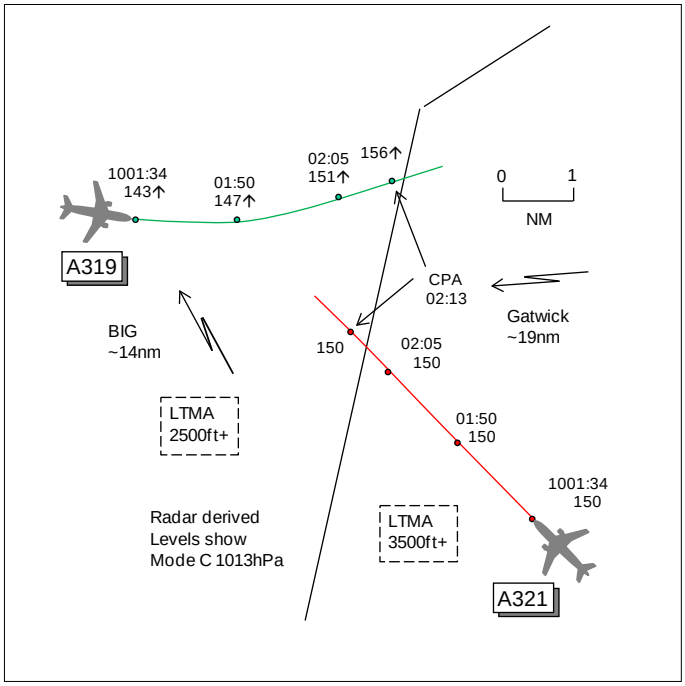
AIRPROX REPORT No 2012099

Date/Time:	8 Jul 2012 1002Z	(Sunday)
Position:	5110N 00019E (19nm E Gatwick)	
Airspace:	LTMA	(*Class: A*)
	Reporting Ac	*Reported Ac*
Type:	A319	A321
Operator:	CAT	CAT
Alt/FL:	FL150↑	↓
Weather:	IMC KLWD	NR
Visibility:	NR	NR
Reported Separation:		
	Nil V/2·7nm H	NR
Recorded Separation:		
	600ft V/2·3nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE A319 PILOT reports outbound from Gatwick, IFR and in communication with London, squawking an assigned code with Modes S and C. Proceeding on a DVR8M SID after the wraparound turn they were given heading 095° and climb to FL170 by London [LTC BIG] on 120·525MHz. They were subsequently handed over to London [AC S15] on frequency 134·9Mhz and after their initial call passing FL150 at 250kt in IMC they were given an "immediate" turn instruction to the L. Simultaneously a TCAS TA was received indicating traffic in their 2 o'clock range 7nm about 1200ft above. The PF selected V/S +1500 in initial reaction to the TA and after read-back the controller verified that this was avoiding action. This was not read back but the situation was apparent at this stage. They just broke into VMC and the Capt (PNF) visually sighted the conflicting ac in their 2 o'clock slightly above. The Capt instructed the PF to expedite climb, as this was visually observed to be the best avoiding action, while continuing the instructed L turn. Minimum separation was observed while the ac were at the same level, the other traffic in their 3 o'clock range 2·7nm indicated on TCAS; no RA was generated. When climbing clear and past the conflicting traffic, this was verified with ATC and a subsequent en-route clearance was obtained. He assessed the risk as medium. Later he verified the conflicting traffic was not on the same frequency and that ATC would file a report as well.

THE A321 PILOT reports, 2 months post incident, that the crew did not remember any inconvenience during their approach apart from receiving a TCAS TA.

THE LTC BIG RADAR CONTROLLER reports when first on the Sector, receiving several late calls from crews advising they were unable to hold at BIG owing to Wx, which led to last minute coordinations and higher workload and the decision was made to split the Coordinator position. This period then calmed down but as the FPSs were starting to build the SE Coordinator position was shut and the decision was made to split off TIMBA/LOW. At the time of the incident the Sector was split. In the moments immediately prior to the incident the E Coordinator had called across to ask what the Wx was like at BIG as a LAM inbound, a B737, was unable to hold at LAM in spite of the fact that several ac were already holding at the time. The controller checked the Wx on CDIS and stated that the situation was no better at BIG. The B737 flight confirmed that they would be able to hold at BIG and it was therefore coordinated into the Sector at FL130 and the TIMBA controller was advised accordingly. As the B737 approached DET the crew then stated that they would be unable to hold at

