

[REDACTED]  
[REDACTED]

12 January 2017  
Reference: F0002997

Dear [REDACTED]

I am writing in respect of your request of 17 November 2016, for the release of information held by the Civil Aviation Authority (CAA). I am sorry for the delay in responding to your request.

Your request:

*'As per Mr Swan's letter to Mr Wingate dated 23<sup>rd</sup> May 2016, can you please provide me with the following information under the Freedom of Information Act:*

- 1. Details of any operational issues arising from Gatwick ATC and London Terminal Control at Swanwick and*
- 2. Details of any operational issues raised by the aircraft operators.'*

Our response:

Having considered your request in line with the provisions of the Freedom of Information Act 2000 (FOIA), please refer to attachment 1, where you will find a copy of the information that falls within the scope of your request.

You will find that we have redacted limited information within the attached document where it would identify a particular organisation, in most cases an aircraft operator.

It is the CAA's view that disclosure of information about operational or performance related issues relating to specific aircraft operators, in the absence of any context that would allow the wider public to understand the significance (or otherwise) of that information, would be likely to negatively influence the view that current and potential customers have of those organisations. Such disclosure could potentially cause unjustifiable damage to the organisations' reputation and engages Section 43(2) of the FOIA as it is information that would, if disclosed, be likely to prejudice the commercial interests of the organisations involved.

As this is a qualified exemption, the CAA has considered whether the public interest in disclosing the information outweighs the public interest in maintaining the exemption.

**Civil Aviation Authority**

Aviation House Gatwick Airport South Gatwick RH6 0YR. [www.caa.co.uk](http://www.caa.co.uk)

Telephone: 01293 768512. [foi.requests@caa.co.uk](mailto:foi.requests@caa.co.uk)

The CAA recognises the public interest in transparency, open government and the public right of access to information held.

However, there is a strong public interest in organisations being able to carry out their commercial activities in a fair environment, without unfair damage to their reputation. The information redacted is limited to that which enables the identification of particular organisations, and therefore is unlikely to affect the public's understanding of any operational issues raised in relation to Route 4.

After considering the arguments outlined above, the CAA has concluded that, in all the circumstances of the case, the public interest in disclosure is outweighed by the public interest in maintaining the exemption and we have withheld the redacted information under section 43(2) of the FOIA. A copy of this exemption can be found below.

We have also redacted some personal information in accordance with S40(2) of the FOIA as to release the information would be unfair to the individuals concerned and would therefore contravene the first data protection principle that personal data shall be processed fairly and lawfully. A copy of this exemption can be found below.

If you are not satisfied with how we have dealt with your request in the first instance you should approach the CAA in writing at:-

Caroline Chalk  
Head of External Information Services  
Civil Aviation Authority  
Aviation House  
Gatwick Airport South  
Gatwick  
RH6 0YR

[caroline.chalk@caa.co.uk](mailto:caroline.chalk@caa.co.uk)

The CAA has a formal internal review process for dealing with appeals or complaints in connection with Freedom of Information requests. The key steps in this process are set in the attachment.

Should you remain dissatisfied with the outcome you have a right under Section 50 of the FOIA to appeal against the decision by contacting the Information Commissioner at:-

Information Commissioner's Office  
FOI/EIR Complaints Resolution  
Wycliffe House  
Water Lane  
Wilmslow  
SK9 5AF

<https://ico.org.uk/concerns/>

If you wish to request further information from the CAA, please use the form on the CAA website at <http://publicapps.caa.co.uk/modalapplication.aspx?appid=24>.

Yours sincerely



Rihanne Stephen  
Information Rights Officer

**CAA INTERNAL REVIEW & COMPLAINTS PROCEDURE**

- The original case to which the appeal or complaint relates is identified and the case file is made available;
- The appeal or complaint is allocated to an Appeal Manager, the appeal is acknowledged and the details of the Appeal Manager are provided to the applicant;
- The Appeal Manager reviews the case to understand the nature of the appeal or complaint, reviews the actions and decisions taken in connection with the original case and takes account of any new information that may have been received. This will typically require contact with those persons involved in the original case and consultation with the CAA Legal Department;
- The Appeal Manager concludes the review and, after consultation with those involved with the case, and with the CAA Legal Department, agrees on the course of action to be taken;
- The Appeal Manager prepares the necessary response and collates any information to be provided to the applicant;
- The response and any necessary information is sent to the applicant, together with information about further rights of appeal to the Information Commissioners Office, including full contact details.

**Freedom of Information Act: Section 43**

- (1) Information is exempt information if it constitutes a trade secret.
- (2) Information is exempt information if its disclosure under this Act would, or would be likely to, prejudice the commercial interests of any person (including the public authority holding it).
- 3) The duty to confirm or deny does not arise if, or to the extent that, compliance with section 1(1)(a) would, or would be likely to, prejudice the interests mentioned in subsection (2).

## **Freedom of Information Act: Section 40**

- (1) Any information to which a request for information relates is exempt information if it constitutes personal data of which the applicant is the data subject.
- (2) Any information to which a request for information relates is also exempt information if-
- (a) it constitutes personal data which do not fall within subsection (1), and
  - (b) either the first or the second condition below is satisfied.
- (3) The first condition is-
- (a) in a case where the information falls within any of paragraphs (a) to (d) of the definition of "data" in section 1(1) of the Data Protection Act 1998, that the disclosure of the information to a member of the public otherwise than under this Act would contravene-
    - (i) any of the data protection principles, or
    - (ii) section 10 of that Act (right to prevent processing likely to cause damage or distress), and
  - (b) in any other case, that the disclosure of the information to a member of the public otherwise than under this Act would contravene any of the data protection principles if the exemptions in section 33A(1) of the Data Protection Act 1998 (which relate to manual data held by public authorities) were disregarded.
- (4) The second condition is that by virtue of any provision of Part IV of the Data Protection Act 1998 the information is exempt from section 7(1)(c) of that Act (data subject's right of access to personal data).
- (5) The duty to confirm or deny-
- (a) does not arise in relation to information which is (or if it were held by the public authority would be) exempt information by virtue of subsection (1), and
  - (b) does not arise in relation to other information if or to the extent that either-
    - (i) the giving to a member of the public of the confirmation or denial that would have to be given to comply with section 1(1)(a) would (apart from this Act) contravene any of the data protection principles or section 10 of the Data Protection Act 1998 or would do so if the exemptions in section 33A(1) of that Act were disregarded, or
    - (ii) by virtue of any provision of Part IV of the Data Protection Act 1998 the information is exempt from section 7(1)(a) of that Act (data subject's right to be informed whether personal data being processed).
- (6) In determining for the purposes of this section whether anything done before 24<sup>th</sup> October 2007 would contravene any of the data protection principles, the exemptions in Part III of Schedule 8 to the Data Protection Act 1998 shall be disregarded.
- (7) In this section-
- "the data protection principles" means the principles set out in Part I of Schedule 1 to the Data Protection Act 1998, as read subject to Part II of that Schedule and section 27(1) of that Act;
  - "data subject" has the same meaning as in section 1(1) of that Act;
  - "personal data" has the same meaning as in section 1(1) of that Act.

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 28 June 2016 08:23  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations  
**Attachments:** [REDACTED] on 20th June.pptx; [REDACTED] 20th June.pptx

Good morning [REDACTED]

Please can you review the attached track deviations?

Best regards  
[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 14:12  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Deviations

Hi [REDACTED],

We've been looking at track deviations over the last few days and found that were having a few compliance issue with Route 4.

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED] A320, [REDACTED] 20<sup>th</sup> June 2016 [REDACTED], ADMAG2X
- [REDACTED] A319, [REDACTED], 20<sup>th</sup> June 2016 [REDACTED], LAM2X

We've have do weather avoidance reports.

Kindest Regards

Walker James

---

From: [REDACTED]  
Sent: 17 June 2016 08:59  
To: [REDACTED]  
Cc: [REDACTED]  
Subject: Track Deviations LGW Route 4  
Attachments: [REDACTED] - 12th June 2016.pptx; [REDACTED] - 11th June 2016.pptx; [REDACTED] - 12th June 2016.pptx

Good afternoon,

I have been looking into the tracking of the new routing along Gatwick's Route 4 (26LAM) amended route and we're still having a few issues with compliance of the Noise Preferential Route (NPR).

Some departures from Gatwick are still using conventional SID's on the 26LAM Route 4 and we would like to understand why this is. Aircraft using this route should be using ADMAG2X, CLN4X and LAM2X according to the Gatwick AIP.

I have come across three track deviations on this route which have been flagged by our Noise and Track Keeping System in the last few days for [REDACTED]. These deviations have come about despite the new SIDs (ADMAG2X and CLN4X) being used. Could you possibly look into these deviations for us?

I have included maps (attached) and the details of each individual event are listed below:

- [REDACTED], 11/06/16, B752, [REDACTED], 26L, CLN4X, scheduled TOT: [REDACTED], actual [REDACTED], destination: [REDACTED] - ballooned out of the NPR at 3771ft above MSL.
- [REDACTED], 12/06/16, B752, [REDACTED], 26L, ADMAG2X, scheduled TOT: [REDACTED], actual [REDACTED], destination [REDACTED] - ballooned out of the NPR at 3918ft above MSL.
- [REDACTED], 12/06/16, B752, [REDACTED], 26L, ADMAG2X, scheduled TOT: [REDACTED], actual [REDACTED], destination: [REDACTED] - turned wide and ballooned around the NPR.

I should add that there were no weather avoidance reports during these times.

Many thanks for your assistance.

Kind regards,

[REDACTED]

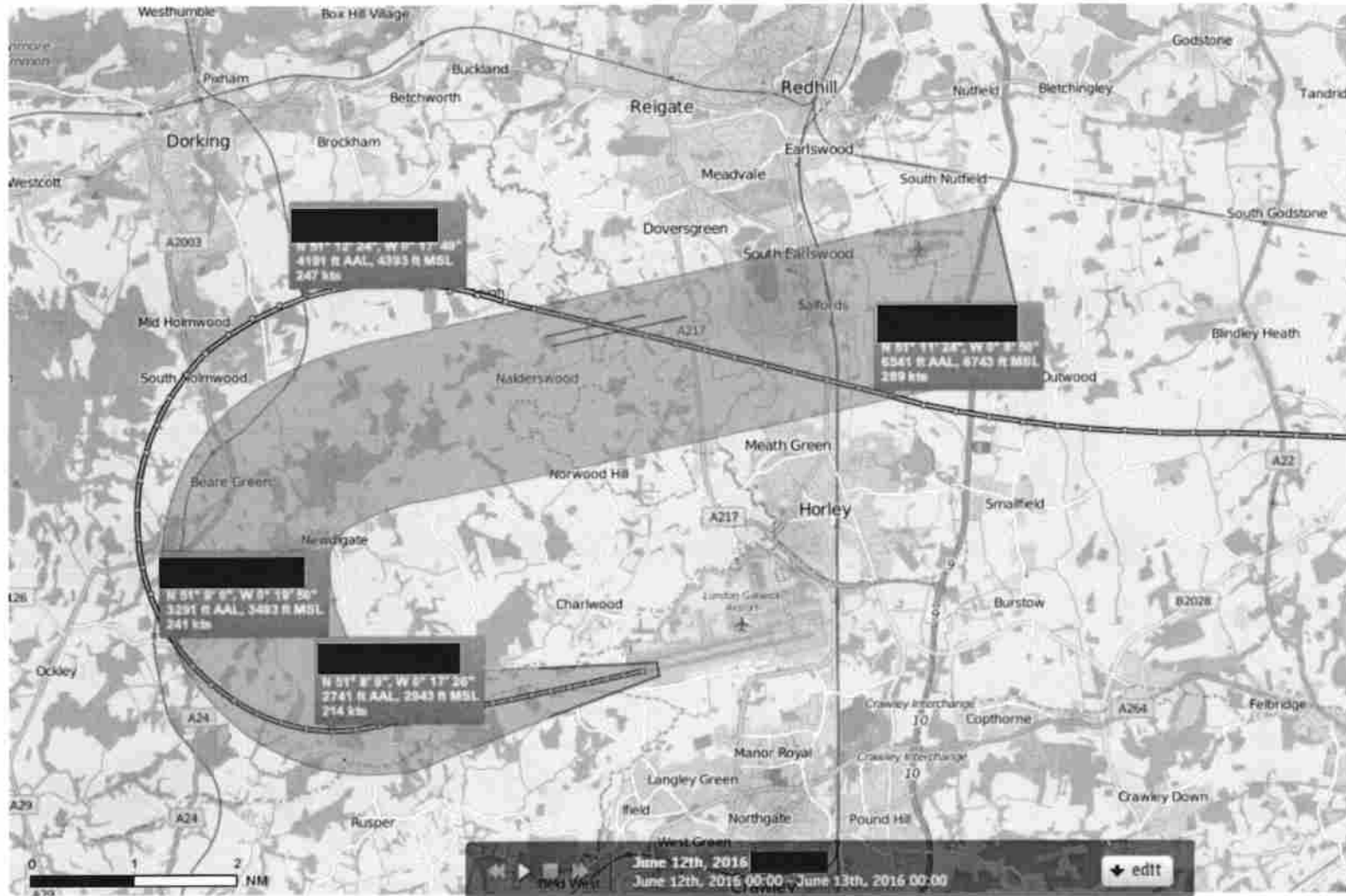
[REDACTED]





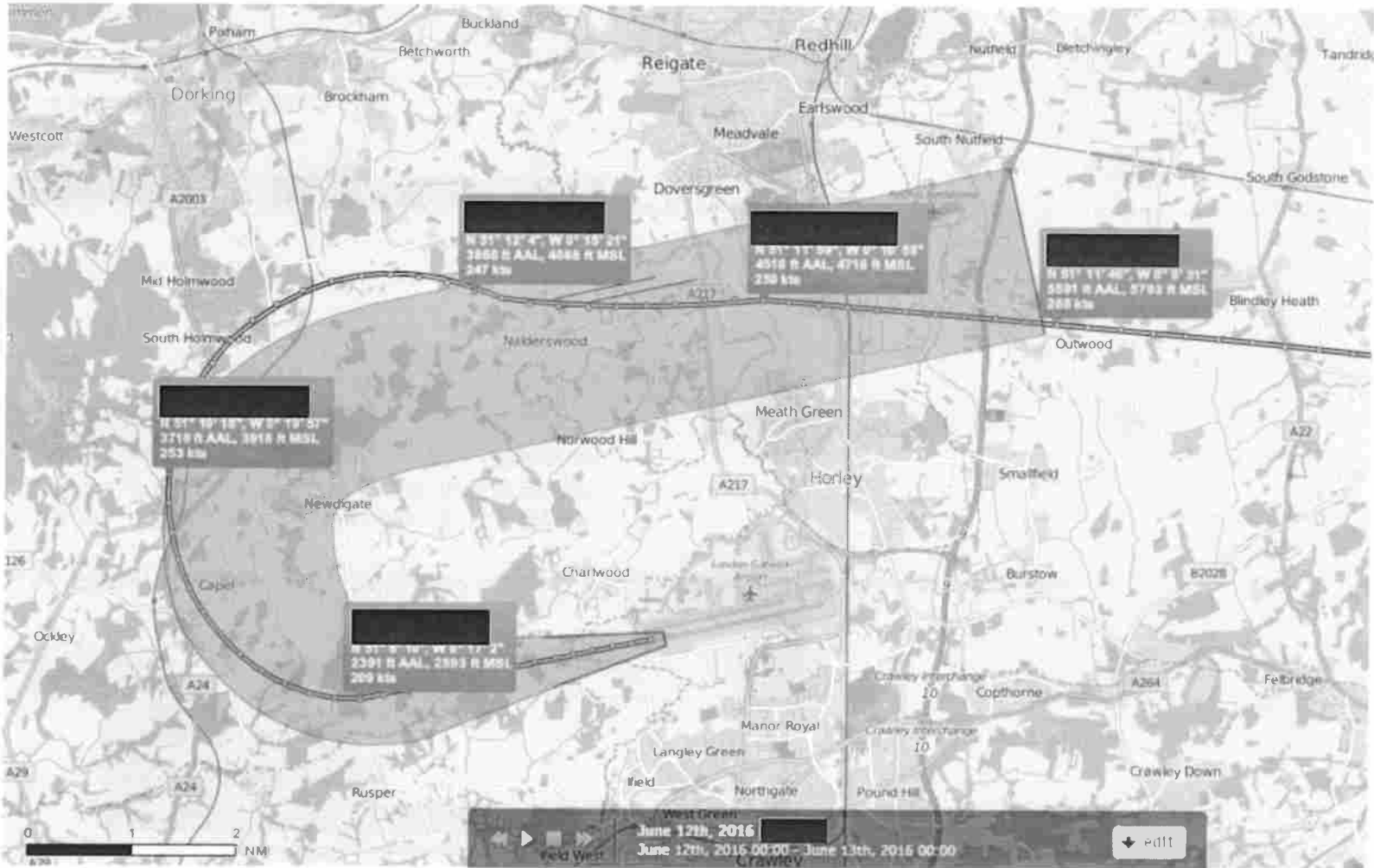


- 12<sup>th</sup> June 2016





– 12<sup>th</sup> June 2016



[REDACTED]

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**From:** [REDACTED]  
**Sent:** 21 June 2016 15:00  
**To:** [REDACTED]  
**Cc:** [REDACTED]; [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations LGW Route 4

Hi [REDACTED],

I've included below the weather conditions recorded for each of the flights in question from our Noise and Track Keeping System.

- [REDACTED] 11/06/16 – windspeed 9 knots, wind direction 110 degrees.
- [REDACTED] 12/06/16 – windspeed 4 knots, wind direction 210 degrees.
- [REDACTED] 12/06/16 – windspeed 4 knots, wind direction 200 degrees.

I hope this is helpful.

Kind regards,

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 14:40  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations LGW Route 4

[REDACTED]

Is it possible to send through any of the environmental conditions (wind read outs) for the days in question?

Thanks very much

Best Regards,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 17 June 2016 07:59  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Deviations LGW Route 4

Good afternoon,

I have been looking into the tracking of the new routing along Gatwick's Route 4 (26LAM) amended route and we're still having a few issues with compliance of the Noise Preferential Route (NPR).

Some departures from Gatwick are still using conventional SID's on the 26LAM Route 4 and we would like to understand why this is. Aircraft using this route should be using ADMAG2X, CLN4X and LAM2X according to the Gatwick AIP.

I have come across three track deviations on this route which have been flagged by our Noise and Track Keeping System in the last few days for [REDACTED]. These deviations have come about despite the new SIDs (ADMAG2X and CLN4X) being used. Could you possibly look into these deviations for us?

I have included maps (attached) and the details of each individual event are listed below:

- [REDACTED], 11/06/16, B752, [REDACTED], 26L, CLN4X, scheduled TOT: [REDACTED], actual [REDACTED], destination: [REDACTED] – ballooned out of the NPR at 3771ft above MSL.

- [REDACTED] 12/06/16, B752, [REDACTED], 26L, ADMAG2X, scheduled TOT: [REDACTED], actual [REDACTED], destination [REDACTED] – ballooned out of the NPR at 3918ft above MSL.
- [REDACTED], 12/06/16, B752, [REDACTED], 26L, ADMAG2X, scheduled TOT: [REDACTED], actual [REDACTED], destination: [REDACTED] – turned wide and ballooned around the NPR.

I should add that there were no weather avoidance reports during these times.

Many thanks for your assistance.

Kind regards,

[REDACTED]

[REDACTED]

\*\*\*\*\*

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[REDACTED]

[REDACTED]

[REDACTED]

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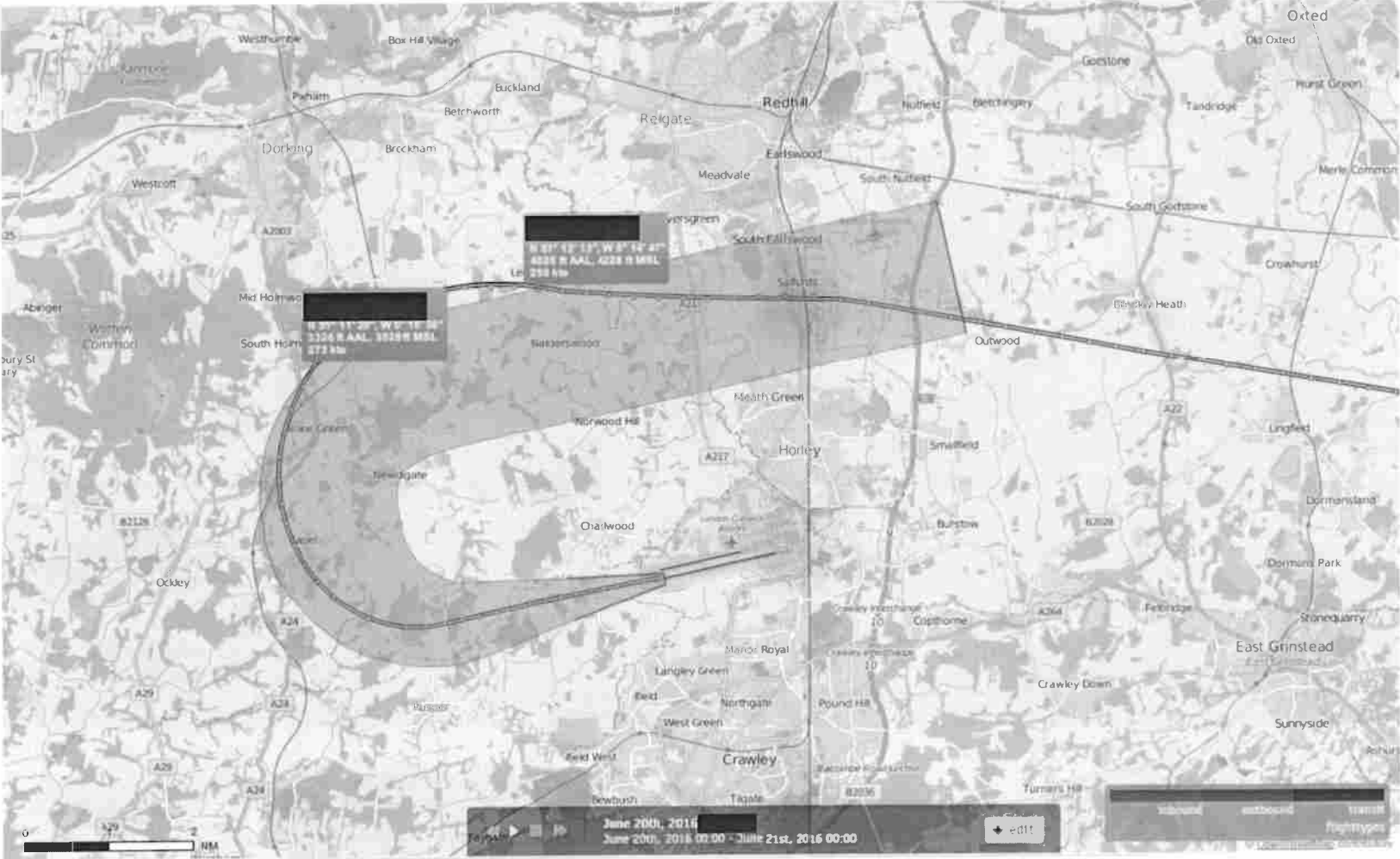
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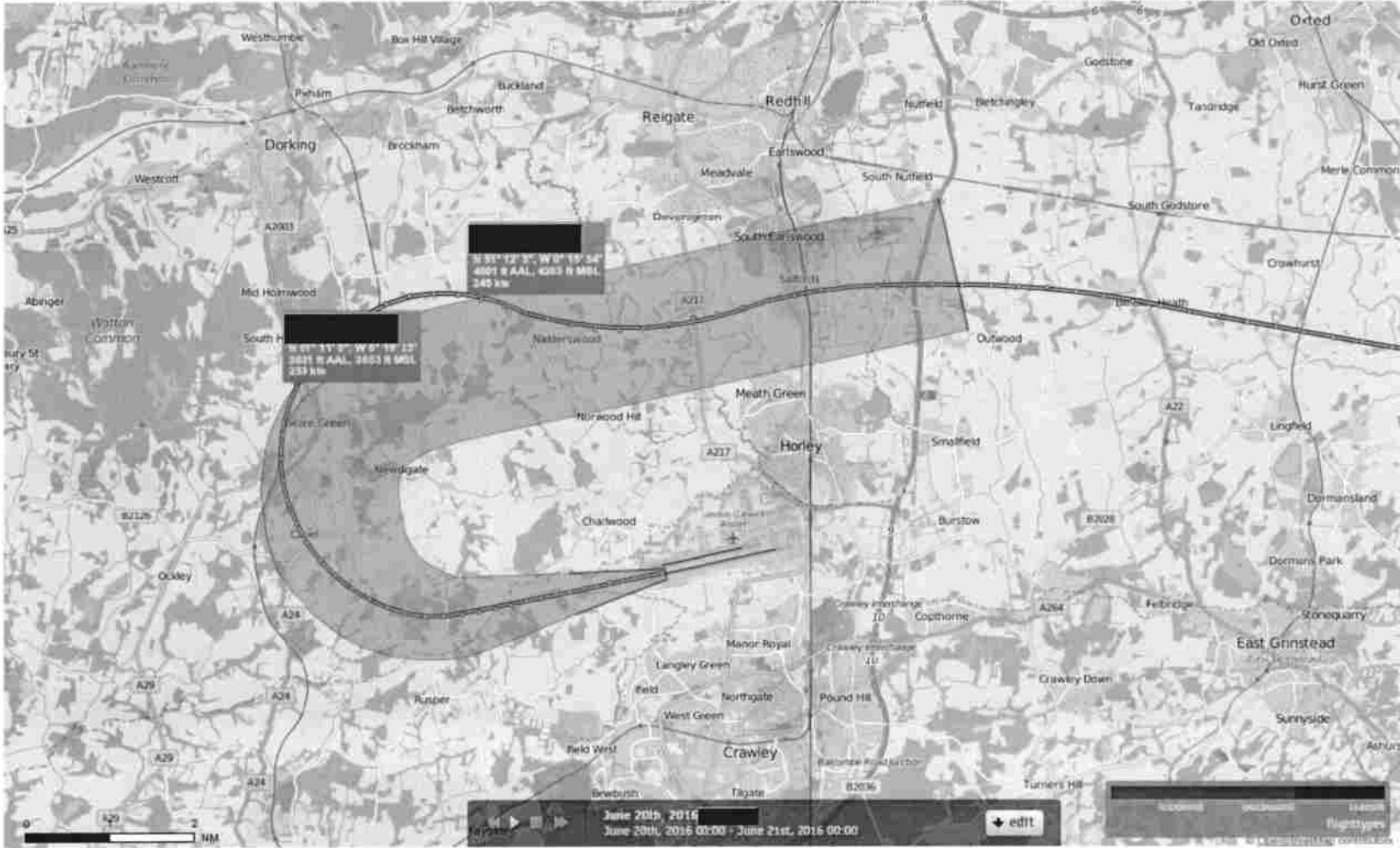
on 20<sup>th</sup> June







on 20<sup>th</sup> June





[REDACTED]

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**From:** [REDACTED]  
**Sent:** 01 July 2016 10:50  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Track Keeping  
**Attachments:** [REDACTED] on 28th June 2016.pptx; [REDACTED] on 28th June 2016.pptx; [REDACTED] on 29th June 2016.pptx; [REDACTED] on 28th June 2016.pptx; [REDACTED] on 28th June 2016.pptx

Hi [REDACTED]

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED], A320, [REDACTED], 28<sup>th</sup> June 2016, [REDACTED], ADMAG2X
- [REDACTED], A320, [REDACTED], 28<sup>th</sup> June 2016, [REDACTED], ADMAG2X
- [REDACTED], A319, [REDACTED], 29<sup>th</sup> June 2016, [REDACTED], ADMAG2X
- [REDACTED], A320, [REDACTED], 28<sup>th</sup> June 2016, [REDACTED], ADMAG2X
- [REDACTED], A320, [REDACTED], 28<sup>th</sup> June 2016, [REDACTED], LAM2X

We've have no weather avoidance reports.

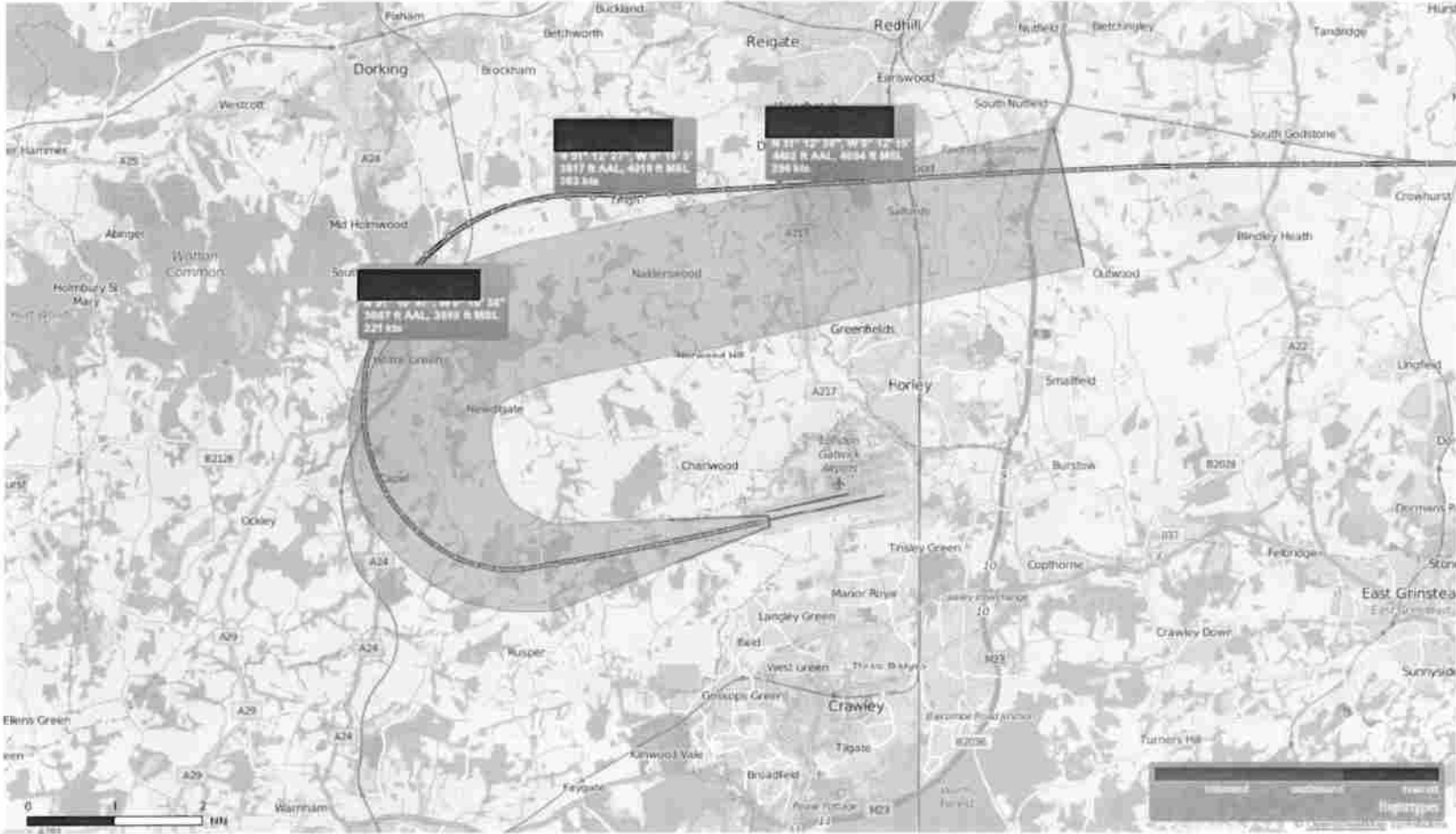
Kindest Regards

[REDACTED]

