

## SAM KENET PIR - Stakeholder Evidence

### 1. Email exchange with CAA: guidance requested after onward routing issue

**From:** [REDACTED]  
**Sent:** 19 February 2020 15:23  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: NOVMA/IMVUR Onward routing issue - Guidance requested

Hi [REDACTED]

Thank you for your query re EGLL NOVMA/IMVUR SIDs and further to our telephone conversation this afternoon, the issue you raise is one of the consequence of truncation to non-common points which is now potentially causing issues when a runway change occurs. As we discussed, with the SID change not only should the new ATC clearance contain the new SID but also the onward routing or at least the first fix/WP. Putting the responsibility onto the pilots to have read a note is not a robust way to deal with the issue.

We also discussed previously whether a route brief could be provided to operators to explain the interactions of SIDs with the SRD when runway changes occur etc, has anything like this been explored? But again, this would not mean ATC should not be re-clearing the new route.

As requested on the UMLAT/ULTIB SIDs, evidence of when the NOVMA/IMVUR issue has caused problems and which operators were involved will need to be provided to the CAA. We need to be able to quantify the extent of the issue.

Let us know when you have more information to share with us.

Kind regards

[REDACTED]

[REDACTED]  
Airspace Regulator (IFP)  
Airspace Regulation  
Civil Aviation Authority

**From:** [REDACTED]  
**Sent:** 30 January 2020 11:49  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
[REDACTED]  
**Subject:** NOVMA/IMVUR Onward routing issue - Guidance requested

Hi [REDACTED]

I hope you're well.

Following on from the meeting at Swanwick recently I would very much like your guidance and assistance with the on-going NOVMA/IMVUR issue.

As you know NOVMA/IMVUR came in on the same AIRAC as UMLAT/ULTIB. At the time UMLAT/ULTIB caused issues but over time and by making the onward routeing more explicit on the State version of the chart it has largely settled down. However the NOVMA/IMVUR continues to be cause for concern resulting in some incident in 2019. At the time it was identified the CAA would not allow us to make the similar changes to NOVMA/IMVUR as we did for UMLAT/ULTIB but the situation is now more concerning and so we would like to offer two potential solutions which we think may assist flight crews in correcting the DISCO brought about by the runway change:

1) Add the routeing(s) in the box next to the procedure

NOVMA 1X	Procedure description	Via L620 SAM Via L620 NIBDA N14 KENET
IMVUR 1Z	Procedure description	Via N63 SAM Via N63 VOUGA N14 KENET

that the CFSPs will add this information to their versions of the charts that they provide to their customers. That said, it does seem to have helped with UMLAT/ULTIB (along with the Jeppesen arrows)

2) Add the routeings into the Notes on the Charts along the lines as follows:

- Flight crews issued with an IMVUR SID but with a flight plan via NOVMA shall route as follows after IMVUR: IMVUR SAM (for traffic via SAM); IMVUR VOUGA KENET (for traffic via KENET)
- Flight crews issued with a NOVMA SID but with a flight plan via IMVUR shall route as follows after NOVMA: NOVMA SAM (for traffic via SAM); NOVMA NIBDA KENET (for traffic via KENET)

Our preference is Option 2 as Notes seem to be published on the Charts by the CFSPs regardless of the requests of their customers and wouldn't lead to any up-numbering of the procedure which in itself could trigger systems changes within ANSPs systems.

I know you have said that you don't like Notes that effectively add to a procedure ie a level or track and on that I, personally, am in agreement with you but in this case that is not being proposed just simply the next waypoint(s) such that the crew can 'correct' the DISCO created by the change of runway ends.

Depending on your view this is something we would like to initiate asap ideally via NOTAM so that we can assess it's benefits (or not) prior to this summer which, with Euro 2020, is likely to be the busiest ever.

Your thoughts and what adherence (if any) to CAP1616 is required would be much appreciated.

Cheers



## 2. Email exchange with NATS Customer Affairs: proposal to contact AOs about issue

From: [REDACTED]  
Sent: 07 March 2020 11:43  
To: [REDACTED]  
Cc: [REDACTED]  
Subject: Re: IMVUR/NOVMA Issue

Hi [REDACTED]

The NOVMA/IMVUR issue refers to the NOVMA/IMVUR SIDs ex EGKK which, ever since we truncated the SAM/KENET SIDs to these points has resulted in some flight crews asking where they go after IMVUR (having filed via NOVMA and then the wind changing) which is causing ATC some issues and has resulted in some incidents it's the same issue as UMLAT/ULTIB (and some (but not all) SID pairings that are different depending on the runway in use).

We have exhausted all channels [REDACTED] that we cannot add anything to the State version of the chart but if we asked/suggested to the AOs who use the NOVMA/IMVUR SIDs that they add routing info to repair the DISCO created by the runway change to their versions of the charts this may help?

Thoughts?

Cheers

[REDACTED]

From: [REDACTED]  
Sent: 06 March 2020 14:59  
To: [REDACTED]  
Cc: [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Subject: IMVUR/NOVMA Issue

Hi [REDACTED]

We are close to exhausting options to help resolve the IMVUR/NOVMA issue and one thing is clear is that any 'silver bullet' is a few years away. [REDACTED] adding any information to the State version of the chart in terms of routing in the General Information box but one idea I have come up with is for the AOs to ask their CFSPs to add it to their version of the chart. It wouldn't be appropriate for us to do that as it may well be perceived as

bit if the request were to come from AOs, this could be a way of getting the relevant information in front of the flight crews.

Is this something you could help with? We would look to try and get a list of all AOs who flew via NOVMA/IMVUR in 2019 and contact them and ask if their crews have issues with the routings and if so an/or where there is a proven incident of an issue request/suggest that they ask their CFSP to provide the correct onward routing (which we would give them) to add to their version of the chart.

Thoughts welcome

Cheers



Swarwick Development ATCO

### 3. Email exchange with Route Management detailing IMVUR/ NOVMA issue

**From:** [REDACTED]  
**Sent:** 27 January 2020 11:48  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Query about Gatwick IMVUR departures

H [REDACTED].

There seems to be rather an issue with these NOVMA/IMVUR SIDs at the moment. I've attached some email trails I've been copied into for info, so it may be worth you having a chat to [REDACTED] at some point.

We've had a look at the FPLs filed (see attached courtesy of [REDACTED]) and as expected they were all filed to IFPS completely correctly via EGKK NOVMA L620 SAM. The [REDACTED] had initially filed IMVUR N63 SAM but then submitted a CHG message to route via NOVMA. At no point was MID ever included in the filed route for any of these. I have also checked through today's FPLs and nobody is filing MID when using the NOVMA/IMVUR SIDs.

I suspect that one of the FDP systems (EXCDS/TLPD etc) may be including MID in whatever information is being presented to the controllers, so it might be worth checking with [REDACTED]/the EXCDS team and [REDACTED] (re TLPD) to see if that is the case, or the NAS adaptation team. The NOVMA SIDs do route via MID prior to NOVMA so if this is being displayed anywhere then that might be why.

In terms of traffic turning to MID after departing on the IMVUR SID, this is a big issue at the moment due to runway changes. Most airlines generally file the NOVMA SID by default if heading in the SAM direction. However if the runway changes, they don't necessarily amend their filed FPL. So often there is confusion, with the pilots not sure where to route after IMVUR (since they haven't been filed that way in the first place) and trying to connect back onto their original routeing via turning back to their original (MID) NOVMA route. The same confusion happened some time ago with the EGLL UMLAT/ULTIB SIDs and a big communication exercise had to be undertaken to increase pilot/airport awareness of the issue.

