

**P/17/0835/RM**

**STUBBINGTON**

NATIONAL GRID IFA2 LTD

AGENT: NATIONAL GRID

THE CONVERTER STATION BUILDINGS AND SITE INFRASTRUCTURE: DETAILS OF THE ACCESS, APPEARANCE, LANDSCAPING, LAYOUT AND SCALE, PURSUANT TO HYBRID PLANNING PERMISSION REFERENCE P/16/0557/OA.

DETAILS PURSUANT TO CONDITIONS 07 [LEVELS], 20 [CONSTRUCTION ACCESS] AND 21 [OPERATIONAL ACCESS] OF HYBRID PLANNING PERMISSION REFERENCE P/16/0557/OA.

IFA 2 NATIONAL GRID LAND AT DAEDALUS AIRFIELD LEE-ON-THE-SOLENT PO13 9YA

***Report By***

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***Site Description***

The application site for this reserved matters submission relates to the Converter Station at Daedalus as identified in the covering report at the front of this agenda.

The land immediately north of Vulcan Way is an agricultural field extending up to Peel Common Roundabout and adjacent to this is short mown grass of the airfield. The land in this part of the airfield is generally flat although there is a slight fall and undulating topography to the west. Beyond the hedged field boundary to the agricultural land is the north eastern corner of the airfield. This currently accommodates a large spoil bund and the arisings from the construction of the spine road in Hangars East (Vulcan Way and Spitfire Way).

***Description of Proposal***

As described above, the site for the Converter Station was granted in outline only with all matters reserved for future approval. This application is made pursuant to these reserved matters namely:

- the appearance of the Converter Station
- access to the Converter Station
- layout of the Converter Station
- the scale of the Converter Station
- landscaping of the Converter Station

The principle of development for the Converter Station was established by the hybrid planning permission. This application for approval of reserved matters seeks approval of the details.

The application also includes details for approval pursuant to conditions 7 (levels), 20 (construction access) and 21 (operational access) of the hybrid planning permission.

***Policies***

The following policies apply to this application:

**Approved Fareham Borough Core Strategy**

CS4 - Green Infrastructure, Biodiversity and Geological Conservation

CS5 - Transport Strategy and Infrastructure

CS12 - Daedalus Airfield Strategic Development Allocation

CS14 - Development Outside Settlements  
CS17 - High Quality Design  
CS21 - Protection and Provision of Open Space  
CS22 - Development in Strategic Gaps

### **Development Sites and Policies**

DSP1 - Sustainable Development  
DSP2 - Environmental Impact  
DSP12 - Public Open Space Allocations  
DSP13 - Nature Conservation

### ***Relevant Planning History***

The following planning history is relevant:

**P/16/0557/OA**      **Hybrid Planning application for an electrical interconnector with an approximate capacity of 1000 megawatts (MW) extending from Tourbe, Normandy (France) to Chilling, Hampshire.**

**Outline planning permission is sought at Daedalus for:**

- 1. The erection of converter station buildings (to a maximum height of 22 metres) with associated, vehicular accesses and roads, security fencing, landscaping and temporary construction compounds;**
- 2. Creation of public open space and associated facilities, grassland planting and tree planting.**

**Full Planning permission is sought at Hill Head and Stubbington for:**

- 3. Installation of cables between Mean Low Water Springs and the converter station in the north eastern corner of Daedalus Airfield.**

**Full Planning Permission is sought at Chilling for:**

- 4. The Installation of cables between the Mean Low Water Springs and the existing cable sealing end compound at Chilling Lane**

APPROVE

10/04/2017

### ***Representations***

A total of 36 objections have been received including responses from The Fareham Society and the Lee-on-the-Solent Residents' Association, of which 7 raised issues relating to this application.

The issues raised (which can be taken into account in deciding this application) are:

Visual impact / Impact on landscape and the strategic gap:

- The design of the building is ugly;
- The landscaping will take many years to provide effective screening;

- What materials will the building be constructed of?
- The building will be an eyesore;
- Screening is required around the perimeter of the site, not just in the north and north east;

#### Highways/traffic implications:

- Construction traffic will put additional strain on the roads and cause disruption to local residents;
- Will IFA2 commit to improving the local road network?

