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Thomas Chappell <thomas@theenergyworkshop.co.uk>

Turbine Query - Spring Brook

Spectrum Licensing <Spectrum.Licensing@ofcom.org.uk> 21 September 2012
To: Thomas Chappell <thomas@theenergyworkshop.co.uk>
Cc: "windfarms@jrc.co.uk" <windfarms@jrc.co.uk>, "Windfarms (windfarms@atkinsglobal.com)" <windfarms@atkinsglobal.com>

FIXED LINK REPORT FOR WINDFARM CO-ORDINATION AREA:

Dear Sir/Madame

For a response on all future requests please only provide the following to Spectrum.Licensing@ofcom.org.uk:

- **UK NGR,**
- **Site/town**
- **Email address for response**
- **Search radius (optional)**

Please do not post to Ofcom:

- **planning/scoping requests**
- **large packets/parcels in the post**

Search Radius 1000m at Centre NGR SE2482000350 Results. Search includes an additional 500m of requested radius.

Links	*Company*	*Contact*	*Telephone*	*Email*
0395819/1	Bt	Dale Aitkenhead		radionetworkprotection@bt.com
0391315/1	Bt	Dale Aitkenhead	1912696372	radionetworkprotection@bt.com
0408582/2	Arqiva Services Limited	Keith Waudby	1926416137	windfarm.enquiries@arqiva.com
0408583/2	Arqiva Services Limited	Keith Waudby	1926416137	windfarm.enquiries@arqiva.com
0445202/1	Mll Telecom Ltd	Windfarm Enquiries	8702417315	windfarms@mlltelecom.co.uk

These details are provided to Ofcom by Fixed Link operators at the time of their licence application and cannot verified by Ofcom for accuracy or currency and Ofcon makes no guarantees for the currency or accuracy of information or that they are error free. As such, Ofcom cannot accept liability for any inaccuracies or omissions the data provided, or its currency however so arising. The information is provided without any representation or endorsement made and without warranty of any kind whether express or implied, including but not limited to the implied warranties of satisfactory quality, fitness for a particular purpose, non-infringement, compatibility, security and accuracy.

Our response to your co-ordination request is only in respect of microwave fixed links managed and assigned by Ofcom within the bands and frequency ranges speci in the table below. The analysis identifies all fixed links with either one link leg in the coordination range or those which intercept with the coordination range. The coordination range is a circle centred on your provided national grid reference. We add an additional 500 metres to the coordination range that you request. Therefor you have specified 500 metres the coordination range will be 1km.

If you should need further information regarding link deployments and their operation then you will need to contact the fixed link operator(s) identified in the table abov directly.

Additional coordination is also necessary with the band managers for the water, electricity and utilities industries which operate in the frequency ranges 457-458 MHz paired with 463-464 MHz band. You should contact both the following:

- Atkins Ltd at windfarms@atkinsglobal.com.

- Joint Radio Company (JRC) at windfarms@jrc.co.uk. Additionally, you can call the JRC Wind Farm Team on 020 7706 5197.

For self coordinated links operating in the 64-66GHz, 71-76GHz and 81-86GHz bands a list of current links can be found at: http://www.ofcom.org.uk/radiocomms/ifi/licensing/classes/fixed/

Regarding assessment with respect to TV reception, the BBC has an online tool available on their website: http://www.bbc.co.uk/reception/info/windfarm_tool.shtml . Ofcom do not forward enquiries to the BBC.

Please note other organisations may require coordination with regard to your request. More information regarding windfarm planning is available on the British Wind Energy Association website www.bwea.com .

Table of assessed fixed links bands and frequency ranges

Band (GHz)	Frequency Range (MHz)
1.4/1.5	1350 -1375 1450 -1452 1492 -1530
1.6	1672 – 1690
1.7	1764 – 1900
2	1900 – 2690
4	3600 – 4200
6	5925 – 7110
7.5	7425 – 7900
11	10700 – 11700
13	12750 – 13250
14	14250 – 14620
15	14650 – 15350
18	17300 – 19700
22	22000 – 23600
25	24500 – 26500
28	27500 – 29500
38	37000 – 39500
50	49200 – 50200
55	55780 – 57000

Regards

From: Thomas Chappell [mailto:thomas@theenergyworkshop.co.uk]
Sent: 20 September 2012 16:43
To: Spectrum Licensing
Subject: Turbine Query - Spring Brook

[Quoted text hidden]

Gmail by Google

Thomas Chappell <thomas@theenergyworkshop.co.uk>

Spring Brook Wind Turbine Query

radionetworkprotection@bt.com <radionetworkprotection@bt.com> 24 September 2012 11:08
To: thomas@theenergyworkshop.co.uk

Dear Thomas

-

Thank you for your letter dated 24/09/2012.