[REDACTED] I'll reply back to the other email trail too, but just to keep [REDACTED] in the loop...you mention RAD restricting N63 to make it not flight plannable for EGKK depts. I wouldn't recommend doing this. If you wish to stop people filing via the IMVUR SID then the IMVUR SID needs to be made unavailable for flight planning by NOTAM, even if only temporarily so (NM will then make it CDR3 not flight plannable in their systems). If it remains available but N63 is prohibited then this would just cause extra confusion at the flight planning stage. Re updating the SRD, yes this is always possible but it should be remembered that a lot of operators would not refer to the SRD so this wouldn't really help mitigate the issue. Also you mention using the KENET/SAM SIDs for when EGKK is on 08. Some time ago we implemented a RAD at the request of Gatwick ATC to due flight planning issues with airlines filing the SAM/KENET SIDs when they should instead file IMVUR/NOVMA if RNAV1 equipped. This RAD prohibits the use of the EGKK KENET/SAM SIDs if RNAV1 equipped. If we do make IMVUR unavailable for flight planning then we'd need to remove this RAD...just something to remember should it happen:

EGKK	DVR / KENET / SAM	Not available for traffic Type (D1, D2, D3, D4, O1, O2, O3, O4) equipped
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other than the above, you are correct that there are not really any RADs in place to mandate/prohibit routeings after IMVUR/NOVMA. However to be honest pretty much all the airlines are actually filing okay, it is just the runway changes and whatever information is being presented in our FDP which seems to be causing the issue.

Hope this helps but happy to help further if need be. I'm working from home today then travelling to Brussels tomorrow/Wednesday. However I'm back in the office on Friday if you would like to chat over anything (same applies to you too).

Kind regards,

## NATS

Route Management Specialist

**From** [REDACTED]  
**Sent:** 27 January 2020 09:58  
**To:** [REDACTED]  
**Subject:** Query about Gatwick IMVUR departures

Morning [REDACTED]

Rather than just nip across the corridor as we're now downstairs, thought I'd email a request for some information if you wouldn't mind using all your expertise and clever systems that you have available to you to assist.

The query is around waypoints filed on aircraft departing Gatwick on an IMVUR SID. The claim from the report filing controller is that many operators are not routeing IMVUR-VOUGA-SAM which is correct and expected.

On 23/01/20 [REDACTED] departed on an IMVUR departure but on passing IMVUR, routed to MID which caused controllers an issue and has been highlighted as a potential safety issue if this cannot be understood and 'fixed'. Could you please look into what the aircraft filed on this occasion? Or is there a next waypoint after IMVUR within the system which operators should file? Any restrictions within the system around this do you know/can you find?

Basically the controller is under the impression that IMVUR-MID is wrong and not expected by anyone within the Ops room but I'm thinking, surely if operators were looking to use airways routeing south or southeast, then MID after IMVUR would be more efficient for them than routeing to SAM. Or the mere fact that they're departing on an IMVUR dictates a non south/south easterly routeing? If that were the case then a different departure such as a SFD would have been filed?

Also, request for the same information on two other aircraft on 24/01/20, [REDACTED]. A controller has claimed that both of these aircraft also had 'incorrect' routes filed but this may assist me

in trying to decipher whether this is a controller education issue or operator mis-filing maybe we need to be putting something in place to ensure incorrect (and potentially safety issue causing routes) are not accepted when filed.

Hope this makes vague sense to you, should you need slightly more clarification or details, I'm happy to wander up for a chat if you have time at some point.

Most grateful for your time up to now.  
Regards

[REDACTED]

## NATS

[REDACTED]

ATCO 2 Luton, Thames and EGLL SVFR  
Safety Investigator  
NATS Swanwick

D: [REDACTED]  
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**From:** [REDACTED]  
**Sent:** 25 September 2019 13:08  
**To:** [REDACTED]  
**Subject:** RE: LEDGO FL230 standing agreement from Shannon

Hi [REDACTED]

Yes your understanding is correct...well remembered!

I've just had a reply back from Eurocontrol. I had actually requested that they implement two PTRs, so to also capture the returning traffic inbound to EICK via LEDGO. The request was to implement the following profiles:

EICK deps to be FL230 at LEDGO if via LEDGO N/UN160 BOGMI  
EICK arrivals to be FL240 at LEDGO if via BOGMI N/UN160 LEDGO.

I don't know if you need it for any records but the PTR id numbers they have allocated are: EGTT8285 & EGTT8286.

So now any flights inbound/outbound to/from EICK via LEDGO will profile at the above levels and should be rejected by IFPS if deemed to be within the activated limits of the danger area.

Hope that all sounds good to you. Any queries, please let me know.

Kind regards,



## NATS



Route Management Specialist

D: [Redacted]  
F: [Redacted]

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Swanwick Centre,  
Sopwith Way,  
Southampton, SO31 7AY  
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**From:** [Redacted]  
**Sent:** 19 September 2019 12:30  
**To:** [Redacted]  
**Subject:** LEDGO FL230 standing agreement from Shannon

Hev [Redacted]

Again, thanks for your time and efforts on this.

As discussed and on the back of an MOR filed by Swanwick AC, could you please look to setting up a PTR with Eurocontrol to capture flights filed joining at LEDGO taking the following extract from LAS MATS pt.2, BHD section into account.



**2.5.4 Standard Levels for Acceptance of Traffic from Adjacent Centres**

Entry Point	Levels
SKESO	All westbound levels
SALCO	All westbound levels
ANNET	All westbound levels
LIZAD	All westbound levels
GANTO	All westbound levels
PEMAK	All westbound levels
SUPAP	All westbound levels
LESLU	All eastbound levels (Note 2)
LEDGO	All eastbound levels (Note 1)
NORLA	All eastbound levels (Note 2)
GAPLI	All eastbound levels (Note 2)
LULOK	All eastbound levels (Note 2)

*Note 1: The maximum level for Cork departures routing N160/UN160 is FL230.*

*Note 2: Between 0000 and 0900 UTC (winter), 2300 and 0800 UTC (summer), eastbound traffic equipped with a functioning transponder may be offered by Shannon at opposite direction levels at FL340 and above as per BHD 2.5.2.1.1. As far as possible ODLs will be allocated to traffic*

Just to confirm my understanding of this whole process, this addition should mean that in similar scenarios as has been reported, the flight plan will be rejected during known periods of activation of SWMDA due to the projected climb profile not being sufficient, therefore allowing more time and opportunity for re routes rather than this happening tactically when the aircraft is already airborne and approaching the UK FIR boundary.

Hopefully, I've used acronyms and technical speak correctly!

Regards

[Redacted signature]

ATCO 2 & Safety Investigator,  
Amber Watch, TC

**4. Email exchange with Swanwick Investigations: following EGKK IMVUR departure observation**

**From:** [Redacted]

**Sent:** 24 January 2020 15:08

**To:** [Redacted]

**Cc:** [REDACTED]  
**Subject:** RE: KK IMVUR SID

Thanks [REDACTED]

Yes I am hoping to make progress on this issue ahead of this summer and the evidence that has been provided below will hopefully help immensely just some comments from me to help clarify the current situation.