#### Other issues of relevance:

- What security measures have been included to protect the building from malicious damage?

The following issues which are raised in representations are addressed elsewhere in this agenda under reference P/16/0557/DP/A:

#### Noise and vibration:

- The building will result in noise pollution;
- The application does not confirm how low frequency noise will be dealt with;
- An independent consultant should be employed to assess low frequency noise emissions;
- Why is the proposed acoustic fence to the north not being replicated all around the building?
- How will the noise created by switching be mitigated?
- It is essential that the proposed 30dB noise levels are not exceeded;
- Full planning permission should not be given until the results of the noise studies and electromagnetic fields and radio frequency interference are available and taken fully into account;
- Are the calculations regarding noise pollution based on contours of the land or do they include mature landscaping? As the mature landscaping will take a number of years to mature the sound levels will be greater than stated if the landscaping is included in the calculations;
- The noise levels within the site may curtail future investment;
- Electromagnetic and low frequency fields can have adverse health implications;
- Magnetic fields can cause damp ground to conduct electricity;

The following issues are not of relevance to this application because they do not relate to the matters now being considered. Furthermore a number of the issues were addressed at the hybrid application stage:

#### Location:

- Why can the converter station not be located at Fawley Power Station?
- There must be more appropriate places where the station could be located;
- There is an existing connection from the Isle of Wight to the mainland at Stone Point at Lepe which could be utilised by IFA2;

#### Impact on aviation and airfield operations:

- Surely the scientific tests to measure the magnetic effect on aircraft navigation systems should have been carried out at the start of the process?
- The building will become warm and offer an attractive roost for birds. There are several ways of deterring birds which should be investigated;
- The proximity of a 22m high building to the airfield is not appropriate;
- The magnetic field strengths are discussed in the proposal, however it is the corresponding predicted electric field strengths from the transmission cables that are most likely to affect airfield operations rather than the magnetic fields;
- What sort of ventilation will there be? What particles will be emitted into the air and will the

emissions affect air traffic?

- The proposed development may curtail future expansion of the airfield;
- The report published by Arcadis concluded that: the IFA2 proposals would 'not be expected' to have an adverse effect on existing operations at Solent Airport.

Health:

- The building will be a danger to public health;
- How can the development be allowed when it's not possible to confirm that it won't have an adverse impact on health?
- It has yet to be established that the emissions from the converter including radiated noise and the EMF/RF propagation do not pose an unquantified health and impediment risk to users of the site and the adjacent area;

Impact on residents and neighbours:

- Will residents be informed of risks associated with the proposed development and given advice regarding what to do in an emergency situation?

Brexit:

- How will the project be impacted by Brexit?
- National Grid have other existing and planned connectors elsewhere in the country which are reliant on EU funding. Where will the funding come from once we've left the EU?

Other matters:

- The Council has provided very little information regarding the advantages of IFA2;
- Why is our country unable to produce energy in house as the reliance on energy from abroad could result in us being held to ransom. If there is money available to develop IFA2 it would be better spent on developing the production of energy within the UK;
- How can the public have any confidence in the validity of the tests being carried out when they will be carried out by interested parties rather than independent bodies?
- If security on one of either the Chilling and Daedalus sites is breached, can the other site be isolated?
- The cabling is being tested by Prysmian who are also the supplier. This is a conflict of interest.
- Was the specialist advice sought by FBC independent?
- Cable production shortages could delay the completion of IFA2 given the timing and delivery of other interconnector projects in the UK;
- The incompetent mismanagement of infrastructure required for the delivery of energy by Central Government means that planning decisions are made by town/village councillors who have no knowledge or technical understanding of the machinery proposed by a profiteering company like National Grid;
- How is the power going to be distributed given the absence of major power lines from the airfield;
- The public have been denied access to a second Arcadis report which is believed to give independent evidence and detail including tests to evaluate the risks that IFA2 will have on the safety of aircraft using the runway. This evidence is essential to assuring the public that public safety can be assured and the propriety of the planning process has been met;
- Predictions of the electric field strength values should be followed with actual measurements once the site is operational to demonstrate that an electrical interference nuisance is not being caused;

### **Consultations**

INTERNAL CONSULTEES:

Highways:

No objection.