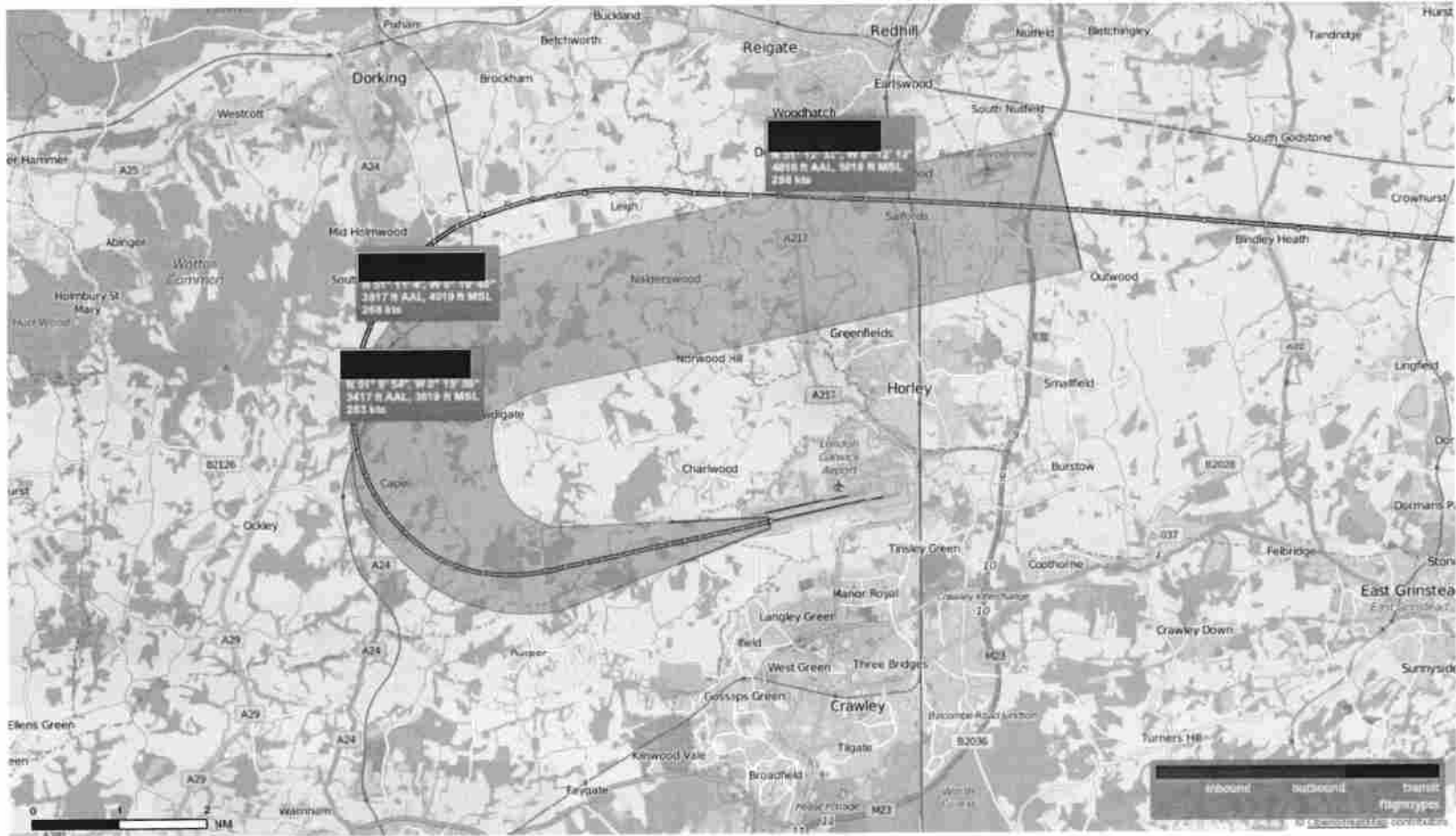
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*Gatwick*



on 28<sup>th</sup> June 2016

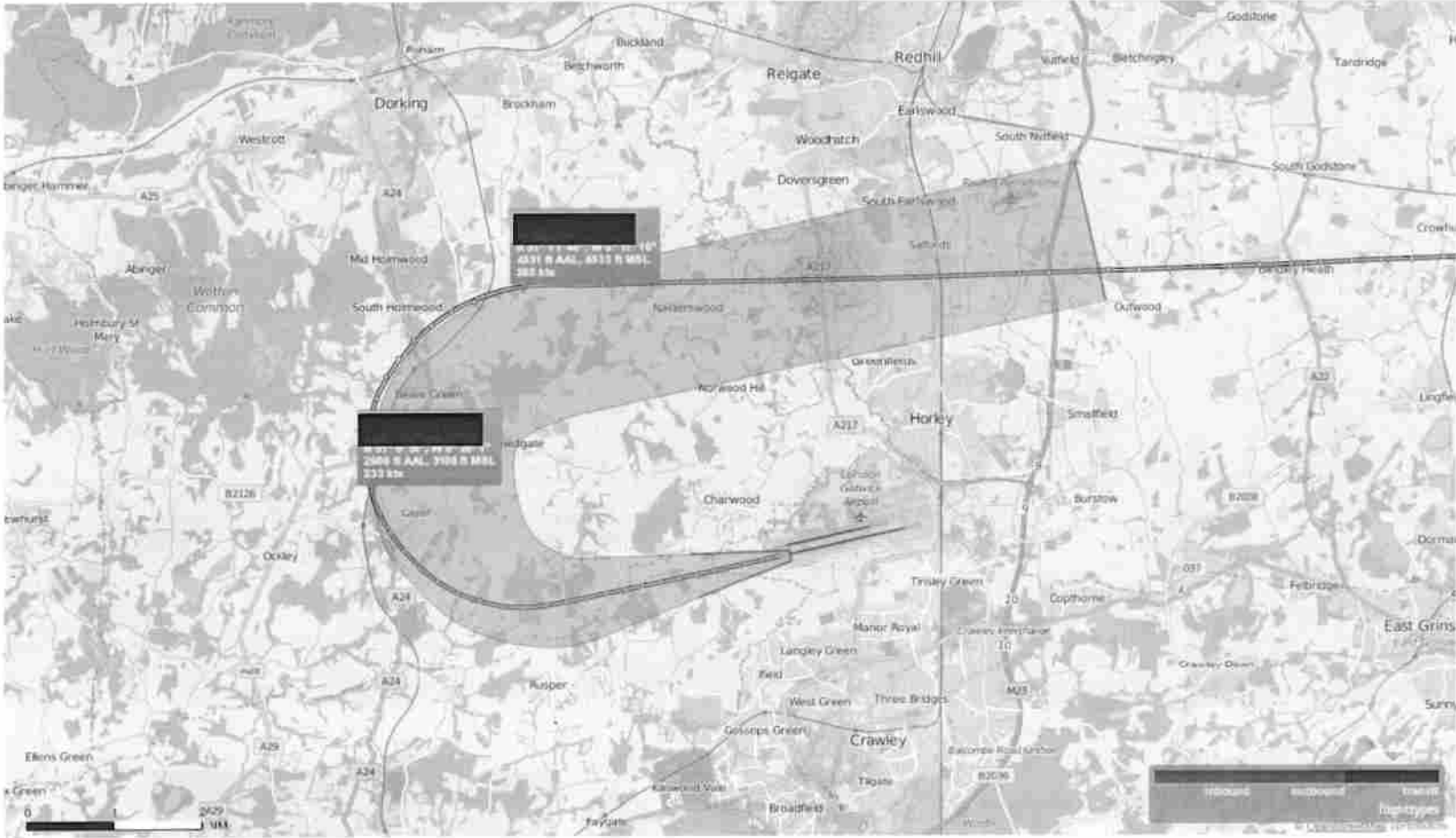


on 28<sup>th</sup> June 2016



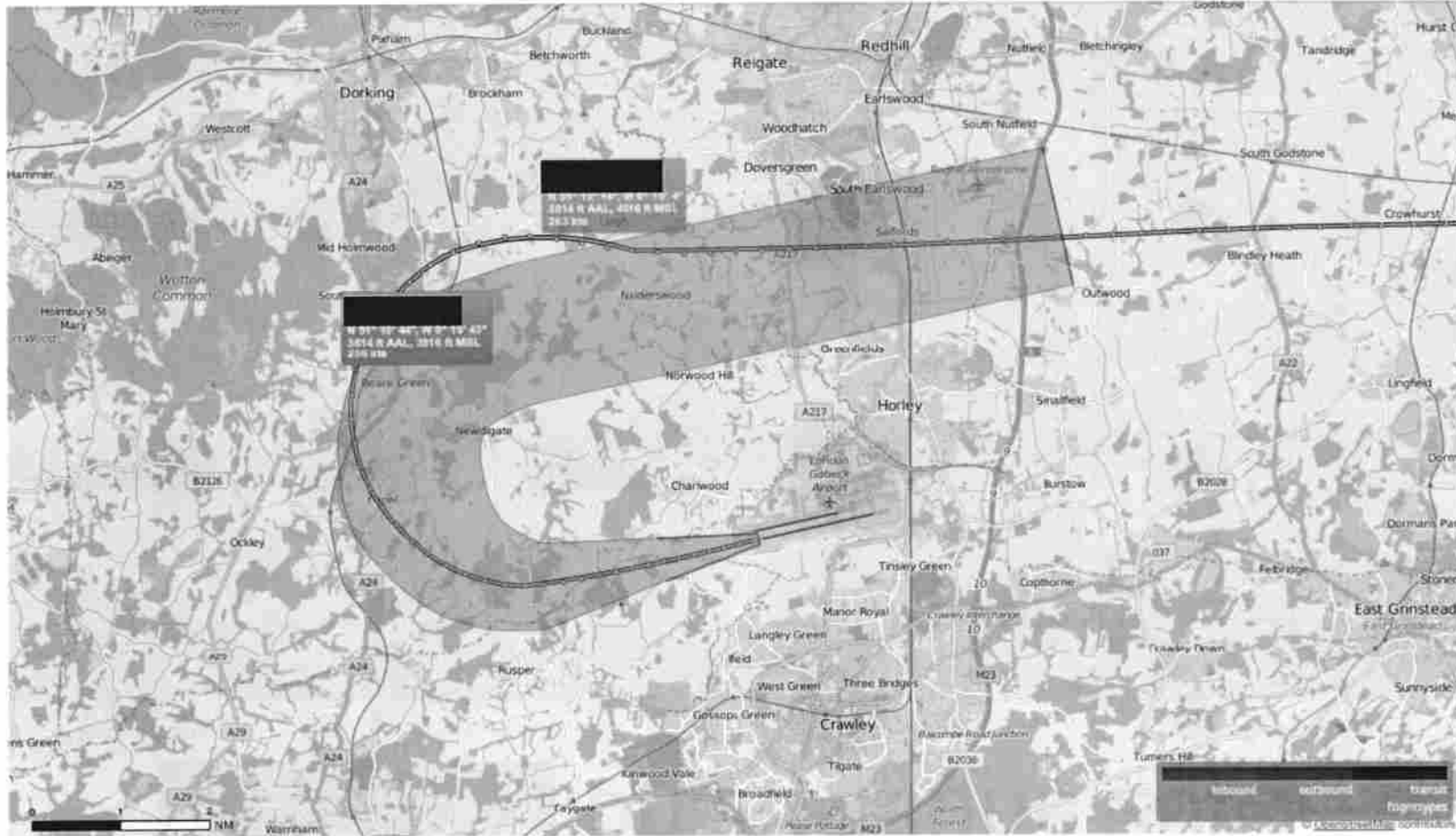


on 28<sup>th</sup> June 2016



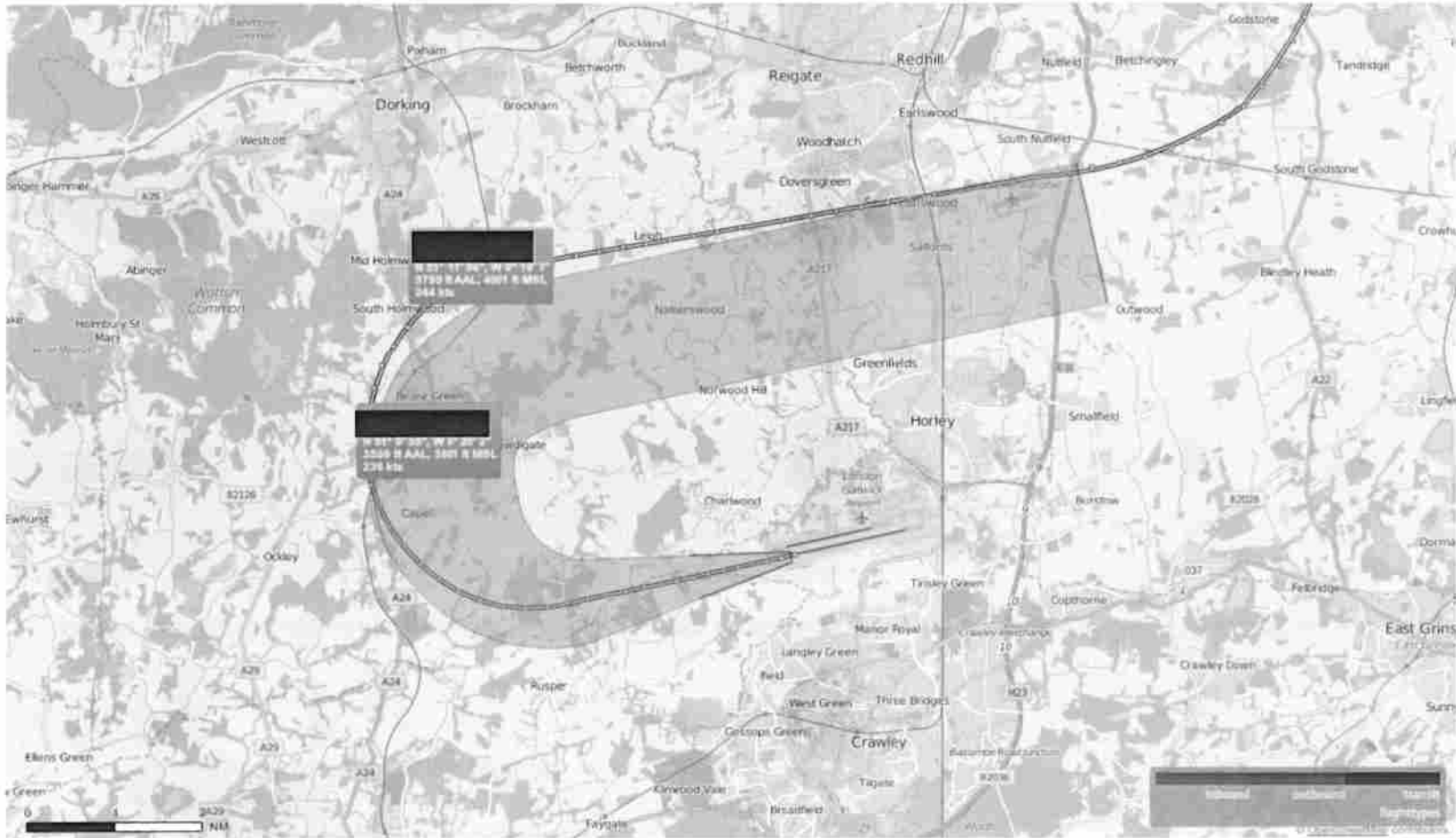


on 29<sup>th</sup> June 2016





on 28<sup>th</sup> June 2016





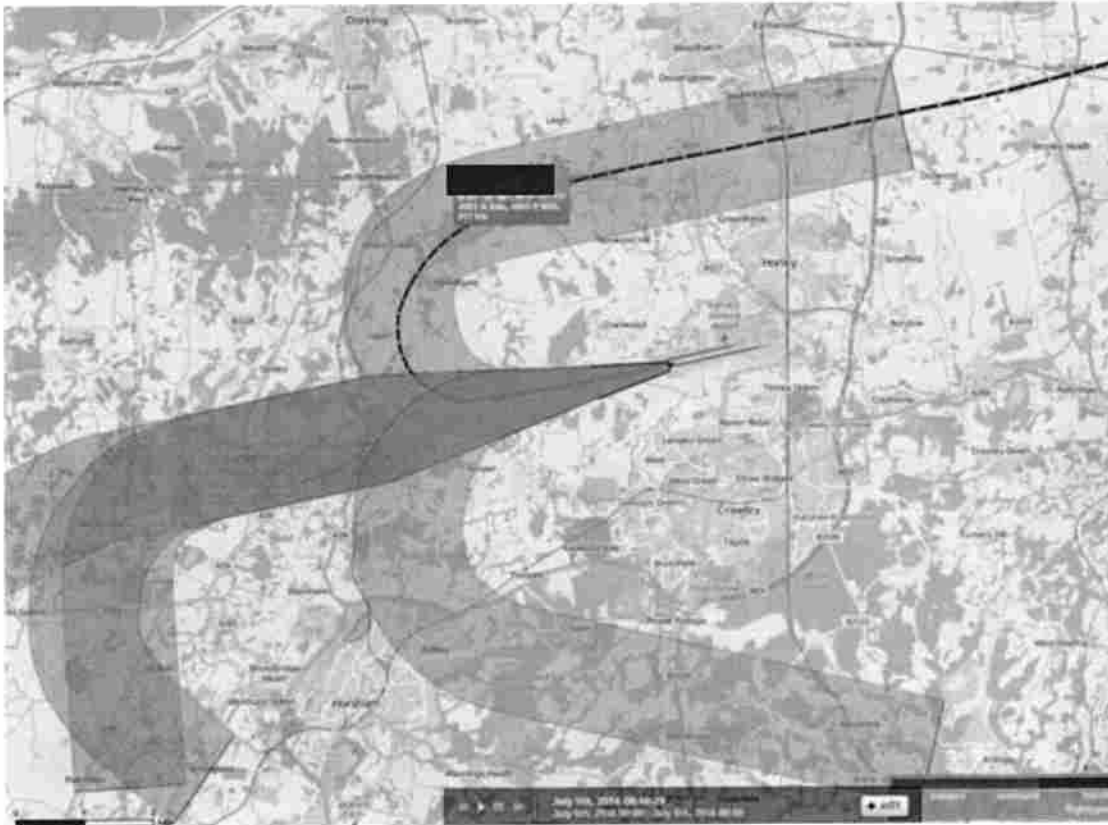
[REDACTED]

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**From:** [REDACTED]  
**Sent:** 07 July 2016 13:54  
**To:** [REDACTED]  
**Subject:** RE: New Route 4 "wrap around" SIDS 26L

Hi [REDACTED],

We are still looking into this issue but I thought it may be useful for you to be aware of the tracks of the flights attached, from the 6<sup>th</sup> and 5<sup>th</sup> July respectively:





This is what is confusing our airspace designers somewhat as these flights have behaved perfectly in relatively similar meteorological conditions to those previously encountered.

I am meeting our airspace people next week and will hopefully have more information to share at that point. We are also continuing to provide the CAA with details of all feedback, including that from the airlines regarding this matter.

With Kind Regards,



[Redacted]

[Redacted]

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*Gatwick*



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**From:** [Redacted]

**Sent:** 04 July 2016 17:47

**To:** [Redacted]

**Subject:** RE: New Route 4 "wrap around" SIDS 26L

Hi [Redacted],

Many thanks for your prompt acknowledgement, it is probably something we should look to action over the coming weeks if possible

[Redacted]

---

**From:** [Redacted]

**Sent:** 04 July 2016 16:52

**To:** [Redacted]

Cc: [REDACTED]

Subject: RE: New Route 4 "wrap around" SIDS 26L

Good Afternoon [REDACTED],

Thank you for your email, since the beginning of the year I have been looking after the implementation of the recommendations of the CAA Post Implementation Review of R-NAV1 departures.

[REDACTED] isn't alone with the various track keeping issues, I'm seeing this across the board in terms of airlines and AC types. While I envisaged ballooning on the turn in strong south-westerlies (as we saw in the flight validation sessions in the sims); we are seeing them even in relatively calm conditions

I have shared your observations with our airspace designers as clearly there is something amiss here but I thought I would write out of courtesy to acknowledge receipt. I'll let you know what I hear back and in the meantime please keep me informed of your observations.

Happy to meet face to face to discuss further if you so wish.

With Kind Regards,

[REDACTED]

[REDACTED]

[REDACTED]

YOUR LONDON AIRPORT

*Gatwick*



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**From:** [REDACTED]  
**Sent:** 04 July 2016 16:36  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** New Route 4 "wrap around" SIDS 26L

Dear Sir/Madam,

Since the introduction of the new LAM2X and ADAMAG 2X SIDS we seem to be in receipt of a regular number of enquiries regarding exceedance of the NPR on these departures.

Having overlaid the previous LAM 1X with LAM 2X it is evident that

1. The intended ground track is considerably further south (and therefore the turn required tighter) than before
2. The coded way points included have moved substantially so after the fly over waypoint on the extended CL the next waypoint is much further down wind.

The 220kt speed restriction is being complied with by our crews and as an RNAV SID they do not edit them in anyway, the FMGC then draws the track once the performance data is entered. The SID coding as presented appears therefore to be complied with - the aircraft being on track by the second waypoint.

We use LIDO supplied charts and have aircraft with both Honeywell and Thales software and the issue seems to affect both types.

Having checked the Met conditions for the reported exceedances they do not appear particularly extreme, surface wind of around 210/10 giving wind aloft circa 250/30.

My concerns with this departure are thus twofold, both of which are likely causes of NPR exceedance.

1. Coding is not set to achieve the ground track GAL are aiming at
2. Lack of confidence, even if the coding is improved, that the aircraft will be able to achieve this tighter downwind turn with southerly winds that are not exceptional.

To that end I would highlight that it is my belief that these SIDS should be immediately and urgently reviewed on a timescale ahead of the next FLOPSC meeting as whilst they may be achieved technically they result in ground tracks outside the NPR routinely. This is obviously a sensitive issue locally.

It is not reasonable therefore to regard airlines as having poor performance in track keeping until such time as it can be proved that the coding is suitable and can be achieved over a range of likely wind conditions.

It is not acceptable to reduce the speed below 220kt –a typical clean speeds for short and medium haul aircraft types- on the following counts:

1. Increased noise resulting from non-clean airframe when flaps and slats are required to fly more slowly
2. Safety is compromised as crew standard clean up SOPs cannot be complied with
3. Fuel burn is increased and is unacceptable on both cost and environmental grounds
4. Any crews reducing speed on their own initiative as they start to realise the recurring poor performance will disrupt ATC and airport flow rates.

Many of these concerns were mooted at previous FLOPSC and are now being realised.

Please can we address this as a matter of urgency for all concerned

[Redacted]

[Redacted]

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**Simmons Mark**

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**From:** [REDACTED]  
**Sent:** 04 July 2016 10:56  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** 26L SIDS with wrap around  
**Attachments:** doc00417220160704100529.pdf; doc00417120160704100513.pdf; doc00417020160704100455.pdf; doc00416920160704100438.pdf

Dear [REDACTED],

I understand you have recently contacted my colleague [REDACTED] with regard to the 26L wrap around SID adaptation. I have attached the expired SID charts that you requested and have consulted the airport regarding the concerns raised in your email to [REDACTED]

To provide you with some background information surrounding the new adaptation:

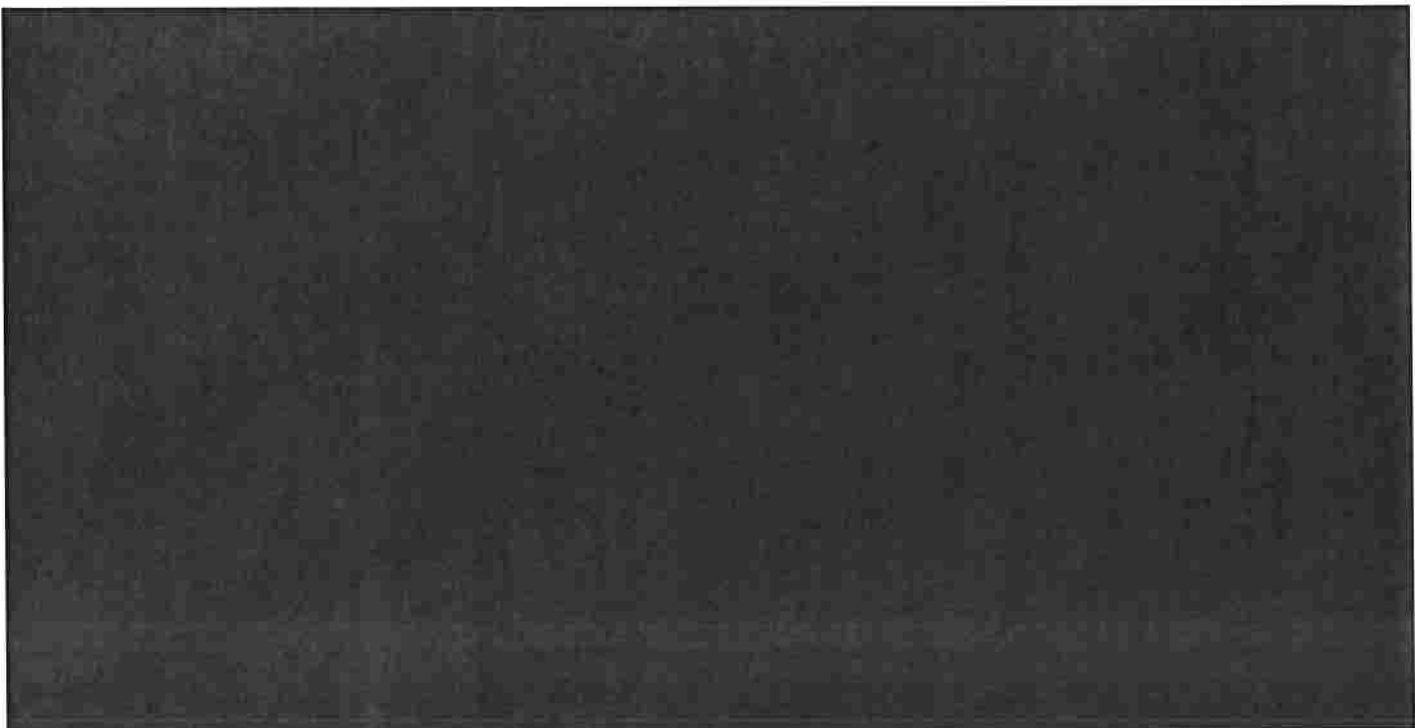
Gatwick introduced R-NAV1 to all of their departures in 2014. The CAA undertook a Post Implementation Review which noted that with the 26L wraparound SIDs, aircraft flew outside of the confines of the Noise Preferential Route, primarily due to the usage of Track to Fix design criteria with the appropriate stabilisation phase between the waypoints.

The CAA required Gatwick to redesign this route to better replicate the historical swathe of departing traffic within the Noise Preferential Route stage of the SID. This was done, using a Course To fix design which was previously unavailable to Gatwick.

This design was flight validated and approved by the CAA who will monitor the adaptation for six months. The environmental team will, as they have previously advised, forward [REDACTED] comments to the CAA for their consideration as part of the overall evaluation of the amendment.

I hope this is helpful to you, please do not hesitate to contact me should you wish to discuss this matter further.

Kindest regards,



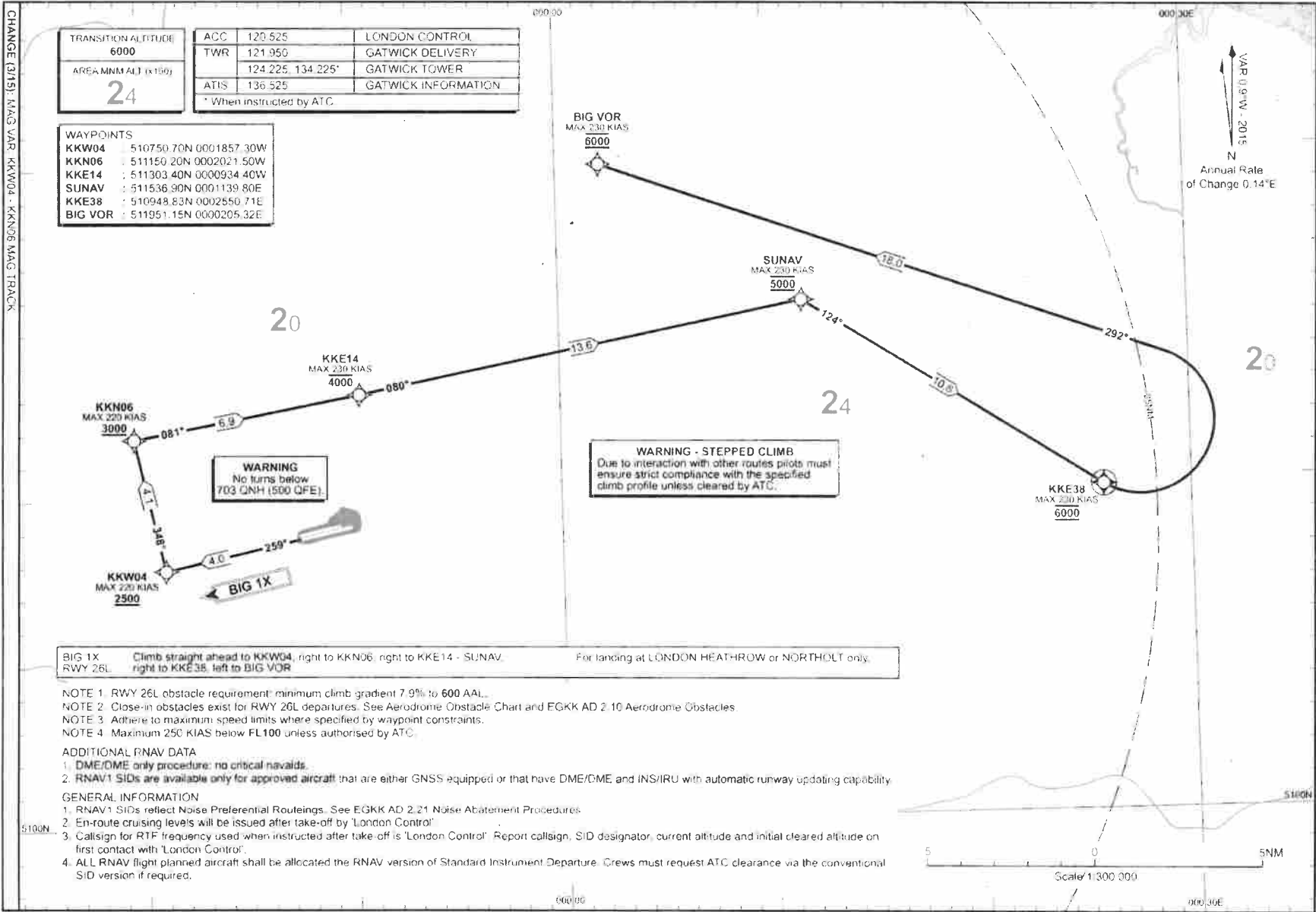




**RNAV1 (DME/DME or GNSS)  
STANDARD DEPARTURE CHART -  
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES  
TRACKS ARE MAGNETIC  
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON GATWICK  
RWY 26L  
BIG 1X**

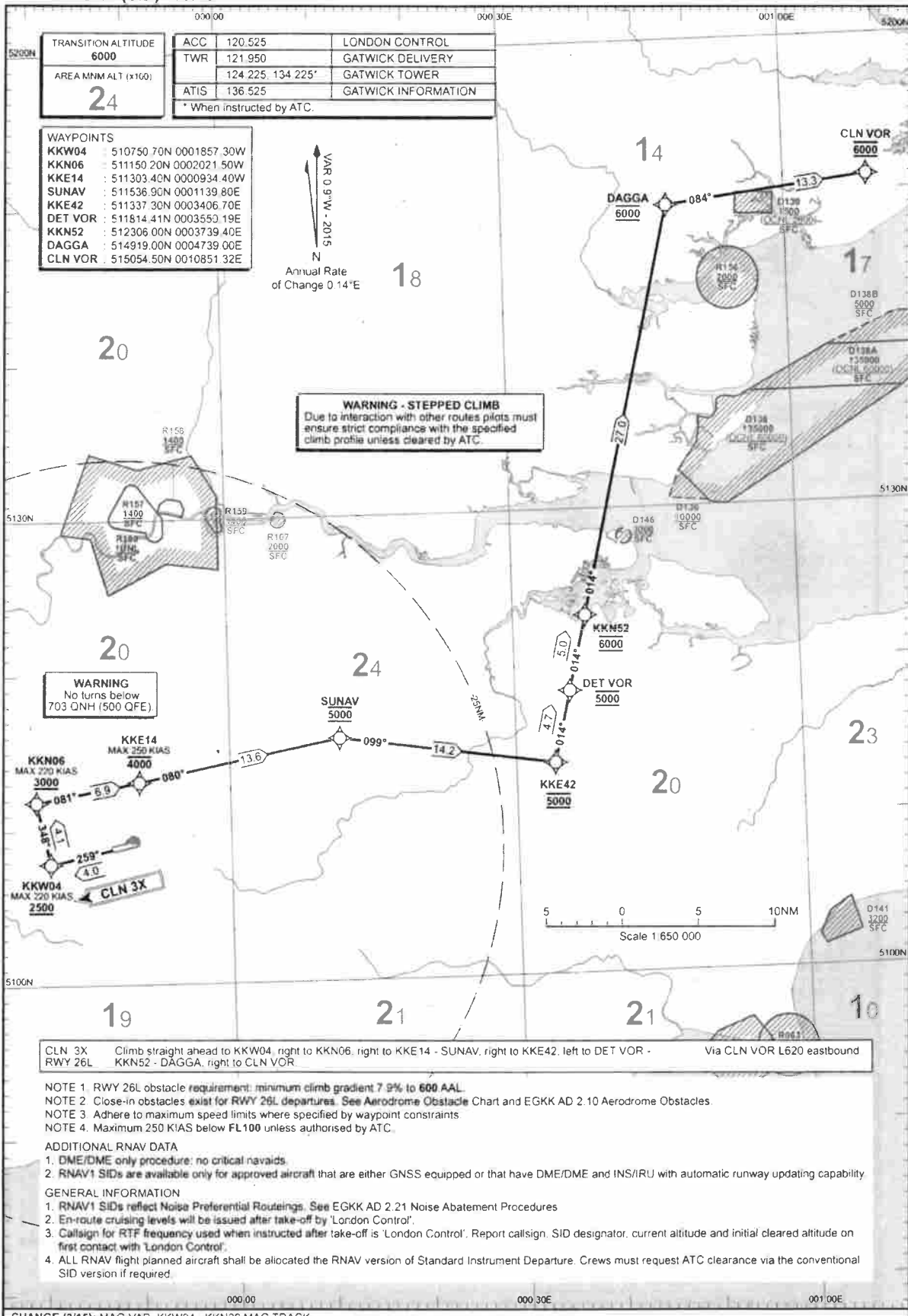


CHANGE (3/15): MAG VAR: KKW04 - KKN06 MAG TRACK  
AERO INFO DATE: 8 DEC 14

**RNAV1 (DME/DME or GNSS)  
STANDARD DEPARTURE CHART -  
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES  
TRACKS ARE MAGNETIC  
ALTITUDES AND ELEVATIONS ARE IN FEET