We have studied this wind turbine proposal with respect to EMC and related problems to BT point-to-point microwave radio links.

The conclusion is that, the Wind turbine Project indicated should not cause interference to BT's current and presently planned radio networks.

Regards
Dale Aitkenhead
BTO Service Delivery -Operations Control TM, Radio Frequency Allocation & Network Protection
Tel [illegible]
[illegible]
[illegible]
Web: http://operate.intra.bt.com/operate

Let us know how we're doing here in SD Oerations Control... Please take our 30sec Mini-Survey below

-

BT Internal Customers... http://formwize.intra.bt.com/run/survey3.cfm?ID=79809

External Customers..... http://formwize.intra.bt.com/run/survey3.cfm?ID=80046

From: Thomas Chappell [mailto:thomas@theenergyworkshop.co.uk]
Sent: 24 September 2012 10:59

Gmail by Google

Thomas Chappell <thomas@theenergyworkshop.co.uk>

Proposed Windturbine - Spring Brook

Wind Farm Enquiries <Windfarms@arqiva.com> 9 October 2012 10:48
To: "thomas@theenergyworkshop.co.uk" <thomas@theenergyworkshop.co.uk>
Cc: Jack Fitzsimons <Jack.Fitzsimons@arqiva.com>, Tim Shergold <tim.shergold@arqiva.com>

F.A.O Thomas Chappell

PROPOSED WINDTURBINE : Spring Brook NGR (SE248003)

Dear Thomas

Thank you for the opportunity to comment on the above proposal. Arqiva is responsible for providing the BBC and ITV's transmission network and therefore is responsible for ensuring the integrity of Re-Broadcast Links (RBLs). Based on the information that you provided, our analysis shows that the proposed wind turbine is unlikely to affect any of our RBLs.

Regarding microwave links Arqiva has no issues with this proposal.
However the turbine would be located 1Km NW of Arqiva's link between Holme Moss and Clarborough
Link End Points:
Holme Moss 409802 403911
Clarborough 474210 383838

For your future reference we request a 200m wide corridor (i.e. ±100m) about the line-of-sight path be kept clear of any turbine or part thereof.

Please notify Arqiva if the planned turbine location changes so that we can re-evaluate the proposal

Regards

Rob

Rob Taylor
Senior Engineer
Spectrum Planning
Arqiva
Warwick
Tel 01926 - 416567

From: Thomas Chappell [mailto:thomas@theenergyworkshop.co.uk]
Sent: 24 September 2012 10:59
Subject: Spring Brook Wind Turbine Query

Dear Sir or Madam -

We are developing plans for a wind turbine with a blade length of up to 24m at location BNG 424820,400350.

Ofcom have advised that you have links in the area (see table below for reference to specific link).

Please can you confirm whether you would have any objection to our proposal and, if so, provide information on location of your link ends and the stand-off distance you require.

If you have any queries, please call me on 07833 461222.

Kind regards,

Thomas Chappell

---------- Forwarded message ----------
From: **Spectrum Licensing** <Spectrum.Licensing@ofcom.org.uk>
Date: 21 September 2012 09:48
Subject: RE: Turbine Query - Spring Brook
To: Thomas Chappell <thomas@theenergyworkshop.co.uk>
Cc: "windfarms@jrc.co.uk" <windfarms@jrc.co.uk>, "Windfarms (windfarms@atkinsglobal.com)" <windfarms@atkinsglobal.com>

FIXED LINK REPORT FOR WINDFARM CO-ORDINATION AREA:

Dear Sir/Madame

For a response on all future requests please only provide the following to Spectrum.Licensing@ofcom.org.uk:

- UK NGR,
- Site/town

Gmail by Google

Thomas Chappell <thomas@theenergyworkshop.co.uk>

Spring Brook Wind Turbine Query

Martin French <m.french@mlltelecom.com> 24 September 2012 13:41
To: Thomas Chappell <thomas@theenergyworkshop.co.uk>
Cc: Dave Owens <d.owens@mlltelecom.com>

Many thanks for your enquiry.

Without confirming the grid references we ask developers to leave a separation distance of at least 250m from proposed turbine locations and the path and ends of our links

There is 1 existing link within a 1.5km radius of your proposed wind farm site centre.

Below is a list of the affected links with their A and B end co-ordinates:-

LINK REF 0445202/1 - A-End - BT HUNSHELF WORTLEY S.YORKS. - SK 27528 99198 -- B-End - HILL HOUSE FARM - SK 23760 99223

This link over 1000m from your proposed wind turbine, so of no concern.

