

IFA2

Responding to issues raised in public consultation

8 April 2016

Planning permission

We do not have planning permission for the IFA2 proposals. We have been undertaking public consultation in advance of making applications for outline planning permission under the Town and Country Planning Act (1990) and for a marine licence under the Marine and Coastal Access Act (2009). We have not made any planning applications at this stage. The public and other stakeholder consultation we have been doing is in line with best practice, and we use the feedback to inform our application files for the necessary authorities.

It is important to note that no works have commenced for IFA2. We have undertaken surveys and soil investigations under licence, but no construction works can begin until we obtain the necessary permissions. Works that are ongoing at Daedalus East, and the soil bank that has been created, are not related to IFA2.

“This is a done deal”

It has been mentioned that this is already a “done deal”. This is not the case. We have reached agreement in principle with Fareham Borough Council as landowner about lease of land on Daedalus airfield. This agreement in principle for lease of land is subject to satisfying the landowner of no adverse impact on airfield operations or the enterprise zone, and it is our intention to provide Fareham Borough Council with information that they require to satisfy themselves of this. Fareham Borough Council have been clear with us that their priority is for the development of Daedalus as an airfield and so we have to demonstrate that IFA2 can co-exist.

The basis of the agreement in principle regarding a land lease is in the public domain, and is available on Fareham Borough Council's website.

We also have to apply for outline planning permission. All our proposals are subject to planning permission.

Size and scale of the converter station

We recognise that the scale of the proposed converter station at Daedalus may be a cause of concern for many local people who live near to the site. We have made a very early commitment that, appropriate to the location, all electrical equipment will be contained within buildings. This creates a campus of buildings rather than outdoor electrical equipment, and this has led to our architectural and landscaping proposals. We have involved architects experienced in the design of large buildings and have developed the principles of consistent roof lines and building connectivity. During our public consultation events in March, we showed what the building appearance could look like through 2D and 3D visualisations. We have consulted to find out opinions on building appearance and landscaping. With regard to landscaping, we consider that there could be further benefits on visual impact if the landscaping treatment extended further into the open space towards Gosport Road and Broom Way.

We have explained the drivers of height in our consultation material and we are consulting on the basis that 22m will be the maximum height of any building. We expect that once detailed manufacturers designs are available, and that a contractor is chosen that final heights will be within this maximum height. This final position would be at a later stage once contractors have been appointed and pursuant to an application for full planning permission - as opposed to the outline permission we are currently seeking based on a maximum envelope for our proposals.

It is worth noting that outline planning permission already exists for other large scale developments on Daedalus, including building proposals with heights to eaves of 18m.

We will continue to work to ensure that our proposals for IFA2 are appropriate and complementary to future plans for the development for Daedalus.

Noise

We have made commitments to making noise mitigation a key factor of our proposals by ensuring that all equipment is contained within buildings, and by stipulating noise limits to drive the bespoke design of noise enclosures for transformers and air conditioning / cooling equipment.

Noise limits are determined based on measured noise survey data in accordance with BS4142:2014 (Methods for rating and assessing industrial and commercial sound) and the requirements of the local authority. In order for there to be no adverse effects, the rating sound level (the specific sound level including penalties, as appropriate) at nearby receptors should not exceed the background sound level.

The method of assessment requires that the existing background sound level (LA90) be subtracted from the predicted specific sound level of the proposed development, plus any correction for noise character. Regarding noise character, BS4142 also contains methods for the determination of tones and their corresponding penalties. As the sound emission characteristics from IFA2 may contain tonal elements (in the range 100-200Hz), a penalty of +6 dB has been applied to determining the sound rating limit.

The approach to noise assessment has been agreed by the environmental health department of FBC (Fareham and Gosport Environmental Partnership), and will be contained in more detail within our Environment Impact Assessment (EIA) that would support an application for outline planning permission.

We have measured background noise levels around Daedalus, both during the day and night, on weekdays and weekends.

The typical daytime background sound level towards the north of the site, in the vicinity of the nearest noise sensitive dwellings, is 48dB LA90.

The typical quiet night-time background sound levels in the vicinity of the site and at nearby noise sensitive receptors were in the region of 30 – 35 dB LA90.

As a result, in order to avoid adverse effects from IFA2, we consider that the sound rating limit (including the +6dB acoustic character penalty) should be based on the quiet night-time noise levels and set at 30 dB $L_{A,T,r}$ when measured outdoors at all nearby dwellings.

Setting limits does not mean that the sound will be at this level. Measured sounds will have to be below these limits and also take account of the 6dB acoustic character penalty. The limits are tightly regulated by the local authority and by setting these limits we do not expect that noise from IFA2 will change the perception that individuals already have of existing noise climate at their homes or cause a perceived change to quality of life.