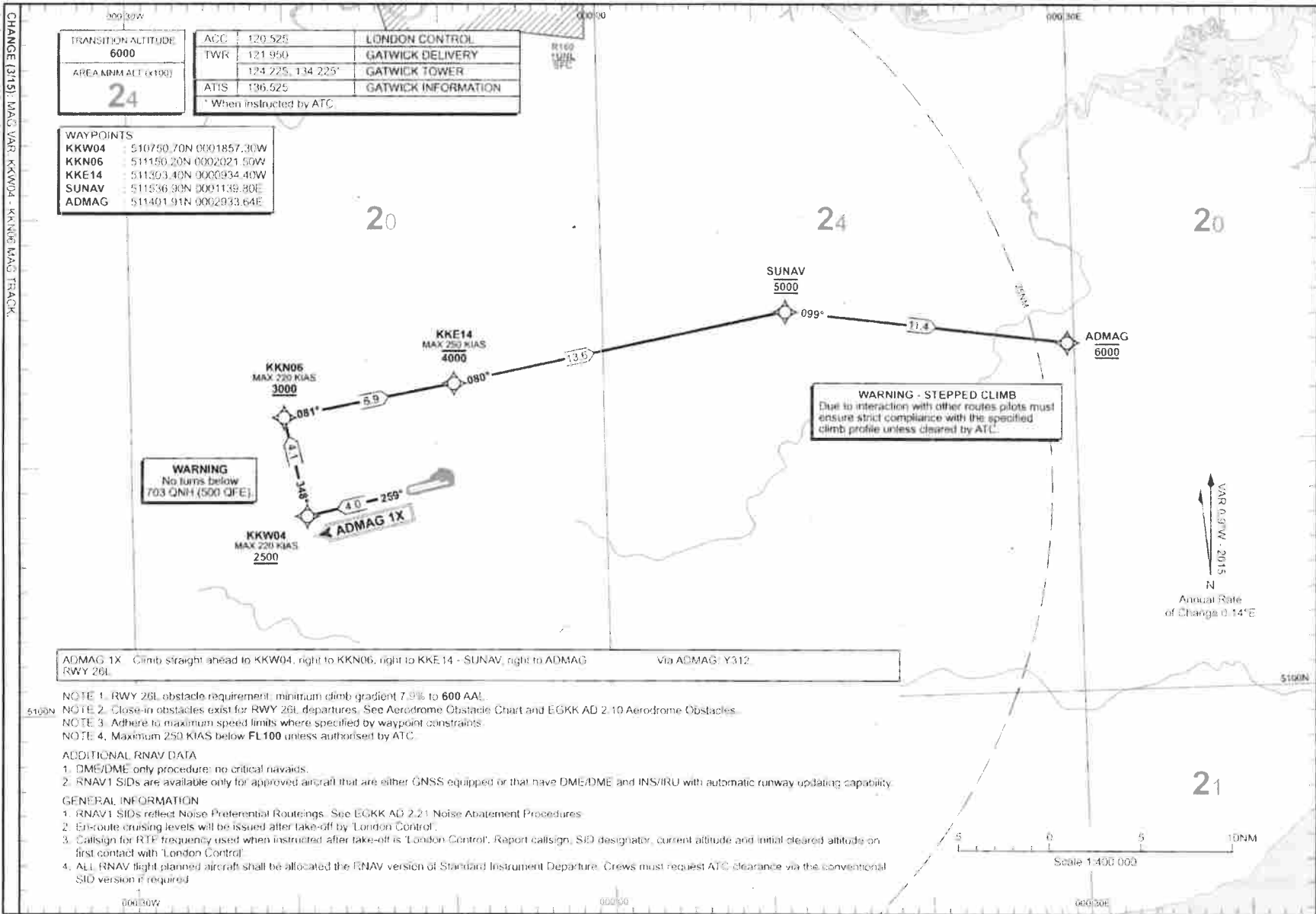
**LONDON GATWICK  
RWY 26L  
CLN 3X**



**RNAV1 (DME/DME or GNSS)  
STANDARD DEPARTURE CHART -  
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES  
TRACKS ARE MAGNETIC  
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON GATWICK  
RWY 26L  
ADMAG 1X**

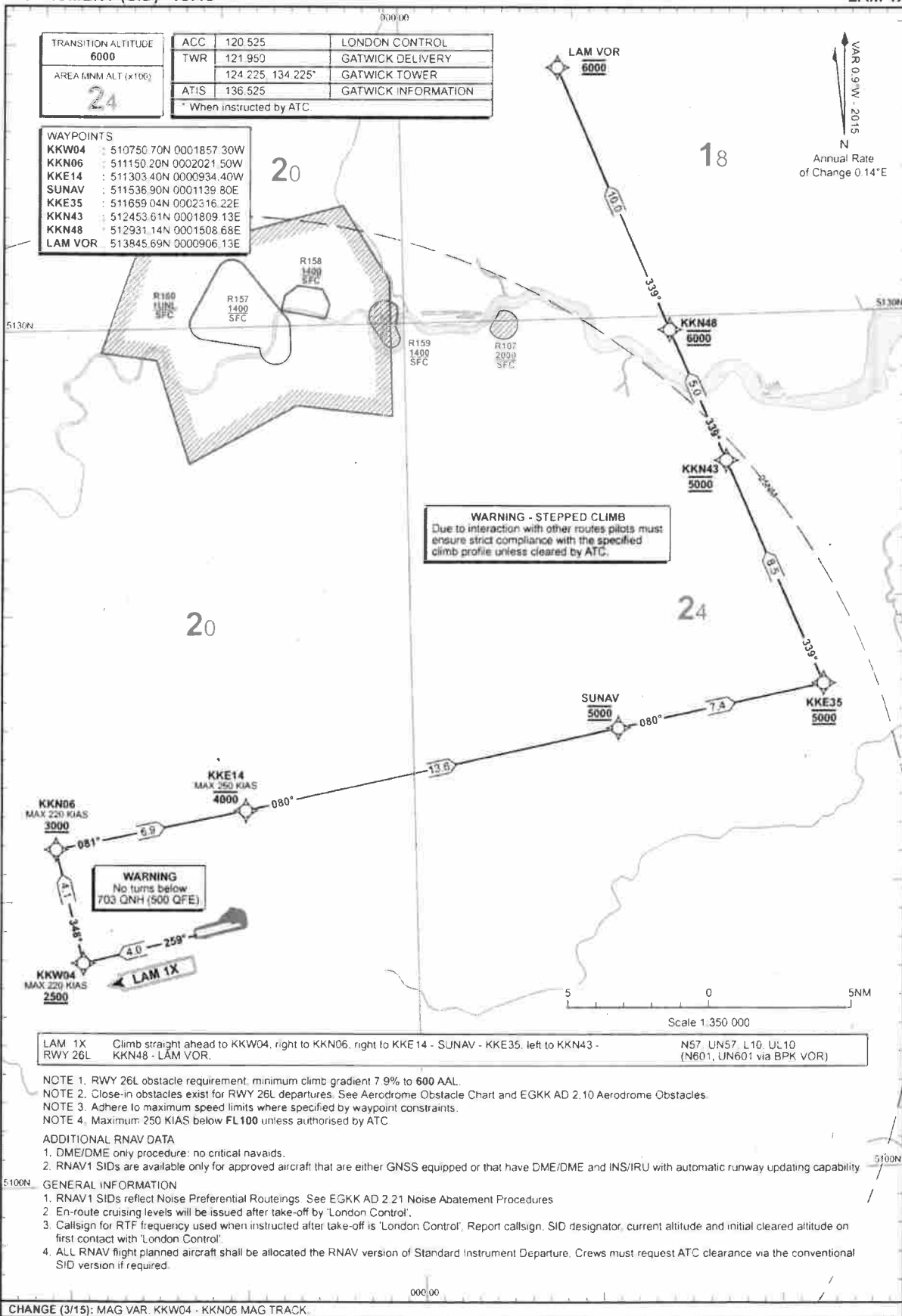


CHANGE 3(15) MAG VAR KKW04 - KKN06 MAG TRACK  
AERODROME DATE 8 DEC 14

**RNAV1 (DME/DME or GNSS)  
STANDARD DEPARTURE CHART -  
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES  
TRACKS ARE MAGNETIC  
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON GATWICK  
RWY 26L  
LAM 1X**



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 28 July 2016 10:14  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

Hi [REDACTED]

Thanks for this update. It prompts a couple of queries!

To clarify then, are these SID changes a trial, or a permanent change under review due apparent operational performance issues?

Is this subject being managed through FLOPC? In which case it would be useful to understand what response you require to individual track deviations where the SID change is likely the root cause.

Also, I haven't received any notifications of track deviations recently ... is that because there haven't been any or you they are not being sent currently?

Best regards

[REDACTED]

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 28 July 2016 09:11  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

Good Morning [REDACTED],

Thank you for your email. Please accept my apologies for the delay in responding.

The issue of track keeping on these particular SIDs was an agenda item at the FLOPSC meeting held yesterday. Our airspace designers made a presentation regarding the background of these SID changes and why we are in our present position.

Broadly speaking, we have been mandated by the CAA to amend the SID design in order to ensure aircraft traffic remains within the confines of the associated Noise Preferential Route to better replicate the pattern of traffic that existed prior to the introduction of R-NAV1 departures at Gatwick, that is to say use PBN to replicate conventional SID traffic.

The amendment which came into effect on 26 May has performed broadly as expected. The reason we have been contacting airlines with track deviations is two-fold. Firstly as part of our routine reporting but secondly to gain valuable feedback to understand why the track deviations are occurring as some aircraft fly the route perfectly and some don't. This isn't particular to any one operator or aircraft type.

We originally designed the present course to fix solution based on a 200 max KIAS on the turn and this was flight validated in both B738 and A320 simulators in a variety of meteorological conditions. A number of airlines made representations to GAL management and the CAA and the max KIAS was increased to 220 knots in order to have a clean wing on the turn.

A number of airlines yesterday shared their points of view on how to better improve compliance with the route and suggestions included a slower speed on the turn / interventions by flight crew.

At the present time, this SID design is being used for a period of six months, after which the CAA will make an assessment as to whether this amendment fulfils their requirements. We provide the CAA with monthly information regarding track keeping, flight profiles, feedback received and so on. I am happy to share any thoughts you have on this matter with the CAA.

With Kind Regards,

■

[Redacted signature block]

[Redacted signature block]

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**From:** [REDACTED]  
**Sent:** 27 July 2016 16:07  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

Good afternoon

I wonder if you have any update on the situation regarding airport changes to SID design?

Many thanks in advance ...

Best regards

[REDACTED]

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 04 July 2016 09:54  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

Good morning,

I have had feedback from colleagues regarding the track deviations over the last few days.

I understand that there has been an airport change relating to design of SIDs and that concern was raised by [REDACTED] and other airlines at FLOPC as to how achievable it would be to fly the tighter SID.

It appears that these changes may be the cause of these deviations.

Please can you advise how best to review this recent change and its effects in broad terms, rather than us investigating each individual track deviation, as it appear likely to be a single root cause.

Best regards



[REDACTED]

**From:** [REDACTED]

**Sent:** 28 June 2016 15:42

**To:** [REDACTED]

**Subject:** [REDACTED] Track Keeping

Hi [REDACTED]

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED], A320, [REDACTED], 22<sup>nd</sup> June 2016 [REDACTED], ADMAG2X
- [REDACTED], A320, [REDACTED], 22<sup>nd</sup> June 2016 [REDACTED] CLN4X
- [REDACTED], A320, [REDACTED], 22<sup>nd</sup> June 2016 [REDACTED], ADMAG2X
- [REDACTED], A320, [REDACTED], 22<sup>nd</sup> June 2016 [REDACTED], ADMAG2X
- [REDACTED], A320, [REDACTED], 22<sup>nd</sup> June 2016 [REDACTED], LAM2X

We've have no weather avoidance reports.

Kindest Regards

[REDACTED]

[REDACTED]

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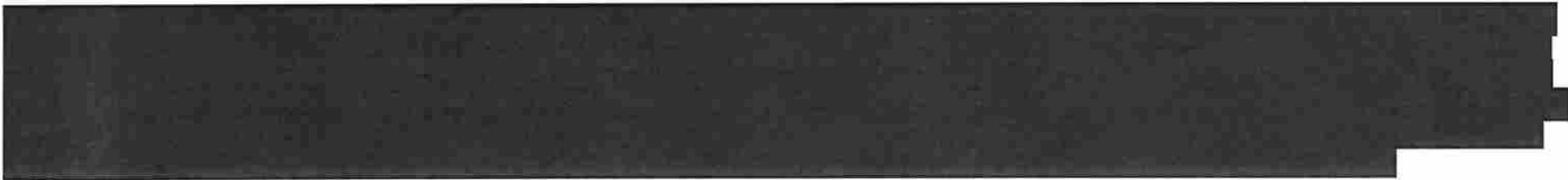
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[REDACTED]

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**From:** [REDACTED]  
**Sent:** 21 June 2016 13:15  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Track Deviations  
**Attachments:** [REDACTED] on 17th June 2016.pptx; [REDACTED] on 19th June.pptx; [REDACTED] on 19th June.pptx

Hi [REDACTED],

We've been looking at track deviations over the last few days and found that were having a few compliance issue with Route 4.

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED], A320, [REDACTED], 17<sup>th</sup> June 2016 [REDACTED], CLN4X
- [REDACTED], A320, [REDACTED], 19<sup>th</sup> June 2016 [REDACTED], LAM2X
- [REDACTED] A320, [REDACTED], 19<sup>th</sup> June 2016 [REDACTED] 3, ADMAG2X

We've have do weather avoidance reports.

Kindest Regards

[REDACTED]

[REDACTED]

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[REDACTED]

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**From:** [REDACTED]  
**Sent:** 17 June 2016 08:55  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Track Deviations at LGW Route 4  
**Attachments:** [REDACTED] - 11th June 2016.pptx; [REDACTED] - 12th June 2016.pptx; [REDACTED] - 12th June 2016.pptx

Good morning,

I have been looking into the tracking of the new routing along Gatwick's Route 4 (26LAM) amended route and we are still having a few issues with compliance of the Noise Preferential Route (NPR).

Some departures from Gatwick are still using conventional SID's on the 26LAM Route 4 and we would like to understand why this is. Aircraft using this route should be using ADMAG2X, CLN4X and LAM2X according to the Gatwick AIP.

I have come across a three track deviations on this route which have been flagged by our Noise and Track Keeping System in the last few days for [REDACTED]. Two of the deviations have come about despite the new SIDs (ADMAG2X) being used. The other has used a DVR conventional SID. Could you possibly look into these deviations for us?

I have included maps (attached) and the details of each individual event are listed below:

- [REDACTED], 11/06/16, A320, [REDACTED], 26L, ADMAG2X, Scheduled TOT: [REDACTED], actual [REDACTED], destination: [REDACTED] - turned too tight and left NPR at 2,069ft above MSL. No weather avoidance reported.
- [REDACTED], 12/06/16, A320, [REDACTED], 26L, ADMAG2X, Scheduled TOT: [REDACTED], actual [REDACTED], destination: [REDACTED] - turned immediately after take-off at 1,418ft above MSL. No weather avoidance reported.
- [REDACTED], 12/06/16, A320, [REDACTED], 26R, DVR8V, Scheduled TOT: [REDACTED], actual [REDACTED] destination [REDACTED] - made the turn a little wide and left the NPR at 3936ft above MSL. No weather avoidance reported.

Many thanks for your assistance.

Kind regards,

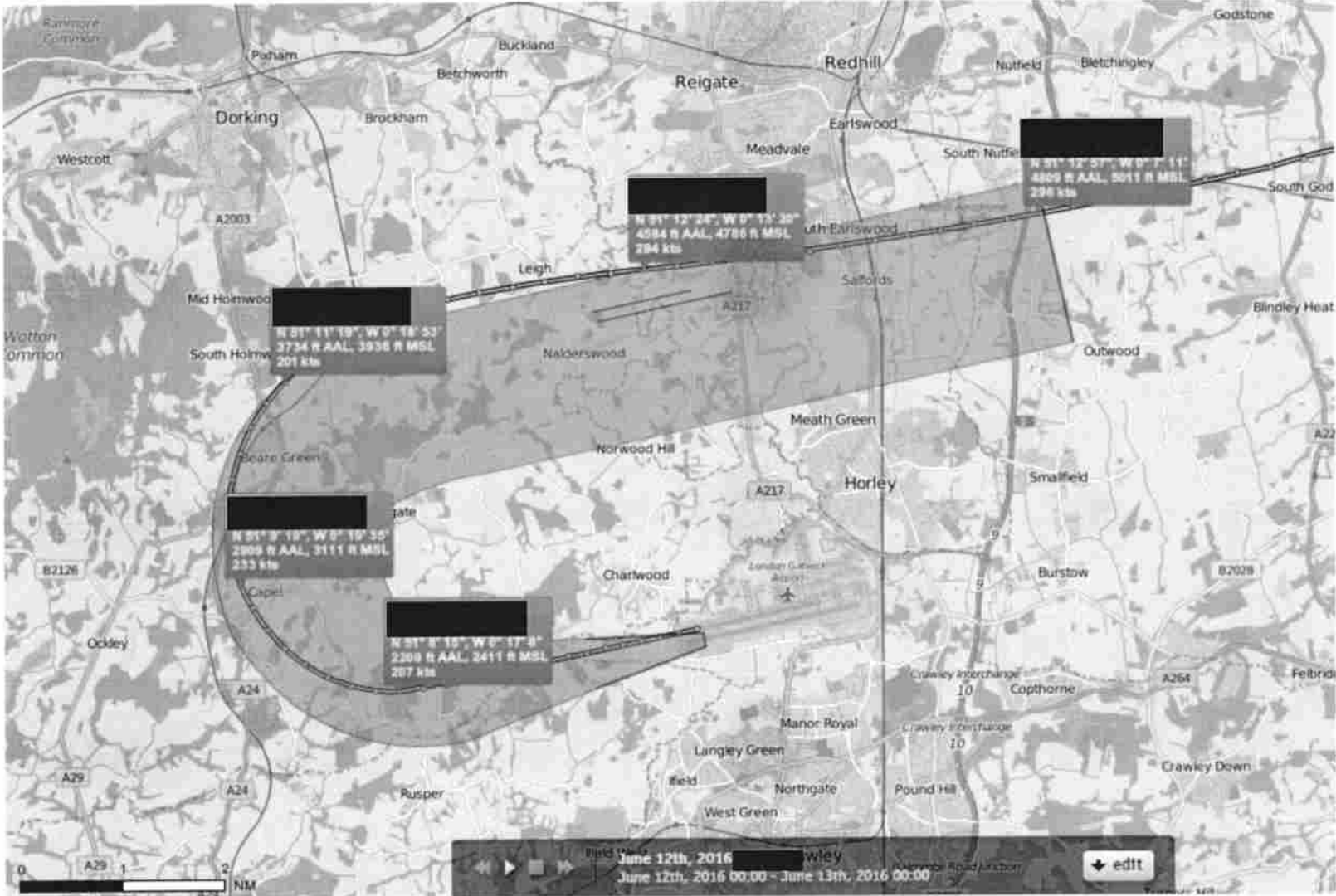
[REDACTED]

[REDACTED]





– 12<sup>th</sup> June 2016





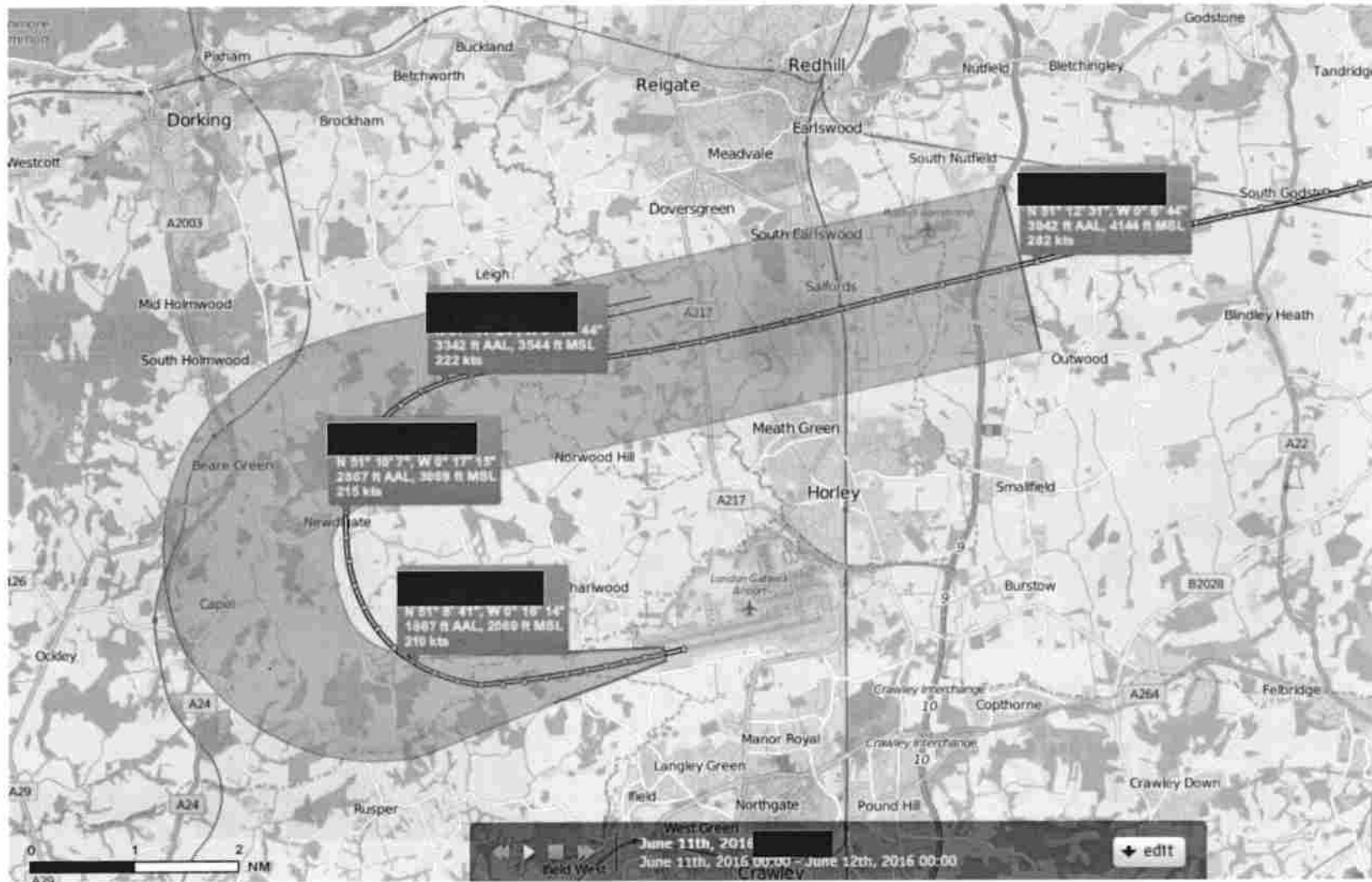
– 12<sup>th</sup> June 2016







– 11<sup>th</sup> June 2016



[REDACTED]

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**From:** [REDACTED]  
**Sent:** 21 June 2016 13:15  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED]  
**Attachments:** [REDACTED] on 17th June 2016.pptx; [REDACTED] on 19th June.pptx; [REDACTED] on 19th June.pptx

Hi [REDACTED],

We've been looking at track deviations over the last few days and found that were having a few compliance issue with Route 4.

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED], A320, [REDACTED], 17<sup>th</sup> June 2016 [REDACTED], CLN4X
- [REDACTED], A320, [REDACTED], 19<sup>th</sup> June 2016 [REDACTED], LAM2X
- [REDACTED], A320, [REDACTED], 19<sup>th</sup> June 2016 [REDACTED], ADMAG2X

We've have do weather avoidance reports.

Kindest Regards

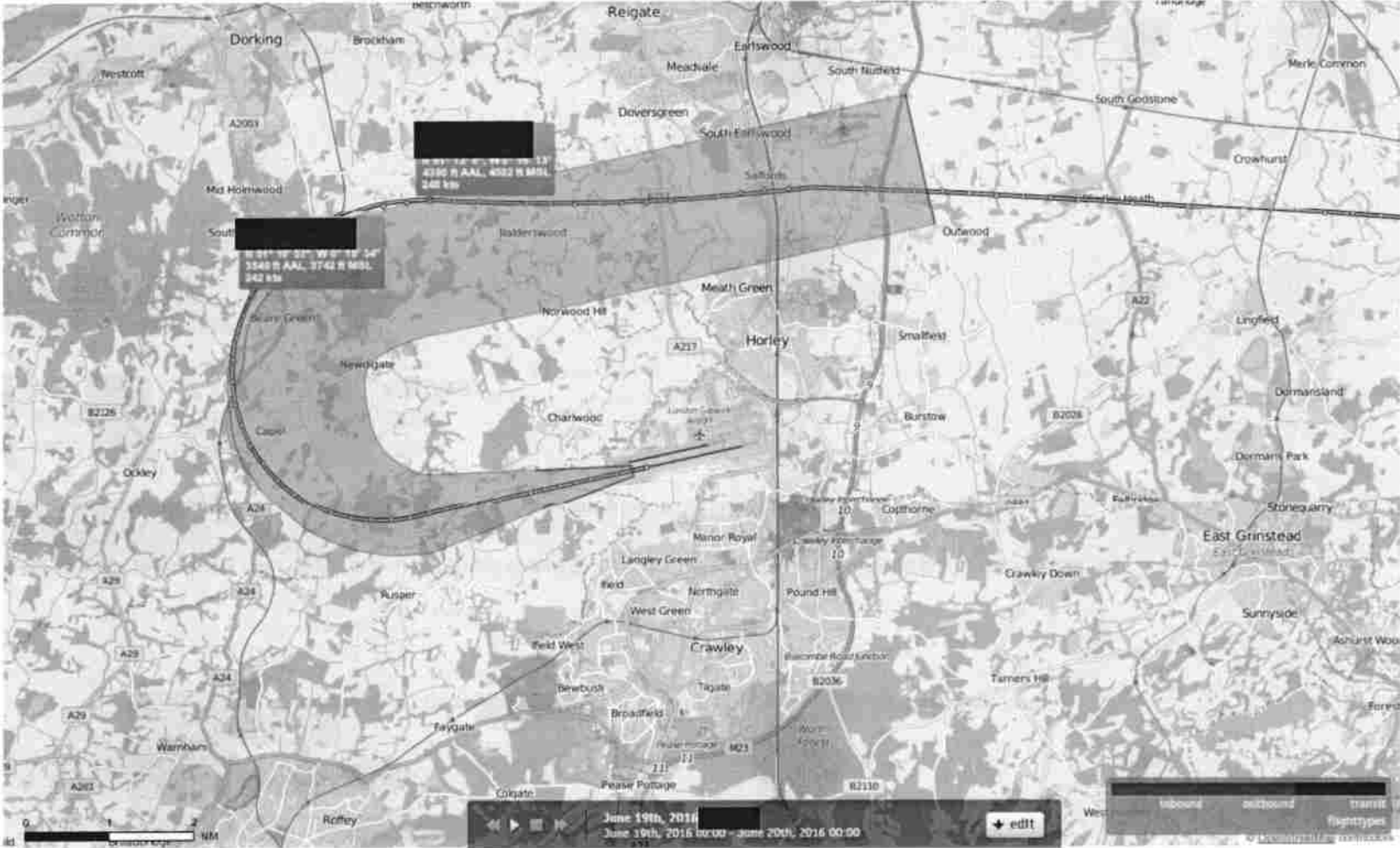
[REDACTED]

[REDACTED]

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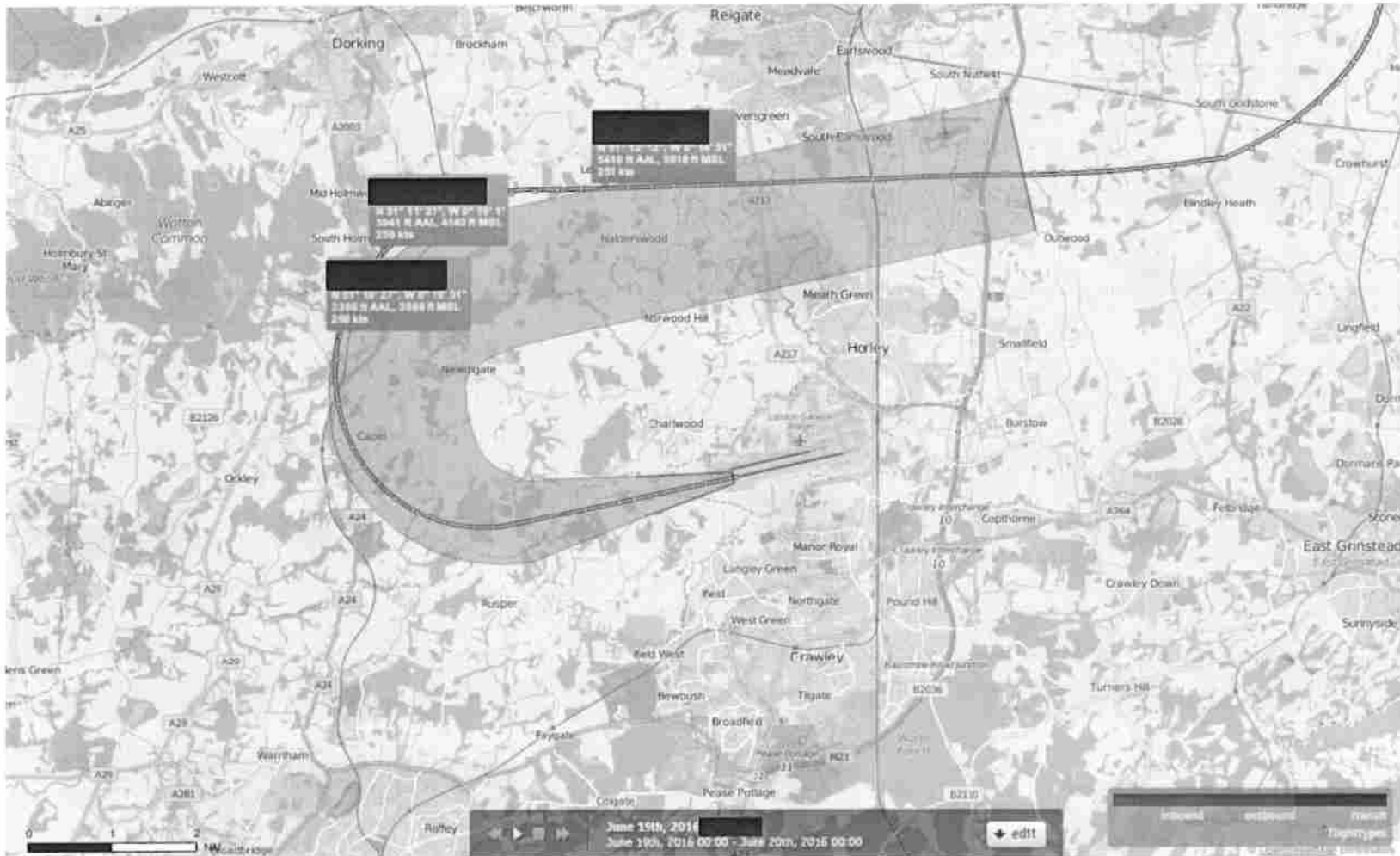


on 19<sup>th</sup> June



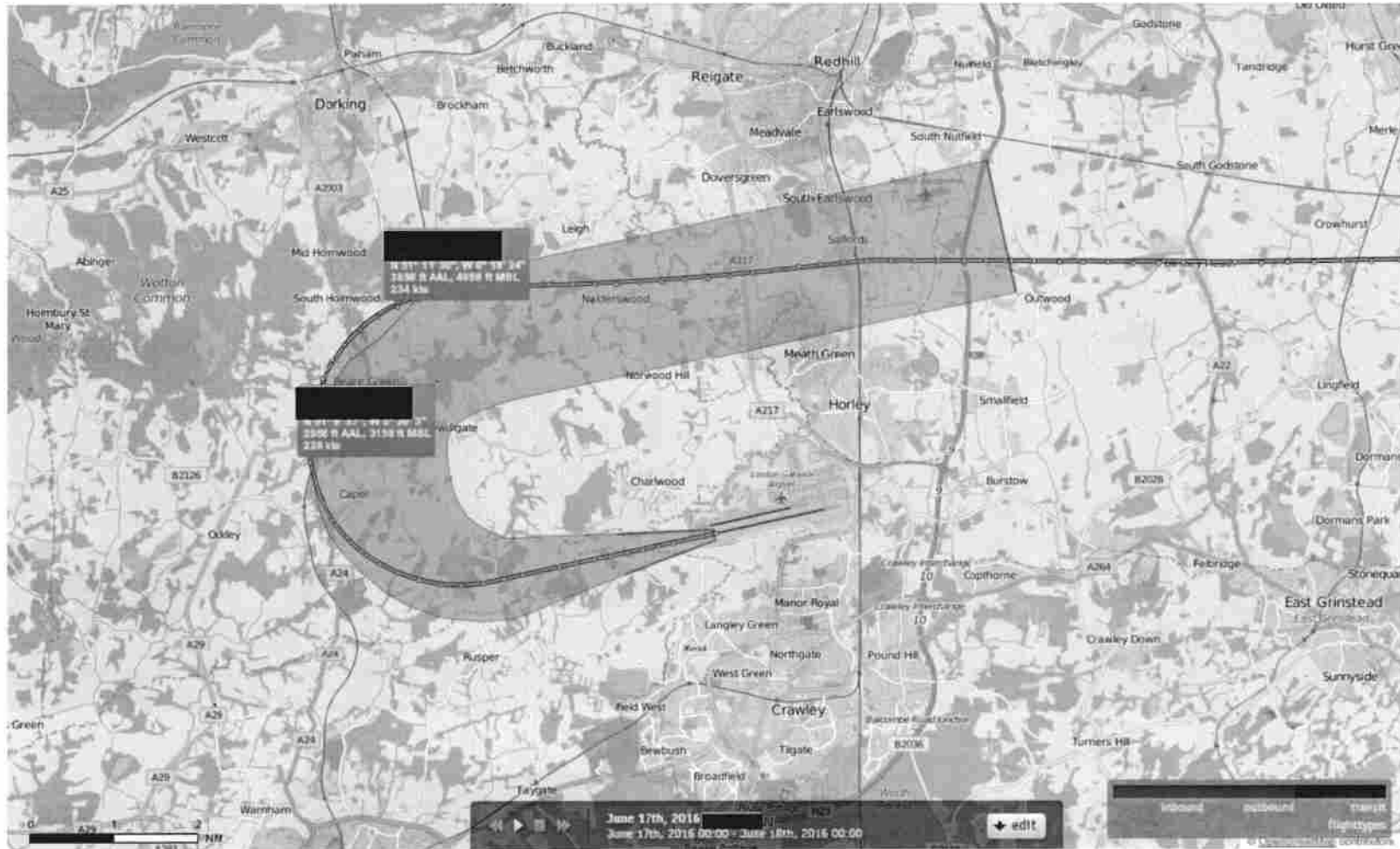


on 19<sup>th</sup> June





# on 17<sup>th</sup> June 2016



[REDACTED]

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**From:** [REDACTED]  
**Sent:** 28 June 2016 09:49  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations LGW Route 4

Hi [REDACTED]

reference our tracking errors – specifically turning inside – after sim trials, I can confirm it is directly related to the slow speed of the aircraft resulting in a smaller turn radius.