BIG and requested to now route to TIGER to hold. There were various transmissions regarding Wx from the B737 crew during which the controller was also dealing with various other flights on frequency also wishing to avoid Wx. At some point the A321 flight called on frequency, which was acknowledged with, "Roger". However, the controller was focussed on trying to come up with a solution to the B737, which seemed unable to hold as anticipated; this ac had caused the controller to be distracted. Heathrow Approach was informed that the B737 was holding at DET awaiting their onward clearance. The B737 flight was instructed to hold at DET, RH on inbound radial 312°, to allow the BIG controller to climb Heathrow departures, which were generally being vectored from EPM on a SE'ly heading, and Gatwick departures as well. The TIMBA controller amended the Gatwick Standing Agreement for traffic inbound TANET to FL140 and advised the BIG controller accordingly to ensure separation against the B737. The A319 was a DET departure from Gatwick which was climbed initially to altitude 6000ft before the flight was instructed to fly heading 095° and climb FL120. This was to position the A319 to enable it to climb above the B737 and the A319 was then given further climb to FL170 and, once above the B737, the flight was transferred to LAC S15. The controller had completely forgotten about the A321 inbound to Heathrow on a BIG3B arrival descending to FL150. The Coordinator came over and pointed to the A321 just as STCA flashed white (low severity alert), which is when the controller realised in shock, the error. The controller was not sure if the Coordinator was pointing out the loss of separation or whether it was relating to its hold at BIG, given the B737 holding at DET. At this time the A319 was at FL146 in the A321's 11 o'clock range 2-3nm, the A321 level at FL150. Immediately the A321 flight was given an avoiding action turn onto heading 270° but there was no response. An avoiding action turn onto 070° was then given to the A319 crew, forgetting the flight had already been transferred to S15. The A321 flight was then given TI, the crew stating they could see the traffic on TCAS.

THE LAC S15T (DVR) CONTROLLER reports the A319 was transferred to him heading 095° climbing FL170 when positioned just W of TIGER in S17 airspace. The A321 flight was working LTC inbound to TIGER then BIG at FL150 and when the A319 flight called on frequency there was barely 5nm separation. He gave the A319 flight an avoiding action turn onto 060° and passed TI and although the crew did not respond they took the turn and expedited, later informing him that this was owing to a TCAS TA. The A319 crew reported 2·5nm separation and visual with the A321.

ATSI reports that the Airprox occurred at 1002:12UTC, 19nm E of Gatwick, within the Class A CAS of LTMA-1, between an A319 and an A321.

The A319 flight, operating IFR, had departed from Gatwick on a flight to Athens and been handed over from LTC BIG Sector to LAC S15 (DVR) Sector and was in receipt of a RCS. The A321 flight, operating IFR, was inbound to London Heathrow from Rome and was in receipt of a RCS from LTC BIG Sector. A third ac, a B737 flight, inbound to London Heathrow, had been cleared to the BIG hold and became a significant distraction in the events prior to the occurrence.

Prior to the incident the number of ac movement strips started to increase and a decision was made to split off the TIMBA/SE LOW Sectors. The BIG controller workload was assessed as medium to heavy, with added complexity due to the requirement for holding and Wx avoidance. The BIG controller took over the operational position 41min prior to the occurrence, working on the second morning shift and having recently returned to work following a short period of absence. The controller was regarded as very experienced and was an OJTI and UCE.

CAA ATSI had access to: RT and area radar recording; written reports from both pilots, together with written reports from the LTC BIG controller, S Coordinator, Group Supervisor S, LAC S15/16 (DVR) Tactical controller and Planner.

The METAR for Gatwick was: - EGKK 080950Z 29008KT 5000 SHRA BKN007 BKN010 OVC033TCU 16/14 Q1004=

The Gatwick TAF was: - EGKK 081001Z 0810/0912 29005KT 8000 FEW008 BKN020 TEMPO 0810/0812 4000 SHRA BKN007 BECMG 0811/0813 9999 TEMPO 0812/0824 7000 SHRA PROB30

TEMPO 0812/0820 3000 +SHRATSGS SCT007 BKN014CB BECMG 0900/0903 6000 BKN008 BECMG 0909/0912 9999 FEW008 SCT020=

At 0946 the TIMBA sector was split from BIG and the Coordinator role reduced to 1 position (previously 2). Due to the weather, the B737 had been unable to hold at LAM and was coordinated into the BIG sector at FL130 on the stack swapping STAR BIG1E. The BIG controller's strip presentation consisted of 2 strip bays BIG and Detling (DET). The B737 and A321 both inbound to BIG, were displayed in the BIG bay. The outbound A319 was displayed in the DET bay.

