on carbon fibres https://www.ed.ac.uk/inflammation-research/news-events/2017/carbon-nanotubes-may-pose-cancer-risk
- The landowner was told that he could not grow any crops on the main field for a minimum of 1 year. (Necton Parish Council Meeting March 1997 doc N). It was also been stated by a Parish Councillor, Ms Jean Bass (doc J) 'They said the land was contaminated for 5/7 years. Any residential growth would need special clearance.' Whilst Vattenfall's project does not involve residential growth, it would have been unimaginable in 1996/1997 that a massive industrial project like this would ever be allowed to be built on arable land, and this could be why it was not specified in the instructions. The Air Control Report that is still withheld by the RDAF/RAF/MOD might clarify the above.
- The F16 is said by the RDAF to have impacted at the crash site on a W to E trajectory. However the main orientation of the area of search appears to lay in a N to S direction from the impact point. Burning debris fell to the ground at Ivy Todd Farm, (doc I) which does not lay within the area of search, but is some distance further to the East, and was not visited by clean-up crew, which would suggest that some **contamination remained undiscovered**. It would therefore appear that the splatter cone may have been wrongly placed. This is borne out by the fact that the only parts mentioned as having been recovered are as previously listed, so **large parts of the F16 may remain undiscovered**.
- One document speaks of 'defensive press lines, which have been redacted. We would like to know what they were defending. (Document F).

Monitoring – the latest information from the MOD – (document Q) states that although continued monitoring of the site (after January 1996) was required, there is no evidence that it was ever carried out.

c. A monitoring strategy should be set up by a competent person, in consultation with the Defence Land Agency, to continue to assess the whole area for further environmental impact, including the possibility of carbon fibres (if any) entering the food chain and the biodegradation of the aviation fuel on agricultural land."

Para 20 also states:

"Following the meeting between the DCRO, the Defence Land Agent, the farmer and the farmer's agent during the handover of the field, the pollution monitoring team from PHMDiv have been tasked to carry out further monitoring of the site of the F16 aircraft crash in the arable field for any adverse environmental effects and the reemergence, if any, of carbon composite fibres"." Document - Q - 20180110-Rev-Smedley-Contamination left behind from Danish F-16 crash-Rev response – 22

The MOD representative goes on to say: "I can confirm that no other information has been found relating to any follow-up environmental assessments after

January 1997. In addition, no information is held on the advice (if any) to the farmer or landowner about the future use of the land."

In the absence of any evidence to the contrary, the only safe option for residents of Necton and Ivy Todd is to assume that the monitoring was never completed. The whole area should now be re-tested by the relevant official body that holds ultimate responsibility for the monitoring, which appears to be PHMDiv before any 'for profit' developers are allowed to start disturbing the land any deeper than plough depth.

CONCLUSION:

- 1. The cost of remediating contaminated ground over such a wide area could be so significant that it **should not be ignored in the estimated project costs, which is currently the case**, as it has not been mentioned in any way by Vattenfall in their DCO Application.
- 2. The population of Necton and Ivy Todd feel strongly that this site should not be disturbed as **no-one can guarantee that no harm will result from it.**There are very few sites in Norfolk that have had a modern jet crash into them with the possible environmental hazards of this one, and yet Vattenfall have indeed chosen one out of the many other options offered. It shows a lack of competence in their environmental investigations, and they **should be made to seek a different site that doesn't hold such potential damage to the area**.
- 3. CPO requirements appear to state that it must be proven that there was not another, better site other than the one chosen, which might have been purchased voluntarily. There are many viable sites that do not have the remains of an F16 air crash on them and would therefore be immeasurably better. Vattenfall were for instance offered Top Farm in Necton, which stands on lower ground, would be easier to mitigate, and has 186 clean acres of land. This is the farm across which VF are currently planning to build their access road to their chosen site. Top Farm is on the current cable route from the coast and also has direct access to the A47.
- 4. We would also ask what information **the RDAF** are concealing in the Air Crash Report we are not allowed to see.

- 5. It is clear that there were many problems in the clearing of this site, which in modern times would make the clearance inadequate. The clearance may have been acceptable at the time for restoration of the site to arable use, but certainly it would not be considered sufficient either then or today for a major development. And it would appear that the required monitoring of the site was not carried out, so no-one is able to state with certainty that the site is clear of contamination.
- 6. The complications and lack of knowledge of the time, and imprecise boundaries means that it would be extremely difficult to go back and make a 100% guaranteed clearance check

If there are any doubts at all, development should not be permitted on this site.