Coming out of the turn, the aircraft takes a direct route to KKE09 and will only comply with the 078° inbound course requirement just prior to crossing the waypoint. Hence it crosses outside the noise corridor when tracking to KKE09, there being nothing to say that the 078° course must be intercepted 'x' nautical miles prior to KKE09.

As previously mentioned, an additional waypoint at the half way mark of the turn could be one solution. Another could be to reposition KKE09 further westward to about where the end of the turn is expected – approximately abeam KKW02.

Perhaps the alignment of the noise corridor could also be reviewed for slower aircraft – in much the same way as PANS OPs provides a buffer area on the inside of turns to cater for slower aircraft?

The [REDACTED] on 18<sup>th</sup> June, however, is another example of less than perfect Crew technique.

Trust this information is of assistance.

Kind Regards,

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 16:27  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations LGW Route 4

Hi [REDACTED]

Thank you for getting back to us.

We've highlighted a few more track deviations over the last few days.

Would you also be able to looking into the reason from the following deviations as well, please find details below.

- [REDACTED] A388, [REDACTED] 17<sup>th</sup> June 2015 [REDACTED] ADMAG2X
- [REDACTED] A388, [REDACTED] 18<sup>th</sup> June 2015 [REDACTED] ADMAG2X
- [REDACTED] A388, [REDACTED] 18<sup>th</sup> June 2015 [REDACTED] ADMAG2X
- [REDACTED] A388, [REDACTED] 18<sup>th</sup> June 2015 [REDACTED] ADMAG2X

- [REDACTED] A388, [REDACTED] 20<sup>th</sup> June 2015 [REDACTED] ADMAG2X

We've have do weather avoidance reports.

Look forward to seeing the results of your simulation trials

Kindest Regards

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[REDACTED]  
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**From:** [REDACTED]  
**Sent:** 21 June 2016 11:32  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations LGW Route 4

Dear [REDACTED]

thank you for your email below.

We have reviewed the attached tracks and our sense is that the [REDACTED] flight, 12<sup>th</sup> June, is a Crew issue.

However for the remainder of the flights we feel the issue is the slow aircraft speeds (139-152 kt) producing much smaller turn radii, whereas the noise corridor splay, we suspect, is most probably predicated on the 220 kt speed indicated in the SID.

We also suspect that due to the smaller turn radii, the Flight Management Computer may be bypassing waypoint KKE09 and tracking direct to KKE11, but this is something we will need to try and replicate in the simulators, and we hope to do that on 26JUN16.

As a mitigation strategy, we would also like to suggest an additional waypoint be incorporated into the two SIDs, situated half-way through the turn on the nominal track centreline to assist with aircraft track keeping.

I will come back to you after 26JUN16 with the results of our simulator trials.

Kind Regards

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 19 June 2016 09:23  
**To:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations LGW Route 4

Can we look into these please

---

**From:** [REDACTED]  
**Sent:** 17 June 2016 12:24  
**To:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations LGW Route 4

Good Morning [REDACTED]  
I have been sent this by GAL performance team, I advised them that this will be looked into and addressed.

Appreciate you help and feedback.

Thank you  
Regards



---

**From:** [REDACTED]  
**Sent:** 17 June 2016 08:56  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Deviations LGW Route 4

Good afternoon,

I have been looking into the tracking of the new routing along Gatwick's Route 4 (26LAM) amended route and we are still having a few issues with compliance of the Noise Preferential Route (NPR).

Some departures from Gatwick are still using conventional SID's on the 26LAM Route 4 and we would like to understand why this is. Aircraft using this route should be using ADMAG2X, CLN4X and LAM2X according to the Gatwick AIP.

I have come across a three track deviations on this route which have been flagged by our Noise and Track Keeping System in the last few days for [REDACTED]. These deviations have come about despite the new SIDs (ADMAG2X and CLN4X) being used. Could you possibly look into these deviations for us?

I have included maps (attached) and the details of each individual event are listed below:

- [REDACTED] 11/06/16, A388, [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – turned very late therefore going outside the NPR.
- [REDACTED] 12/06/16, A388, [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too tightly and therefore went outside the NPR at 3261ft above MSL.
- [REDACTED] 12/06/16, A388, [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – ballooned out of the NPR slightly on the turn.
- [REDACTED] 12/06/16, A388, [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too early on the bend and left NPR at 3488ft above MSL.



- [REDACTED] 13/06/16, A388, [REDACTED] 26L, CLN4X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too early on the bend and left NPR at 3604ft above MSL.
- [REDACTED] 14/06/16, A388, [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too early on the bend and left NPR at 3496ft above MSL.

I should add that there were no weather avoidance reports during these times.

Many thanks for your assistance.

Kind regards,

[REDACTED]

[REDACTED]  
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[REDACTED]

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**From:** [REDACTED]  
**Sent:** 28 September 2016 13:57  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Unusual Track at LGW - [REDACTED] 26/09/16

Hi [REDACTED]

Issue appears to be [REDACTED] having an issue with autopilot on departure and subsequently taking a wrong instruction.

Narrative as follows;

[REDACTED] reported on to TC TIMBA frequency. 54 seconds later TC TIMBA instructed "[REDACTED] turn right 105 climb FL130", both [REDACTED] and [REDACTED] took the instruction and readback, stepping on each other.

TC TIMBA controller immediately corrected the situation, reaffirmed instruction for [REDACTED] and confirmed that the instruction was not for [REDACTED]

TC TIMBA then requested "[REDACTED] climb a5000' and continue with the LAM2X departure". [REDACTED] responded in the affirmative.

[REDACTED] TC TIMBA queried "[REDACTED] where are you going?"

[REDACTED] responded "Intercepting, we are LAM2X, we are intercepting now ?Kilo kilo Echo 1-5? (underlined part garbled. Crew RT very poor generally)

TC TIMBA instructed "[REDACTED] fly a heading of 090 degrees" readback was correct, TC TIMBA then informed [REDACTED] "[REDACTED] I don't think that departure looked too good"

[REDACTED] TC TIMBA instructed "[REDACTED] turn left heading 080 degrees" readback was correct

[REDACTED] TC TIMBA instructed "[REDACTED] climb a6000' " readback was correct

[REDACTED] subsequently given climb to FL130.

Crew apologised for departure issue and stated that they had had an issue with the autopilot on departure.

Narrative ends.

Need any more info, please come back to us

Regards

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 27 September 2016 09:35

To: [REDACTED]  
Subject: Unusual Track at LGW - [REDACTED] 26/09/16

Good morning,

We have had an unusual departure track of an aircraft as it passed over the town of Horley. It was recorded as on-track but we've had a query as to why it flew straight over Horley. Please could this be investigated as for the reason for the unusual tracking?

Flight details – [REDACTED] 26/09/16, A333, [REDACTED] 26L, LAM2X, [REDACTED], dest: KEF.

A map of the flight is attached.

Many thanks for your assistance on the matter.

Kind regards,

[REDACTED]

[REDACTED]  
[REDACTED]  
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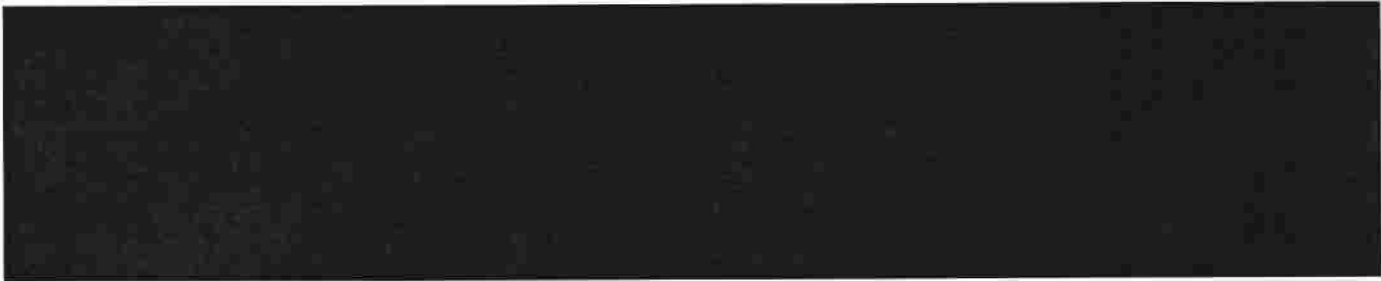
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[REDACTED]

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**From:** [REDACTED]  
**Sent:** 21 September 2016 14:31  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviation at LGW - 18th September 2016

Hi [REDACTED]

[REDACTED] reported onto TC frequency at [REDACTED] and the crew stated "and er berkshire [REDACTED] heavy with you, levelling at 4,000, we're just having some nav problems here, if we could get radar vectors please?". TC controller subsequently provided radar vectors to aircraft.

Regards

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 20 September 2016 08:57  
**To:** [REDACTED]  
**Subject:** [REDACTED] Track Deviation at LGW - 18th September 2016

Good morning,

We have had an unusual track flagged by our Noise and Track Keeping system as a track deviation. Please could this be investigated as for the reason for the unusual tracking?

Flight details – [REDACTED] 18/09/16, 26L, LAM2X, [REDACTED] B763, destination [REDACTED]

A map of the flight is attached.

Many thanks for your assistance on the matter.

Kind regards,

[REDACTED]

[REDACTED]  
[REDACTED]

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\*\*\*\*\*



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 09:28  
**To:** [REDACTED]  
**Subject:** RE: Proposed Changes to Gatwick WILLO STARS

[REDACTED]

I monitored 50 departures from yesterday morning and none were observed to have an Indicated Airspeed above 220kts for the initial turn. As per your plot diagram below, a number of flights were observed to track outside of the NPR and turn South East to recapture the SID profile; this was the expected behaviour highlighted at the 11<sup>th</sup> April meeting.

Listed below is the METAR data for the observed period and showed a consistent wind from the South West:

*EGKK 200850Z 21009KT 180V250 6000 -RA BKN006 BKN012 15/14 Q1013 REDZ*  
*EGKK 200820Z 21010KT 180V250 5000 DZ BKN007 15/14 Q1013*  
*EGKK 200750Z 21010KT 180V240 8000 -RA BKN006 15/14 Q1014*  
*EGKK 200720Z 21012KT 9000 -RA BKN006 15/14 Q1014*  
*EGKK 200650Z 21010KT 180V250 8000 -RA BKN007 15/14 Q1014*  
*EGKK 200620Z 21010KT 9999 -RA BKN006 15/14 Q1015*  
*EGKK 200550Z 21010KT 170V240 9000 -RADZ BKN007 15/14 Q1015*  
*EGKK 200520Z 21011KT 7000 -RADZ BKN006 15/14 Q1015*  
*EGKK 200450Z 21011KT 6000 -DZRA BKN008 15/14 Q1015*  
*EGKK 200420Z 22010G20KT 6000 -DZRA BKN007 15/14 Q1016*  
*EGKK 200350Z 22010G21KT 5000 -DZ BKN006 15/14 Q1016*  
*EGKK 200320Z 21011KT 5000 BR BKN007 15/14 Q1016*  
*EGKK 200250Z 22011KT 6000 -DZ BKN008 15/14 Q1017*  
*EGKK 200220Z 22012KT 9999 -RA SCT008 BKN012 15/14 Q1017*  
*EGKK 200150Z 21011KT 9999 -RA SCT006 BKN010 15/14 Q1017 RESHRA*  
*EGKK 200120Z 21010KT 170V240 8000 SHRA BKN007 15/14 Q1017*  
*EGKK 200050Z 21010KT 9000 -RA BKN006 15/14 Q1018*  
*EGKK 200020Z 21009KT 9000 -RADZ BKN006 15/14 Q1018*

Regards,

[REDACTED]



---

**From:** [REDACTED]  
**Sent:** 20 June 2016 14:55  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Proposed Changes to Gatwick WILLO STARS

[REDACTED]

Thanks for coming back – you can let me know any dates in the coming weeks that work for you I can arrange to come up and meet or alternatively if you're in the area again we can meet at Swanwick.

I'm not in the office today but have cc'd [REDACTED] in as he's agreed to take a look at the 26 SIDs for us. The behaviour does look like that we were a bit concerned with from the design in terms of tracking ability but [REDACTED] will take a look at the speeds as he's able and see what's what there.

Regards



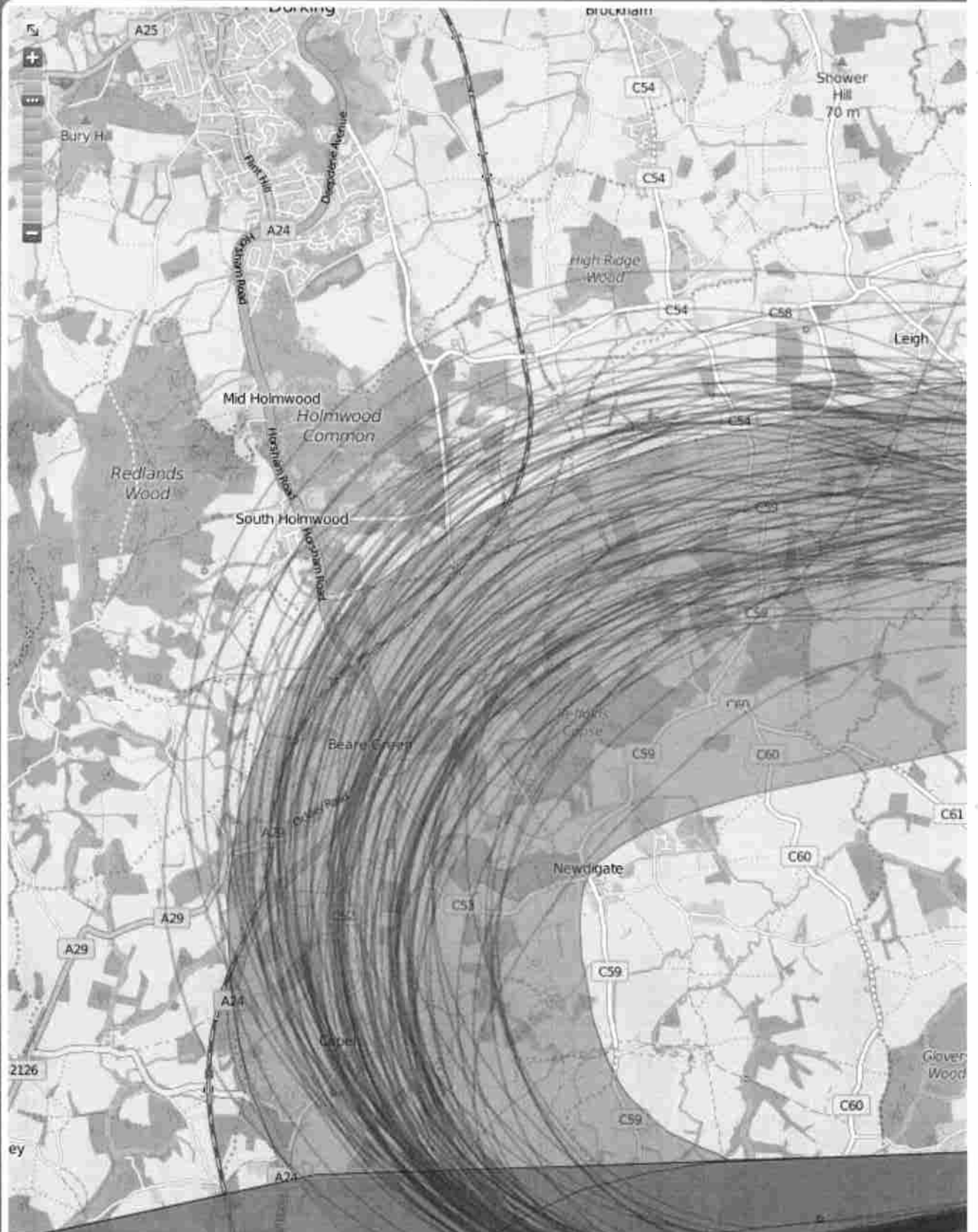
---

**From:** [REDACTED]  
**Sent:** 20 June 2016 14:49  
**To:** [REDACTED]  
**Subject:** RE: Proposed Changes to Gatwick WILLO STARS

Hi [REDACTED]

Thanks for your email. I would agree that I would probably be the best contact initially and I can then liaise with other people within Gatwick. I agree it would probably be useful for us to get together to discuss this in greater detail and to ensure we have a full understanding of what is proposed.

An another issue, I have noticed today that the 26L SIDs appear to be misbehaving somewhat today – aircraft are ballooning out of the confines massively, over the north-eastern corner of the Noise Preferential Route- the screenshot below refers:



While I appreciate we have a slight southerly breeze today, these tracks are surprising. Are you able at [redacted] to see what kinds of speeds the aircraft are doing on the turn? This would be useful to know if available as I understand there is a 220 max KIAS until the turn is complete however our NTK system here only gives ground speed so I don't want to use that when approaching airlines.

With Kind Regards,

[redacted]

[redacted]

[redacted]

Gatwick Airport Limited

Telephone: [redacted]

Mobile: [redacted]

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**From:** [redacted]

**Date:** 20 June 2016 at 14:23:12 BST

**To:** [redacted]

**Cc:** [redacted]

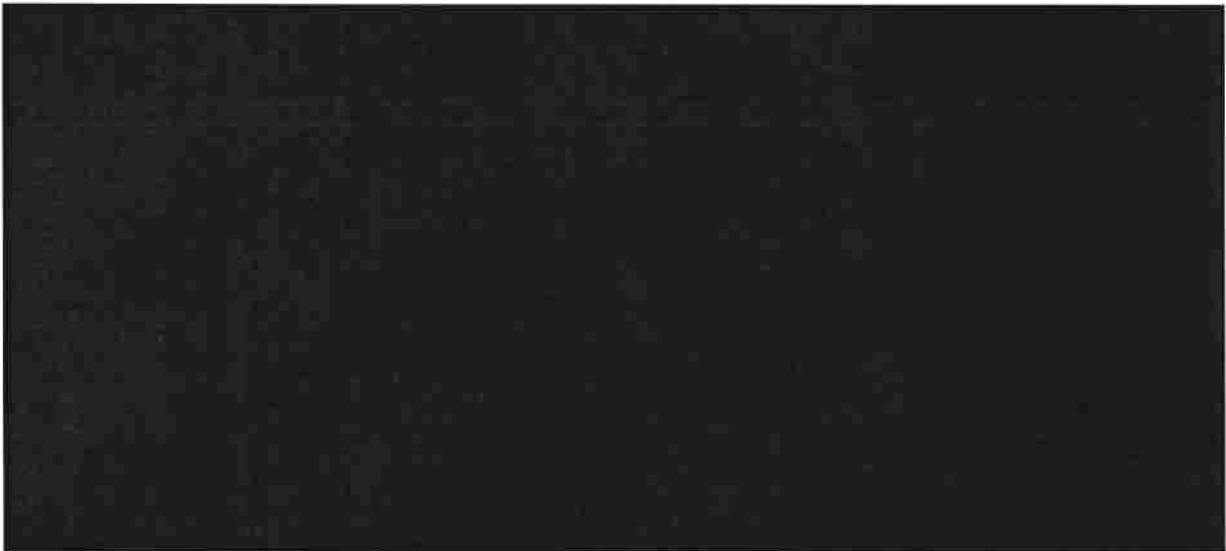
**Subject:** Proposed Changes to Gatwick WILLO STARS

[redacted]

I was hoping to catch you for a quick chat around WILLO STARS when you were down at Swanwick last week but couldn't make it across in time. I'm looking at some relatively small-scale airspace changes in service of fuel saving and systemisation that look to deploy during 2017-2019 subject to appropriate assessment.

The first of these is a potential change to Gatwick inbound routes from the South & West. I've prepared a document to explain the changes and request appropriate impact assessment but have a couple of queries: the first is whether you would be the appropriate person to use as our contact for this or if it should sit elsewhere (or even be shared between yourself and the ATC contact?). The second is whether rather than land a document on you somewhat cold if we could organise a briefing for an hour or two with the relevant parties your end so we can introduce the projects and deployments that may be relevant?

Thanks & regards



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[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 28 June 2016 18:17  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping  
**Attachments:** CLN4X 27 06 2016.pdf

Hi to both of you,

I can see what's happening:

The pilots are programing the FMS before departure and seeing that the 180' turn is over-shooting the inbound track after KKW02 so some are reverting back to the directive I made with the previous SID and putting 190 KTS as a speed restriction at KKE09 this is causing the tighter turn cutting inside the NPR. The pilots sticking to my current directive of "Fly it as its Designed" are finding the aircraft flying the wide calculated arc and at a reduced angle of bank. Please see the attached presentation I asked one of my Captains to make. It shows exactly what's happening even with a favourable wind. It actually shows that the Sim trials are not calculating/performing in the same way as the aeroplane.

Thanks for the info, keep it coming, it will all help with our decisions on directing the pilots on how to fly these SIDS,

Kind Regards,

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 28 June 2016 15:34  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Keeping

Hi Fergus,

Thank you very much for getting back to me, apologies for the delay in response.

I have found that other operators are experience similar issues to yourselves so please continue to send me any feedback that you have.

In the mean time I will continue to send you track deviations, would you be able to looking into the reason from the following deviation, please find details below.

- [REDACTED] B738, [REDACTED] 21<sup>st</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 24<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 24<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 24<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED] LAM2X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 27<sup>th</sup> June 2016 [REDACTED] CLN4X

We've have no weather avoidance reports.

Kindest Regards



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Good mornong [REDACTED]

I took some pictures during our departure yesterday, CLN4X.



Still on the ground. The T/O mass 66.4 tons and I checked the flap 40 speed 139kts, UP speed 209 kts, could be an option but we did not use it.



Flap UP and just started the turn. No change regarding the magenta line and the wind is not an issue. Bank angle 21°.



500 feet later still the same magenta line and the bank angle 20°. The wind even better now.



900 feet later and still the same view.



*At the top of the "balloon" and a slight increase in the bank angle, 25° but the magenta line is till the same as on the ground earlier.*

Probably I will do two more CLN4X today so if you would like me to do some experiments just let me know.

Have a nice day!



[Redacted]

**From:** [Redacted]  
**Sent:** 01 July 2016 10:24  
**To:** [Redacted]  
**Cc:** [Redacted]  
**Subject:** RE: Track Deviations  
**Attachments:** [Redacted] on 30th June 2016.pptx; [Redacted] on 30th June 2016.pptx; [Redacted] on 28th June 2016.pptx; [Redacted] on 28th June 2016.pptx; [Redacted] on 28th June 2016.pptx; [Redacted] on 29th June 2016.pptx; [Redacted] on 29th June 2016.pptx; [Redacted] on 30th June 2016.pptx

Hi [Redacted],

We've been looking at track deviations over the last few days and found that we were having a few compliance issue with Route 4.

Would you be able to looking into the reason from the following deviations, please find details below.

- [Redacted] B738, [Redacted] 30<sup>th</sup> June 2016 [Redacted], CLN4X
- [Redacted] B738, [Redacted] 29<sup>th</sup> June 2016 [Redacted], CLN4X
- [Redacted] B738, [Redacted] 30<sup>th</sup> June 2016 [Redacted], CLN4X
- [Redacted] B738, [Redacted] 28<sup>th</sup> June 2016 [Redacted], CLN4X
- [Redacted] B738, [Redacted] 28<sup>th</sup> June 2016 [Redacted], CLN4X
- [Redacted] B738, [Redacted] 28<sup>th</sup> June 2016 [Redacted], CLN4X
- [Redacted] B738, [Redacted] 29<sup>th</sup> June 2016 [Redacted], CLN4X
- [Redacted] B738, [Redacted] 30<sup>th</sup> June 2016 [Redacted], CLN4X

We've have do weather avoidance reports.

Kindest Regards

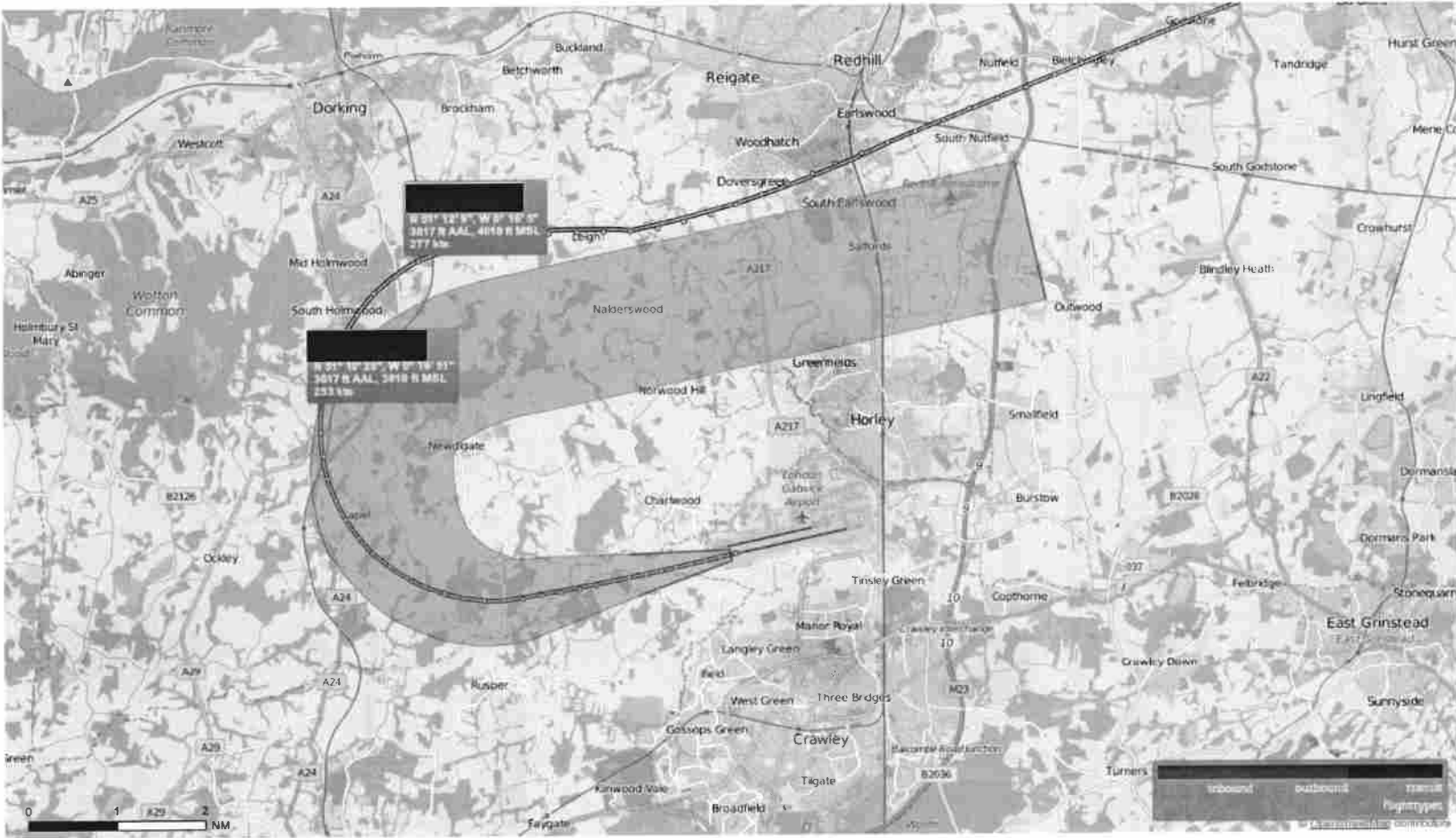
[Redacted]