EMFs and public health

National Grid is committed to furthering the understanding of electric and magnetic fields (EMFs) and to always follow and comply with the guidelines for exposure to electric and magnetic fields. Exposure limits for EMFs in the UK are set by the Government on advice from Public Health England, and the electricity industry strictly adheres to these limits. The exposure limits for both DC and AC cables originate from the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines, published in 1994 and 1998 respectively. The ICNIRP permitted public exposure level for a magnetic field generated by AC electricity is 360 microteslas. For magnetic fields generated by DC electricity the permitted public exposure limit is 40,000 microteslas.

In our recent public consultation material for IFA2 we demonstrated that, from our initial calculations, at all points magnetic fields emitted from the various components of IFA2 will comply with the exposure limits set to protect the public.

National Grid relies on robust compliance with the independently recommended public exposure references to help to provide public reassurance. However, we recognise there is concern about magnetic fields. We are therefore committed to continuing to provide the local community with information on magnetic fields, and to validate all calculations through future measurement and monitoring. We do also recommend the website www.emfs.info for further information on EMFs.

Location of converter station

In our assessment of locations we consider many factors such as land availability, suitability (for converter buildings and cable routes), proximity to landfalls to connect with the marine cable route, planning & consenting policy for development and, overall, the environmental and technical feasibility of the location.

Our preference is always to develop projects with the support of stakeholders and in particular with willing landowners to find suitable land that is commercially available wherever possible. The point of connection to the national electricity transmission system is at Chilling, near Warsash.

One of the key factors when conducting land searches is the proximity of the converter station to the point of connection to the grid, therefore we actively searched for land available close by.

Hampshire County Council (HCC) owns much of the land in this area and we held discussions with HCC during 2014 and early 2015 regarding land it owns near Chilling Copse. After careful consideration, HCC declined to progress this further and made a public statement to this effect in April 2015. We do not believe that there is a commercially available site which meets our needs for the converter station in the Chilling area.

Prior to this, we had investigated prospective sites on Daedalus. One site we initially discussed with the Homes and Communities Agency and Gosport Borough Council during 2013 and 2014 was near the Daedalus waterfront residential development, but this site proved to be too small for our operational needs.

In early summer 2015, we held discussions with Fareham Borough Council (FBC) as the new owner of the Daedalus airfield. FBC was willing to discuss land for development to the north of Daedalus in the Hangars East area, consistent with their vision and strategy for Daedalus. We progressed our assessments of the site and the feasibility of routing cables across the airfield to the point that we considered that the 4Ha site to the north of Hangars East was feasible.

We are confident that Daedalus is the best available site for the converter station building. We have carried out repeated land searches, and have demonstrated in our public consultation material that we have investigated other sites to the south of Daedalus airfield as well as at Chilling and we do not believe there are any other commercially available sites which meet our needs.

Compulsory purchase of land

In recent consultation material we have demonstrated that other options have been actively progressed for the location of a converter station for IFA2. In particular regarding land at Chilling, it was the landowner (Hampshire County Council) that declined to proceed further.

Our preference is to develop interconnector proposals with the support of stakeholders and in particular with willing landowners to find suitable land that is commercially available wherever possible. Only in the absence of a suitable, commercially available alternative would we normally consider compulsory purchase powers.

As the Daedalus site is commercially available, and we have assessed it as being a good location for the purposes of the electricity interconnector, our position is that we would not compulsorily purchase other land.

Radio frequency interference (RFI)

Our initial assessment of RFI impacts has been based on the limits in the table below that we expect manufacturers to design within. These limits are from CIGRE's technical brochure TB391 for electrical substation installations and are provided in both logarithmic units (dBVolts/m) linear units (Volts/m) at a distance of 200m. The only credible source of RFI is from the equipment that would be in the converter station. RFI emissions from the cables will be attenuated rapidly as the cables do not provide an intentional conduction path for signals at high frequencies.

Our preliminary findings are that with these limits there should be no or low risk of impact to aircraft or airfield systems. Further detail will be provided within our environment impact assessment (EIA) that would support an application for outline planning permission.

Frequency Range (MHz)	RFI limits around the converter station		
	(dB μ V/m)		
0.009 – 0.1	60-20log(f)	101 to 80	110 mV/m to 10 mV/m
0.1 – 0.15	50-30log(f)	80 to 75	10 mV/m to 5.6 mV/m
0.15 – 1.0	50-30log(f)	75 to 50	5.6 mV/m to 320 μ V/m
1.0 – 30	50-10log(f)	50 to 35	320 μ V/m to 56 μ V/m
30 – 230	35	35	56 μ V/m
230 – 1000	37	37	71 μ V/m
1000 – 18000	55	55	560 μ V/m

Economic assessment

The European Commission has identified IFA2 as a Project of Common Interest (PCI). This means it should deliver benefits for at least two European Member States, further support market integration and competition, enhance security of energy supply, and contribute to reducing CO2 emissions. PCIs are governed under Regulation (EU) No 347/2013 on guidelines for trans-European energy infrastructure, referred to as the TEN-E Regulation.