Additional Information.

http://webarchive.nationalarchives.gov.uk/20081013111454/http://www.mod.uk/DefenceInternet/AboutDefence/CorporatePublications/HealthandSafetyPublications/Uranium/https://www.gov.uk/guidance/depleted-uranium-du-general-information-and-toxicology#what-is-depleted-uranium-du

List of documents

- A Factual Information Regarding the Crash of a Danish F-16
- B Enclosure 2- Danish Air Force F16 Accident on Departure from RAF Marham
- C Enclosure 5- Update on Danish Air Force F16 Accident
- D Enclosure 12- Report on the Recovery of an RDAF F-16 Trainer
- E RAF Institute of Health and Medical Training Report IHMT/5/97
- F Loose Minute RDAF-F16-ACCIDENT-11DEC86
- G Land contamination crash 2
- H Land contamination air crash
- I statement by Mr Colin King, owner of Ivy Todd farm
- J Jean Bass email
- K F01201806031 covering letter
- L F01201811881 covering letter
- M RAF Map enlarged site of crash
- N Extract from Necton Parish Council Meeting March 1997
- P Email from Environment Agency regarding the identity of the IPC
- Q Document from MOD stating no monitoring on record.

Authors of this report: Alice Spain, Colin King, Tony Smedley, Jenny Smedley

From: NectonSubstationAction Messenger

To: Norfolk Boreas

Subject: Boreas - Alternative Site **Date:** 14 October 2019 10:03:58

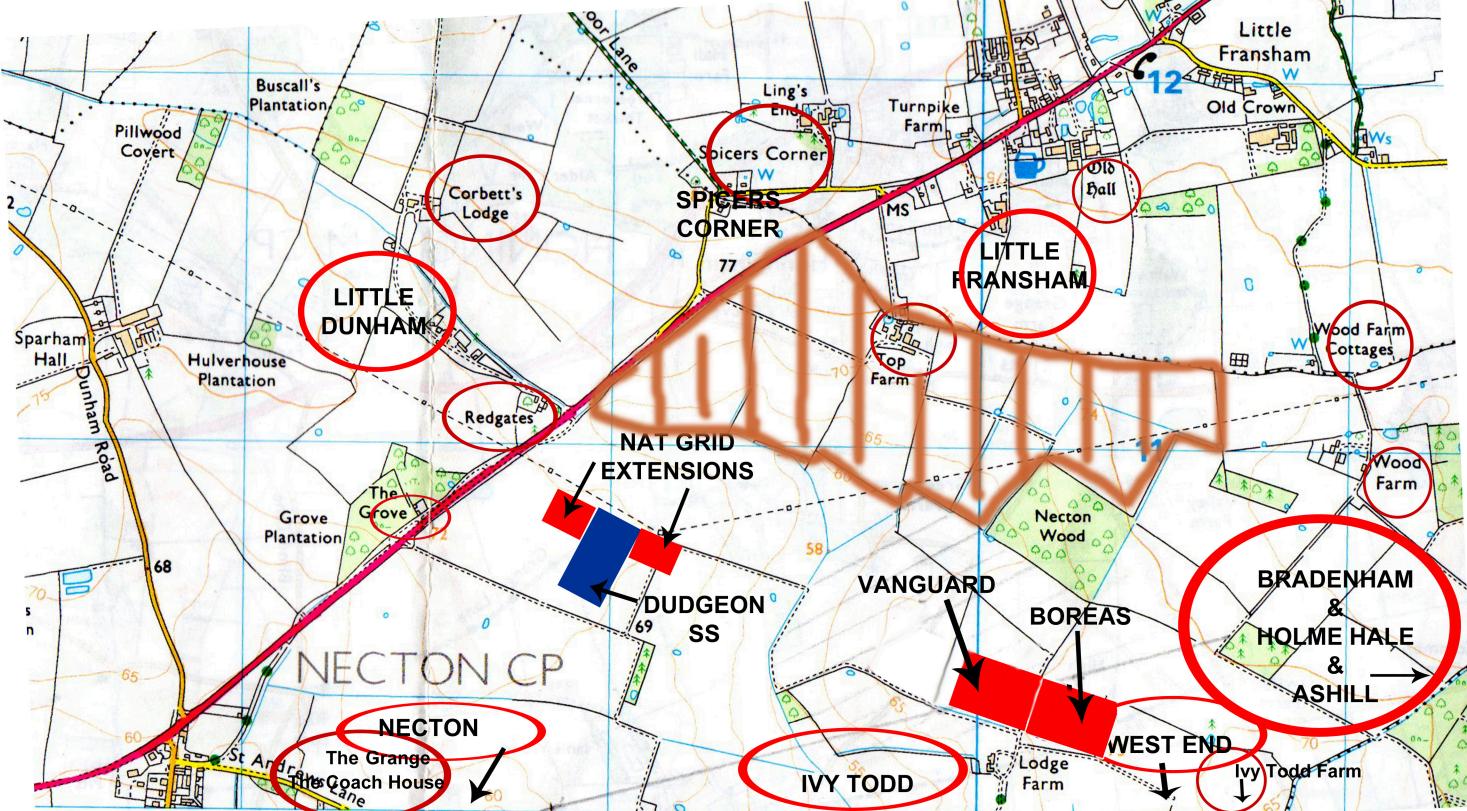
Dear Planning Inspectorate

We would like to bring to your attention that an alternative site was suggested to Vattenfall for Vanguard, by the people of Necton. It was ignored. We also suggest this alternative site for Boreas.

The site is an entire farm of 186 acres, Top Farm, which was offered to Vattenfall for purchase, by the owner, Mr Joe Hill. He was present at the Vanguard PI's accompanied visit and reiterated this offer to them.

Top Farm is 10 metres lower down than the high chosen site, has a high escarpment behind it, covered with tall mature trees, which would block sound and sight from Little Fransham direction, has Necton Wood to the east, which would protect sight from Bradenham, and is closer to the NG substation than the chosen site. It would also mean a shorter cable corridor from the wind farm, saving damage to several farms. It would be more acceptable to the people on Necton. Instead VF plan to drive an access road through Top Farm (thus severing it.) The road would then turn and cut across the low-lying field we suggest the substation should be built on, goes across country to the highest point in the area, where they plan to build Boreas' substation, thereby severing another farm (Necton Farm) which would also