

**From:** DIO ODC-IPS SG2a  
**Sent:** 29 October 2014 09:13  
**To:**  
**Subject:** FW: Hill of Lychrobbie DIO19464  
**Attachments:** 20131129-Windfarm-Planning Applications-DIO19464\_Concerns-U.doc

The decision to object to the Hill of Lychrobbie development pre-dates the review. I attached the RAF's notification to DIO. The review set out to identify where we could withdraw our objection to developments; we have maintained our objection to Lychrobbie, so the Lychrobbie development does not specifically figure in the outcome of the review.

I have taken advice from our radar specialist and ATC SME on your suggestions that the scope of the development may be reduced or that the turbine might be lined up away from the radar head. I am afraid their conclusion is that neither of these options would provide viable mitigation. Our radar specialist comments as follows:

"Given my experience of observing wind turbines on radar displays I don't believe that it would be possible to 'hide' turbines behind one another. If the turbines were aligned to always face the radar, their rotation was precisely synchronised and the second turbine was within the radar shadow of the first one then it may be that a single return would be observed. In this configuration however it is also likely that the radar shadow would extend much further than for a single turbine."

Kind regards

Safeguarding Officer - Infrastructure Professional Services -  
Safeguarding  
DIO Operations Development and Coherence  
**Defence**  
**Infrastructure**  
**Organisation**

**Telephone** | **MOD Telephone** | **Fax**  
Email: [DIOODC-IPSSG2a](mailto:DIOODC-IPSSG2a)  
Website: [www.gov.uk/mod-safeguarding](http://www.gov.uk/mod-safeguarding)

**From:**  
**Sent:** 24 October 2014 16:14  
**To:** DIO ODC-IPS SG2a  
**Subject:** Re: Hill of Lychrobbie DIO19464

This does seem surprisingly vague.

Can you confirm whether there is, or is not, a specific reference to Hill of Lychrobbie in the report of the review of RAF Lossiemouth ATC carried out by RAF 1 Group Safeguarding SMEs in May 2014?

Regards

25/06/2015

Wind Harvest Limited

On 24 Oct 2014, at 15:47, DIO ODC-IPS SG2a  
wrote:

We spoke earlier in the week and you asked if you could have site of the assessment of the impact of the Lychrobbie assessment which came out of the Lossiemouth review.

The RAF have asked me to draw your attention to the following section from the Burn of Whilk assessment previously provided:

“During this visit, the ATC SMEs observed that there was an area of multiple primary radar returns that was constantly changing shape and size in the vicinity of the Burn of Whilk development. These returns cause a significant problem for RAF Lossiemouth Air Traffic Controllers when controlling aircraft inbound to the airfield from the north and north-east, particularly when other aircraft are routing in and out of Tain Range. This impacts on the provision of Air Traffic Services to aircraft operating in the Moray Bowl and the provision of Lower Airspace Service (LARS) in the area. LARS is used to help separate different flying activities and enhance flight safety in a given area. This service is available to any aircraft operating in uncontrolled airspace, from ground level up to 10,000 ft, within a 40 nm radius of Lossiemouth; however, services are often provided under the LARS scheme to aircraft beyond these limits. LARS is regarded as a very important service which is sponsored by the Department for Transport (DfT) and is determined by the Assistant Director Airspace Policy 2 (ADAP2) as key to enhancing the levels of safety of the airspace in an area that can be busy with a mixture of aviation activities.”

This rationale also applies to the Lychrobbie turbines.

Kind regards

Safeguarding Officer - Infrastructure Professional Services - Safeguarding  
DIO Operations Development and Coherence  
**Defence**  
**Infrastructure**  
**Organisation**

Telephone: | MOD Telephone: Fax:  
Email: [DIOODC-IPSSG2a](mailto:DIOODC-IPSSG2a)  
Web-site: [www.gov.uk/mod-safeguarding](http://www.gov.uk/mod-safeguarding)



## 1Gp Headquarters

WO Battlespace Management Capability  
Safeguarding

Defence Infrastructure Organisation - Safeguarding

Tel:  
DFTS  
Email:

See Distribution

Reference: 20131129-Windfarm-Planning  
Applications-DIO19464-concerns-U

Date: 29 Nov 2013

### HILL OF LYCHROBBIE 2 (DIO19464) WIND FARM DEVELOPMENT PROPOSAL - CONCERNS

1. DIO requested that HQ 1 GP BM Safeguarding provide comments regarding the proposal to erect 3 x 74m turbine wind farm at Hill of Lychrobbie 2. Following a detailed examination of the proposal and the anticipated impact on ATC radars it has been shown by DE&S that the wind farm would be in Radar Line-of-Sight (RLOS) to the radars at RAF Lossiemouth.

2. HQ 1 GP has concerns with the development at Hill of Lychrobbie 2. Closer examination of the impact of radar Line-of-Sight (RLOS), when considered in relation to ATC usage of Airspace in the region, has identified that the proposal could have a significant and detrimental affect on operations at RAF Lossiemouth. It has been shown that where RLOS to Primary Surveillance Radar (PSR) exists, the wind-turbines will appear as genuine aircraft targets and will mask aircraft responses. The radar may also be desensitised by its clutter processing within the sector containing wind turbines meaning that aircraft may disappear from radar. Shadowing of aircraft at similar radar to target elevation angles as the wind turbines may also occur, further degrading radar performance.

Location	Conflicting Radar	Units and Radar Affected	DIO No.
Hill of Lychrobbie 2	Lossiemouth PSR	RAF Lossiemouth (PSR)	19464

3. HQ 1 Gp has taken all of these factors into consideration in assessing the Hill of Lychrobbie 2 development. Research into mitigations solutions is currently ongoing and investigation into suitable mitigation solutions is worthy of consideration.

WO  
for AOC 1 Group

Distribution:

DIO Sutton Coldfield

Emailed info to:

RAF Lossiemouth (SATCO)