[Redacted]  
[Redacted]  
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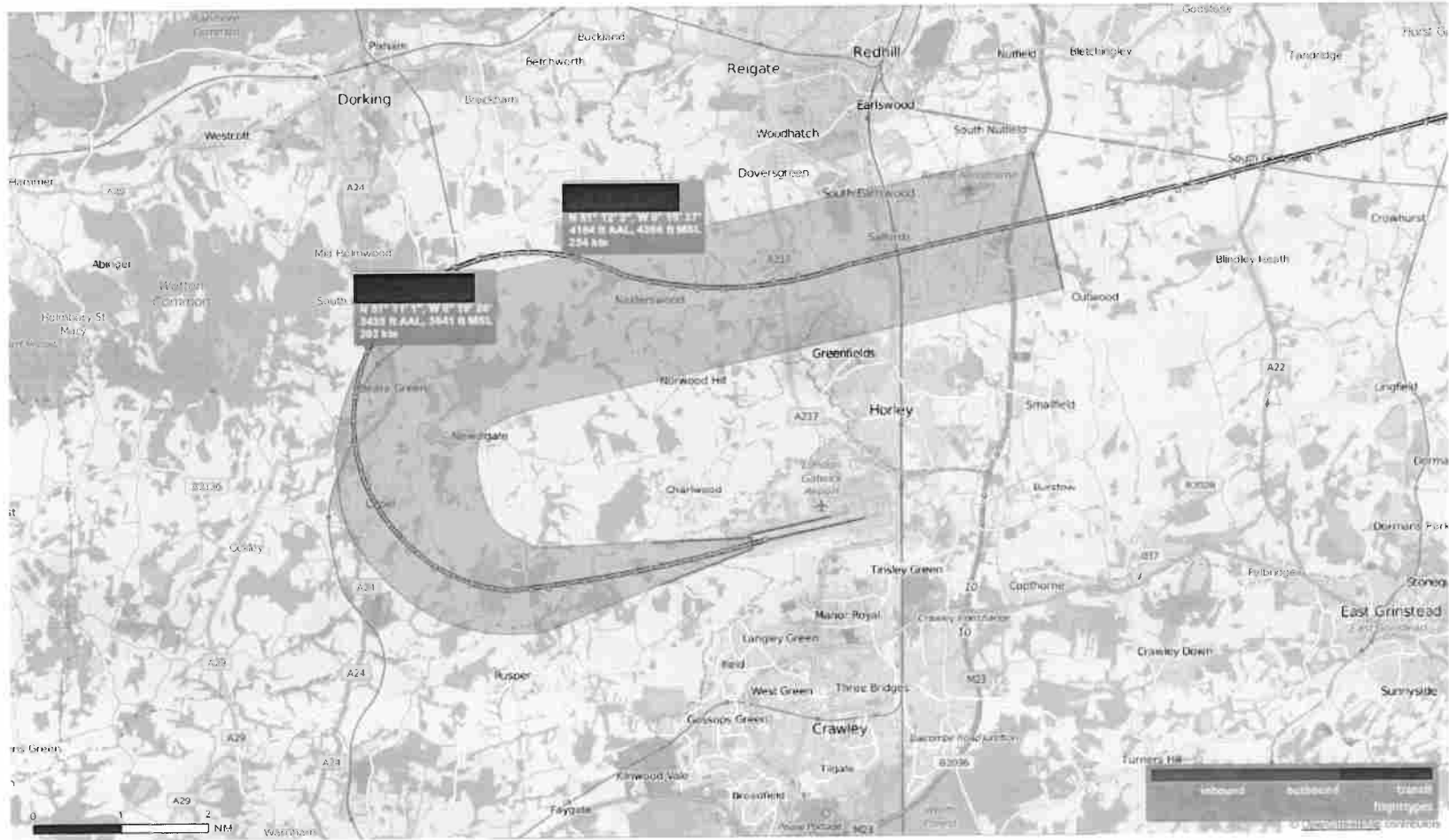


on 30<sup>th</sup> June 2016



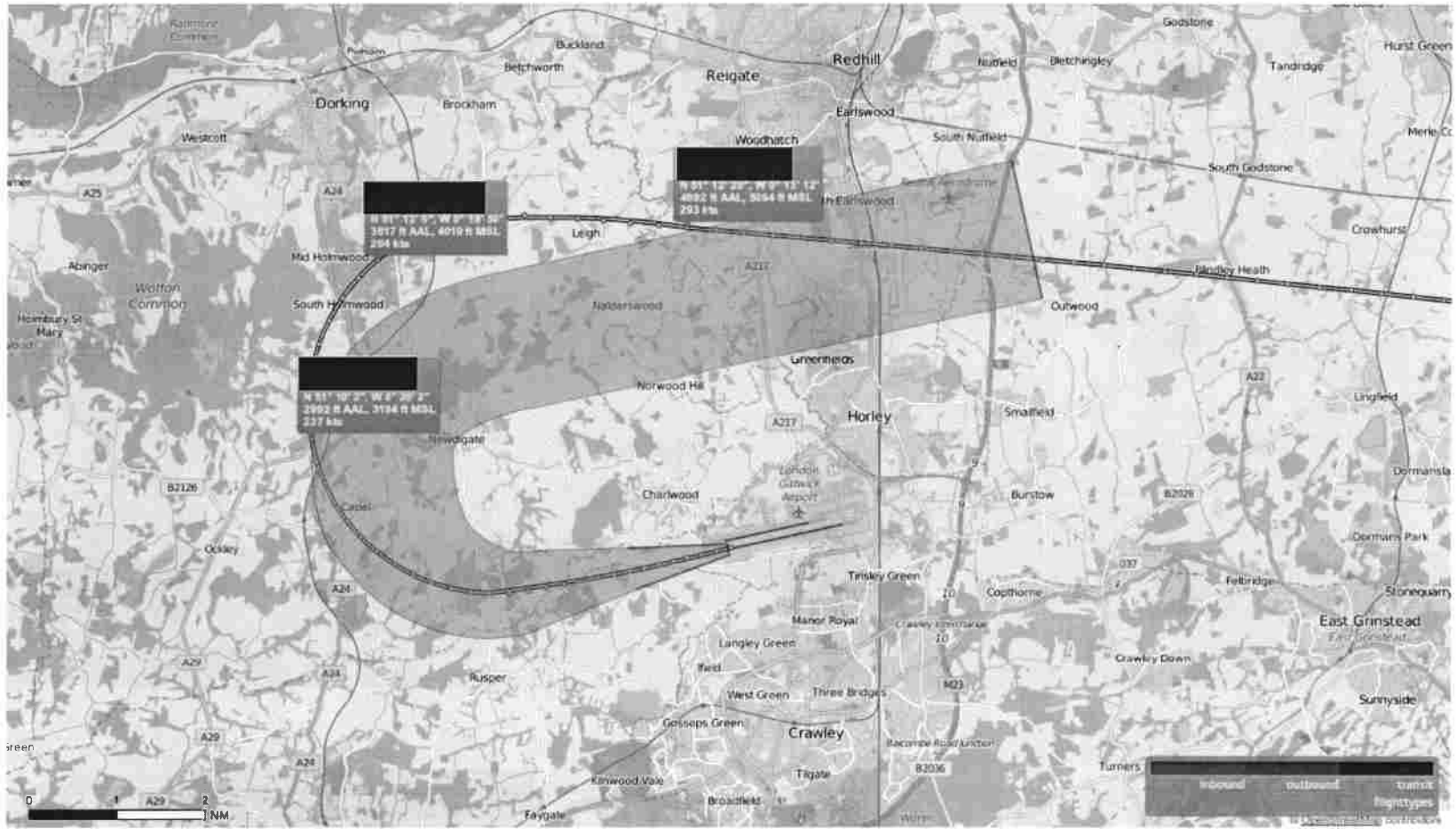


# on 29<sup>th</sup> June 2016



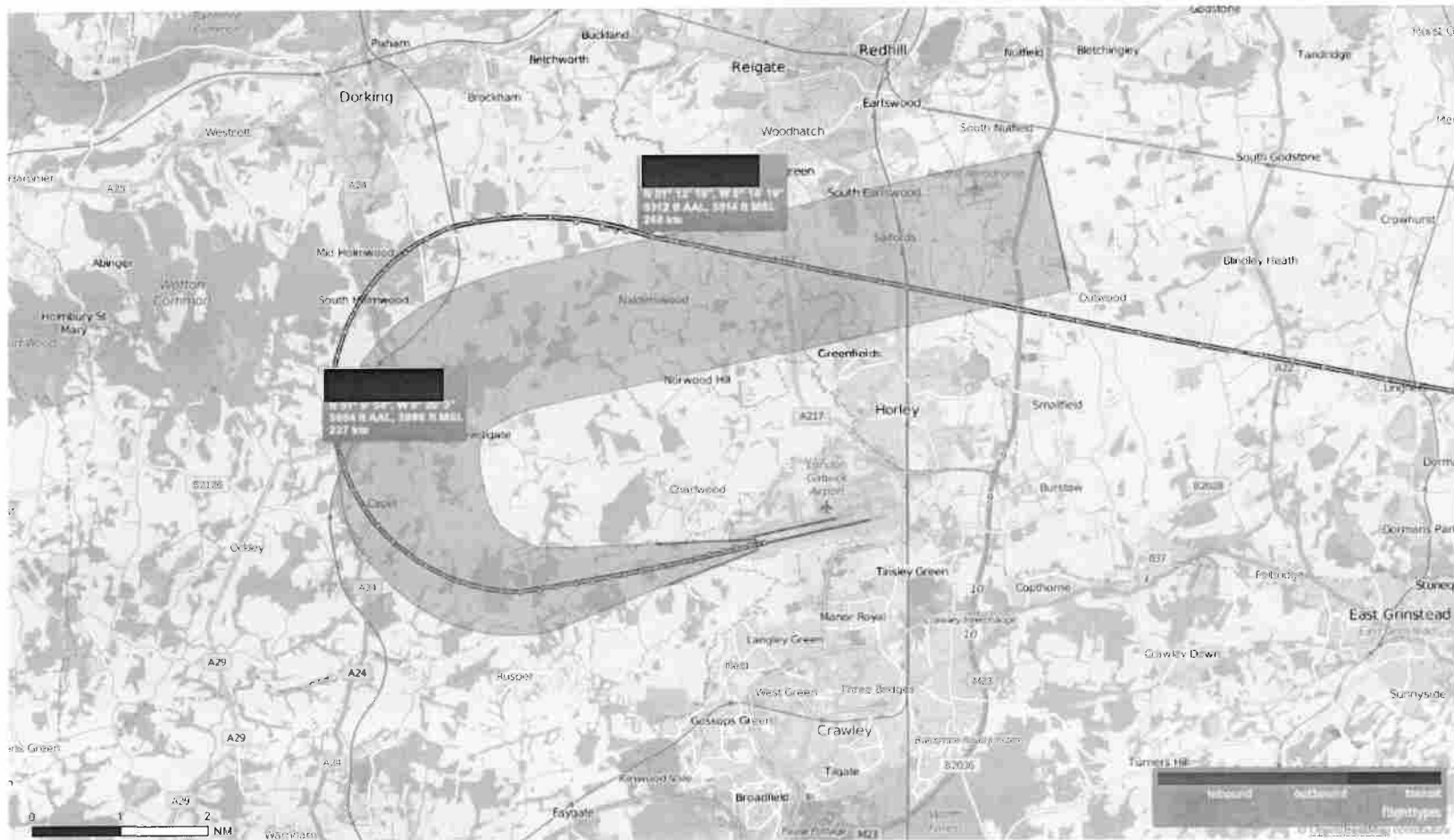


on 30<sup>th</sup> June 2016





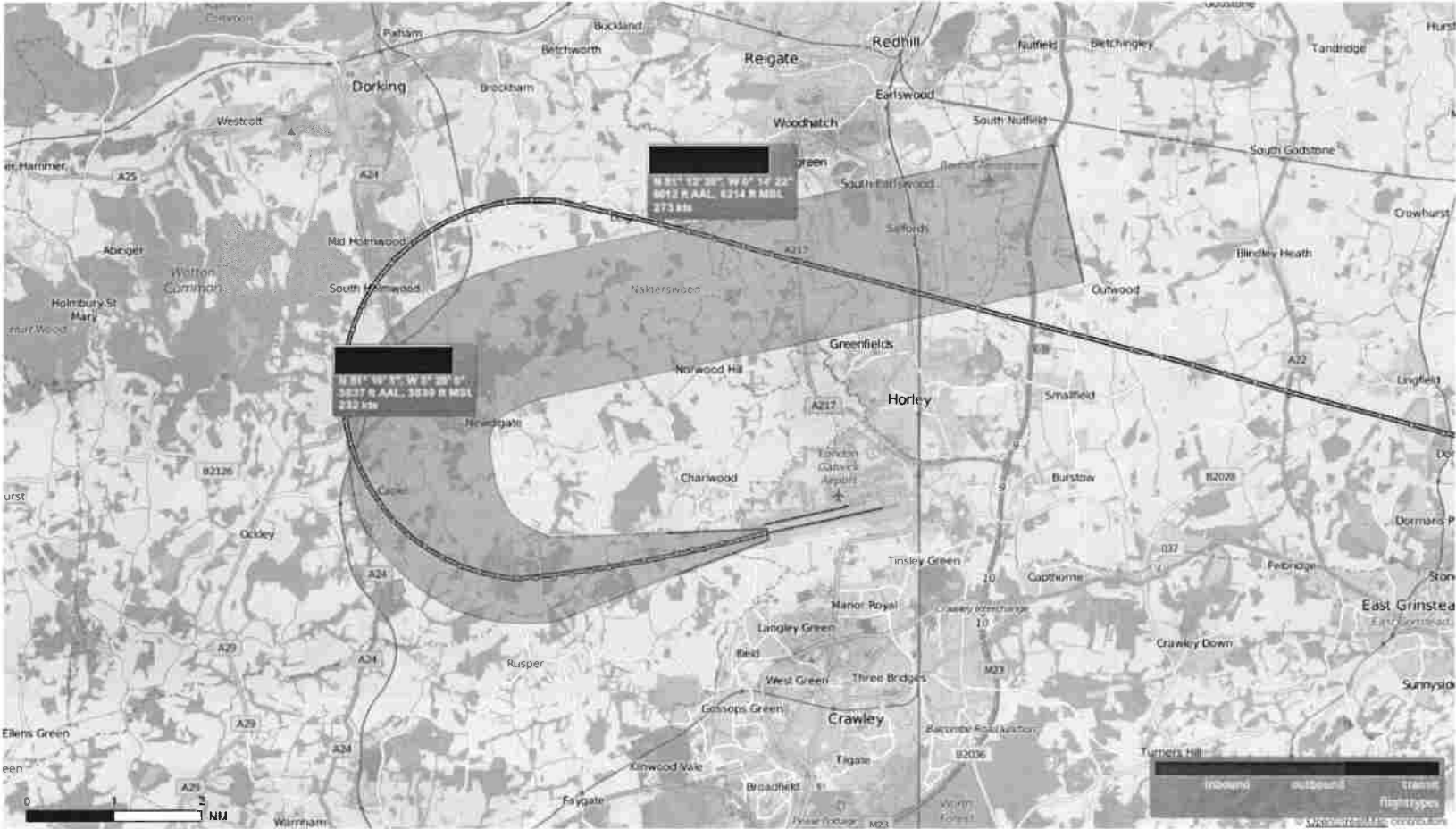
on 29<sup>th</sup> June 2016





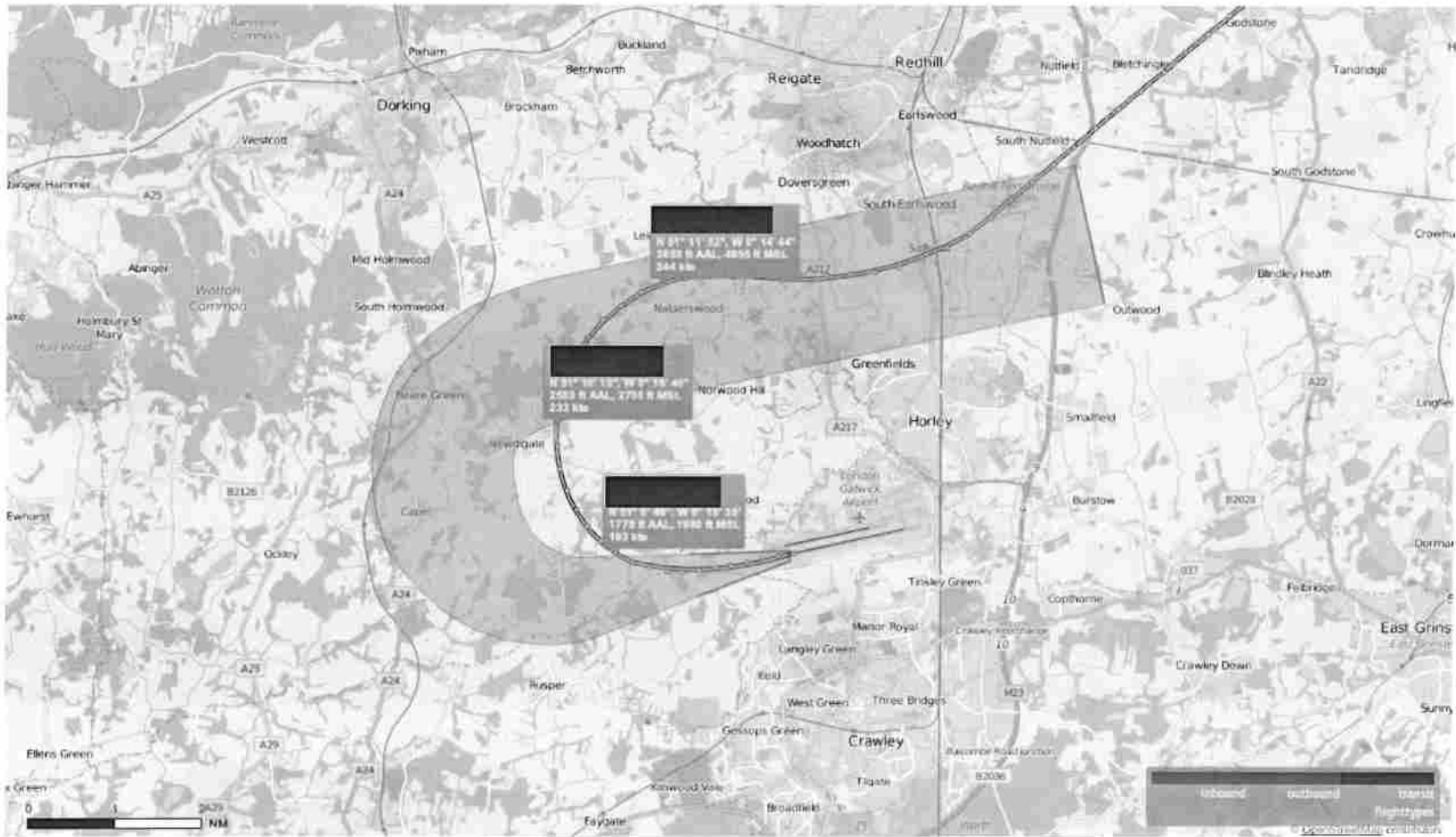


on 28<sup>th</sup> June 2016



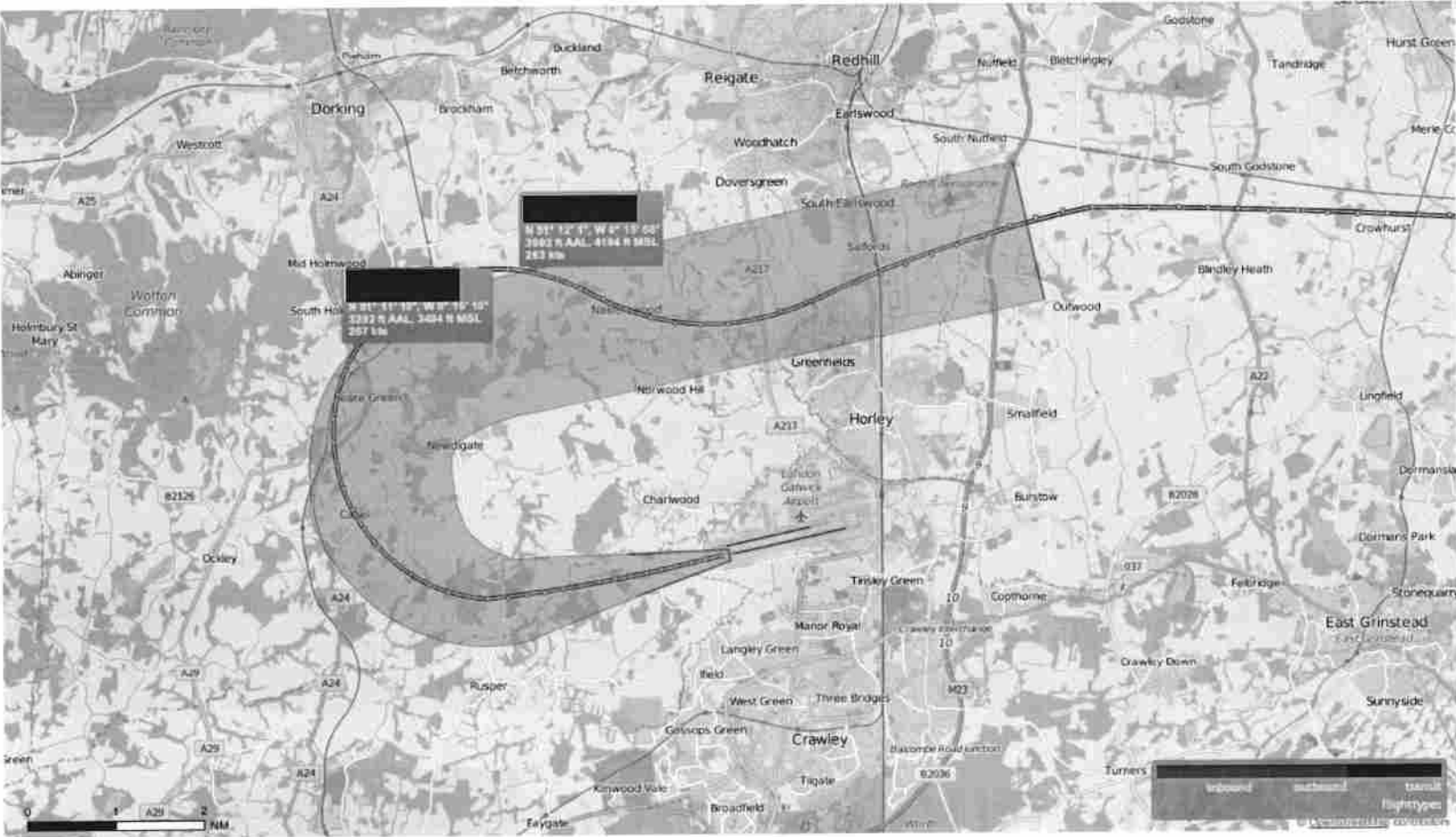


on 28<sup>th</sup> June 2016



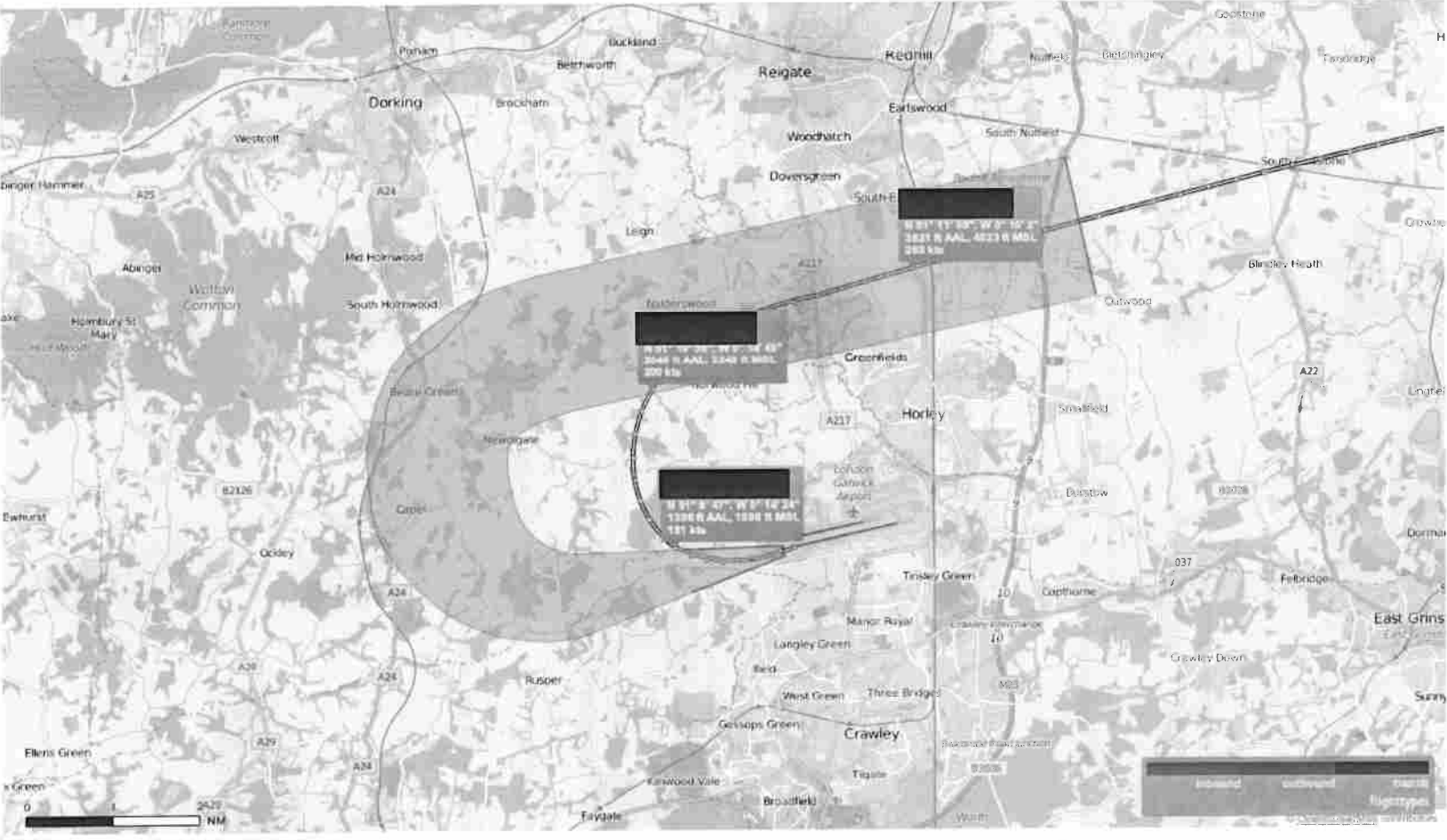


on 30<sup>th</sup> June 2016





on 28<sup>th</sup> June 2016



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 17 June 2016 08:57  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Deviations LGW Route 4  
**Attachments:** [REDACTED] - 12th June 2016.pptx; [REDACTED] - 13th June 2016.pptx; [REDACTED] - 12th June 2016.pptx; [REDACTED] - 12th June 2016.pptx

Good afternoon,

I have been looking into the tracking of the new routing along Gatwick's Route 4 (26LAM) amended route and we are still having a few issues with compliance of the Noise Preferential Route (NPR).

Some departures from Gatwick are still using conventional SID's on the 26LAM Route 4 and we would like to understand why this is. Aircraft using this route should be using ADMAG2X, CLN4X and LAM2X according to the Gatwick AIP.

I have come across four track deviations on this route which have been flagged by our Noise and Track Keeping System in the last few days for [REDACTED]. Three of the deviations have come about despite the new SIDs (CLN4X) being used. The other has used a CLN8M conventional SID. Could you possibly look into these deviations for us?

I have included maps (attached) and the details of each individual event are listed below:

- [REDACTED] 12/06/16, [REDACTED] 26L, CLN8M, B738, Scheduled TOT: [REDACTED] actual [REDACTED] destination: [REDACTED] - made the turn but left the NPR early at 3,511ft above MSL.
- [REDACTED] 12/06/16, [REDACTED] 26L, CLN4X, B738, Scheduled TOT: [REDACTED] actual [REDACTED] destination: [REDACTED] - made the turn but ballooned out at the top of the NPR.
- [REDACTED], 12/06/16, [REDACTED] 26L, CLN4X, B738, Scheduled TOT: [REDACTED] actual [REDACTED] destination: [REDACTED] - made the turn but ballooned out at the top of the NPR.
- [REDACTED] 12/06/16, [REDACTED] 26L, CLN4X, B738, Scheduled TOT: [REDACTED], [REDACTED] destination: [REDACTED] - made the turn but ballooned out at the top of the NPR.

I should add that there were no weather avoidance reports during these times.

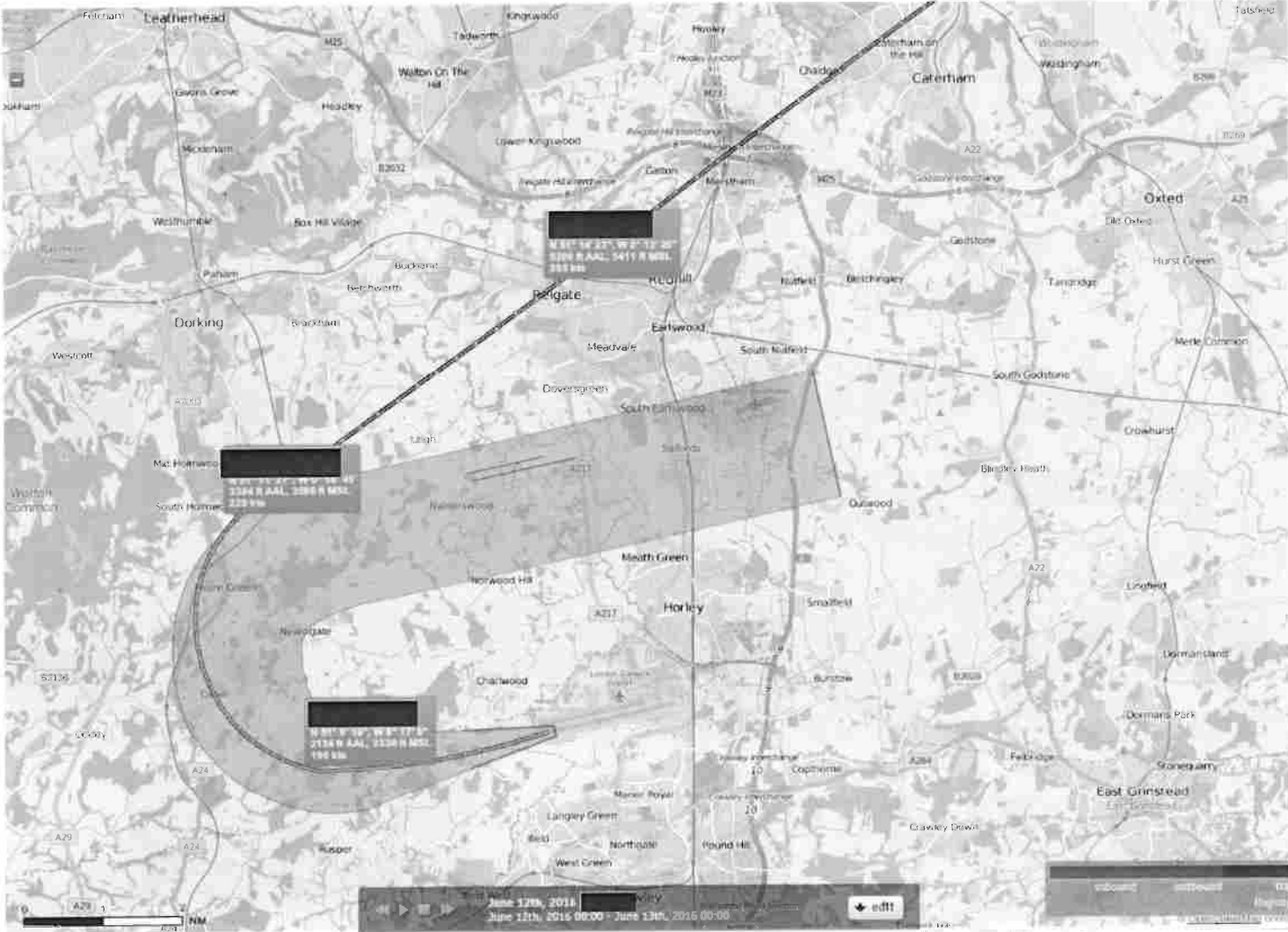
Many thanks for your assistance.