Cheers

[REDACTED]

**From:** [REDACTED]  
**Sent:** 24 January 2020 14:04  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: KK IMVUR SID

Thanks [REDACTED]

[REDACTED] I know you have recently spoken to Gatwick about a resolution to this problem, can you please chase this and stress that this is still causing issues for TC.

[REDACTED]

# NATS

[REDACTED]  
Head of Operational Development (Airspace)  
Swarwick Development

D [REDACTED]  
M [REDACTED]

E [REDACTED]

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**NATS PRIVATE**

**From:** [REDACTED]  
**Sent:** 24 January 2020 11:20

To: [REDACTED]  
Cc: [REDACTED]  
Subject: KK IMVUR SID

[REDACTED]

Given that you are looking at part of the risk story on south I thought that I would share this latest observation with you.

The other day a controller had an aircraft: [REDACTED] depart EGKK 08R on an IMVUR departure who unexpectedly routed to MID after passing IMVUR. This caused some concern as it started to head towards a EGLL inbound via HAZEL and could have been a loss. **Do we know what [REDACTED] actually flight planned? The original flight plan is key.**

We as controllers on SW dep get a lot of request from pilots on the IMVUR SID as to were they should go after IMVUR which, especially when busy, is inconvenient and increases RT / workload. **Agreed, and assigning a could inadvertently remove any climb restrictions associated with SID/Clearance**

Today (24/01/2020) I looked at the TLPD and looked into a number of the EGKK IMVUR departures and found, by looking at the horizontal profile, that most EGKK departures have IMVUR VOUGAR SAM on their route which is correct and what we expect. However there are a few, for example [REDACTED], who have EGKK MID NOVMA NIBDA HAZEL SAM filled which is wrong and were I think **the confusion is, causing aircraft to make unexpected turns which may lead to a safety event occurring. They most likely flight plan via NOVMA as that is the more prevalent runway in use – I'm not sure why they would be including MID in their flight plan – [REDACTED] is it possible to assess why they would? They then given the IMVUR due wind direction and do not manually update the FMS to remove NOVMA (& MID) – this is likely due to [REDACTED]**

We have approached ANS/GAL with a view to trialling not issuing the IMVUR when on easterly operations which they seem open too – the SAM & KENET conventional SIDs from runway 08 are still published and still exist in EFPS and ExCDs. Whilst this will hopefully help make it clearer to flight crews to amend the FMS by removing NOVMA as the clearance will effectively bypass it, there remains the possibility of some crews asking whether they should still route via NOVMA!!

At the recent meeting I attended with ANY both the Base Captains of EasyJet and Norwegian (both heavy users of these SIDs) believed that flight crews should amend the FMS and so it may require a briefing to the main AOs as to what needs to be done – ANS can assist with this if need be. Another potential way would be to amend the SRD and RAD to block N63 being flight planned which force them to flight plan the SAM/KENET conventional SIDs and, in conjunction with the SRD only list the available route to start at SAM/KENET and then leave flight crews to work out how they get from the end of the clearance/SID to KENET – this could be done by stating the onward routeing on the SID Chart but there is no guarantee this would make it onto the customer versions of the charts – maybe NOTAM action would help but that would expire after 6 months.

Certainly putting the SIDs from runway 26L/R back to SAM/KENET is not an option as not only would it be a Level 1 change but the SIDs would go through the new EGLF airspace and even if we did want to go down that route (pardon the pun) the likely time frame would be winter 21/22. Granted the Conventional SAM/KENET SIDs go through the EGLF/Solent airspace and we will need to issue a TOI to advise TC what coordination is required in the event of being unable to climb a departure above the EGLF CTAs post 27/2/20. The longer term objective is to look at departure Transitions to a common point (SAM/KENET) and we have a workshop to look at this in February but this aimed more at FASIS than the immediate issues but that's not to say that if it considered viable then could look to employ it long before FASIS.

In the short term, the surefire way to resolve the issue is for ATC to take positive control and provide a routeing – after all, AC have to provide a routeing/STAR to aircraft entering the FIR – could TC controllers not do the same? Eg BAW123 route NOVMA SAM climb FLxxx – is that really too much to ask? If we brief flight crews and expect them to amend the FMS can we not brief ATC and ask them to conform a routeing? after all it is an ATC clearance.

Regards.

[REDACTED]

[REDACTED]  
Head of Safety, Swanwick

**5. Email exchange with Gatwick ATM: instruct Tower Controllers to issue SAM/ KENET SIDs from Runway 08**

**From:** [REDACTED]  
**Sent:** 20 January 2020 08:47  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
**Subject:** RE: INVUR SID Suspension

Hi [REDACTED]

Great to meet you and [REDACTED] and thank you for attending the HazID, it certainly made a difference having you both in the room.

I will discuss your email with the operation and others internally at ANS and will come back to you asap.

Kind regard

[REDACTED]

[REDACTED]  
ATM Operations Specialist - Airspace Lead  
Head Office



**From:** [REDACTED]  
**Sent:** 19 January 2020 21:30  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
[REDACTED]  
[REDACTED]  
**Subject:** INVUR SID Suspension

Hi [REDACTED]

Good to meet you and your colleagues last Thursday always better putting faces to a name.

With regard to the NOVMA/IMVUR issue thank you given it some time in the agenda to be discussed whilst we had the right people together. As mentioned I've been tasked with trying to find a solution/mitigation to the issue prior to the summer 2020 traffic.

The one mitigation I have thought of is, as mentioned, to request/'instruct' ANS not to issue the IMVUR SIDs but to issue the SAM Conventional SIDs as these are still published from runways 08L/R. In support of this work NATS would:

- 1) Check if/when our systems can be amended so that in the event of a runway change to easterly operations we would send ANS the SAM/KENET SIDs to your EFPS & Clearance Delivery positions instead of the IMVUR – the NOVMA SIDs would continue to be sent for westerly operations
- 2) Amend where necessary the UK Standard Route Document (SRD) to reflect the routeing being given by EGKK Tower
- 3) Potentially amend the RAD such that N63 IMVUR VOUGA is not available for traffic departing EGKK this would/should cause any Flight Plan via IMVUR to be rejected by IFPS
- 4) Investigate the potential impact of this SID on the new Farnborough airspace due for implementation 27/2/20 and issue TOIs detailing coordination requirements in the event of being unable to climb EGKK departures above SID Altitude by an agreed point this would also trigger an APSA Process at Swanwick which the TOI would have to pass.
- 5) NOTAM the IMVUR SID as unavailable for an agreed period of time
- 6) Anything else to ensure that it was not issued/flown

This action won't categorically rule out questions on the R/T from flight crews with a NOVMA Flight Plan in their FMS but if we can brief the Gatwick based airlines who regularly route via SAM & KENET it should significantly reduce them as well as making it a bit more logical for flight crews to work out where to go after NOVMA we can assist this with another NOTAM with a view to providing routeing information on the SID but, as advised on Thursday there is no guarantee the CFSPs will add this to their versions of the Charts.

It's likely that AOs would flight plan EGKK DCT SAM/KENET regardless of the runway in use as this is the more penalizing route in terms of fuel so they would always have enough fuel. This should be fine in the case of traffic via SAM as it is fairly obvious for the flight crew as to how to get to SAM from NOVMA: in the case of KENET it's not so obvious that they need to go to NIBDA before turning (if on their own navigation) and this is where briefings to AOs routeing to Ireland would need to be done and/or included in any NOTAM.