If developers are concerned they normally take GPS reading of the A and B end towers for the link, and the proposed turbine locations, then leave the following clearance (Blade tip + 25m clearance + 2nd Fresnel zone distance)

Ofcom advice to wind turbine developers regarding the location of wind turbines refers to the 2002 research report, which indicates that for a static obstruction a criterion requiring 0.6 of the 1st Fresnel zone radius to be unobstructed is commonly used, but that *"for the varying geometry of a wind turbine....a wind turbine exclusion zone equal to the complete 2nd Fresnel zone would be realistic."* This statement and recommendation is taken from Fixed Link Wind Turbine Exclusion zone Method, D F Bacon, Ofcom, October 2002.

Thank you

Wind Farm co-ordination

From: Thomas Chappell [mailto:thomas@theenergyworkshop.co.uk]
Sent: 24 September 2012 10:59
Subject: Spring Brook Wind Turbine Query

Dear Sir or Madam -

[Quoted text hidden]

[Quoted text hidden]

This email and any attachments may contain confidential information and are intended for the addressee only.

Gmail by Google

Thomas Chappell <thomas@theenergyworkshop.co.uk>

WF 19429 - Spring Brook - SE 24820 00350

Windfarms (windfarms@atkinsglobal.com) <windfarms@atkinsglobal.com> 24 September 2012 10:33
To: "thomas@theenergyworkshop.co.uk" <thomas@theenergyworkshop.co.uk>

Dear Thomas,

I am responding to an email of 21-Sep-12 regarding the above named proposed development.

The above application has now been examined in relation to UHF Radio Scanning Telemetry communications used by our Client in that region and we are happy to inform you that we have NO OBJECTION to your proposal.

Atkins Limited is responsible for providing Wind Farm/Turbine support services to the Telecommunications Association of the UK Water Industry (TAUWI).

Atkins Limited is responsible for providing Wind Farm/Turbine support services

to the Telecommunications Association of the UK Water Industry. Web: www.tauwi.co.uk

Windfarm Support
ATKINS
The official engineering design services provider
for the London 2012 Olympic and Paralympic Games
Web: www.atkinsglobal.com/communications

Gmail by Google

Thomas Chappell <thomas@theenergyworkshop.co.uk>

Spring Brook, Penistone, Barnsley - Single Turbine - Revised 14 November 2012

Windfarms Team <windfarms@jrc.co.uk> 18 December 2012 14:23
To: Thomas Chappell <thomas@theenergyworkshop.co.uk>
Cc: mark.taylor@northernpowergrid.com, "Sharp, Andy" <Andy.Sharp@northernpowergrid.com>, michael.grime@cw.com, Chris Haistead <chris.s.haistead@uk.ngrid.com>, paul.s.andrews@uk.ngrid.com, Ted Aksamit <ted.aksamit@jrc.co.uk>

Dear Sir/Madam,

Site Name: Spring Brook

Turbine at NGR: 424822 400309

Hub Height:55m Rotor Radius:24m

(defaults used if not specified on application)

Cleared with respect to radio link infrastructure operated by:-

Northern Powergrid (Yorkshire) Limited and National Grid Gas Networks

Please note that as a result of revised turbine parameters, our earlier objection of 26th October 2012 is now withdrawn.

JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry together with the Water Industry in north-west England.This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However,if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, you are advised to seek re-coordination prior to submitting a planning application, as this will negate the possibility of an objection being raised at that time as a consequence of any links assigned between your enquiry and the finalisation of your project.

JRC offers a range of radio planning and analysis services. If you require any assistance, please contact us

by phone or email.

Regards

Keith Brogden

Wind Farm Team

The Joint Radio Company Limited
Dean Bradley House,
52 Horseferry Road,
LONDON SW1P 2AF
United Kingdom

DDI: +44 20 7706 5197
TEL: +44 20 7706 5199
Skype: keithb_jrc

<keith.brogden@jrc.co.uk>

Gmail by Google

Thomas Chappell <thomas@theenergyworkshop.co.uk>

Turbine Query - Spring Brook

Windfarm Team <windfarms@jrc.co.uk> 26 October 2012 12:22
To: thomas@theenergyworkshop.co.uk
Cc: Mark Taylor <mark.taylor@northernpowergrid.com>, Andy Sharp <andy.sharp@northernpowergrid.com>, Steve Williams <steve.williams@northernpowergrid.com>, Dave Tedstill <dave.tedstill@northernpowergrid.com>, Ian Hawyard <ihawkyard@northerngas.co.uk>, Neil Hampshire <nhampshire@northerngas.co.uk>

Dear Mr Chappell,

Thank you for the opportunity to comment on the proposed development.