Kind regards,

[REDACTED]  
[REDACTED]  
[REDACTED]  
Gatwick Airport Limited

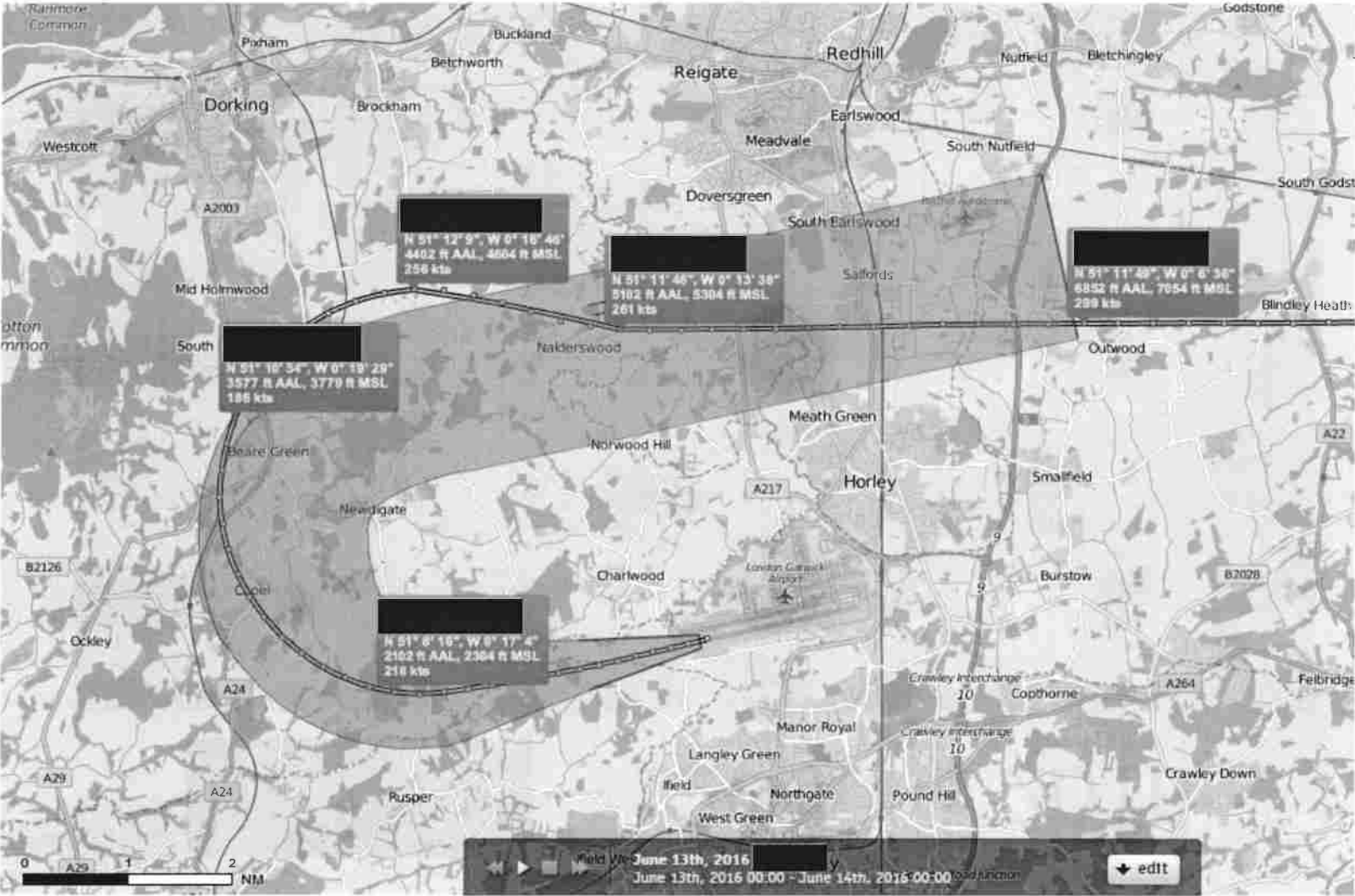


- 12<sup>th</sup> June 2016



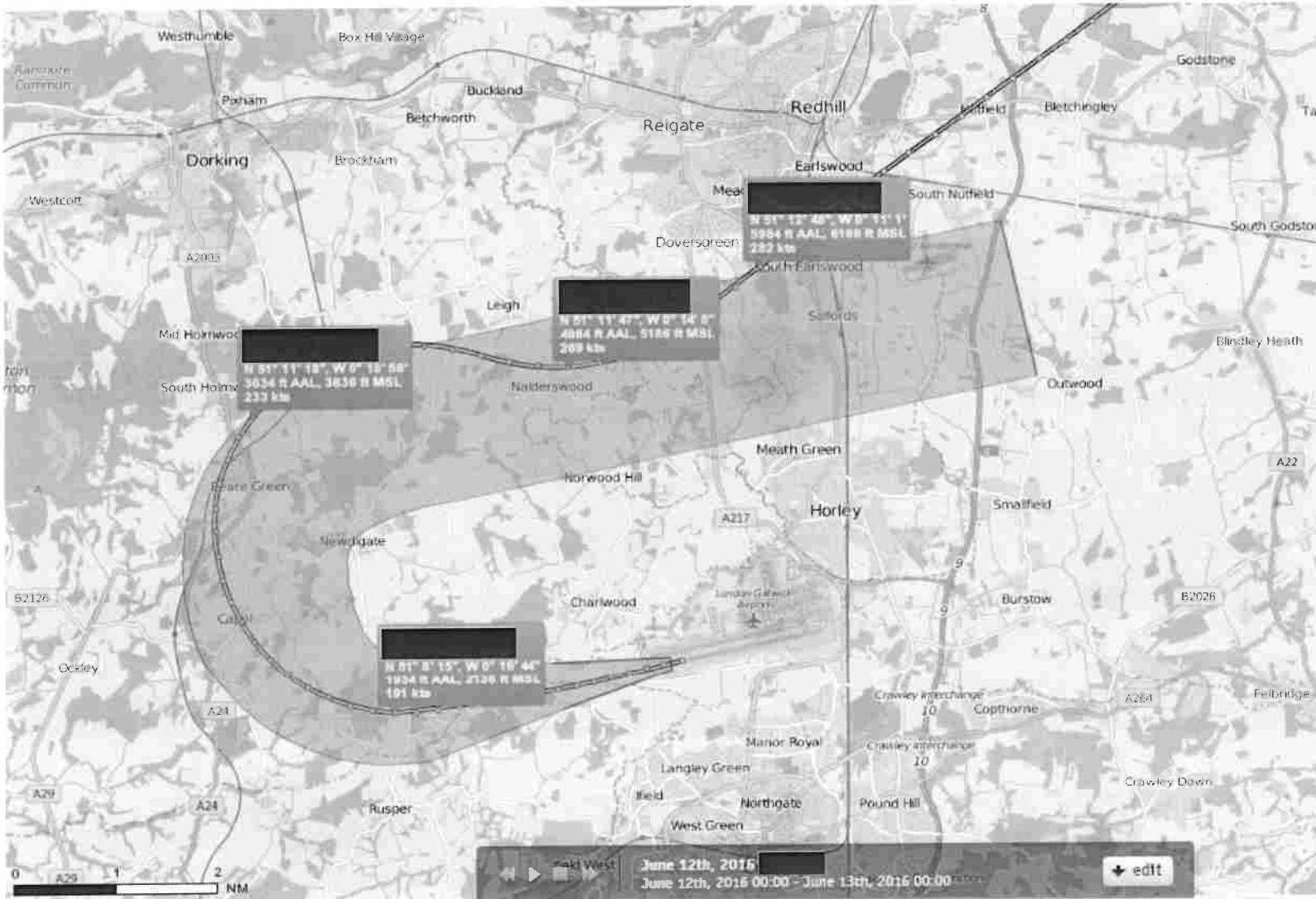


- 13<sup>th</sup> June 2016



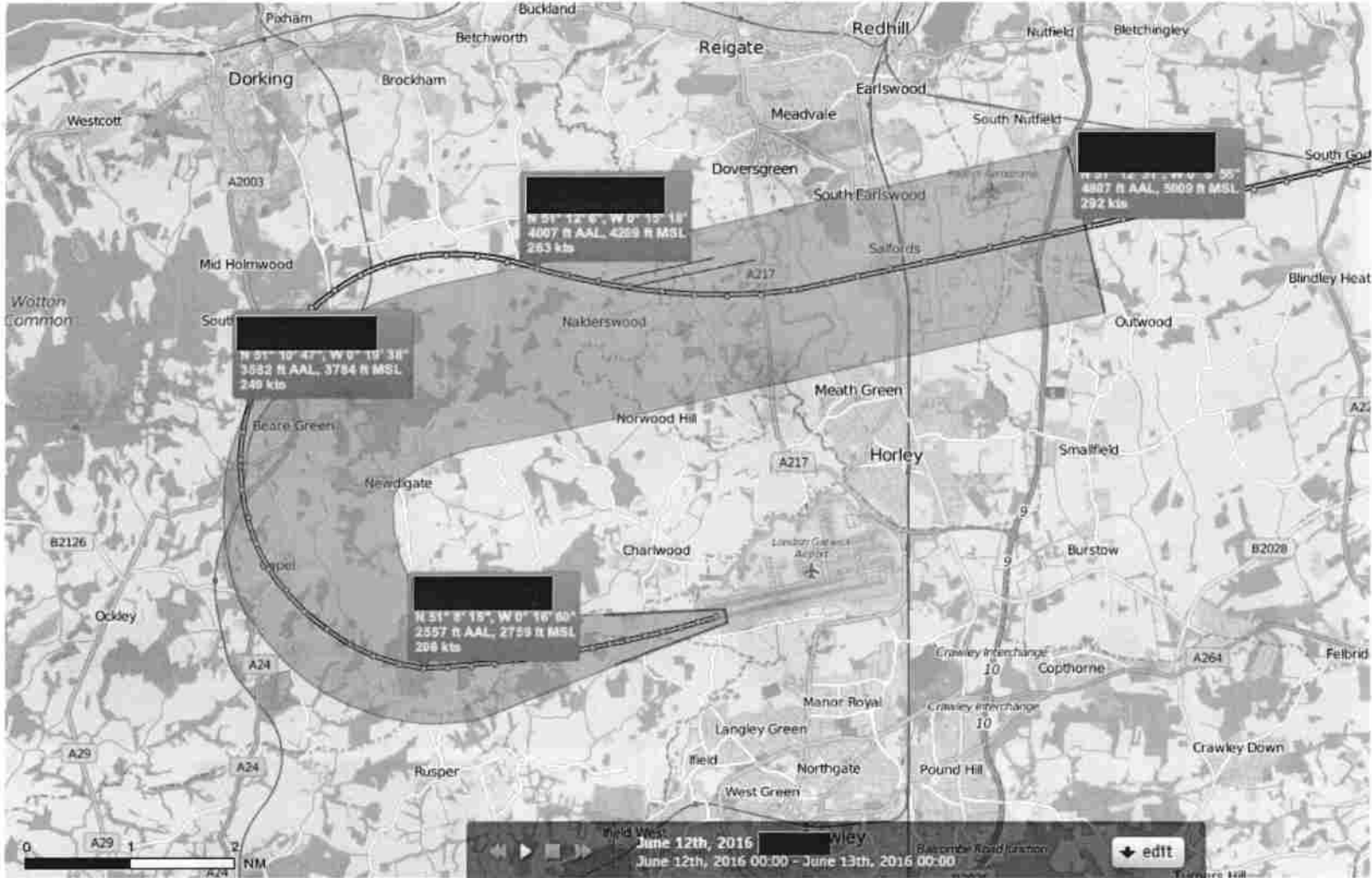


– 12<sup>th</sup> June 2016





# [REDACTED] – 12<sup>th</sup> June 2016



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 06 September 2016 10:21  
**To:** [REDACTED]  
**Subject:** Fwd: Track Deviations on Route 4 at LGW

Hi [REDACTED]

With regards to [REDACTED] we identified an error in the NavData and have been working to have it corrected.

If you've identified the issue with any other operators could you advise their supplier of NavData?

Best regards

[REDACTED]

Sent from my iPhone

Begin forwarded message:

**From:** [REDACTED]  
**Date:** 6 September 2016 at 10:14:11 BST  
**To:** [REDACTED]  
**Subject:** RE: Track Deviations on Route 4 at LGW

Hi [REDACTED]

KKW2 coordinates revised to correct ones in navdata Cycle1610 valid from 15SEP.  
I already have got it.  
So, it will be transfered to LGW and MAN today with DHL to upload to our aircraft.

Best Regards,

[REDACTED]

**From:** [REDACTED]  
**Sent:** 06 September 2016 09:10  
**To:** [REDACTED]  
**Subject:** Fwd: Track Deviations on Route 4 at LGW

Hello guys,

Firstly thankyou for chasing the issue with NavTech, below we have some further reports.

I believe [REDACTED] isn't one of our aircraft anymore? But nevertheless it's been recorded as a deviation against us.

Best regards

[REDACTED]

Sent from my iPhone

Begin forwarded message:

**From:** [REDACTED]  
**To:** [REDACTED]  
**Subject: RE: Track Deviations on Route 4 at LGW**

Good morning [REDACTED],

I hope the investigations with the [REDACTED] track deviations are going well from the beginning of August.

I just wanted to highlight a couple more [REDACTED] deviations that occurred recently on Route 4/ 26 LAM that may assist your investigations. However, I've noticed that these two were using conventional SIDs.

--> [REDACTED], 04/09/16, [REDACTED], A320, DVR8M, 26L, [REDACTED] destination:  
[REDACTED]

--> [REDACTED], 05/09/16, [REDACTED], A320, CLN8M, 26L, [REDACTED], destination:  
[REDACTED]

I've attached the two as track maps.

Once again, thanks for your assistance on these matters, it is useful for us to continue to improve track keeping on Route 4.

Kind regards,

[REDACTED]

[REDACTED]

[REDACTED]  
Gatwick Airport Limited

-----Original Message-----

**From:** [REDACTED]  
**Sent:** 21 August 2016 15:06  
**To:** [REDACTED]  
**Subject:** Re: Track Deviations on Route 4 at LGW

Hi [REDACTED]

Thank you for your email. We are actively investigating this matter.

Have there been any further instances?

Additionally, which NADP procedure is Gatwick wishing operators to use.

I push for the use of NADP 2 but the text pages in our route manuals are not specific on this so there may be some deviation within our operation.

Best Regards

[REDACTED]

Base Captain LGW

Sent from my iPhone

On 10 Aug 2016, at 08:32, [REDACTED] wrote:

Good morning,

I have been looking into the compliance for Gatwick's new Route 4 amendment and there are a few aircraft that have not been compliant with the Noise Preferential Route (NPR) and are cutting the corner too short and therefore coming off track.

I have come across three [REDACTED] aircraft, one on the 4th August, one on the 5th August and another on the 9th August all of which have cut across the NPR rather than following the curve.

Could you possibly look into these three deviations of the Route 4 NPR and whether you are encountering any compliance issues with this route?

I have attached the three maps showing the non-compliant aircraft in question and details are below:

[REDACTED] 04/08/16, [REDACTED] A320, 26L, ADMAG2X,  
Scheduled takeoff: [REDACTED] actual takeoff: [REDACTED] destination  
[REDACTED]

[REDACTED] 05/08/16, [REDACTED], A320, 26L, ADMAG2X,  
Scheduled takeoff: [REDACTED] actual takeoff: [REDACTED] destination  
[REDACTED]

09/08/16, A320, 26L, ADMAG2X,  
Scheduled takeoff: actual takeoff: destination  
JTR.

Many thanks for your assistance on these matters.

Kind regards,

[Redacted]  
[Redacted]  
[Redacted]

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-  – 4th August 2016.pptx>
-  – 5th August 2016.pptx>
-  – 9th August 2016.pptx>

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[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 14:08  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Track Deviations  
**Attachments:** [REDACTED] on 19th June.pptx; [REDACTED] on 20th June.pptx; [REDACTED] on 20th June.pptx

Hello,

We've been looking at track deviations over the last few days and found that were having a few compliance issue with Route 4.

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED] A321, [REDACTED] 19<sup>th</sup> June 2016 [REDACTED], ADMAG2X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 2016 [REDACTED], CLN4X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 21016 [REDACTED] ADMAG2X

We've have do weather avoidance reports.

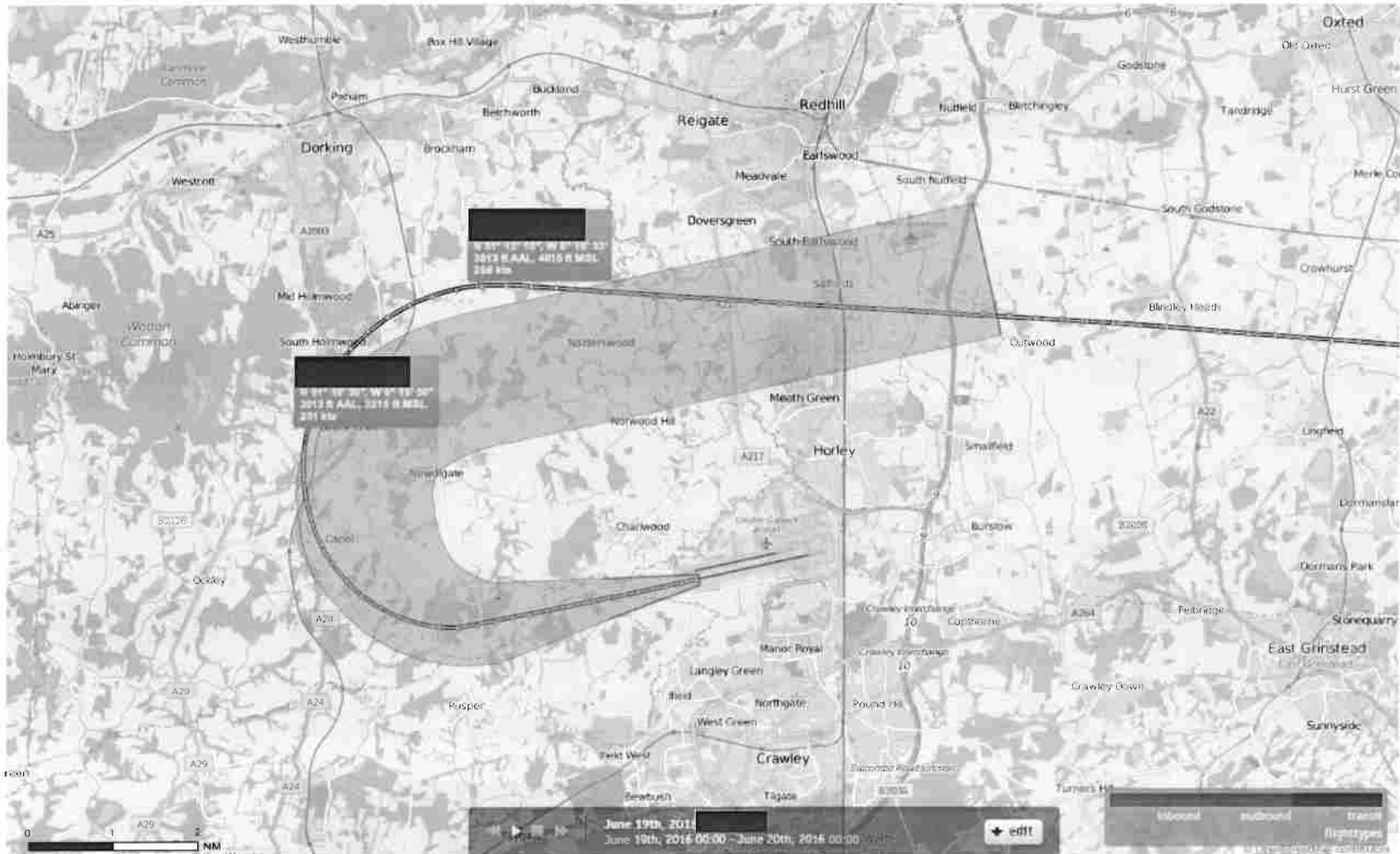
Kindest Regards

[REDACTED]

[REDACTED]  
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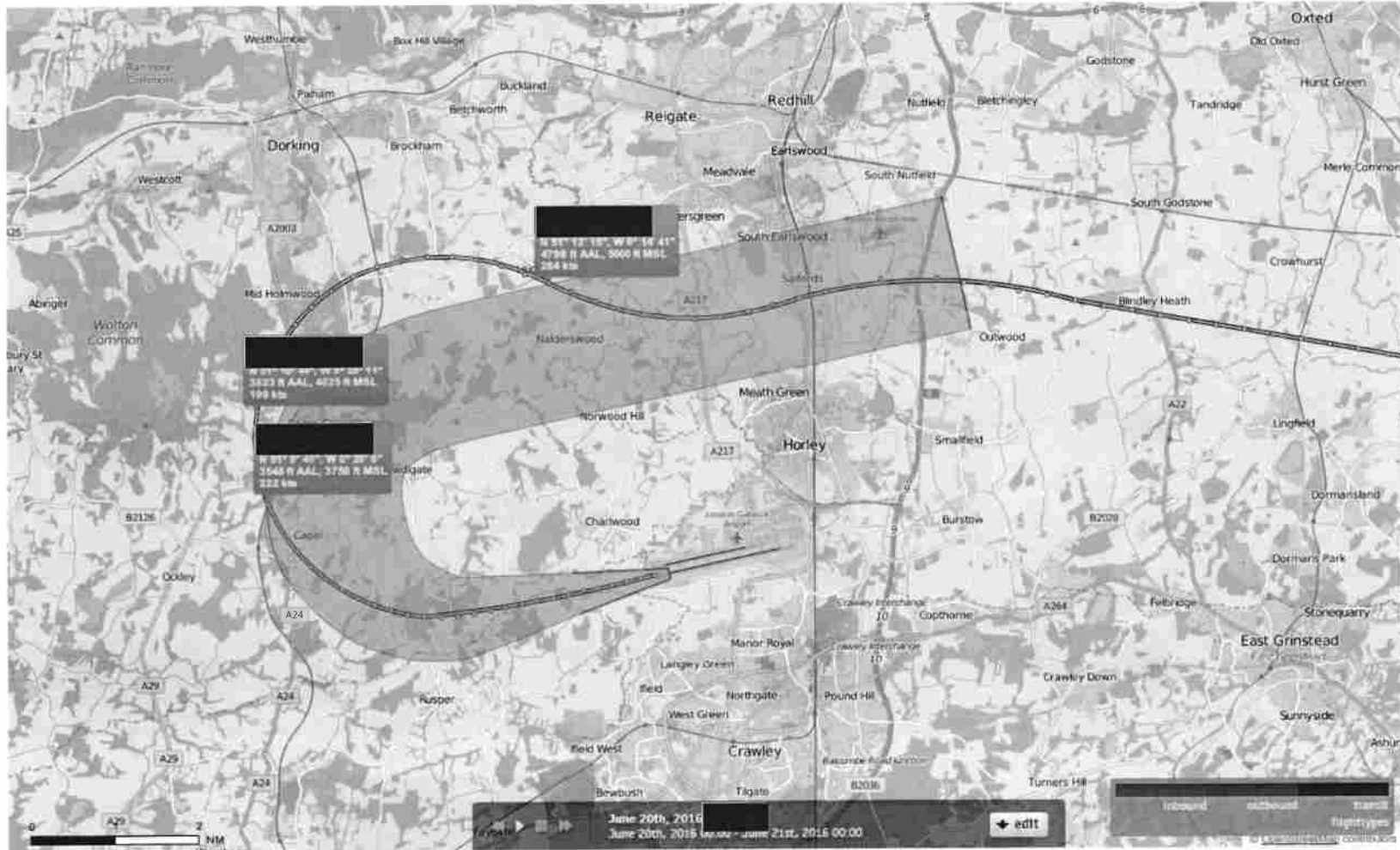
[REDACTED] on 19<sup>th</sup> June





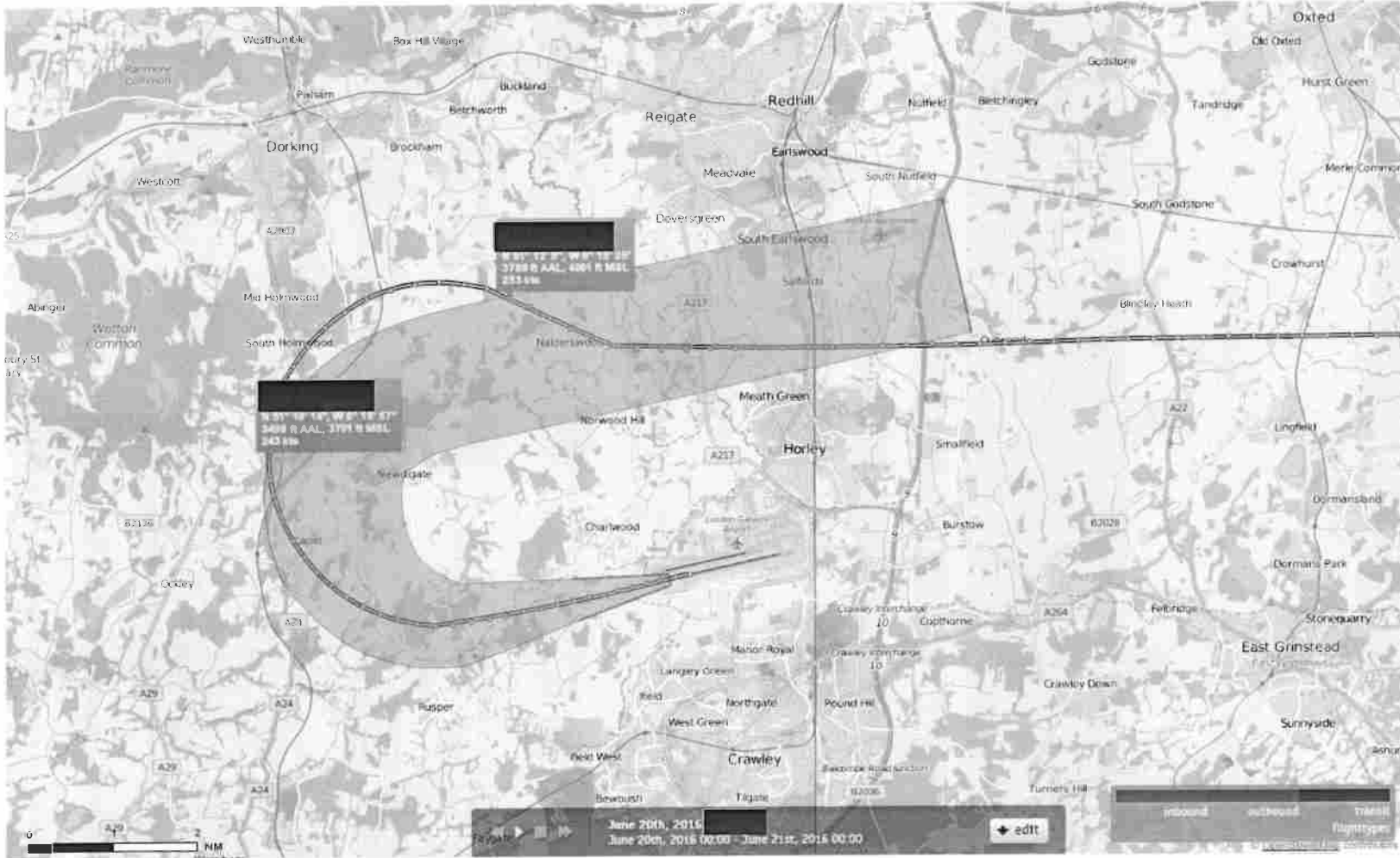


\_\_<sup>th</sup> June





\_\_<sup>th</sup> June



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 27 October 2016 14:30  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Track Deviations at LGW Route 4  
**Attachments:** LGW SID ADMAG2X.pdf

Dear [REDACTED]  
Please find attached our simple analysis of the respective flights. Please feel free contact us for any other information  
Kind regards

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** Thursday, October 20, 2016 1:49 PM  
**To:** [REDACTED]  
**Subject:** Track Deviations at LGW Route 4

Good morning,

We have been analysing track deviations on our Route 4 Noise Preferential Route (NPR) and we have had a number of [REDACTED] deviations on this particular Route in the last week that we would like to investigate. They have been flagged by our Noise and Track Keeping System as they have left the NPR below the required altitude of 4,000ft. I have included the details of the non-compliant flights below:

- [REDACTED] 15/10/16, ADMAG2X, 26L, Reg: [REDACTED] B738, scheduled departure time: [REDACTED] actual time: [REDACTED], destination [REDACTED] This departure left the NPR at 3863ft and turned too wide thus exiting the NPR too far north before returning inside.
- [REDACTED] 15/10/16, ADMAG2X, 26L, Reg: [REDACTED] A321, scheduled departure time: [REDACTED] actual time: [REDACTED], destination [REDACTED] This departure left the NPR at 3689ft and took a very wide turn thus exiting the NPR too far north before returning inside.
- [REDACTED] 17/10/16, ADMAG2X, 26L, Reg: [REDACTED] B738, scheduled departure time: [REDACTED] actual time: [REDACTED] destination [REDACTED] This departure left the NPR at 3985ft and turned too wide thus exiting the NPR too far north before returning inside.
- [REDACTED] 18/10/16, ADMAG2X, 26L, Reg: [REDACTED] B738, scheduled departure time: [REDACTED] actual [REDACTED] destination [REDACTED] This departure left the NPR at 3035ft and turned too wide thus exiting the NPR too far north before returning inside.
- [REDACTED] 19/10/16, ADMAG2X, 26L, Reg: unknown, scheduled departure time: [REDACTED], actual time: [REDACTED] destination [REDACTED] This departure left the NPR at 3915ft and turned slightly too wide thus exiting the NPR slightly too far north before returning inside.

I have attached the maps of each of the flights.

Many thanks for your assistance on these matters; any feedback you could provide will assist the improvement of the compliance on this route.

Kind regards,



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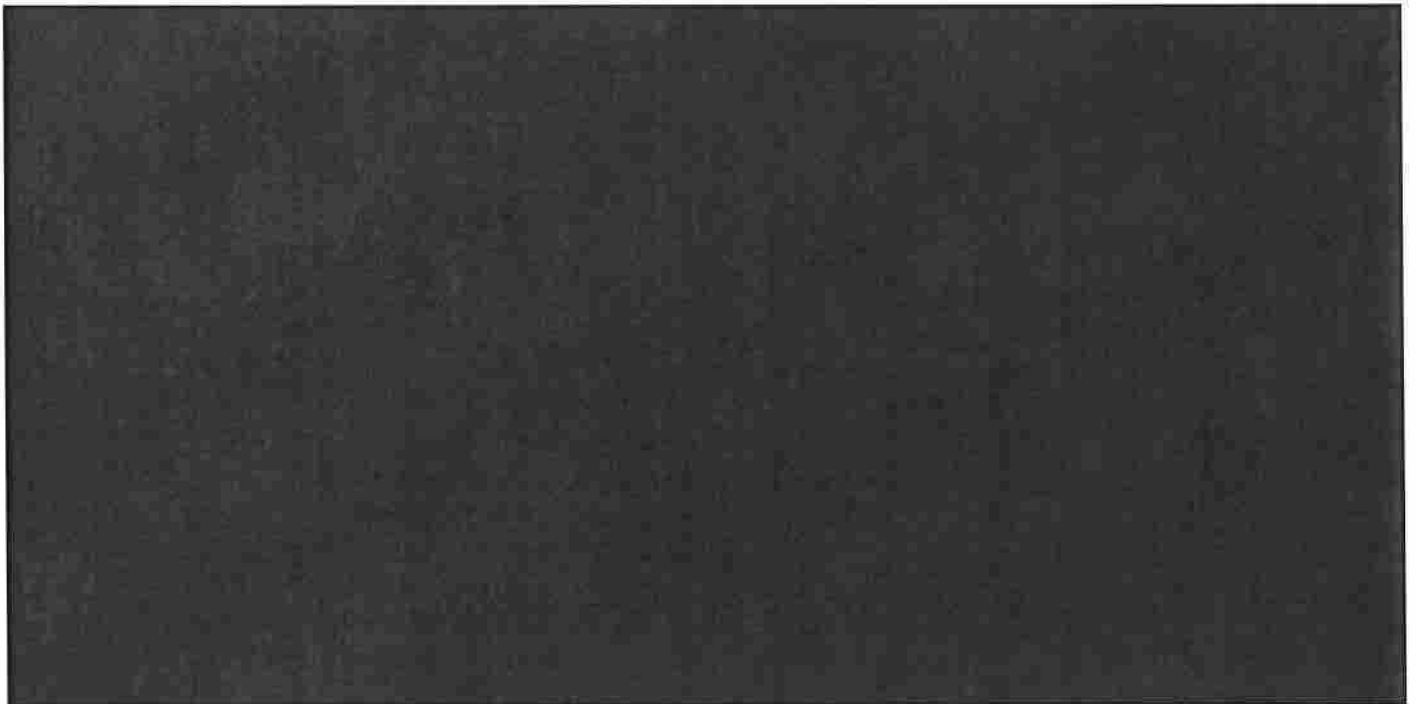
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\*\*\*\*\*



**20161019** [REDACTED] **LGW** [REDACTED]  
[REDACTED]

According to FDM data ;

1. A/P engage and during SID Lnav , Vnav Mode chosen
2. Speed Limit 220 kts was maintained until KKE09 point
3. There is no crosswind effect

**20161018** [REDACTED] **LGW** [REDACTED]  
[REDACTED]

According to FDM data ;

1. A/P engage and during SID Lnav , Vnav Mode chosen
2. Speed Limit 220 kts was maintained until KKE09 point
3. There is no crosswind effect

**20161017** [REDACTED] **LGW** [REDACTED]  
[REDACTED]

According to FDM data ;

1. A/P engage and during SID Lnav , Vnav Mode chosen
2. Speed Limit 220 kts was maintained until KKE09 point
3. There is no crosswind effect

**20161015** [REDACTED] **LGW** [REDACTED]  
[REDACTED]

According to FDM data ;

1. A/P engage and during SID Lnav , Vnav Mode chosen
2. Speed Limit 220 kts was maintained until KKE09 point
3. There is no crosswind effect

**20161015** [REDACTED] **LGW** [REDACTED]  
[REDACTED]

According to FDM data ;

1. A/P engage and during SID Lnav , Vnav Mode chosen
2. Speed Limit 220 kts was maintained until KKE09 point
3. There is a crosswind effect (170/24kts)

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 04 July 2016 14:01  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Track Deviations  
**Attachments:** [REDACTED]\_20062016; Fwd: [REDACTED]\_200616; FW: [REDACTED]\_19062016

Hello , please see attached emails from cpt`s

Would you please use [REDACTED] email for future issues

Many thanks

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 14:08  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Track Deviations

Hello,

We've been looking at track deviations over the last few days and found that were having a few compliance issue with Route 4.

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED] A321, [REDACTED] 19<sup>th</sup> June 2016 [REDACTED], ADMAG2X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 21016 [REDACTED] ADMAG2X

We've have do weather avoidance reports.

Kindest Regards

[REDACTED]

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[REDACTED]

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**From:** [REDACTED]  
**Sent:** 04 July 2016 02:17  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] 20062016  
**Attachments:** [REDACTED] doc; ATT00001.txt

[REDACTED] nin ekibinin gönderdiği bilgilendirme ekte sunulmuştur, Yardımlarınız için teşekkürler iyi bayramlar



About [REDACTED]\_20062016

Hello

As far as I remember I was flying as pilot monitoring at this flight leg and our sid was admag2x, the pf (cm1) applied nadp2 as noise reduction procedure and we used full automation. What I remember is after contacting the departure (which should be during the turn) we were given radar heading and we switched to hgd mode on the mcp panel. After this moment the pf increased speed to 250 kts since we were not going direct to the any point that sid was containing. This may be the probable cause of overshoot on the picture. Since there has been approximately 10 days, these are what I can remember from this flight.

[REDACTED]

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 04 July 2016 02:12  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Fwd: [REDACTED] 200616

[REDACTED]  
Please find below [REDACTED] Crew's statement concerning track deviation during SID.  
Thank you for your cooperation  
[REDACTED]

[REDACTED]

[REDACTED] Crew's statement concerning track deviation

Dear Captain [REDACTED]

Please find my report below:

We took off with ADMUG 2X on 20-06-2016 from LGW to [REDACTED]. While at park, we attempted to obtain DCL clearance via ACARS, however we were requested to get it on the Voice and our plan was declared as CLN 4X 26L. I remember the declared clearance as ADMAG 2X which is similar to CLN 4X, only difference is SIDPT information that declare no turn as 710 feet but doesn't have bank angle limit. Before take off, FMC information is verified with the charts and I think it was executed as crosswind CB activity and ferry flight under precipitation (damaged skin). Autopilot is activated at 600 ft AGL and since the airplane was empty, AGL 1500 was used before the turn and followed by the LNAV VNAV pattern. We think that rain and at level wind increased GS (VNAV acquisition Speed 220) and the turn radius radial drift while flying in LNAV/VNAV with ferry (wet runway T/O no assume thrust ) and high thrust . It might be the reason of track deviation during SID. Ultimately I remember because of the wx magenta on radar screen, heading deviation was giving as HDG 090. To reduce the climb acceleration after the turn due to KKE09 3200ft and KKE11 4000ft constrate VS climbing variation reduction is executed.