I will check with [REDACTED] but I think initially this may be best as a 6 month Trial commencing perhaps post Easter (or as soon as our systems can be amended) to ascertain if it does remove/reduce the routeing requests when Gatwick are on easterly operations. Thereafter we can either extend the Trial or come up with a plan to keep it in place until either FASI-S and/or Departure Transitions are established.

Your thoughts most welcome and if you need anything please just shout!

All the best

[REDACTED]



[REDACTED]  
Swanwick Development ATCO

**6. Email exchange with Virgin Atlantic Airways**

From: [REDACTED]  
Sent: 20 August 2019 11:11  
To: [REDACTED]  
Cc: [REDACTED]  
Subject: RE: TC Issues With EGKK IMMUR/NOMVA SIDs

Hi [REDACTED], sorry for the delay in coming back to you.

I'm attaching some thoughts on transitions that I provided to [REDACTED] a few weeks ago. I'm certainly happy to provide any guidance I can on this piece of work.

I have also answered some of your questions in green below.

Best regards

[REDACTED]  
Senior Officer - Navigation Services  
**Virgin Atlantic Airways Ltd**  
Tel: [REDACTED]  
[virginatlantic.com](http://virginatlantic.com)



most loved travel company

**From:** [REDACTED]  
**Sent:** 02 August 2019 09:03  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: TC Issues With EGKK IMMUR/NOMVA SIDs

[REDACTED]

Please see my comments below which, as [REDACTED] says, are identical to the UMLAT/ULTIB issue at Heathrow that we discussed in May at the Lead Operator Technical Panel.

Cheers

[REDACTED]



[REDACTED]  
Swanwick Development ATCO

From: [REDACTED]  
Sent: 01 August 2019 13:06  
To: [REDACTED]

Cc: [REDACTED]  
Subject: FW: TC Issues With EGKK IMVUR/NOMVA SIDs

[REDACTED], see below related to the SID truncation issue. I expect you have a view on this.

[REDACTED], I assume you know about the incident reported with a [REDACTED] flight. The issue is, if given radar headings the flight will be taken out of NAV, meaning the FMS will no longer be flying to the constraints.

Regards,  
Daniel

**NATS PRIVATE**



[REDACTED]  
International Customer Account Manager  
Airlines & Business Aviation

**From:** [REDACTED]  
**Sent:** 01 August 2019 12:16  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** TC Issues With EGKK IMVUR/NOMVA SIDs

Hi [REDACTED], good to see you yesterday.

As discussed, I would like to share my thoughts on this with you. Like you, yesterday was the first I had heard of this.

It is a similar situation as the UMLAT/ULTIB onward route issues that have been experienced by NATS at EGLL, namely aircraft not following, or asking for clarification of, the onward route at the end of the truncated SID.

In the case of EGLL, I believed that this had only been reported as occurring after a runway direction change. However, ANS seem to be suggesting yesterday that at EGKK this was not always the case, it could be a flight planning problem.

Let's deal with these in turn:

### **Flight Planning**

Firstly, taking a snapshot of filed flights this morning, I can't see a single one that is filed incorrectly.

#### Charts

UK AIP Page AD2.EGKK-6-13 depicts no onward connection into the airway structure beyond the end of the SIDs and IMVUR and NOVMA respectively. **The SID Chart clearly states the ATS Routes as it always used to prior to its truncation; with UMLAT/ULTIB we have now added the next waypoint – if you think this could help with NOVMA/IMVUR then please advise and we will do what we can but there is no guarantee that the third party coding providers will put this information on the customer versions of the charts - we have found that much to our surprise the vast majority of them don't – leaving flight crews to try and work it out. Yes, I'm in favour of anything that can help but....**

This is not unusual, as the onward airways are not part of the procedure itself. **Agreed** Particularly for the aforementioned EGLL situation, this point around depiction and requirements has been raised by



██████████ and the lead Operator Group to try and establish a way forward in connection with truncation policy and the unintended consequences. This is ongoing.

On our equivalent chart (Jeppesen), they have depicted onward N63 and L620 respectively to give some situational awareness, but not depicting any specific point along them. **As above, if you feel this would be beneficial we can do this – we tried to do it when we did the ULTIB/UMLAT onward routing** ██████████ **In the case of NOVMA and IMVUR it's a bit more complex as you can go to SAM or KENET from both SIDs but this shouldn't prevent us doing it along the lines of the previously issued NOTAM you mention below. ....I do also understand ██████████ ██████████ to a degree, as the onward airways are not part of the procedure itself. Hence the need for transitions (in my view)....**

## UK SRD

As you may or may not know, the UK SRD publishes routes from origin to UK FIR exit point. Thus, a typical entry for a route to an exit point via IMVUR/NOVMA would read:

EGKK IMVUR N63 SAM N19.....

EGKK NOVMA L620 SAM N19....**Agreed but the SRD doesn't find its way into the flight deck (for good reason being so big!). Yes and nor would we want it to there to be honest.**

The NOTAM that was issued in 2018 to clarify these issues when they first started appearing, did not mention the airways themselves, just points:

(A1827/18 NOTAMN

Q) EGTT/QPDCH/I /NBO/A /000/999/5109N00011W005

A) EGKK B) 1805251341 C) 1808251341

E) AFTER THE SUBMISSION OF A FPL, IN THE EVENT OF A RWY CHANGE AT GATWICK THE REQUIRED ROUTINGS FOR NOVMA/IMVUR DEPARTURES ARE AS FOLLOWS:

NOVMA 1X: NOVMA - NIBDA - SAM/VOUGA

IMVUR 1Z: IMVUR - VOUGA - SAM/KENET

QUERIES TO UK FLOW MANAGEMENT POSITION

TEL ██████████

This morning, as you may have seen, Gatwick airport have emailed all FLOPSC members with instructions regarding this issue. This approach is not ideal and provides no official advisory mechanism or longer term solution. **Agreed, we need to come up with a robust solution that has longevity and we are trying to do this.**

## System Route Selection

Although our system uses the SRD as a basis for route construction within the UK, many others don't and would just rely on the coding of constraints such as RAD restrictions to prevent unwanted planning behaviour. If there were planning errors (despite not seeing any evidence today), it was my assumption that this would be caused by an operator's system selecting IMVUR DCT NIBDA for example, as there is no published restriction for this.

## RAD Measures

On the basis that planning was in error, it might be possible to mitigate this by publishing an Appendix 4 (DCT) restriction between IMVUR – NIBDA, NOVMA – VOUGA. If that is the cause of the error, of course.

## FMS Selection

As we both suspect, it is a runway directional change after initial planning that is leading to the issue. From a flight crew perspective, if the Runway/SID changes, it presents a F-PLN discontinuity

from the end of the SID to begin with and with no easily to hand information about onward route continuation, errors occur.

Example:

Original Route: EGKK IMVUR N63 SAM N19

New Route: EGKK NOVMA L620 SAM N19

Crew select NOVMA SID, this presents a discontinuity because original N63 does not originate at NOVMA. Possible outcomes – crew lookup airway that connects NOVMA – SAM and correctly identify then insert L620. Alternatively they could just close the discontinuity and route NOVMA DCT SAM which is undesirable.