## EXTERNAL CONSULTEES:

Airport Manager

No objection:

-The proposed development would not impact on current or future expansion of the airport.

Hampshire Fire and Rescue

-Access and facilities for fire service appliances and firefighters should be in accordance with Approved Document B5 of Building Regulations.

-Access to the site should be in accordance with Hampshire Act 1983 Section 12 and access to buildings within the site will be dealt with as part of the building regulations application at a later stage. Access roads to the site should be in accordance with Approved Document B5 of Building Regulations.

### ***Planning Considerations - Key Issues***

#### PRINCIPLE OF DEVELOPMENT

The hybrid application for IFA2 approved the principle of the location of the converter station on the site. The general design principles were also considered at the outline application stage, such that a maximum height of up to 22m for the converter station was approved and this maximum height was expressed in a planning condition also.

The issues reserved from the hybrid application in relation to the converter station, and infrastructure which are to be considered within this application are: the layout, scale, appearance, landscaping, and access. These matters, along with the details pursuant to some of the planning conditions are the key considerations in the determination of this application.

#### LAYOUT

The position of the converter station in the north-east of Daedalus, has not altered from the hybrid permission and is close to existing built development at Daedalus East (Faraday Business Park) and areas of mature woodland (at the eastern edge of the airfield and further to the east). However, the secure compound area has been reduced from 3.46 hectares at the outline application stage, to 2.33 hectares as a consequence of the design solution now proposed.

The proposed converter station layout is based on the most efficient use of the available space, with buildings still arranged to best suit the flow of the conversion of direct current to alternating current and vice-versa. The footprint of the buildings has also been reduced, commensurate with the reduction in the area of secure compound, from the outline application stage by approximately 40% (15,775m<sup>2</sup> down to 9,615 m<sup>2</sup>).

The layout includes a secure perimeter fence for the Converter Station comprising of a 3m high wire mesh fence with a further half a metre barbed wire on top providing a boundary treatment of 3.5m.

Given that the location of the converter station remains as it was at the hybrid Permission stage and this was found to be acceptable in principle; the detailed layout of the converter station with a similar arrangement of buildings but with a substantially reduced footprint and floor area of buildings is also considered to be acceptable.

#### SCALE

The hybrid permission sought only to establish the principle of the siting of the converter station here at Daedalus as well as the overall finished height parameter (of 22m). The layout and arrangement of building was only ever provided for information and on an

indicative basis at the outline application stage such that the layout of the converter station and the footprints of the building within the hybrid application documents should only be afforded limited weight. Notwithstanding this, the indicative building parameters are useful in providing some context for the assessment of the buildings as now proposed.

The proposed converter station comprises 4 main buildings and a number of smaller buildings: The larger, main buildings are:

- the valve hall;
- the AC Filters Hall (which is the tallest of the buildings);
- the DC Hall; and
- the AC hall.

#### -Main Converter Station Buildings

The largest grouping of converter station buildings consists of the valve hall, the AC Filters Hall and the DC Hall. Whilst the AC Hall is one of the larger buildings it is detached from the other main three buildings. As such this is assessed further below separately from the three grouped together. These three would have a footprint of 72.8m wide by 95.6m long (excluding transformers) which is significantly smaller than the indicative buildings shown for illustrative purposes at the hybrid application stage (120m wide by 105m long). Individually, the buildings are as follows:

The DC Hall on the eastern edge of the site would have a footprint of 965m<sup>2</sup> compared to the indicative 1,200m<sup>2</sup> proposed at the hybrid planning application stage. A minimum internal clearance height of 11.2m above the equipment it houses dictates the height of the building (together with the requirement for a minimum roof pitch of 6 degrees). The proposed ridge height of 15.6m has been reduced from the 22m proposed at the hybrid application stage.

The Valve Hall is to the west of the DC Hall and shares a common envelope. The proposed footprint of the Valve Hall is 2,510m<sup>2</sup> rather than the illustrative 4,800m<sup>2</sup> proposed at the hybrid planning application stage. This building also has a ridge height of 15.6m (the same as the DC Hall.)