JRC analyses proposals for wind energy developments on behalf of the UK Energy Industry. JRC assesses the potential of such developments to interfere with radio systems operated by Energy Industry companies in support of their regulatory operational requirements.

The Energy Industry considers that any wind energy development within 1km of a link operating below 1 GHz or 0.5 km of a link operating above 1 GHz, requires detailed coordination.For turbines with a blade diameter of 32m or less this distance is reduced to 0.5km for links below 1 GHz and 0.3km for links above 1 GHz. Unfortunately, part (or all) of the proposed development is located within the coordination zone of the site, or path, managed by JRC.

The affected link(s) is/are:-

Spring Brook T1 hub 90m blades 50m
Grid ref 424820 400350

460MHz Telemetry and Telecontrol:

JEYANS1 WHARNCLIFFE YE (S YORKS) GB 431100 396800
to JEYANO8 HAZLEHEAD SS (S YORKS) GB 417700 404800 - 15566m

JEYNS1 WHARNCLIFFE YE (S YORKS) GB 431100 396800
to JEYNO8 HAZLEHEAD SS (S YORKS) GB 417700 404800 - 15566m

Other Links:

YoUHFL11 Wharncliffe YE 431100 396800
to Hazelhead 417700 404800 - 15566m

> 1 GHz Microwave Point to Point:

N/A

Licensed -

AS A CONSEQUENCE, JRC OBJECTS TO THE PROPOSED DEVELOPMENT ON BEHALF OF Northern Powergrid, Northern Gas Networks AND ITSELF.

Please note that the above link end grid references are given to 100m accuracy only by request of the utilities. This is to aid possible re-positioning of the turbines in order to overcome the objection. These should not be used to calculate accurate distances from link to turbine.

In some cases developments can be sited within the coordination zone without the need for detailed analysis. In the first instance JRC require that all information used above is checked and verified by the developer. In order for us to accurately screen each development we require the following:

• Accurate grid references - six-figure easting and six-figure northing - for each turbine

• Turbine hub height and rotor radius (if not supplied our default of 90m hub and 50m rotor radius will be used)

• Any micrositing allowance.

• Ordnance Survey map or Google Earth image with scale and grid references including site boundary.

Please forward all the above information to windfarms@jrc.co.uk, if not supplied initially.

Recognising that development of wind energy is a UK Government priority and that many JRC member companies themselves are wind energy developers, provided the above information has been supplied and the objection remains, JRC is willing to cooperate in investigating whether there are ways in which this objection may be mitigated. Essentially, this is a two stage process:

1. DETAILED COORDINATION.
The services we manage are part of the UK Critical National Infrastructure. We are legally responsible for these services and cannot accept the findings of third-party coordination or protection assessments. The protection criteria determined for Energy Industry radio systems can be found at <http://www.jrc.co.uk /windfarms/>.
A detailed coordination will be undertaken for a fee that will be determined once the location and dimension of the wind turbines are confirmed. This fee is payable whether or not the detailed coordination is successful.
Detailed Coordination provides an assessment of whether there is likely to be any significant interference to the Energy Industry radio service. If the calculations reveal a low probability of interference, based on the design of the project at that stage, the objection may be withdrawn, although JRC must be advised of any subsequent changes to the design as a reassessment must then take place.

2. FULL IMPACT ASSESSMENT.
If the proposal fails the initial Detailed Coordination, or it is obvious from the outset that it will fail, JRC is willing to undertake a Full Impact Assessment to investigate mitigation options. JRC now has substantial experience of undertaking communication system impact assessments and mitigation work for wind farm developers. We will provide a quotation for any work prior to commencement and would expect to undertake the assignment in stages to enable the options to be reviewed in order to proactively manage the cost. Whilst JRC cannot guarantee to be able to identify cost effective alternatives in every case, our experience to date is that solutions can often be found that are acceptable to all parties.

If you wish to further explore these options, please contact Ted Aksamit <Ted.Aksamit@JRC.co.uk> - telephone 07976 879870.

The objection shall be withdrawn either when a satisfactory coordination has been achieved and the zone of protection is implemented, or when an appropriate mitigation agreement is in place.

NOTE:The protection criteria determined for Energy Industry radio systems can be found at <http://www.jrc.co.uk/windfarms/>.

Regards

Wind Farm Team

The Joint Radio Company Limited
Dean Bradley House,
52 Horseferry Road,
LONDON SW1P 2AF
United Kingdom

Office: 020 7706 5199