Either way, crew could either:

- a. ask for confirmation (as has been happening??)
- b. Continue with correct route having identified L620
- c. Continue with erroneous DCT connection Options (a) and (b) seem to be the most prevalent and we assumed (obviously wrongly) that (b) would be the option taken and this indeed is the one we would like flight crews to take but it is not helped by the CFSPs omitting this vital information from their versions of the state charts. To be fair to Jeppesen they have made an effort by now including information arrows with the designator of the route (airway)

There is no simple solution to this, but frankly I don't see removing the route from use and reverting to conventional SAM SIDs as being a desirable outcome. Understood but at least if the NOVMA was the filed route which, in most cases it would be, but in the event of runway 08R being in use the crew were issued with the SAM/KENET SID by ATC at least this would not create an F- PLN discontinuity as it would connect with the original flight plan (I think I'm right in saying). There still would be a discontinuity because the original route to SAM was NOVMA L620 SAM, but it would certainly be more intuitive to resolve because the 08R SID would be ending at SAM itself, as a common point. The EGLL situation does not present as easily.

If you have any questions, please let me know. Very much appreciate your input and thanks for taking the time to engage on this issue. We are discussing the use of Transitions and this may get raised at the next Lead Operator panel (again). Any input you have on this as I assume the UK is not unique in SIDs terminating at differing points dependent on the runway in use will be much appreciated.

Many thanks

Senior Officer - Navigation Services  
Virgin Atlantic Airways Ltd

## 7. Email exchange with the CAA following SID pairing issues

**From:** [REDACTED]  
**Sent:** 09 August 2019 21:58  
**To:** [REDACTED]  
[REDACTED]  
[REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: SID Level Restrictions Debate

Thank you [REDACTED] for the invitation to join and to the collective for your input.

In answer to your request [REDACTED], the pairs of SIDs I have had first or second hand experience of are:

- Heathrow UMLAT / ULTIB
- WOBUN / BUZAD (historic but frequently challenged by crews on the delivery position)
- Gatwick truncated IMVUR / NOVMA
- Gatwick SFD / BOGNA

As mentioned, invariably these manifest themselves with a request for an onward routing. However following a recent incident a colleague completed an unscientific assessment of how Gatwick departures behaved without input. A significant minority incorrectly routed from IMVUR to NOVMA (having completed a NOVMA flight plan) instead of routing N63 via VOUGA. Due to the geography of this particular deviation the outcome is somewhat unfortunate as the route tracks towards the KK final approach at what could be a SID level of 4000'.

Kind regards  
[REDACTED]



[REDACTED]  
**Swanwick Development**

**From:** [REDACTED]  
**Sent:** 09 August 2019 16:02  
**To:** [REDACTED]  
[REDACTED]  
[REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: SID Level Restrictions Debate

All

Thanks you for your time again today.

Items discussed :

- [REDACTED] indicated that there were no definitive minutes from the SPA, outcome of which resulted in hard level stops on LTMA SIDs and subsequent rollout on majority of SIDs
- Feedback indicates any further work to undo this would require significant Safety Assurance, however, this would lead to an overlap with airspace systemisation developments which are amending SIDs and therefore may prove futile and may not solve all circumstances
- Hard stop altitudes will continue to be applied to all stop altitudes as a standard – is this referenced to a CAA policy ? Or is this guidance only? If this was not applied to new SIDs [REDACTED] [REDACTED]?
- [REDACTED] suggested that certain truncations could include specific RTF instructions annotated on the chart. This would be moving away from a standard and not always picked up by external agencies and may cause additional confusion
- Truncation policy should be reviewed on a case by case basis but additional rigour should now be undertaken when proceeding based on latest known information regarding unintended consequences especially with non common points
- Is a PIR required as part of the SID Truncation Policy ?
- If this is a wider ATM issue, confirmation required as who is responsible for resolution ? [REDACTED] [REDACTED] is this ultimately the responsibility of the sponsor ? The recent Lead Operator Tech Comm also the proposed ICAO draft SID/STAR Transitions document as a discussion point and possible means of achieving overall guidance , however, Is there still a need for a combined industry workshop to provide definitive guidance (via RNDSG?). This would provide clarity for the development of designs for both FASI N & S
- [REDACTED] would provide via email additional examples of possible problems with current non common points on SIDs
- [REDACTED] suggested that this item would be added to the agenda at the next Manchester FLOPSC (Sept) , as to whether operators have experienced any concerns on the airport truncations – email group with updates

Hopefully these capture the discussion points and overall thoughts . Please add any additional comments.

Regards

[REDACTED]  
**NATS**

[REDACTED]

Manager Systemised Airspace Development  
Prestwick Centre

**From:** [REDACTED]

**Sent:** 26 July 2019 13:16

**To:** [REDACTED]

**Cc:** [REDACTED]

**Subject:** RE: SID Level Restrictions Debate

Hi [REDACTED]

Thank you for your time as well and for the email. I have added some corrections and clarifications.

Kind regards

[REDACTED]

[REDACTED]  
Airspace Regulator (IFP)  
Airspace Regulation  
Civil Aviation Authority

**From:** [REDACTED]

**Sent:** 26 July 2019 12:42

**To:** [REDACTED]

**Cc:** [REDACTED]

**Subject:** RE: SID Level Restrictions Debate

[REDACTED]

Thanks for your time today.

Items discussed :

- NATS SPA meeting held in c2014, which included recommendations to reduce level busts within LTMA . Output may hold information which is relevant to the SID hard stop levels and other underlying issues. However, details still unknown [REDACTED] to undertake further investigation SPA minutes /AAIB report ??
- A CAA requirement was made to include SID end levels & hard stop for all RNAV SIDs, one standard applied across the UK based on the standard applied on the first RNAV SID introduced in the UK.
- SPA output made relevant changes to the main LTMA airfields [REDACTED] but this has now evolved across majority of airport conventional SIDs. Although application is not always consistent
- Some SIDs may not be up to date with the 5 year reviews for majority of SIDs and therefore some information on charts may be out of date. ~~has appeared without full checks & balances.~~ As the SIDs belong to airfields this is in their remit to undertake

- Further understanding of the EGLL UMLAT/ULTIB required . Have her been issues with other SID truncations ? [REDACTED] to feedback
- Overriding aim of SID truncations was to enable fuel benefit but there have been some unintended consequences, hence the reason to investigate hard stop removal which had been requested by operators/flight planners
- Individual SIDs could be looked at on a case by case basis but discussion with CAA ahead of any work, however, SPA output would be ~~useful~~ needed before to understand the issues

I will send an invitation for a Telecon in two weeks as a general update

Regards

[REDACTED]

# NATS

[REDACTED]

Manager Systemised Airspace Development  
Prestwick Centre

**From:** [REDACTED]  
**Sent:** 24 July 2019 14:54  
**To:** [REDACTED]  
**Subject:** RE: SID Level Restrictions Debate

H [REDACTED]

Thanks for your email and Friday would be great.

Kind regards

[REDACTED]

[REDACTED]  
Airspace Regulator (IFP)  
Airspace Regulation  
Civil Aviation Authority

**From** [REDACTED]  
**Sent:** 24 July 2019 14:19  
**To:** [REDACTED]  
**Subject:** FW: SID Level Restrictions Debate

Hi [REDACTED]

I received your voice mail but I'm in the [REDACTED] for the remainder of this afternoon and a morning shift tomorrow. Can I call you on Friday 1000?



## 8. Email exchange with Jeppesen

From: [REDACTED]  
Sent: 05 March 2020 08:06  
To: [REDACTED]  
Cc: [REDACTED]  
Subject: RE: NOVMA/IMVUR Issue

Hello [REDACTED]

Thanks for the additional information.

For the SID tracks, my intention was to mention the points after the current SID ends. Essentially the parts that the crews currently have issue with identifying today. I know and understand this is not really possible today for various reasons though. Apologies for any confusion.