be blighted, with several sterilised fields, and is owned by a farmer who does not wish to sell (Michael King). Leaving the substation, the road then proceeds down the far side of the NG substation, where it will destroy Equinor/Statoil/Dudgeon landscaping, (which is just starting to grow and become effective) and arrives opposite Top Farm, on the far side of the NG substation. It makes no sense at all. A site visit would shown you very clearly the folly and unnecessary damage of their plans. We have attached an explanatory map for your interest.

Necton Substation Action Group



From: <u>NectonSubstationAction Messenger</u>

To: Norfolk Boreas

Subject: Norfolk Boreas Project – EN010087

Date: 21 November 2019 10:07:22

This quote is from https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-001224-Comments%20on%20Relevant%20Representations.pdf Table 24

Onshore project substation visual impact mitigation

"Rep-109, AS-014 The Applicant will work to ensure that mitigation proposed is proportional to the scale of the substation infrastructure, and that it mitigates the overall impact on the local area. The final design of the onshore project substation and National Grid substation extension are subject to detailed design post-consent. In order to minimise visual impacts as far as possible, the appropriate building design and materials will be considered, to ensure blending with the local environment and minimisation of impacts as far as possible."

We still ask the question. What mitigation is expected to conceal 37 acres (Both Vanguard and Boreas substation sites) of buildings and structures up to 25m high? Are we expected to wait 30 years for any kind of resolution to despoiling our area? Even then it would not be sufficient.

What mitigation is going to be 'proportional to the scale of the substations/s'? This is one area where cumulative affects should definitely be taken into account. Boreas will DOUBLE the size of everything, including the NG extensions.

How are these enormous industrial developments going to 'blend in with the local environment'? This environment consists mainly of gently rolling slopes, pretty valleys and ancient woodland. Exactly which component of the development, which appropriate 'building design and materials' can fit in with this?

We have asked these questions over and over, and as yet have only received the general statements as shown here.

Another question asked over and over is how the developer plans to keep noise within limits. We are always told this will be designed after permission. Boreas will DOUBLE this issue.