The AC Filters would be located to the west of the Valve Hall and would form a distinct vertical end to the Converter Building as the largest building on the site. The footprint of the AC Filter Hall would be 48.25m by 24m which would equate to 1,160m<sup>2</sup> as opposed to the indicative 3,000m<sup>2</sup> footprint proposed at the hybrid planning application stage. There is a requirement for a minimum internal height of 16m and a 5 degree roof pitch which results in a ridge height of 18.94m. This is also a reduction from the 22m proposed at the hybrid outline application stage.

One of the smaller buildings referred to above is the Service Building. The Service Building would be attached to the south side of the Valve Hall and would measure 43m by 16m with a maximum height of 9m. The footprint is slightly larger than that on the illustrative drawings from the hybrid outline application (where a footprint of 40m by 15m was proposed), however the height has been reduced from 10m to 9m.

#### -AC Hall Complex

The AC Hall, as described above is detached from the other larger buildings within the Converter Station site. It sits with a further group of smaller associated buildings. This complex of buildings comprises the AC Hall, storage and climate buildings and the shunt compensation enclosure. The AC Hall Complex (as a whole) would have a footprint of 58m by 43m (reduced from 70m by 40m on the illustrative material submitted at the hybrid

application stage). The AC Hall itself would have a footprint of 1,430 m<sup>2</sup> which has been reduced from the 2,800m<sup>2</sup> on the indicative layout plans within the hybrid application. The AC hall has a minimum internal clearance height of 13m which, when combined with the need for an 8 degree roof pitch, translates into a ridge height of 17.2m. The proposed ridge height of 17.2m has been reduced from the 22m approved at the hybrid application stage.

The storage and climate buildings would be positioned to the north of the AC Hall. They would have a combined footprint of 760m<sup>2</sup> and a ridge height of 7.1m. The Shunt Compensation Enclosure would be positioned to the south of the AC Hall. It would have a footprint of 58.5m<sup>2</sup> and a flat roof of 6.5m in height.

#### -Control Building

The control and welfare building would be located to the south of the converter building and are part of the smaller number of associated buildings that comprise the converter station. The control and welfare building is a separate building which would be 16m wide and 60m long with a roof height of 6.5m. The footprint of this building would be larger than on the hybrid application indicative plans (15m wide and 40m long), however it would have a much lower ridge height than the 15m originally proposed. The control building has been located close to the main entry of the site to maximise surveillance of the entrance into the complex.

#### -Substation Supply Building

The substation building is located to the south east of the main Converter Station building, beyond the secure compound area. The substation building would measure 8m by 9m and would have a ridge height of 4m.

In addition to the above described buildings the proposals now also include a number of external staircases. These are relatively small in footprint and are provided to facilitate roof access for building and bird management purposes. Given the overall roof form with a pitched roof design solution, the external staircases are no higher than the heights of the buildings to which they are attached and their detailing on the plans are considered acceptable.

The proposed plans have been refined since the approval of the hybrid application and as a result, the scale and height of several of the buildings has been reduced, quite significantly in places from the buildings shown indicatively within the hybrid application. The building heights were conditioned as part of the hybrid permission at a maximum of 22 metres. It is considered that the proposed scale and height of the buildings would respond positively to and be respectful of the key characteristics of the area and are therefore acceptable.

#### APPEARANCE

The building has been designed to satisfy the functional requirements of the conversion process and by its nature will have an inherently industrial appearance.

The application for the converter station as originally submitted proposed a design solution whereby different colours of blue and grey cladding were arranged up through the buildings in bands of colour with an almost 'hit and miss' arrangement in the transition between colour bands. This design approach was included as one of the design options considered by the applicant at the hybrid stage and the solution that the applicant's public consultation feedback indicated was the public's preferred design for the converter station.

However, once this banding solution was added to the buildings with their amended, and now more detailed design, such as with the pitched roof form, it was considered that with a more varied roof scape this elevational treatment was too fussy. The design accentuated

the mass of the buildings to the detriment of the appearance of the scheme, the airport and the adjacent employment area.

To address this concern the applicant has reviewed the design and appearance of the buildings. The proposal now includes a much more simple approach to the building treatment with a far smaller colour palette. The building is designed now with a mix of horizontal and vertical cladding arranged such that the design picks out certain design features and creates, through the cladding orientation and colour, some interest in the building that is more sympathetic to its size and function rather than the originally proposed arrangement of colour panel bands.