Regarding notes and such to add to the flight bag, it is really difficult to say at this point whether it would be possible or if it will really help. This situation is very unique and therefore a lot of applications don't have this type of use case built in. We would need to see the notes and how they look to really determine with more certainty; however, my initial feeling is getting some type of note like this into an EFB in a way that would work for crews for this type of situation would not really be possible, efficient, or easy to access such information if available within the app with the current application suites that exist today.

Regards,

[REDACTED]  
Corporate Technical Leader  
Aviation Technical and Regulatory Standards  
Boeing Global Services



From: [REDACTED]  
Sent: Thursday, March 05, 2020 09:01  
To: [REDACTED]  
Cc: [REDACTED]  
Subject: Re: NOVMA/IMVUR Issue

Thanks [REDACTED]

It has been suggested to me ([REDACTED]) that some information in the AD section of the AIP finds itself into the electronic flight bag and hence into the flight deck to enable crews to amend the flight plan in the FMS after the runway change.



The tracks of the SIDs are fine and need to be coded of course but it is the onward waypoints after the SIDs that some crews are having difficulty in working out we wouldn't need the track or any coding after the end of the SIDs just the next waypoints to be entered to enable the DISCO to be 'repaired' back to the original flight plan at either SAM or VOUGA (for flights via KENET).

Hope that helps.

■

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**From:** ■  
**Sent:** Thursday, March 5, 2020 7:38:45 AM  
**To:** ■  
**Cc:** ■  
**Subject:** RE: NOVMA/IMVUR Issue

Hello ■

What do you mean by chance with getting the information added into the flight bags? In which way are you thinking? If you are thinking the tracks for the SIDs, this is only possible if the coding of the SID changes which would require the procedure chart to contain the appropriate tracks as a procedural track, which we know can't be done either. What I am seeing or envisioning based on your information below is some type of routing note in AD2.22. In this case, it also may not be possible to add it to the electronic instance of the charts due to various technical limitations and such a note not really being envisioned.

Regards,

■  
Corporate Technical Leader  
Aviation Technical and Regulatory Standards  
Boeing Global Services



**From:** ■  
**Sent:** Thursday, March 05, 2020 08:14  
**To:** ■  
**Cc:** ■  
**Subject:** NOVMA/IMVUR Issue Good

morning ■

I hope you're all well

We are still trying to come with at least a short term solution to our NOVMA/IMVUR SID issue which, you may recall, results from a runway change at Gatwick creating a DISCO whereby aircraft that have planned via NOVMA from 26 but are issued an IMVUR from 08 and then either ask where to go after IMVUR or on occasions turn at IMVUR to NOVMA or even (in one case) to MID to pick up the track to NOVMA.

The arrows applied to the Jeppesen charts are helping but we need a more universal solution. [REDACTED] our proposal for adding routeing information on the charts - often this information doesn't appear on your versions of the charts anyway. [REDACTED] to add the routeing information to correct the DISCO created by the runway change in the General Information notes!

If we added the routeing information into AD2.22 would this be picked up your teams and added to the electronic 'flight bag' that flight crews have access to and presumably use during their briefings? If so, we could add this for all SID pairings that end at different waypoints depending on the runway in use.

Your input would be very much appreciated - I'm due to discuss the issue (again) with Swanwick Safety tomorrow.

Kind regards

[REDACTED]

## 9. Email showing action from Gatwick FLOPSC

**From:** [REDACTED]  
**Sent:** 25 October 2019 09:36  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Gatwick SID Truncation

Hi [REDACTED]

I have an outstanding action from the Gatwick FLOPSC meeting in July regarding pilot's comments about issues with the transition from INVER and NOVMA SIDS after a runway change.

[REDACTED] has informed me that you're working on this. Do you have a progress update that I can take to the next meeting on the 27<sup>th</sup> November?

Thanks

[REDACTED]



[REDACTED]

Airports Interface Support

## 10. Email confirmation from Jeppesen on chart change

**From:** [REDACTED]  
**Sent:** 18 July 2019 05:58  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: NOVMA/IMVUR SIDs

Hello [REDACTED]

Things are going pretty well here.

I checked our charts, and I can confirm we have the airway continuation arrows on the charts since the end of April. Attached you may find a couple of those charts as examples.

Regards,

[REDACTED]  
Corporate Technical Leader  
Corporate Technical Standards  
Boeing Global Services



**From:** [REDACTED]  
**Sent:** Wednesday, July 17, 2019 6:23 PM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** NOVMA/IMVUR SIDs

Hi [REDACTED]

I hope you're well.

Are you able to advise if you have added your 'Information Arrows' to the EGKK NOVMA and IMVUR SIDs? We still have a number of flight crews on the IMVUR (having had a flight plan via NOVMA) where they should route next which is causing irritation to ATC and adding to workload in what is already a busy summer.

If they have been added can you advise when (which AIRAC) and if not, is this something Jeppesen would be able to assist us with please?

All the best

[REDACTED]



[REDACTED]  
Swanwick Development ATCO

## 11. Email exchange with Swanwick Investigations: onward routing details on the pairs of SIDs

**From:** [REDACTED]  
**Sent:** 02 July 2019 06:59  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
[REDACTED]  
[REDACTED]  
**Subject:** RE: UMLAT/ULTIB Update

Thanks [REDACTED]

The SIDs always (but always) advise the onward ATS Route on the state chart but unless specifically requested by the customer this information is not transferred to the customer versions of the charts. Following UMLAT/ULTRIB the CAA allowed us to add T418 WOBUN and T420 BUZAD (as opposed to just T418/T420. They wouldn't allow us to do the same with NOVMA/IMVUR SIDs even though we tried ie L620 NOVMA and N63 IMVUR.

We can certainly ask for that to be added to these SIDs again and, going forward will advocate that it goes on the state chart but as stated above there is no guarantee unless specifically requested this information will get transposed to the customer version of the charts. Additionally flight crews tend not to use ATS routes and tend to focus on waypoints which may be the reason the route information is being transposed adding an onward routing to include the next waypoint may help but we would also have to request/insist it is transposed to customer versions of the chart – if indeed we can insist what goes on someone else's version of the chart.

Happy to progress as requested and discuss further if need be.

[REDACTED]

[REDACTED]  
Swanwick Development ATCO

**From:** [REDACTED]  
**Sent:** 02 July 2019 06:51  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
[REDACTED]  
[REDACTED]  
**Subject:** Re: UMLAT/ULTIB Update

Good morning everyone,



[REDACTED]  
Cc: [REDACTED]  
[REDACTED]

**Subject: RE: UMLAT/ULTIB Update**

[REDACTED]

I echo [REDACTED] position that MAXIT/MODMI is the only Regulator approved solution for the Farnborough ACP. While steepening the existing SID would achieve the air traffic solution, this would not be in compliance with their approval. I would concur with [REDACTED] opinion that very few departures *could not* comply with a steeper gradient, indeed it is quite possible that all *could*. Counterintuitively, having just rerun the analytics metrics, a higher number of existing departures are not currently meeting the raised profiles than previously observed. I have very little doubt that this is largely due to de-rated departures as I believe two of them were A320 series depts to Paris, with a splattering of similar types destined for the Mediterranean.

Given the relative position of MAXIT / MODMI, the severity of an UMLAT/ULTIB confusion would not be replicated, as the deviation would occur away from the inbound descent flow. The only potential latent risks being an lateral deviation affecting the climb of KK departure in the vicinity, or a theoretical catch up if the lead of a pair deviates ahead of an aircraft with minimum time separation (120ish seconds).