Our respectful opinion to the EA is that no permissions should be granted on this project until the option of an ORM have been fully explored, and until questions like these above have been fully answered.

NSAG

From: NectonSubstationAction Messenger

To: Norfolk Boreas

Subject: Norfolk Boreas Project – EN010087

Date: 24 November 2019 15:55:31

Dear Planning Inspectorate,

We have noticed the developer being questioned about how they came to choose the final footprint for the substations, and with Boreas, as they did with Vanguard they consistently quote the 'Workshop' as being the main decider. This is, we're afraid utter nonsense and therefore we challenge it.

According to the developer, the purpose of the workshop was 'discuss the siting of the project substations'.

There was no discussion.

Here is our full and unbiased account of the 'workshop', which can be verified with many of the 80 odd people who attended, including Parish Councillors.

- 1. In July 2017 a 'workshop' was held, to consult the public on the options under consideration. This was the **first time** any official proposal was shown. There were 4 footprints, all in the same tight area.
- 2. Of the 80 odd people initially invited they were mostly parish councillors, others groups, local farmers, and people not affected directly by the substations. This group, the NSAG, protested and were allowed to add just 15 people at the last minute.
- 3. We saw no advertising, and the workshop was held in Swaffham, not Necton, thus limiting the number of people who could attend as not all have transport. When asked why the developer stated that the Community Centre in Necton was unavailable. Records show this to be untrue.
- 4. There was no sound system.
- 5. People could not hear.
- 6. The type of seating (round tables like in a restaurant, meant half the audience faced the back of the hall).
- 7. The screens were an inadequate size. People at the back could not see them.
- 8. The pictures shown on the screen were not replicated with wall charts, photographs or information leaflets.
- 9. People were not allowed to ask questions or speak but were told they would be allowed to at the end of the presentation, some half hour or so later, although the original agenda said there would be a 'discussion' after every speaker. The agenda was changed without us being told in advance.
- 10. 99% of the people invited had never visited the actual footprint sites (which are

- situated on private land) and yet were expected to comment on the placing of the 4 footprints over half an hour after having a brief view of them on inadequate size screens.
- 11. The developer could have organised a site visit beforehand so that people would have had at least some idea of where it was in relation to their homes and businesses.
- 12. At every table there was a representative of the developer's, who 'shushed' any person who tried to ask a question. Even at the end, though they had been promised they would have an opportunity to ask questions, the attendees were instead told to 'write their comments and questions' on post it notes and stick them to one of the (hastily written/crossed out) posters on the walls.
- 13. These hand written posters did not make their purpose clear, with the result that there were almost no opinions on the actual footprints added to them. This was also in part because by then people couldn't remember what the screens had shown and had simply had no notion of the area proposed, or what the impact on that area might be of each footprint. People were not asked to put their names on the post it notes so they are anyway surely totally useless as evidence of opinions.
- 14. Only at the following Open Day at the same venue, were people shown computer simulations of the view of the substations from their own homes (at a height of 1.5 metres only), but by then no further comments were allowed to be put on the posters relating to what they were being shown.
- 15. The computer simulations missed out the National Grid construction entirely (which will increase by up to 18 acres depending on whether both projects go ahead or just one), and the view provided in that direction depicted an untouched field-scape, which did not show the existing Dudgeon substation or the existing NG substation, or the National Grid Vanguard and Boreas extensions.
- 16. When one of the invited residents asked about this, the response was that the developer could not include it because it was a National Grid development, and not the developer's. The developer was either being misleading, or total inept, because we now know from BEIS that the developer was already designing the National Grid extensions with NG, and that the developer was responsible for consulting on the NG extensions.
- 17. This part of the consultation was entirely inadequate, and should be done again footprints with BOTH HVDC and HVAC options should be shown to residents on the ground, (and ALL residents of Necton, Ivy Todd and Holme Hale, Fransham, Little Dunham and Bradenham should be given a chance to access them). The 'workshop' should certainly not have been by invitation only.
- 18. Residents and our group were bemused and dumbstruck when the footprint chosen was announced, because as you can see from the attached examples of photos of the posters with their post it notes, they made few if any choices on the selection because they had no idea what the differences were, having never visited the site, or been given any proper information on them.
- 19. We would have taken more photos of the post it notes but were stopped by someone called 'Sean'.

Regards NSAG

