



# Ministry of Defence

Air Command Secretariat  
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Royal Air Force  
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**Our Ref: FOI2017/06449**

[REDACTED]

17 July 2017

Dear [REDACTED],

Thank you for your email of 3 July 2017 about Trial Bellowing Denims.

You requested:

*Please provide the following information in relation to Trial Bellowing Denims, conducted by the Air Warfare Centre in May 2010:*

- 1. The locations to which each of the trial threat systems were deployed.*
- 2. The actions taken in response to each of the recommendations of the trial report.*

I am treating your correspondence as a request for information under the Freedom of Information Act 2000 (FOIA).

I am writing to confirm that the Ministry of Defence (MOD) holds the information on the subject you have requested.

Below is the information you requested:

## **Question 1**

The locations to which each of the trial threat systems were deployed are:

- Kirkbride Airfield, Cumbria
- Low Tarns Farm, Cumbria
- Round Hill Sandpit, Nr Aldoth, Cumbria

## **Question 2**

**Recommendation** - It is recommended that, until more conclusive evidence can be obtained, steps should be taken to prevent the proliferation of wind turbine farms within the operating ranges of the ground threat radar equipment utilised on a day to day basis at RAF Spadeadam.

**Action** - The Air Warfare Centre was tasked to gather further evidence on the effects of wind farms on RAF Spadeadam's representative ground threat radar systems; this was conducted as Trial BELLOWING DENIMS Stage 2 between the 27 June and 1 July 2011.

**Recommendation** - It is recommended that, prior to any further trial of this nature, the Spadeadam Integrated Command, Control and Communication System (SPICCCS) software is upgraded to facilitate the use of a 'wind turbine' function key to enable operators to record on SPICCCS when problems encountered were directly attributable to the presence of wind turbines.

**Action** - The follow-on trial, Trial BELLOWING DENIMS Stage 2, was designed and executed without the desirable modification. Absence of the modification meant that the efficiency of data gathering efficiency was not improved; it did not alter the outcome of Trial BELLOWING DENIMS Stage 2.

**Recommendation** - It is recommended that, due to the overheating issues encountered with this equipment, any future trials are designed with longer periods between sorties. This would facilitate a longer 'cooling down' period for the system and would allow the operators more time to investigate and repair any malfunctions.

**Action** - The period between sorties was considered during the design, planning, and execution of Trial BELLOWING DENIMS Stage 2.

**Recommendation** - It is recommended that a further trial is conducted to test the equipment which was unserviceable during Trial BELLOWING DENIMS to establish any effects caused by the presence of wind turbines.

**Action** - Trial BELLOWING DENIMS Stage 2 was conducted in June/July 2011 against the following RAF Spadeadam ground threat radar systems: SA-6, SA-8, Skyguard and T43 v4 emulator.

**Recommendation** - It is recommended that any further trials are conducted against wind turbines with minimum levels of surrounding terrain clutter, ideally a large wind farm located at sea such as Robin Rigg.

**Action** - Trial BELLOWING DENIMS Stage 2 was conducted against aircraft flown over the Robin Rigg off-shore wind farm.

If you are not satisfied with this response or you wish to complain about any aspect of the handling of your request, then you should contact me in the first instance. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Information Rights Compliance team, 2<sup>nd</sup> Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.uk). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not investigate your case until the MOD internal review process has been completed. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website, <http://www.ico.gov.uk>.

Yours sincerely



Air Command Secretariat