Kind Regards  
[REDACTED]

İleti başlangıcı:

**Kimden:** [REDACTED]

Tarih: 2 Temmuz 2016 15:56:38 GMT+3

Kime: [REDACTED]

Konu: [REDACTED] 200616

Dear Captain [REDACTED]

Please find my report below:

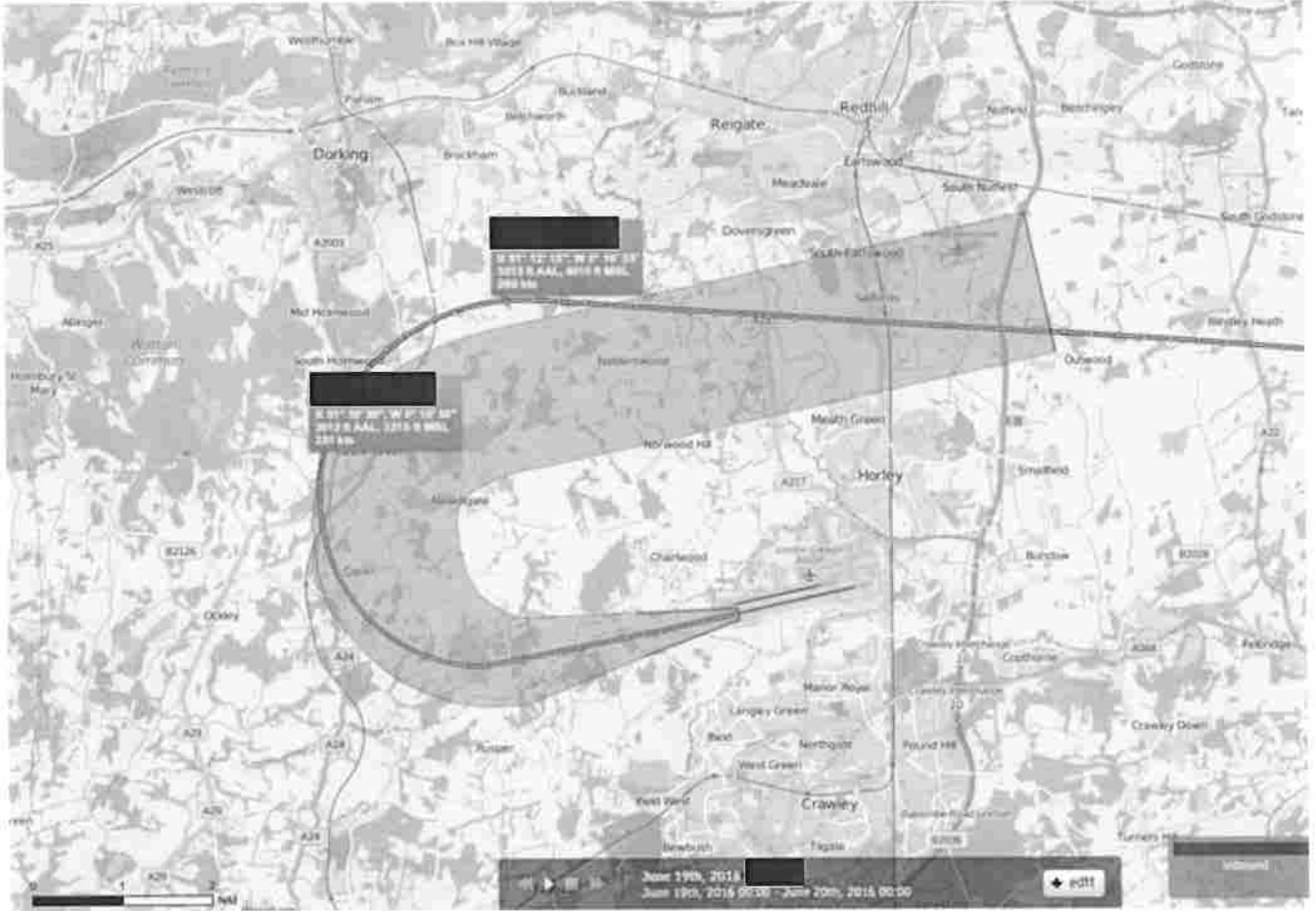
We took off with ADMUG 2X on 20-06-2016 from LGW to [REDACTED] While at park, we attempted to obtain DCL clearance via ACARS, however we were requested to get it on the Voice and our plan was declared as CLN 4X 26L. I remember the declared clearance as ADMAG 2X which is similar to CLN 4X, only difference is SIDPT information that declare no turn as 710 feet but doesn't have bank angle limit. Before take off, FMC information is verified with the charts and I think it was executed as crosswind CB activity and ferry flight under precipitation (damaged skin). Autopilot is activated at 600 ft AGL and since the airplane was empty, AGL 1500 was used before the turn and followed by the LNAV VNAV pattern. We think that rain and at level wind increased GS (VNAV acquisition Speed 220) and the turn radius radial drift while flying in LNAV/VNAV with ferry (wet runway T/O no assume thrust ) and high thrust . It might be the reason of track deviation during SID. Ultimately I remember because of the wx magenta on radar screen, heading deviation was giving as HDG 090. To reduce the climb acceleration after the turn due to KKE09 3200ft and KKE11 4000ft constrate VS climbing variation reduction is executed.

Kind Regards

[REDACTED]

**From:** [REDACTED]  
**Sent:** 30 June 2016 18:50  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: [REDACTED]\_19062016  
**Attachments:** [REDACTED]\_19062016.docx

[REDACTED]\_19062016 uçuşu kaptanının konuya ilişkin bilgilendirmesi ekte sunulmuştur  
Diğerleri geldiğinde paylaşılacaktır.  
Yardımlarınız için teşekkür ederiz  
Selam sevgiler



Subject: [REDACTED]\_19062016

To whom it may concern,

[REDACTED] call sign at 19-06-2016 SID given us different than we had already in our flight plan that had briefed as flight crew

After take off ATC instruction was JUST RADAR VECTOR to until our departure point to the Maastricht FIR. WE FOLLOWED ALL ATC INSTRUCTION PERFECTLY WHICH THE HEADING, ALTITUDE, and SPEED with in the UK air space rules.

Even I do remember a couple ATC thanks to us, for very clear communication and follow special UK ATC radio talk rules, like end of the heading instruction added to say degrees. No one told us anything going wrong.

The problem might was one of ATC expected us different SID than we got one by delivery on the ground.

As a flight crew, if misunderstood something or did not realize what happen, I apologize for the inconvenience situation;

And big thanks we all did safe operation with cooperation with ATC during our departure.

Captain [REDACTED]

## Simmons Mark

---

**From:** [REDACTED]  
**Sent:** 01 November 2016 15:42  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Track Deviation at Gatwick Airport - [REDACTED] 18th October 2016

Dear [REDACTED]

Thank you for notification about track deviation of [REDACTED] E190, registration [REDACTED] SID: CLN4X, scheduled takeoff: [REDACTED] actual: [REDACTED] destination KBP.

We are still investigating this case, because there are no obvious reason for deviation – LNAV mode was engaged and operative, NADP1 was used, SID coding appears to be fine.

I can just say that the leg is coded as CF (Course to Fix) so the deviation could be reasoned by wind.

What we have already done:

- we informed our pilots to use NADP 2 procedure and will monitor results;
- a letter to Embraer was forwarded to get some advices from the manufacturer.

I will keep you informed of further results.



---

**From:** [REDACTED]  
**Sent:** Wednesday, October 19, 2016 3:47 PM  
**To:** [REDACTED]  
**Subject:** Fwd: Track Deviation at Gatwick Airport - [REDACTED] 18th October 2016

**От:** [REDACTED]  
**Дата:** 19.10.2016 10:51 (GMT+02:00)  
**Кому:** [REDACTED]  
**Тема:** Track Deviation at Gatwick Airport - [REDACTED] 18th October 2016

Good morning,

We have had a [REDACTED] departure flagged by our Noise and Track Keeping system as a track deviation at Gatwick Airport. Please could this be investigated as for the reason for the aircraft

cutting across the Noise Preferential Route (NPR) Route 4 below the required altitude of 4,000ft? It left the NPR at 3688ft.

Flight details – [REDACTED], E190, registration [REDACTED], SID: CLN4X, scheduled takeoff: [REDACTED], actual: [REDACTED], destination [REDACTED]

A map of the flight is attached.

Many thanks for your assistance on the matter.

Kind regards,

[REDACTED]

[REDACTED]

[REDACTED]

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\*\*\*\*\*



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 22 June 2016 11:53  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations LGW Route 4  
**Attachments:** [REDACTED] Consolidated.pptx

[REDACTED],

Comments annotated below and in the attached consolidated .pptx.

Best Wishes,



---

**From:** [REDACTED]  
**Sent:** 21 June 2016 12:17  
**To:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations LGW Route 4

Response as referred to .

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 12:07  
**To:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations LGW Route 4

---

**From:** [REDACTED]  
**Sent:** 21 June 2016 11:32  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations LGW Route 4

Dear [REDACTED]

thank you for your email below.

We have reviewed the attached tracks and our sense is that the [REDACTED] flight, 12<sup>th</sup> June, is a Crew issue. OK. But this crew managed to achieve 210 kts just past KKW02 while still achieving 500ft above the minimum alt for that waypoint. Why can't the others manage this?

However for the remainder of the flights we feel the issue is the slow aircraft speeds (139-152 kt) producing much smaller turn radii, Obviously but why is the aircraft sooooo slow? Because it has a v good RoC that's why! whereas the noise corridor splay, we suspect, is most probably predicated on the 220 kt speed indicated in the SID. No it's not - the NPR splay is fixed and the 220 kts speed restriction is there to contain the turn within the NPR, as you know – NOT the other way around. I appreciate that good climb rate is beneficial to economics, as well as visual perception by the complainers, but accelerating to 220 kts IAS (or at least 200kts – as THAT was the original design speed!!) might allow better SID track/NPR compliance; it might even allow for an element of 'clean up' to take place to the benefit of noise and fuel burn around the turn.

We also suspect that due to the smaller turn radii, the Flight Management Computer may be bypassing waypoint KKE09 and tracking direct to KKE11, but this is something we will need to try and replicate in the simulators, and we hope to do that on 26JUN16. I simply don't believe that is the case – see attachment; OK my KKE09 is a visual interpolation of the position – not a Lat/Long plot – BUT it's not that far out and the waypoint is a flyby.

As a mitigation strategy, we would also like to suggest an additional waypoint be incorporated into the two SIDs, situated half-way through the turn on the nominal track centreline to assist with aircraft track keeping. Can't do that in PANS-Ops design terms on a CF SID design, otherwise we would have! However, it doesn't stop [REDACTED] from asking their FMS coding house from doing that if the FMS is capable of accepting/flying it. They might consider putting in an appropriate minimum speed requirement at KKW02 too if they want to go 'bespoke'.

I will come back to you after 26JUN16 with the results of our simulator trials.

Kind Regards,

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 19 June 2016 09:23  
**To:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations LGW Route 4

Can we look into these please

---

**From:** [REDACTED]  
**Sent:** 17 June 2016 12:24  
**To:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations LGW Route 4

Good Morning [REDACTED],  
I have been sent this by GAL performance team, I advised them that this will be looked into and addressed.

Appreciate you help and feedback.

Thank you  
Regards

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 17 June 2016 08:56  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Deviations LGW Route 4

Good afternoon,

I have been looking into the tracking of the new routing along Gatwick's Route 4 (26LAM) amended route and we are still having a few issues with compliance of the Noise Preferential Route (NPR).

Some departures from Gatwick are still using conventional SID's on the 26LAM Route 4 and we would like to understand why this is. Aircraft using this route should be using ADMAG2X, CLN4X and LAM2X according to the Gatwick AIP.

I have come across a three track deviations on this route which have been flagged by our Noise and Track Keeping System in the last few days for [REDACTED]. These deviations have come about despite the new SIDs (ADMAG2X and CLN4X) being used. Could you possibly look into these deviations for us?

I have included maps (attached) and the details of each individual event are listed below:

- [REDACTED], 11/06/16, [REDACTED] [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED], – turned very late therefore going outside the NPR.
- [REDACTED], 12/06/16, [REDACTED] [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too tightly and therefore went outside the NPR at 3261ft above MSL.
- [REDACTED], 12/06/16, [REDACTED] [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – ballooned out of the NPR slightly on the turn.
- [REDACTED], 12/06/16, [REDACTED] [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too early on the bend and left NPR at 3488ft above MSL.
- [REDACTED], 13/06/16, [REDACTED] [REDACTED] 26L, CLN4X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too early on the bend and left NPR at 3604ft above MSL.
- [REDACTED], 14/06/16, [REDACTED] [REDACTED] 26L, ADMAG2X, scheduled TOT: [REDACTED] actual [REDACTED] – turned too early on the bend and left NPR at 3496ft above MSL.

I should add that there were no weather avoidance reports during these times.

Many thanks for your assistance.

Kind regards,

[REDACTED]

[REDACTED]

[Redacted]  
Gatwick Airport Limited

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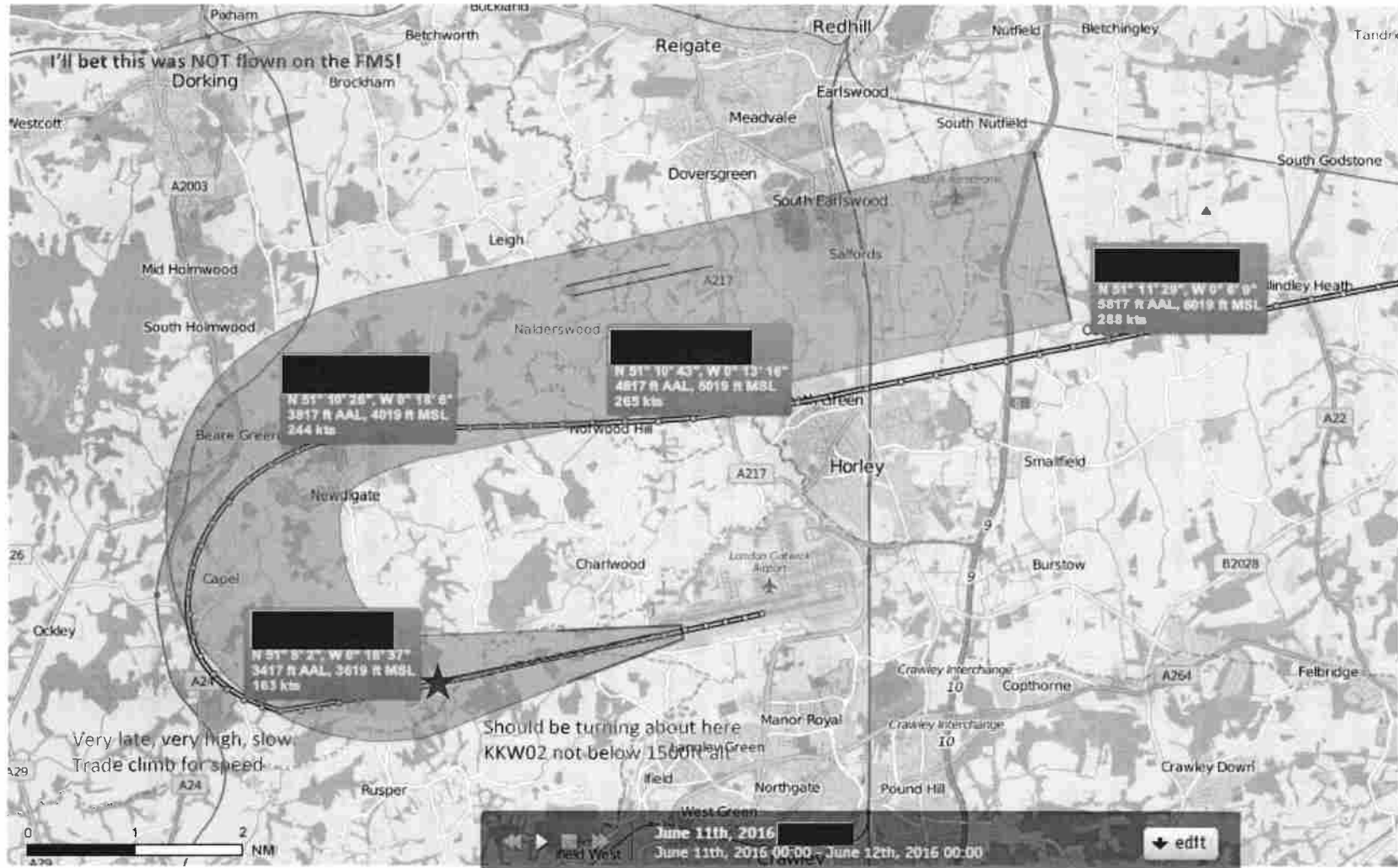
\*\*\*\*\*



Virus-free. [www.avast.com](http://www.avast.com)

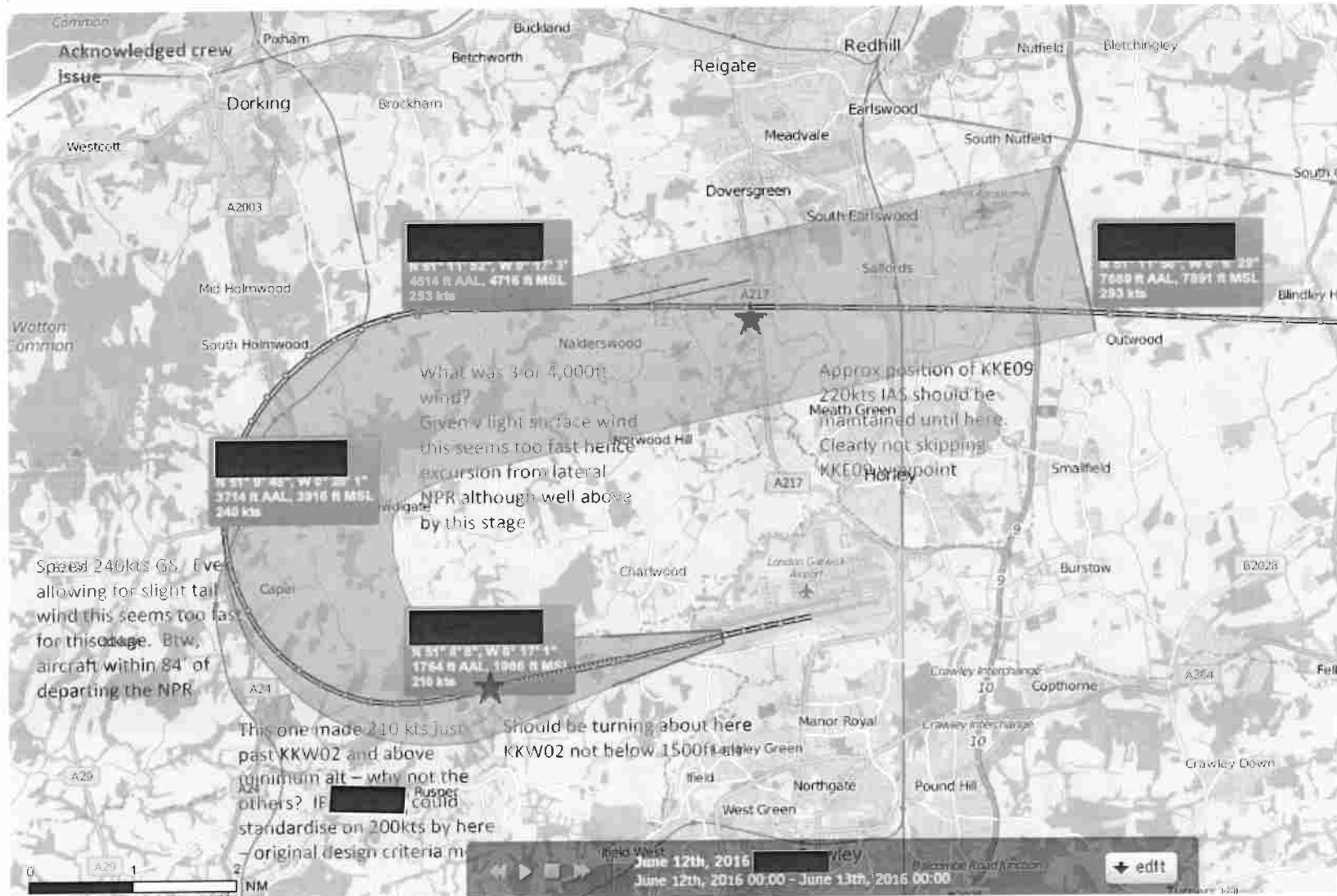


- 11<sup>th</sup> June 2016

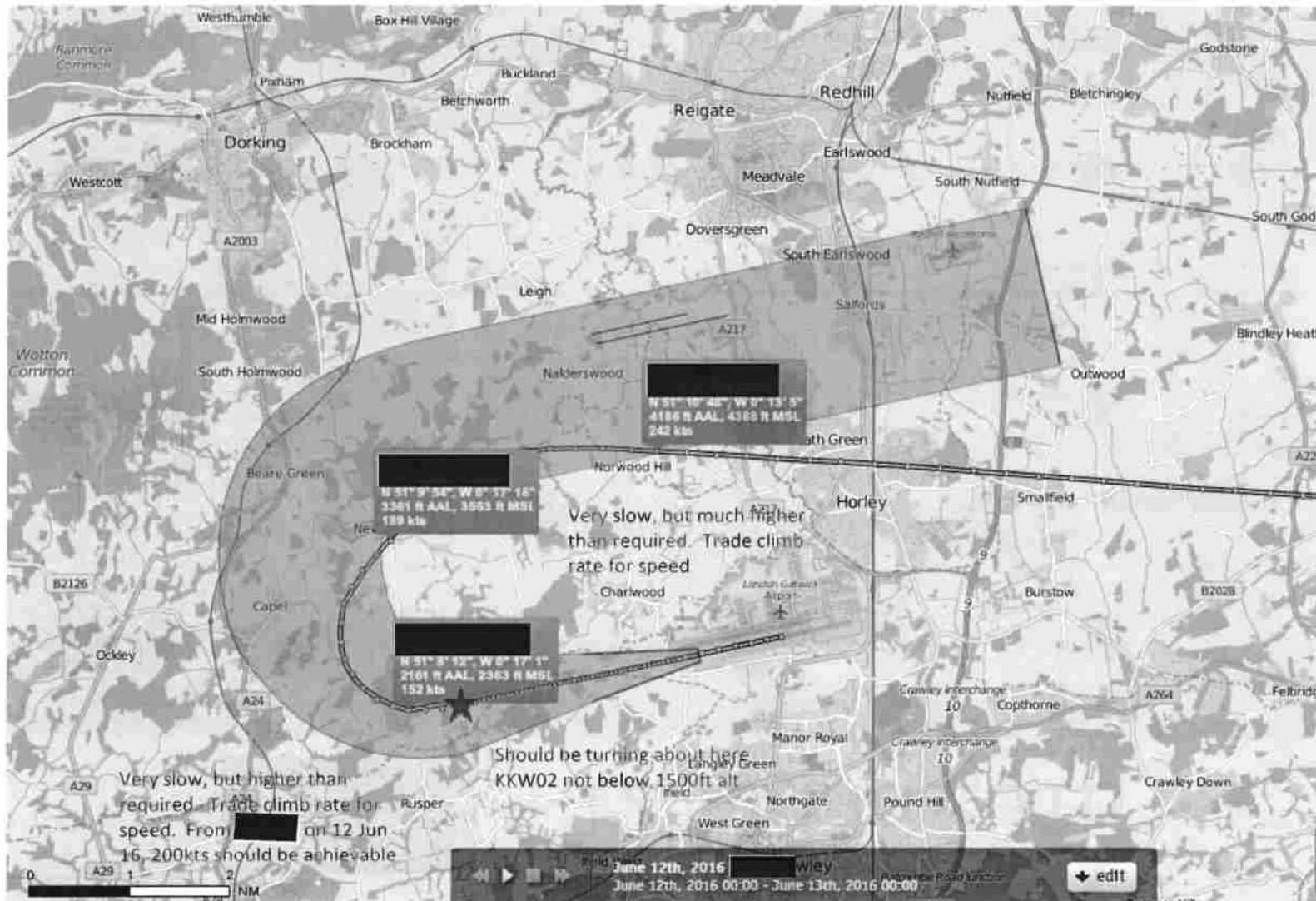




# - 12<sup>th</sup> June 2016

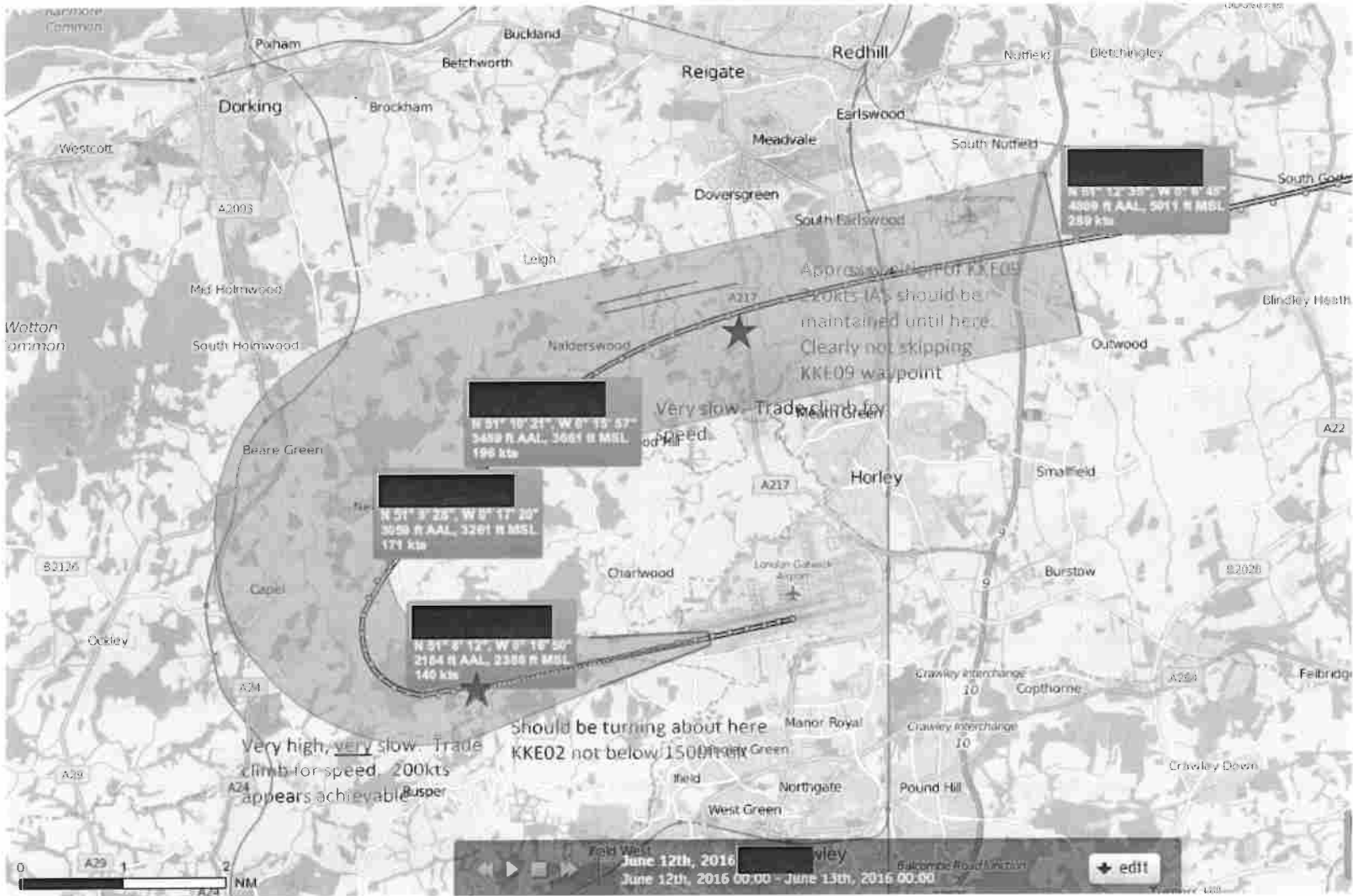


# 12<sup>th</sup> June 2016





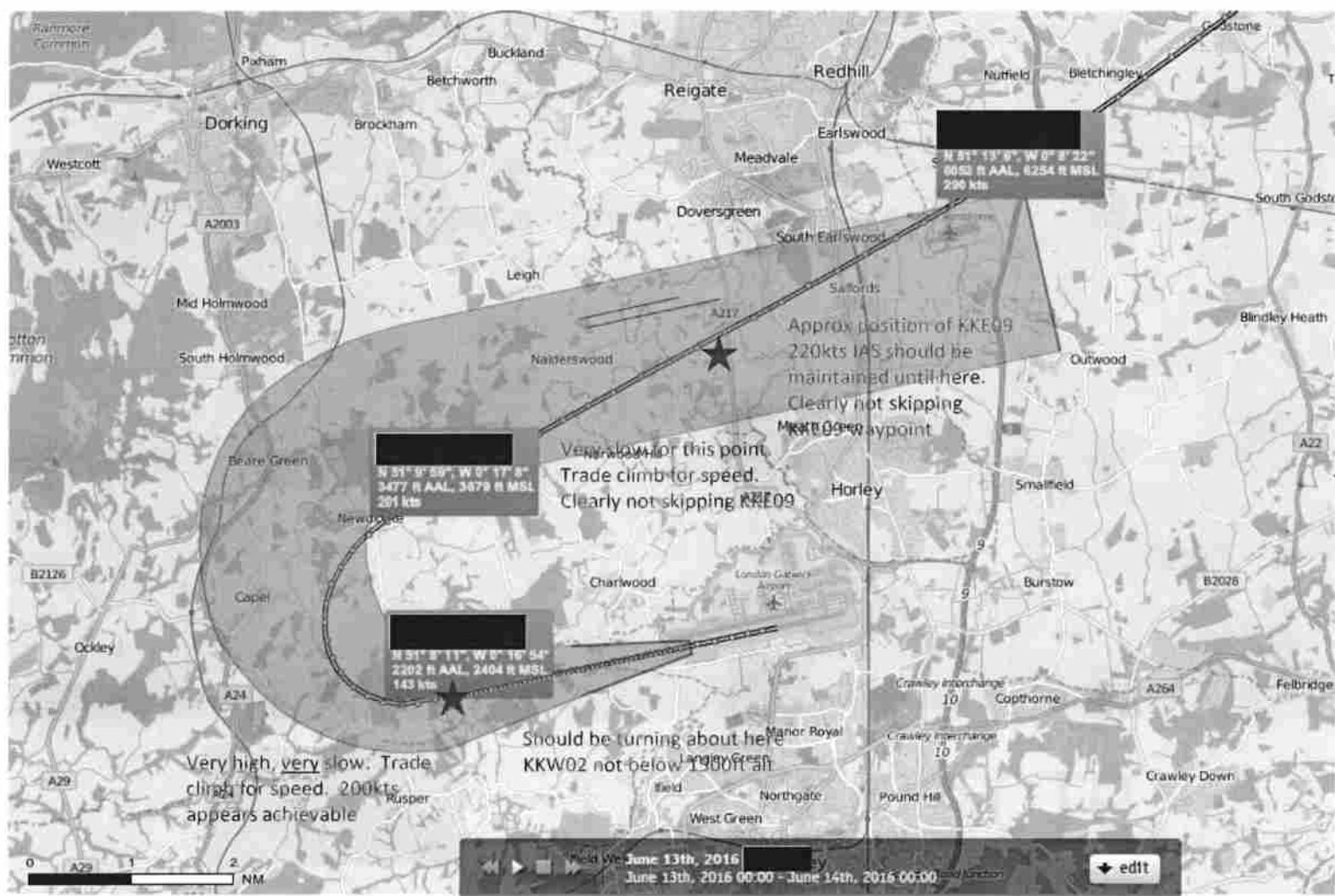
- 12<sup>th</sup> June 2016





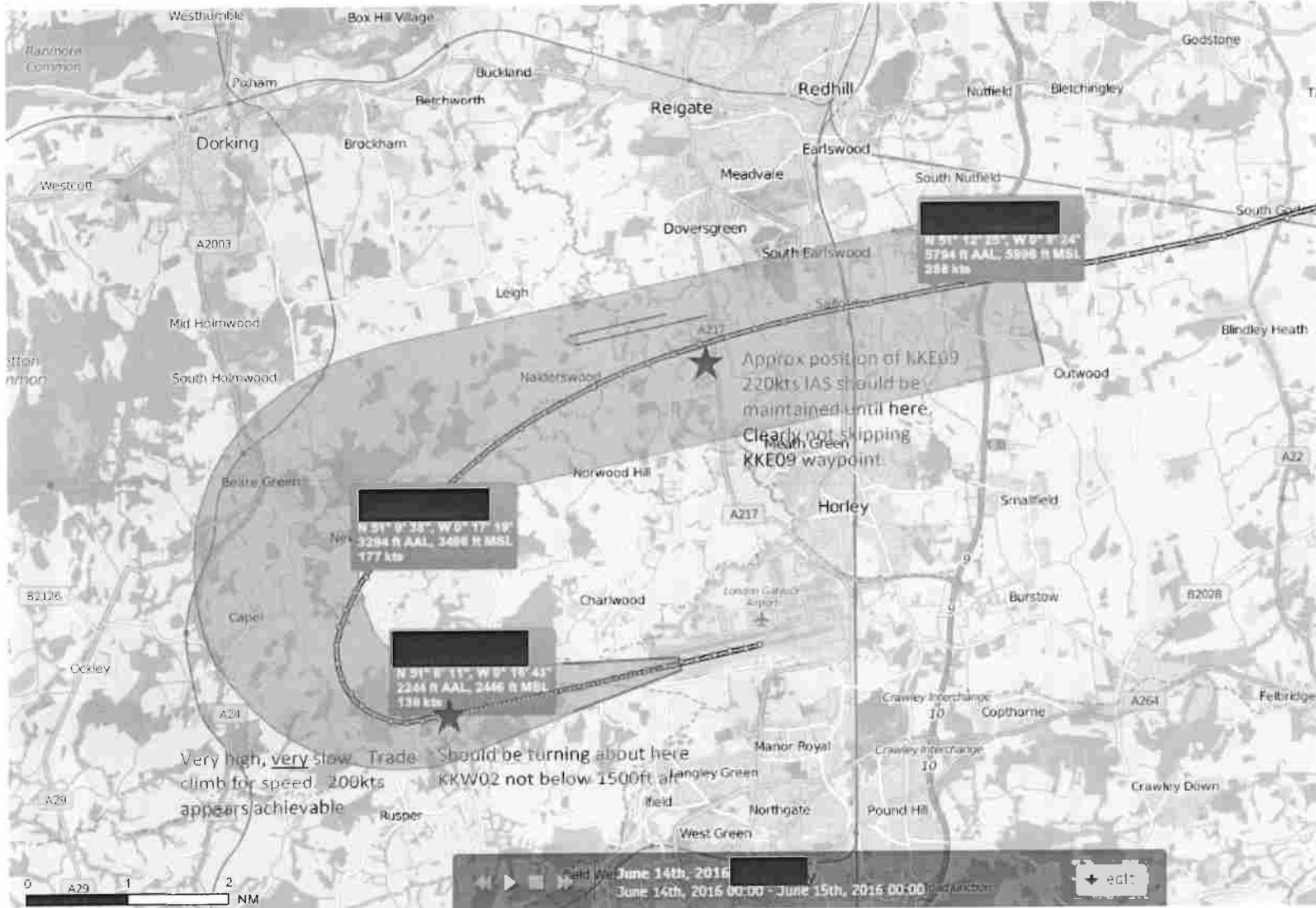


# - 13<sup>th</sup> June 2016





# - 14<sup>th</sup> June 2016



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 29 June 2016 14:25  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

H [REDACTED]

Really useful information from [REDACTED] here; please thank them. How did this actual departure fare with respect to NPR containment – are you able to correlate? If it's 'within' or even 'well within' (it doesn't look like a major excursion from the centreline) there isn't a problem, albeit it should be better with these wind conditions but at 220kts (as opposed to the designed 200kts) it might be the best as can be expected even in benign conditions. (What isn't acceptable is the immediate right turn loooooong before KKW02, onto north, waaay out to the north then 90° right to track east overhead Redhill town, which I witnessed yesterday from a [REDACTED] departure!)