The challenge for Farnborough is that while they need a higher assured gradient in order to simply define a protected RMA, they are unable to force aircraft to file this route as it would result in a thrust setting change to some aircraft that was not consulted upon. Therefore, the only way to *encourage* operators to utilise the MAXIT / MODMI option is through targeted comms and delivering an enabled fuel saving to said operators courtesy of the truncation.

However the other incentive for Heathrow is to highlight that this is concept is an intrinsic element of [REDACTED], so perhaps it's more in their interests than they currently appreciate to help find a permanent solution.

[REDACTED] I would be very interested to understand the outcome of the investigation if at all possible please, as obviously if there are parallels we should work to mitigate them from the outset.

All the best.

[REDACTED]

**From:** [REDACTED]  
**Sent:** 01 July 2019 19:37

**To:** [REDACTED]  
[REDACTED]

**Cc:** [REDACTED]  
[REDACTED]

**Subject: Re: UMLAT/ULTIB Update**

H [REDACTED]

Yes MAXIT/MODMI is the only solution to the Farnborough issue in the time frame. Another solution would be to steepen the MID SIDs but a) this never consulted on b) was never included in the ACP and c) would require traffic that couldn't make the new climb gradient (virtually zero IMHO) to be given a NSD and coordinate with Farnborough.

If the [REDACTED] then we can perhaps look to amend the proposal but if not then MAXIT/MODMI is the option. Given the relative positions of the waypoints the chance of an aircraft making that run without it being questioned by the flight crew is extremely unlikely and even it did the the subsequent turn would put it virtually back on its original track.

[REDACTED], any thoughts?

[REDACTED]

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**From:** [REDACTED]  
**Sent:** Monday, July 1, 2019 6:38:59 PM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: UMLAT/ULTIB Update

[REDACTED] and [REDACTED]

Thanks for your feedback, we need to be very careful before doing any more SID truncations. I have copied in [REDACTED] and [REDACTED], as [REDACTED] states below the plan at the moment it to do MAXIT/MODMI which is required to compliment the Farnborough ACP. We have also been under pressure from the 10% Programme to truncate DET for enabled fuel benefit. However I am not convinced the problem can be mitigated and DET could introduce more problems to ops.

Is MAXIT/MODMI the only solution to the MID climb profile?

Thanks

[REDACTED]

[REDACTED]

Head of Operational Development (Airspace)  
Swarwick Development

**From:** [REDACTED]  
**Sent:** 01 July 2019 12:51  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: UMLAT/ULTIB Update

Hi [REDACTED]

I'll be writing up the investigation. Preliminary investigation has shown that aircraft not knowing where to route after IMVUR was a significant factor in the overload. In the RAT scheme, this is currently



scored very highly too, although the investigation is in very early stages. We haven't interviewed the controllers involved yet, although we hope this to take place this week.

There were two other losses of deconfliction minima where an aircraft didn't follow the IMVUR SID, remaining at 3000ft until IMVUR. At this stage I don't believe that issue to be related to the SID itself.

Sorry this is a little vague, but as I say the investigation is in a very early stage.

[REDACTED]

[REDACTED]

ATS Investigator

**From:** [REDACTED]  
**Sent:** 01 July 2019 11:46  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: UMLAT/ULTIB Update

Thanks [REDACTED]

Ok I am meeting with HAL next week to get their endorsement for the MAXIT/MODMI versions of the MID SID required to support the Farnborough change and the DET SID Truncations. They are wanting assurances that we will not be re-creating UMLAT/ULTIB (as do we). The relative positions was going to be an argument but if you're saying that NOVMA/IMVUR is causing an issue then I guess this could re occur for MAXIT/MODMI and the DET truncations?

When do you expect to hear about the investigation?

Cheers

[REDACTED]

[REDACTED]

Swanwick Development ATCO

**From:** [REDACTED]  
**Sent:** 01 July 2019 11:32  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Re: UMLAT/ULTIB Update

Not Heathrow but IMVUR/NOVMA...

The investigation is not complete yet, however it looks at this stage like the IMVUR confusion may have been a significant factor in a serious Overload recently. There were CAS excursions as a result.

Let's wait for the investigation, but it would be worth taking a closer at. It may be a critical piece of evidence.

██████████  
Safety Manager London Terminal Control  
NATS

---

**From:** ██████████  
**Sent:** Monday, July 1, 2019 11:25:05 AM  
**To:** ██████████  
**Cc:** ██████████  
**Subject:** UMLAT/ULTIB Update

Hi Guys

Can you provide any update on Reports on the ULTIB/UMLAT issue over the last 3 4 months? Have there been any reports of pilot confusion and/or wrong routings and/or DISCOs since the NOTAM was issued and Jeppesen added the Information Arrows to their versions of the state charts?

Cheers

██████████  
Swanwick Development ATCO

12. Email exchange with Swanwick Investigations: SI and APSA details

From: [REDACTED]  
Sent: 09 July 2019 16:12  
To: [REDACTED]  
Subject: RE: Gatwick IMVUR/NOVMA departures

SI and APSA attached. [REDACTED] was included in many emails last year regarding the truncations.

[REDACTED]



[REDACTED]  
Manager Swanwick ATM Procedures  
Swanwick Transition & Integration Manager

From: [REDACTED]  
Sent: 09 July 2019 15:48  
To: [REDACTED]  
Subject: Fwd: Gatwick IMVUR/NOVMA departures

All

See the request below and my holding response, are you able to provide any background?

[REDACTED] - Could you please dig out the ATC instruction and associated APSA ( if there is one? ).

Thanks

[REDACTED]

[REDACTED]  
Head of Operational Development (Airspace)  
Swanwick

From: [REDACTED]  
Date: 9 July 2019 at 15:43:36 BST  
To: [REDACTED]  
Cc: [REDACTED]  
Subject: Re: Gatwick IMVUR/NOVMA departures

Hi [REDACTED]

Let me look into this, I will need to speak with the team who did the work, as I think this was done before I was in post so do not know the detail. Swanwick Procedures would have done an APSA for any

associated procedure, although I am pretty sure the issue that has manifested, may not have been foreseen, so consequently may not have been identified with any safety work that was undertaken. Let me find out and get back to you.

■

■

Head of Operational Development (Airspace)  
Swanwick

NATS PRIVATE

On 9 Jul 2019, at 15:16, ■ wrote:

Hi ■

I am well into the investigation into an overload and losses of separation on the TC SW sectors on ■. One of the contributing factors was that pilots did not know where to route to after IMVUR. The aircraft had filed via NOVMA the evening before, the runway changed overnight, and then they were given the IMVUR departure.

I am considering some recommendations surrounding these departures which I would like to speak to you about if possible. In the meantime, please would it be possible to send through the APSA for these SID changes? I am specifically interested in the risk of increased RTF workload for pilots who were unaware of the subsequent route following the end of the SID. I have spoken with ■ and ■ surrounding this too, from a SW Deps sector risk perspective, and I would be grateful if you could also copy them into the response.