The incorporation of a limited palette of different colours of cladding and orientation of cladding has been designed to 'break up' the size of the overall campus of buildings and to help provide articulation. In terms of roof design, shallow pitched roofs have been incorporated to reduce the risk of potential water ingress onto sensitive equipment and to enable a reduction in building height. The pitched roof solution is also a better solution when considering bird management.

The pitched roof covering will be profile metal cladding in a 'gull grey' colour which would be visually recessive when viewed against the skyline. The roof scape would be broken up by the incorporation of 'penthouse style', roof top ventilation turrets to provide local cooling from each compartment. The maximum height of the turrets would be 19.94m (a height which still remains more than 2m below the maximum height conditioned as part of the hybrid permission).

In addressing the representation on what materials are to be used, the cladding would be finished in a highly durable polymer steel coating specifically designed to withstand the high levels of corrosion found in coastal locations and also being specifically chosen for the fire prevention properties given the nature of the equipment within the buildings. The cladding will have a matt finish to minimise potential glare which could be hazardous to the operation of the airfield.

The drawings specify that the final elevational cladding manufacturer is to be confirmed due to the need for the cladding system to meet the specific fire prevention criteria, however, the application drawings do detail the colour palette is limited to a pale blue and grey and these two colours are based on commonly available RAL colours. The final colour will be specified once a cladding supplier is appointed however the change in colour finish will be minimal.

It is considered that care has been taken to respond both to the character of the landscape and to the emerging development proposals at Daedalus. The buildings have been amended in design from the original submission so that they are now designed to appear as individual buildings of a unified design.

Overall, the appearance of the buildings has been carefully considered and refined through the submission of amended plans to ensure that the resulting design responds positively to and is respectful of the key characteristics of the area in terms of both the landscape and the built environment. It is noted that there have been no specific representations received regarding the specific change in design approach taken through the submission of the amended elevational treatment.

## ACCESS

Operational access to the site will be restricted and controlled via security gates with surveillance measures to ensure public safety is not compromised. Vehicular access to the site would be via the new access road into the Daedalus East development area which extends north from the Daedalus East Gate (off Broom Way) and along the southern edge



of the converter station site; Vulcan Way. A new access is also proposed to the east of the site from Broom Way for construction purposes but also for occasional use when the movement of abnormal indivisible loads is required. As this route would be used infrequently it would be informally surfaced. Further consideration of this detail is undertaken within the reserved matter submission for the open space - P/17/0834/RM refers.

The Control Building and Service Buildings are designated as occupied areas. Pedestrian access into and within these buildings would therefore be in accordance with Building Regulations. Staff parking, including disabled car parking spaces, would be provided within the car park, close to the Control Building.

## LANDSCAPING

The planting immediately adjacent to the western edges of the converter station would comprise a strip of grass to enable access to the building for maintenance purposes. Immediately beyond the strip of grass, a dense strip of native shrub planting and trees are proposed. The landscaping along the southern elevation would also comprise a strip of tree planting together with ornamental shrubs beneath along the road side. The combination of shrubs and trees has been designed to help provide screening of the lower and middle parts of the elevations. The landscaping immediately next to the north and east elevations would be grassed.

The tree planting proposed to extend along the south and west elevations, is intended to partially screen the buildings and to help integrate them with the surrounding landscape, including the Alver Valley. The trees will also filter views of the station from within the wider area.

There are also additional large areas of tree planting and mounding proposed to the north and east of the building to help further screen the building and integrate it into the wider landscape; this landscaping falls within the area of public open space and is included within the assessment in application P/17/0834/RM (also included within this agenda).

## DETAILS PURSUANT TO CONDITIONS IMPOSED UNDER THE OUTLINE PLANNING PERMISSION:

Ground and floor levels (condition no. 7)

The proposed converter station buildings would be 0.15m above ground level to minimise surface water runoff from entering the complex, whilst not contributing to any unnecessary increase in the overall height of the buildings.

The proposed levels, when considered against the current levels are considered to be acceptable for approval.