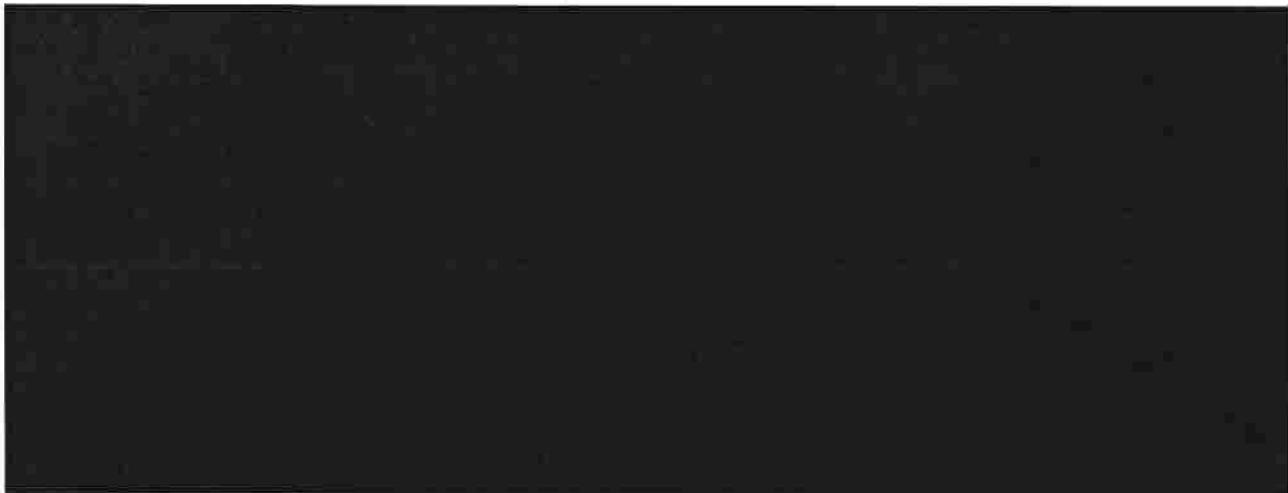
The picture sequence shows that the aircraft doesn't exceed 25° AoB throughout the turn, whereas during the B737 sim validations 30° AoB\* was applied by the autopilot almost immediately the turn initiated and maintained for most of the turn thereafter. Is there anything that could be done to increase the AoB employed?

Sim run B737 serial 13A (at 220kts) is the closest we have to the picture sequence forwarded and the aircraft described a similar (but wider) 'outside edge' profile to [REDACTED] but of course with a 63kt southerly wind not a meagre 11kts from the best possible direction!! Would [REDACTED] like to see that to see how that coped and was flown?

What I have noticed is that [REDACTED] A319/20s seem to fly almost perfect profiles consistently, whereas [REDACTED] A19/20s tend to be near the outside edge, with a number outside but an equally similar number right down the centre. Have to ask: what is [REDACTED] doing that [REDACTED] aren't (or vice versa!)?

\*I wonder if this is a: Type (B737), FMS/autopilot or Company limit?

Best Wishes,



---

**From:** [REDACTED]  
**Sent:** 28 June 2016 19:16  
**To:** [REDACTED]  
**Subject:** Fwd: [REDACTED] Track Keeping

More information for you to consider.

Kind Regards,

[REDACTED]

Begin forwarded message:

**From:** [REDACTED]  
**Date:** 28 June 2016 at 18:16:59 BST  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

Hi to both of you,

I can see what's happening:

The pilots are programing the FMS before departure and seeing that the 180' turn is over-shooting the inbound track after KKW02 so some are reverting back to the directive I made with the previous SID and putting 190 KTS as a speed restriction at KKE09 this is causing the tighter turn cutting inside the NPR. The pilots sticking to my current directive of "Fly it as its Designed" are finding the aircraft flying the wide calculated arc and at a reduced angle of bank. Please see the attached presentation I asked one of my Captains to make. It shows exactly what's happening even with a favourable wind. It actually shows that the Sim trials are not calculating/performing in the same way as the aeroplane.

Thanks for the info, keep it coming, it will all help with our decisions on directing the pilots on how to fly these SIDS,

Kind Regards,

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 28 June 2016 15:34  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Keeping

Hi [REDACTED],

Thank you very much for getting back to me, apologies for the delay in response.

I have found that other operators are experience similar issues to yourselves so please continue to send me any feedback that you have.

In the mean time I will continue to send you track deviations, would you be able to looking into the reason from the following deviation, please find details below.

- [REDACTED] B738, [REDACTED] 21<sup>st</sup> June 2016 [REDACTED] CLN4X

- [REDACTED] B738, [REDACTED] 24<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 24<sup>th</sup> June 2016 [REDACTED], CLN4X
- [REDACTED] B738, [REDACTED] 24<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED], LAM2X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED], CLN4X
- [REDACTED] B738, [REDACTED] 26<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 27<sup>th</sup> June 2016 [REDACTED], CLN4X

We've have no weather avoidance reports.

Kindest Regards

[REDACTED]

[REDACTED]  
[REDACTED]

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[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 30 June 2016 16:35  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

In calm surface wind, if I recall? Some of these guys aren't even *trying* to monitor and fly the profile!

308 kts ground speed when he should only be accelerating out of 220kts, albeit at nearly 6000ft.

Best Wishes,



---

**From:** [REDACTED]  
**Sent:** 30 June 2016 16:08  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

That:

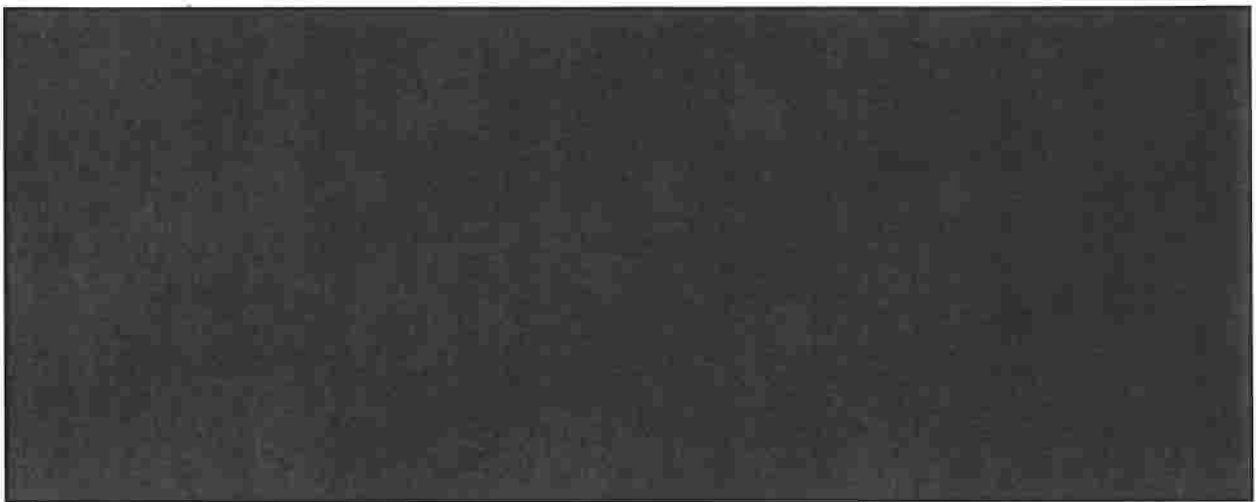


---

**From:** [REDACTED]  
**Sent:** 29 June 2016 14:53  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

Further to my last – what the photon was [REDACTED] up to circa 0850 this morning!!

Best Wishes,



---

**From:** [REDACTED]  
**Sent:** 28 June 2016 19:16  
**To:** [REDACTED]  
**Subject:** Fwd: [REDACTED] Track Keeping

More information for you to consider.

Kind Regards,

[REDACTED]

Begin forwarded message:

**From:** [REDACTED]  
**Date:** 28 June 2016 at 18:16:59 BST  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Keeping

Hi to both of you,

I can see what's happening:

The pilots are programing the FMS before departure and seeing that the 180' turn is over-shooting the inbound track after KKW02 so some are reverting back to the directive I made with the previous SID and putting 190 KTS as a speed restriction at KKE09 this is causing the tighter turn cutting inside the NPR. The pilots sticking to my current directive of "Fly it as its Designed" are finding the aircraft flying the wide calculated arc and at a reduced angle of bank. Please see the attached presentation I asked one of my Captains to make. It shows exactly what's happening even with a favourable wind.



It actually shows that the Sim trials are not calculating/performing in the same way as the aeroplane.

Thanks for the info, keep it coming, it will all help with our decisions on directing the pilots on how to fly these SIDS,

Kind Regards,

[Redacted]

---

**From:** [Redacted]  
**Sent:** 28 June 2016 15:34  
**To:** [Redacted]  
**Cc:** [Redacted]  
**Subject:** [Redacted] Track Keeping

Hi [Redacted],

Thank you very much for getting back to me, apologies for the delay in response.

I have found that other operators are experience similar issues to yourselves so please continue to send me any feedback that you have.

In the mean time I will continue to send you track deviations, would you be able to looking into the reason from the following deviation, please find details below.

- [Redacted] B738, [Redacted] 21<sup>st</sup> June 2016 [Redacted] CLN4X
- [Redacted] B738, [Redacted] 24<sup>th</sup> June 2016 [Redacted] CLN4X
- [Redacted] B738, [Redacted] 24<sup>th</sup> June 2016 [Redacted] CLN4X
- [Redacted] B738, [Redacted] 24<sup>th</sup> June 2016 [Redacted] CLN4X
- [Redacted] B738, [Redacted] 26<sup>th</sup> June 2016 [Redacted] LAM2X
- [Redacted] B738, [Redacted] 26<sup>th</sup> June 2016 [Redacted] CLN4X
- [Redacted] B738, [Redacted] 26<sup>th</sup> June 2016 [Redacted] CLN4X
- [Redacted] B738, [Redacted] 26<sup>th</sup> June 2016 [Redacted] CLN4X
- [Redacted] B738, [Redacted] 27<sup>th</sup> June 2016 [Redacted] CLN4X

We've have no weather avoidance reports.

Kindest Regards

[Redacted]

[Redacted]

[Redacted]

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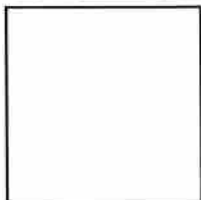
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[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 22 June 2016 15:17  
**To:** [REDACTED]  
**Subject:** RE: [REDACTED] Track Deviations

Hi [REDACTED]

The first one (18 Jun 16) is a joke surely! That was not flown on any coded FMS..... It's not gone anywhere near the flyover waypoint KKW02.

How many [REDACTED] Route 4 deps were there on the 20<sup>th</sup>? Surely not just 4? So how did the others fare? My observations on FR24 show that most aircraft are within the NPR most of the time and they were B737s and A319/20/21s in the majority.

The screen grabs below show a very close replication of what we saw in the B737 sim so the initial at 220kts bulge is no surprise (see the Our Blog graphic). I'm surprised that the relatively light winds (20kts quoted) are having the excessive effect shown on CASPER as the SIM runs showed that the FMS took out the error as the aircraft transited the turn, but then the SID design was produced at 200kts and raised thereafter.

Best Wishes,



---

**From:** [REDACTED]  
**Sent:** 22 June 2016 14:18  
**To:** [REDACTED]  
**Subject:** FW: [REDACTED] Track Deviations

Hi [REDACTED]

I'm sharing some more pilot feedback with you – we really are getting some stick now regarding the poor track-keeping and today is proving to be no exception.

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 22 June 2016 12:14  
**To:** [REDACTED]

Cc: [REDACTED]  
Subject: RE: [REDACTED] Track Deviations

Hi [REDACTED],

Since the advent of the new SIDS I've prescribed that the pilots fly them exactly as described on the plates (as they should be able to do) and therefore as coded in the FMC. I had a pretty strong feeling that these emails would start up again showing the track deviations. Previously I had requested that the pilots fly the previous versions of these SIDs at 190Kts until on the downwind leg but as [REDACTED] points out fairly adamantly, this practice burns extra fuel and also contributes to more noise due to the fact we could be leveling off with more drag and hence more thrust on albeit inside the noise corridor. I notice that some of these have a GND Spd of 245 Kts or greater suggesting a tailwind of 20 kts or more at an IAS of 220Kts.

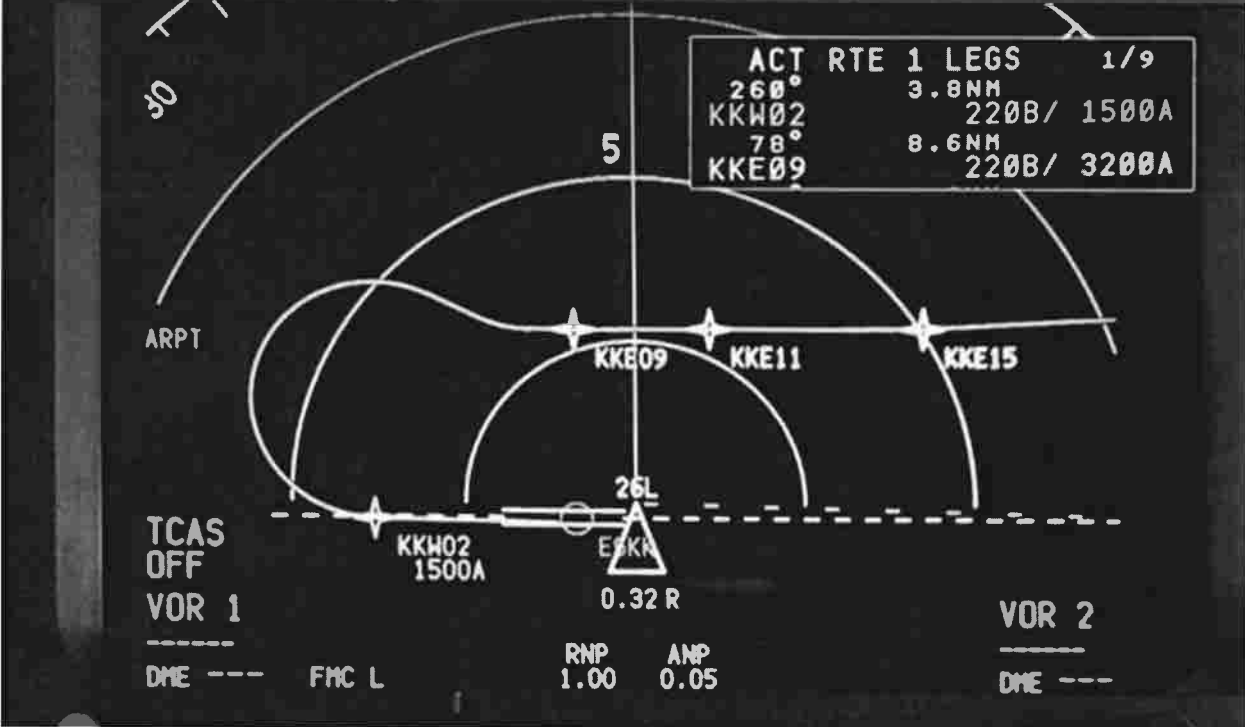
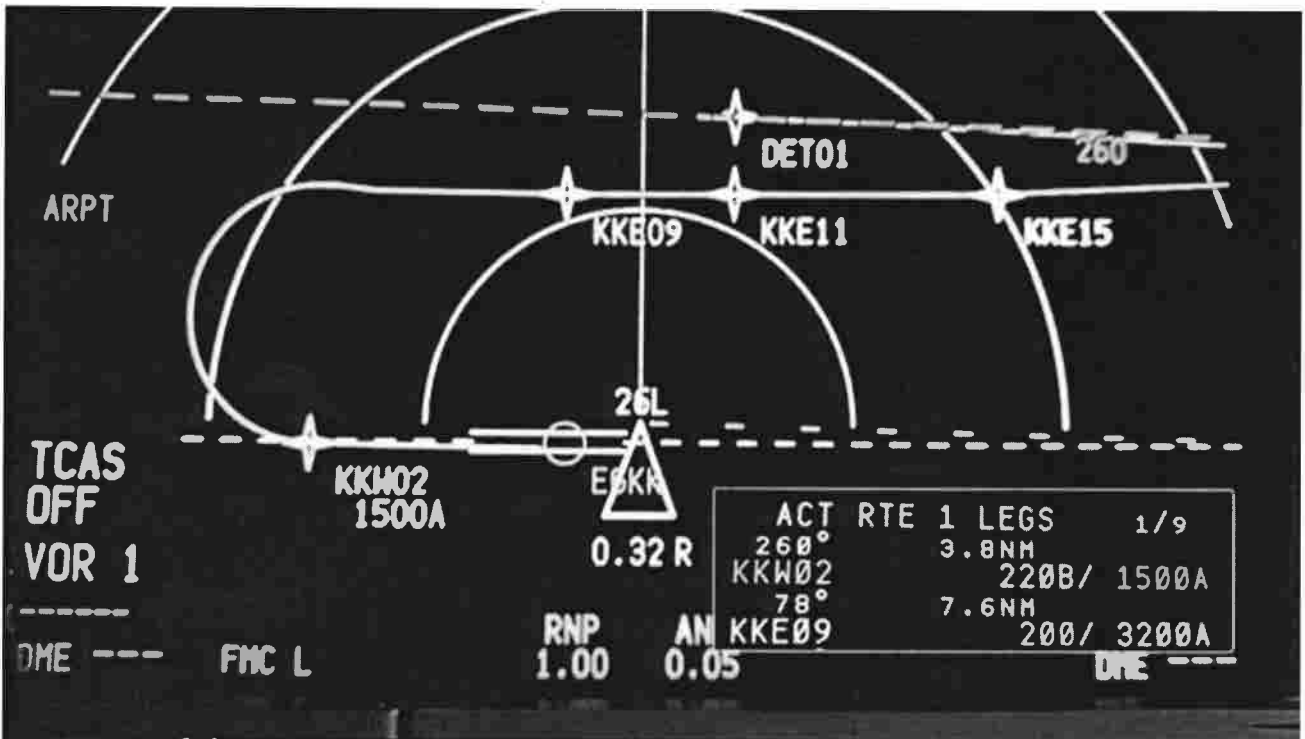
I have included below some pictures of the FMC drawn track during the planning stage pre-departure, the first is at a modified speed of 200Kts restriction at KKE09 (ie what the APD designed and was flown in the Sim!) the others are with no modified restriction and the pilot has put in the DET 260 radial showing the northern edge of the Noise corridor. So at 220Kts with no apparent wind, still on the ground, the arc described by the FMC still goes within a mile or so of that northern edge. That's fine though. Within the NPR is within the NPR, even if it's by 100m. Any tailwind component will easily cause the FMC to draw the arc non-compliant with the corridor. I suspect this is what is happening. But not at 20Kts tailwind - 40kts across, perhaps - but we knew that.

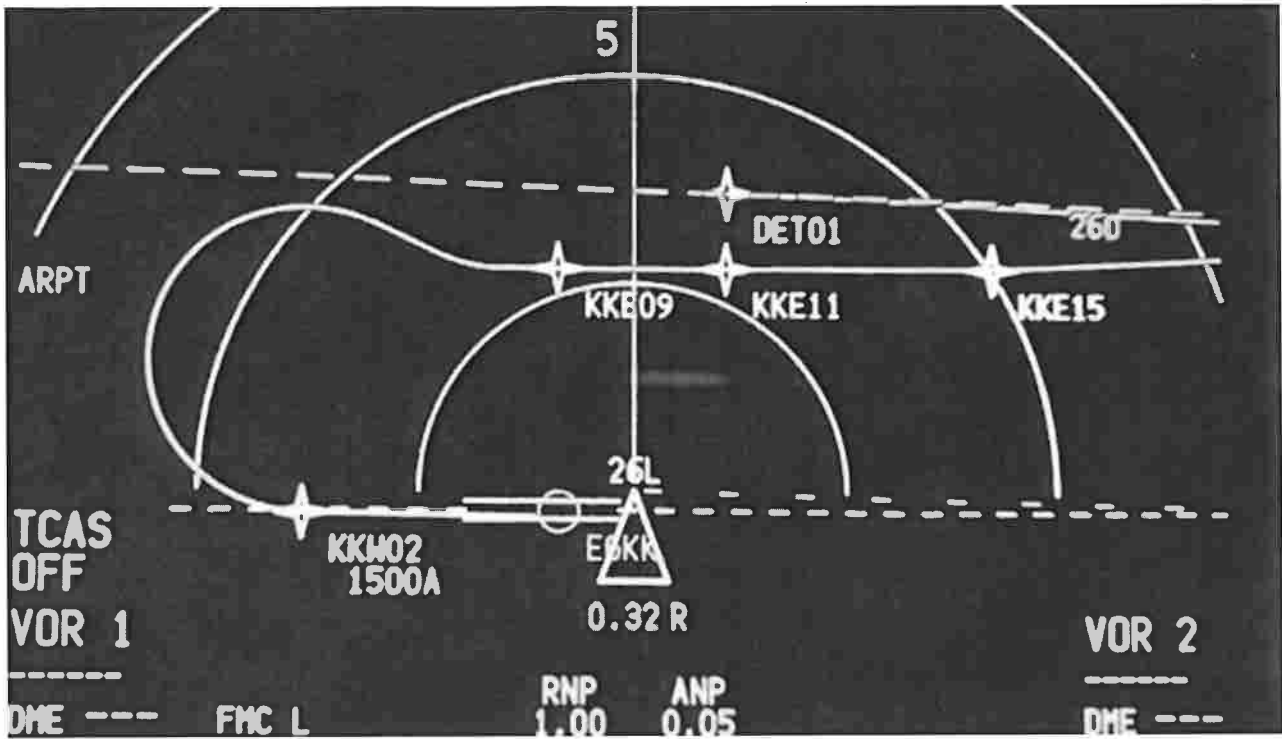
I am loathed to prescribe too many changing directions to the pilots of how to fly this departure as it will start to become confusing and potentially create a threat to the operation of the aircraft. Once it is clear how to fly this to be compliant then I will come up with an instruction however, I do believe that the SID should be designed such that extra pilot interpretation should not be necessary, especially with it being an RNAV 1 SID. It has been.

Are other operators having similar problems? We are using the latest update to the hardware on the aircraft and many of them are the newest of versions out of the Boeing factory.





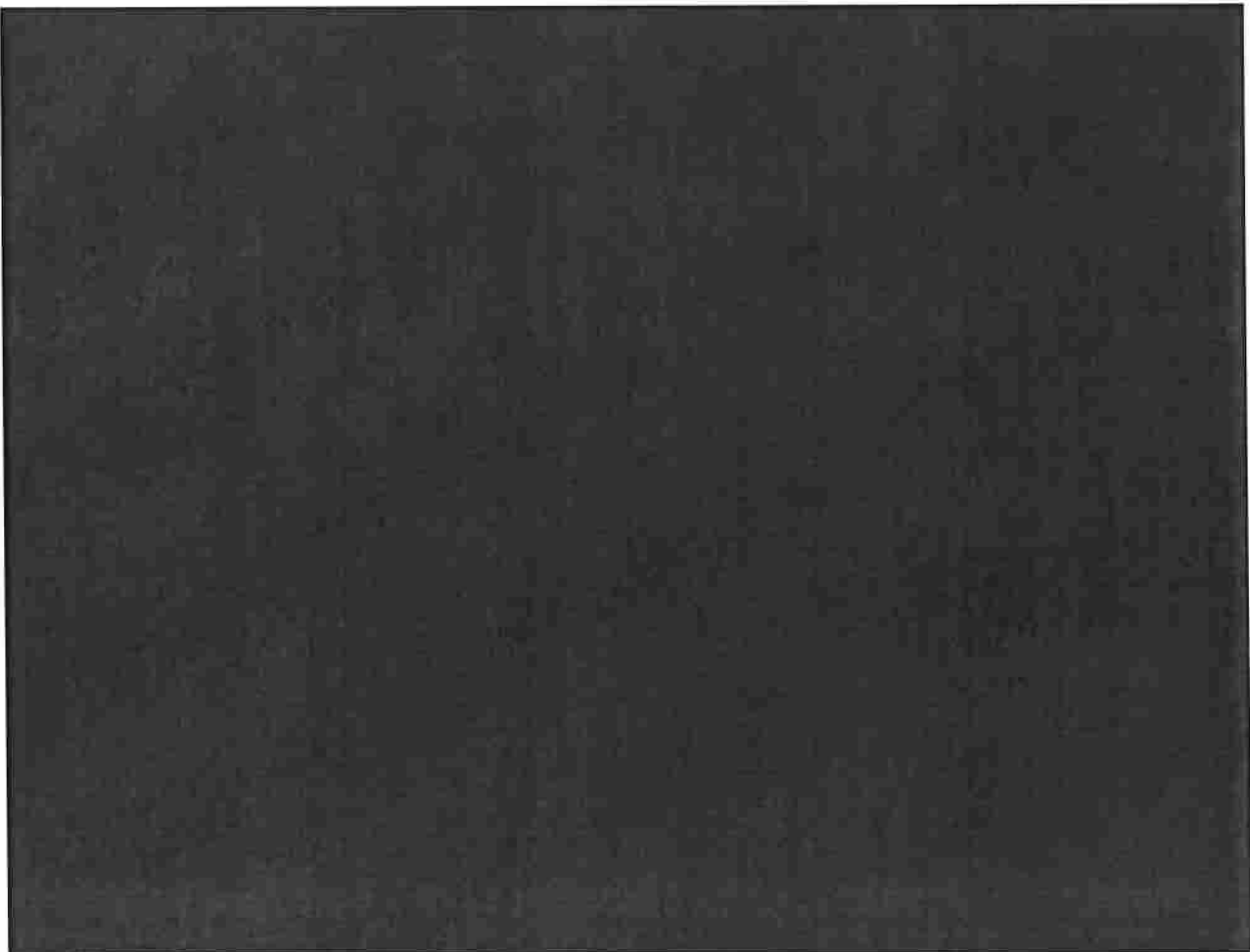




I hope this helps and don't hesitate to contact me for further help.

Nb. I have included my Chief Pilot for his information.

Med vennlig hilsen/Best regards





**From:** [REDACTED]  
**Sent:** 21 June 2016 13:54  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [REDACTED] Track Deviations

Hi [REDACTED]

We've been looking at track deviations over the last few days and found that we were having a few compliance issue with Route 4.

Would you be able to looking into the reason from the following deviations, please find details below.

- [REDACTED] B738, [REDACTED] 18<sup>th</sup> June 2016 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 2015 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 2015 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 2015 [REDACTED] CLN4X
- [REDACTED] B738, [REDACTED] 20<sup>th</sup> June 2015 [REDACTED] CLN4X

We've have do weather avoidance reports.

Kindest Regards

[REDACTED]

[REDACTED]  
[REDACTED]  
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[REDACTED]

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**From:** [REDACTED]  
**Sent:** 04 July 2016 09:50  
**To:** [REDACTED]  
**Subject:** RE: 26L SIDS with wrap around

Hi [REDACTED]

I can dig the old charts out of the AIP no problem. Would you be able to provide me with a contextual answer for them, or is it easier if I send you across the charts to accompany this?

Kindest regards,



---

**From:** [REDACTED]  
**Sent:** 04 July 2016 09:47  
**To:** [REDACTED]  
**Subject:** RE: 26L SIDS with wrap around

Hi [REDACTED]

The weekend was good thanks – albeit over too quickly.

I do not have the old SID plates to hand so I'm happy for you to issue if you have them.

With reference to the tighter turn of the 26L wraparound SIDS; this is required to ensure compliance with the Noise Preferential Route and we have been instructed to do this by the CAA. The design has been flight validated in both A320 and B738 Sims.

I can provide more context if required.

With Kind Regards,



Gatwick Airport Limited

Telephone: [Redacted]  
Mobile: [Redacted]

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**From:** [Redacted]  
**Sent:** 04 July 2016 09:30  
**To:** [Redacted]  
**Subject:** FW: 26L SIDS with wrap around

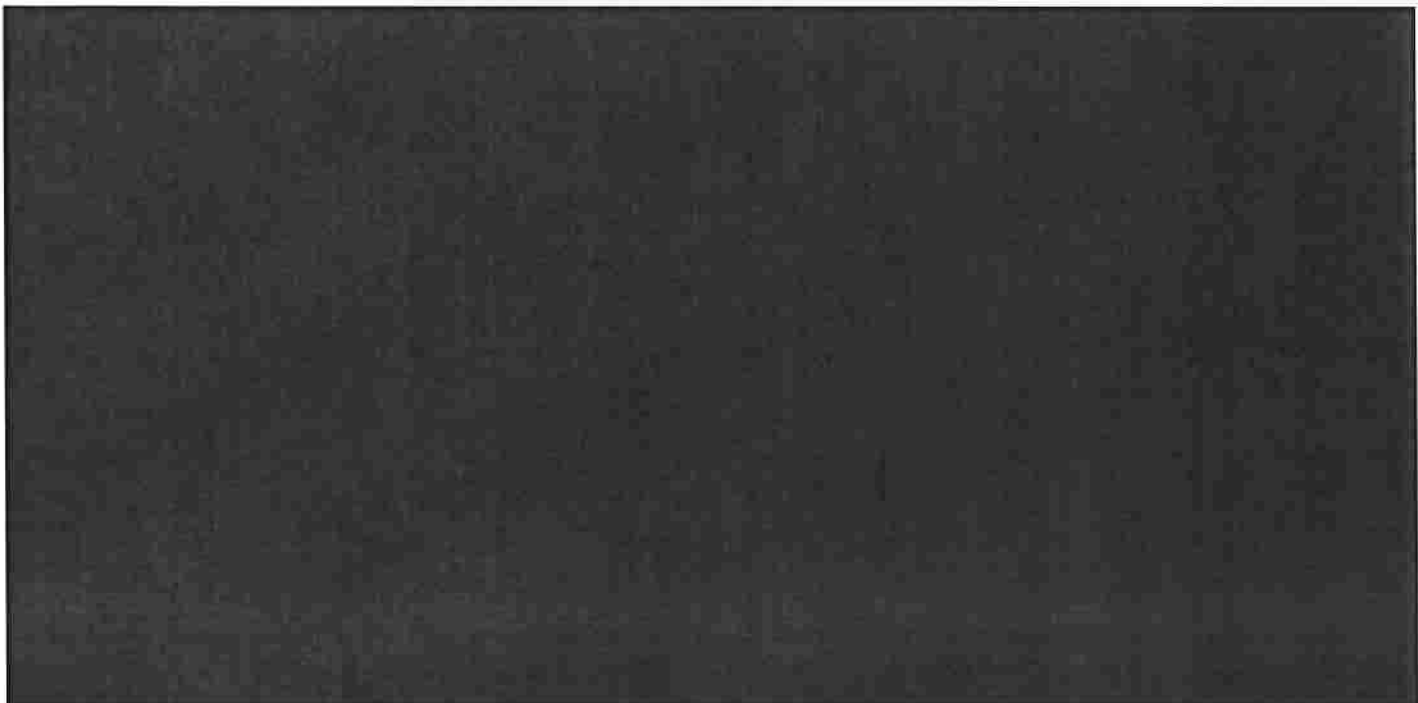
Hi [Redacted]

How are you? I hope you have had a good weekend.

I'm ever so sorry I haven't found you with better news on a Monday morning. The email below has made its way to my desk, and without looking like I have incredibly sloping shoulders, I thought it best to consult with you before I respond, or if you feel it more appropriate I am happy for you to respond on our behalf.

Let me know what you think?

Kindest regards,



[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 04 July 2016 08:51  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: 26L SIDS with wrap around

Hi [REDACTED]

Please see a request below from [REDACTED] for the old plates for the 26L wrap arounds

Is this something you have copies of and able to help with please?

Thanks

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 01 July 2016 16:18  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** 26L SIDS with wrap around

H [REDACTED]

I've been passed some traces of our aircraft showing them exceeding the NPR on the LAM 2X and ADMAG 2X departures from 26L

Having got [REDACTED] to overlay these new departures with a copy of the previous LAM 1X which he happened to have on file it appears that the new departures have a considerably tighter turn than the previous LAM 1X. This is then why the aircraft end up outside the NPR.

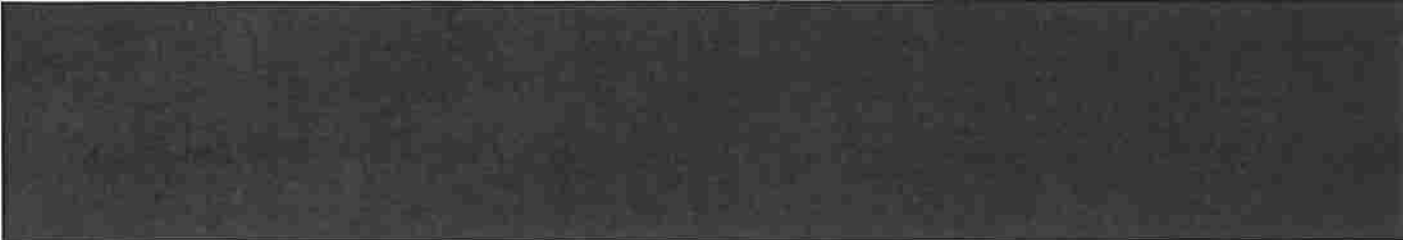
We don't have immediate access to older SID plates so would either of you be able to source the older plates for LGW so we can continue a comparison of the relevant ground tracks compared to the current SIDs?

On first inspection it doesn't appear that the aircraft traces I have viewed and the crews I have spoken to involved were doing anything unusual so I want to establish if the new SIDs are actually unreasonably difficult to comply with.

The coding is considerably different and the speed requirement (220kt max) unchanged, but the new SIDs seem much more difficult to achieve within the NPR using normal SOPs

Thanks in advance for your help





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