Thank you in advance for your time,

■

## 13a. Relevant Section of the Minutes of Lead Operator Technical Group meetings 30<sup>th</sup> October 2018

### 3) Incorrect Route selection after SID on RNAV - IN PROGRESS

██████████ presented

NATS has been implementing SID Truncations for circa 6 years. The issue described here is citing Heathrow as an example but the issue manifests itself wider than just Heathrow. Previously, this issue has been masked due tactical controller intervention and the full SID rarely flown. The UMLAT / ULTIB SIDs have become an issue at Heathrow with crews not understanding what route to follow post UMLAT or ULTIB following a runway change. The problem will be primarily with pilots not familiar with the local airspace, who wouldn't realise they needed to change the Flight Plan as well as the SID - ATS routes are not in the legs page that the pilots use for departures. Pilots will not know the waypoints on the departure routes so it would increase heads-down time if they had to connect the SID to a specific point on an enroute chart.

██████████ reported that the US has been pushing for a common transition point. ██████████ suggested that if WOBUN were taken out, the pilot would connect direct to WELIN (for either route). Either of these solutions would require a full airspace change.

██████████ opined that the best solution may be to reinstate the full SIDs but without the altitude constraint at WELIN. This was raised at FEP 18 months ago and a paper produced, however, the CAA currently requires the last point on the SID to have an altitude constraint to cope with radio failure conditions. Reinstatement of WOBUN and BUZAD with the altitude constraint would cause 20,000 tonnes of enabled fuel savings to be lost.

██████████ commented that this does raise issues for future designs as a number of solutions have been developed without common SID end points.

██████████ commented that a reference track could be added to the departure chart (as opposed to a procedural track) from the end of the SID to the common waypoint, e.g. WELIN, with no altitude constraint.

██████████ observed that a shorter-term solution is required for when the NOTAM expires in December.

██████████ stated that NOTAM information does not get published on the charts because they are temporary; however, there are instances where States put such things in the AIP for clarity of onwards routings.

The UK State chart the shows the routing UMLAT/ULTIB is in the AIP, but this is in the enroute chart rather than the departure chart. ██████████ suggested that, in the short term, an AIP SUP could be issued to allow the routing to be reflected on the departure charts. However, this may still take until AIRAC cycle 1903 (Feb-19) to implement.

Jeppesen Attention All Users Page (AAUP) is used in US to resolve similar issues; this is similar to an AIC.

██████████ observed that there are a lot of places where this is a problem and the solution is to include the routing in the ATC Clearance. However, ██████████ highlighted the concern that this would be a large change for the Tower because would no longer be able to use DCL until an EFPS change could be implemented.

Outcomes:

1. Short Term: NATS Swanwick and Heathrow Tower to discuss a solution via ATC clearance/instruction.
2. Longer Term: NATS to work with the CAA on a solution, such as indicating onward waypoints applicable to each SID instead of route on the SID chart via AIP SUP, adding a reference track to the departure chart, or reinstating the SIDs with/without an altitude constraint on WELIN.

## 13b. Relevant Section of the Minutes of Lead Operator Technical Group meetings 20<sup>th</sup> May 2019

### 6) Incorrect Route selection after SID on RNAV - IN PROGRESS

██████████ presented

The issue tends to be generated when a runway change occurs around an hour or less prior to departure; the SID is changed but the onward routeing is not. The ULTIB and UMLAT SIDS were truncated back from WELIN to deliver fuel benefits by avoiding low stop altitudes far out.

██████████ reported that the issue also occurred on the KUXEM SID at Manchester and flight crews tended to figure it out and manually update the routeing. The issue may be prevalent at other locations but masked by the commonplace tactical interventions.

This topic was raised via WebEx in November. A NOTAM was released as a temporary fix and Jeppesen have added a 'Reference Track' on their chart to show where the aircraft should be going after the end of the ULTIB SID.

Lufthansa Systems and NavBlue would be willing to investigate adding Reference Tracks on their charts as well but this is not their preferred option as it is not standardised.

*SID 'Not Above' restrictions - ██████████ & ██████████ presented*

The reason SID truncation is being used to avoid low stop altitudes is because 'At' or 'At or Below' altitude constraints are required on the last waypoint of the SIDs. These are thought to be required in the case of Radio Failure but, due to the rarity of such events now, the airlines questioned whether this is still relevant.

In the US, they use 'Top Altitudes' on SIDs.

Using the NORBO example, ██████████ asked whether it would be acceptable to retain the 6,000ft stop altitude at an intermediate point (ELBAN) but remove it from the procedure end (NORBO); this would limit climb to a stop altitude of 6,000ft in case of a Radio Failure but not inhibit planning for climbs before the end of the SID.

██████████ clarified that the need for stop altitudes on SIDs came from a recommendation by the AAIB and agreed it would be worth revisiting the reasons behind it to avoid creating any unintended consequences.

## 13c. Relevant Section of the Minutes of Lead Operator Technical Group meetings 3<sup>rd</sup> December 2019

### 3) En-route Transitions - IN PROGRESS\*

This topic was raised with the Tech Group via a WebEx meeting back in July; ██████████ at Eurocontrol was drafting a paper for ICAO to provide improved clarity around Transitions, what they are and what they do. At that meeting, it was proposed that the Technical Group focus on bridging the gap between this purist definition and the ways in which individual airspace projects are trying to use Transitions.

Subsequently, the coding houses were engaged to provide best practice real-world examples. Then these were tested by NATS ATC to see whether and how these concepts could be brought into UK airspace. A summary of these stages is included in the slide pack.

████████ stated that the ATC idea of using multiple runway transitions to provide noise respite for local communities is not possible; from one runway you can only have one runway transition for a SID. For a STAR, multiple Approach Transitions could be used to provide noise respite but this would lead to a naming convention issue where the same STAR is connected to the same runway multiple times.

Any SID or STAR must have a Common Route portion, even if only a single waypoint; if there is no common route, there must be multiple SIDs or multiple STARs accordingly.

NATS is still looking for a solution to the issue with SID Truncations, e.g. UMLAT / ULTIB out of LHR, where, on some occasions after a runway change, the pilot flies an incorrect onward route after the SID. The most efficient solution using Transitions would be to have two separate SIDs (as today): one to UMLAT, one to ULTIB, and extend past these points using En-route Transitions to continue the SID until the first common waypoint, e.g. WELIN.

████████ pointed out that this would take us full circle, i.e. back to what the SIDs were before with a 6,000ft level cap at WELIN. However, the proposal is to implement with a hard level cap 6,000ft at UMLAT/ULTIB then no further level constraints on the En-route Transition. This may be full circle, but it gives the optimum proposed solution for how Transitions would be used in this example. UMLAT/ULTIB is only one example of many

The requirement for a hard altitude constraint at the end fix/waypoint of every London SID came about to prevent altitude busts, following initial raising of the topic at the NATS & airlines Safety Partnership Agreement (SPA). The CAA has recently advised NATS that the SPA would need to revisit the original work and safety rationales for any changes to this policy. Therefore, the next logical step would be to raise the Tech Group proposal back to the SPA for their consideration.

████████ noted that the UK has used the term 'Transition' in current implementations, but we are not really using them in the way that it is defined by ARINC (or TERPS in the US). Within the ICAO working group there is a realisation that they need to involve ATC, as it has to work with that community. The coding is already defined within A424, but the ATC side is less well defined.

████████ & ██████████ think that the work undertaken by the Tech Group has helped to bridge that gap and so achieved what it set out to do. It was highlighted that there is a need to get this information out to the wider IFP design community. ██████████ & ██████████ will consider how best to communicate this wider.

There was also a suggestion to talk with NavCanada around their experience with transitions.

\* Agreement to close topic subject to completion of actions raised.