IFA2 is also a commercial investment that would involve National Grid funds, not public money. The investment would be made jointly with our partners RTE, and we have used cost estimates in the range €540m to €830m to cover a range of different uncertainties and outcomes that a project like this could encounter. These are public domain figures used in the 2014 version of the ten year network development plan (TYNDP) that is developed by the European Network of Transmission System Operators for Electricity (ENTSO-E).

The UK's economic regulator of gas and electricity markets (Ofgem) has confirmed that the IFA2 project has a socioeconomic welfare benefit for the UK and accordingly granted the project eligibility for a regulatory regime (known as "cap and floor") in July 2015.

We are confident that the proposal involving the converter building at Daedalus fits within our cost estimate range and will be economically viable for investment; therefore creating a socio-economic welfare benefit for consumers in the UK. A 1000MW electricity interconnector like IFA2 has the potential to create downward pressure on the cost of electricity in the UK, in the order of 1-2% of householders' electricity bills.

Marine route and stakeholder engagement

We have met with many stakeholders to inform the marine route for the IFA2 interconnector in the Solent. In particular we have had a number of meetings with the harbour masters of Portsmouth and Southampton ports, as they are responsible for ship movements throughout the Solent and Southampton Water. We have adjusted the route according to their feedback – in particular in relation to shipping safety and anchorage points.

Compatibility with Daedalus Airfield

We have to demonstrate to the landowner and airfield manager that the IFA2 interconnector will not adversely affect airfield operations. Accordingly, we have looked at the potential impact of magnetic fields on compasses, aircraft equipment and airfield systems. We have also looked at the impact of the converter station buildings on airflow quality, and we have looked at the potential for radio frequency interference (RFI) on airfield and non-airfield systems. Our preliminary findings are that there should be a low risk of adverse impact of IFA2 on airfield operations at Daedalus.

A particular localised issue is the potential impact of magnetic fields from DC cables on the location of a suitable compass base for compass testing on Daedalus. We understand that some existing businesses may require a Class 2 compass base for their business needs, which means that the maximum permissible compass deviation anywhere within the compass base location must be $\pm 0.25^\circ$. From our initial calculations, if the compass base was within a distance of approximately 15metres of the DC cables, the static magnetic field from the DC cables would interact with the earth's magnetic field to cause compass deviations that would be in excess of this limit. This is an issue that we will take forward with the businesses involved and the airfield manager to establish needs for a compass base.

We recognise the landowner's requirement for independent assurance and, as a result, have also commenced a procurement process to commission an independent study on the compatibility of the IFA2 proposals with the airfield. This is being done in conjunction with the airfield landowner. We expect this to be concluded in summer 2016.

Construction traffic

We are very aware of the limitations of the road networks relevant to Daedalus and Chilling, and the frustration this already creates for many local residents.

We are taking forward an application for outline planning permission this year and a construction management plan will be included with this application. If we were to receive outline planning permission, detailed construction proposals would be developed by an appointed contractor, including a comprehensive and specific traffic management plan, and this would be included in a full planning application in 2017. No construction works would be able to start before final planning permission was granted.

A key difference for IFA2 is the delivery of electrical equipment to site and, in particular, large loads such as transformers. These deliveries will require careful planning in order to minimise disruption to road users. National Grid is used to managing these sorts of transportation challenges and it is often necessary for these traffic movements to be made through the night when traffic is at a minimum.

What benefits will the link have?

IFA2 will provide local and national benefits.

At a national level, IFA2 will contribute to the affordability, security and sustainability of energy supplies. This is the fundamental rationale for more interconnection to the UK. Analysis undertaken by National Grid suggests that each 1 GW of new interconnector capacity could help to reduce Great Britain's wholesale power prices by 1-2%. This is a benefit that every electricity consumer could benefit from.

Infrastructure of this scale does offer local economic benefit, both during construction and operations. As a marine and land-based project, the economic benefit will not be restricted to the Daedalus area.

We do not yet have definitive figures for permanent employment for the operation of IFA2, but we do expect the converter station to be permanently occupied, 24/7, on a shift-pattern basis.

National Grid would also be making a significant local contribution through land lease rents and facilities maintenance charges which would contribute to the ongoing upkeep and operation of Daedalus airfield and Enterprise Zone.

In addition, as part of our landscaping proposals for IFA2 we think there is opportunity to improve the quality of the green space for public access around the proposed converter site. We are discussing the best way to do this with the local authorities and Natural England.



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