Construction, operational and abnormal indivisible load accesses and traffic management (condition no. 20)

The application is supported by a plan which includes details of the construction access/egress point off Broom Way as required by condition no. 20. The Transport Planner has reviewed the plan and raised no objection. The proposed details demonstrate that the access is to be taken from Broom Way at the current Daedalus east gate and traffic would follow Spitfire Way / Vulcan Way up to the site. Egress to Broom Way would be via the new bell-mouth and this is designed specifically as a left turn access for construction traffic. The proposal would not have any impact on the safety of the highway. The details are therefore in accordance with the policy requirements and are acceptable.

## Operational access/egress (condition no. 21)

The application is supported by a plan which includes details of the operational access/egress point to be provided from Faraday Business Park and together with details of occasional access/egress for abnormal indivisible loads from Broom Way. The Transport Planner has reviewed the plan and raised no objection. The proposed details demonstrate that the access would not have any impact on the safety of the highway and are therefore acceptable.

### Other Considerations

The issue of noise from the converter station was also a topic that attracted significant concern at the hybrid application stage. The assessment of how the converter station has been designed to ensure that the agreed noise level of 30dB at the nearest noise sensitive receptor will be achieved is elsewhere in this agenda for the planning committee's consideration - P/16/0557/DP/A Refers.

The noise impacts to the employment area to the south of the Converter Station and the representation that suggests that this may affect future investment to the site was addressed at the hybrid application stage also. It is expected that the employment area would be occupied during the daytime when the background noise levels recorded at the site are greater than the levels modelled at the nearest commercial property in Hangars East. As such there is no likely adverse effect as a result of noise to the employment area. Furthermore the employment area benefits from a planning permission for the development of uses falling within industrial use classes (B1c, B2 and B8) such that the potential occupants of the employment area may well generate noise themselves.

A small length of hedgerow was required to be removed to facilitate the converter station development. This hedgerow was not considered to be one of ecological interest or historic merit meaning it did not benefit from any level of protection and could be removed without any further approval. The new access location onto Broom Way was assessed by the ecology surveys at the hybrid application stage and the principle for the provision of the access was accepted.

### Conclusion

The applicant has refined the proposed plans, such that the size of the Converter Station campus has been significantly reduced from that shown indicatively within the hybrid permission. The height of all the buildings has also been reduced since the hybrid application. The reduced campus footprint together with the reduction in the height of several of the buildings and the simplification of the appearance through the submission of amended plans will help the IFA2 converter station to sit within the landscape and respond positively to the character of the area.

Overall the proposals accord with the requirements of Policies CS4, CS5, CS12, CS17 and CS22 of the adopted Fareham Borough Core Strategy and Policies DSP1, DSP2, DSP3 and DSP12 of the adopted Fareham Local Plan Part 2: Development Sites and Policies.

### **Recommendation**

APPROVAL OF RESERVED MATTERS & APPROVAL OF DETAILS PURSUANT TO CONDITIONS 7, 20 AND 21 OF THE HYBRID PLANNING PERMISSION subject to the following conditions:

- 1) The development is to be carried out in accordance with the finally amended and approved plans and documents as follows:
  - G3221.30.005A Location Plan
  - IKA-0100 P3 Block Plan

- IKA-0200 Floor Plan
  - IKA-0211 Rev P3 Roof Plan
  - IKA-0508 rev 6 Elevations
  - IKA-0509-rev 6 Elevations
  - IDV-4501 P5 - Site Access
  - IDV-4502 P1- Security Fence Detail
  - D3221.30.002 Converter Station Mitigation General Arrangement
  - D3221.30.004 Converter Station Mitigation Mounding Proposed Contours and Sections
  - D3221.30.005 Converter Station Mitigation Existing Levels
  - D3221.30.006 Converter Station Mitigation Planting - Overall Plan
  - D3221.30.007 Converter Station Mitigation Planting - Detailed Area 1
  - D3221.30.008 Converter Station Mitigation Planting - Detailed Area 2
  - D3221.30.009 Converter Station Mitigation Planting - Detailed Area 3
  - D3221.30.010 Converter Station Mitigation Planting - Detailed Area 4
  - D3221.30.011 Converter Station Mitigation Planting - Detailed Area 5
  - D3221.30.012 Converter Station Mitigation Tree Planting Details
- REASON: In the interests of an appropriate and comprehensive development

***Background Papers***

P/17/0835/RM