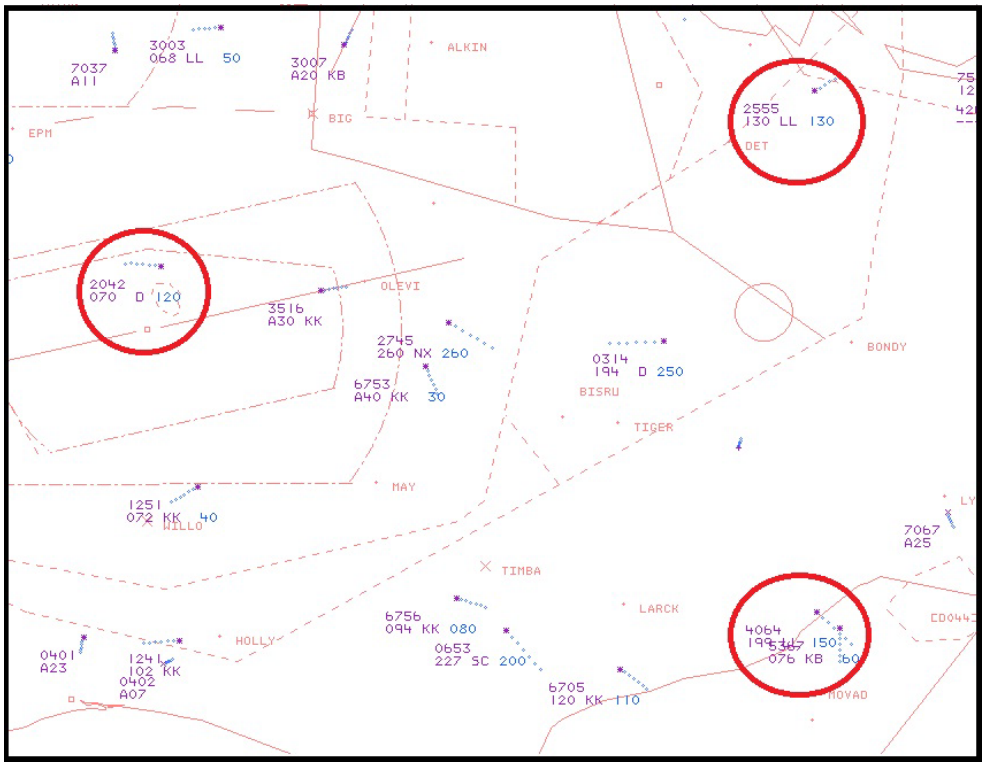
At 0954:21, the B737 flight, squawking 2555, contacted BIG Sector reporting a heading of 220° at a speed of 280kt. The BIG controller reported that delays were less than 10min and advised the B737 flight to expect to hold at BIG.

After departing Gatwick RW26, the A319 flight squawking 2042, contacted the BIG Sector and reported passing an altitude of 3000ft climbing to an altitude of 4000ft on the DVR8M SID, which requires a R turn from RW26. The BIG controller instructed the A319 flight to climb to altitude 6000ft.

At 0957:01 the B737 flight was cleared to route direct to DET and at 0957:43 the A319 flight was instructed to fly heading 095° and climb to FL120.

At 0958:13, the B737 crew reported a build up overhead BIG and requested a hold at TIGER if available. The BIG controller instructed the B737 flight to standby.

At 0958:33, the A321 flight squawking 4064, contacted the BIG Sector and reported descending to FL150. The BIG controller acknowledged, *"(A321 c/s) Roger."* The relative positions of the 3 ac are shown in print 1 below.

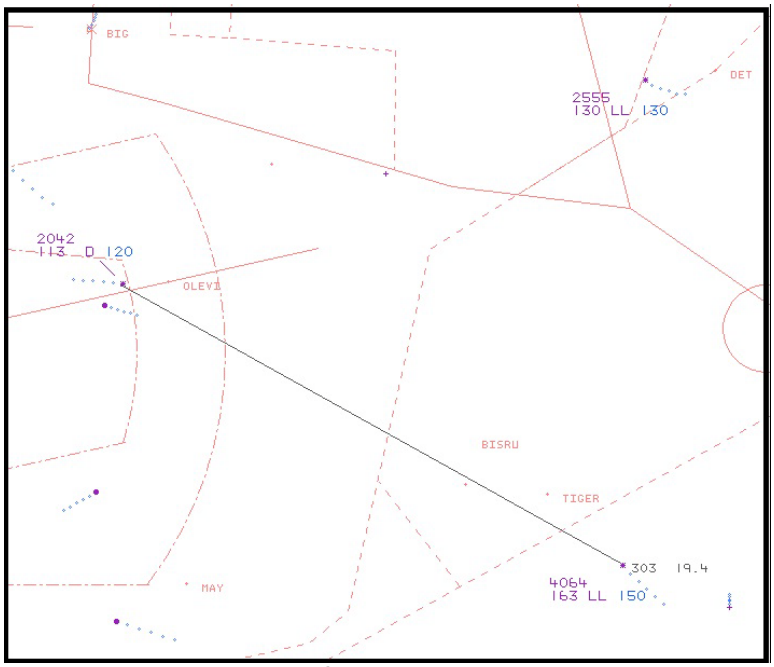


Print 1 – 0958:33

The controller's written report indicated a plan to hold the B737 at DET in a RH pattern, whilst positioning the A319 to enable a climb above the B737. At 0959:02, the following RT exchange occurred between the BIG controller and B737 pilot:

Controller	*"(B737 c/s) can you hold in your present position."*
B737:	*"(B737 c/s) holding er present position overhead er Detling left turn thank you."*
Controller	*"(B737 c/s) affirm left turns overhead Detling."*
B737:	*"Thanks ????? ?????."*
Controller	*"(B737 c/s) make it a right turn please at Detling right turns at Detling."*
B737:	*"(B737 c/s) roger and turning right for righthand holding pattern overhead Detling."*
Controller:	*"And (B737 c/s) your inbound axis is three one two degrees."*
B737:	*"(B737 c/s) Detling inbound course say again."*
Controller:	*"Three one two degrees."*
B737:	*"Three one two inbound thank you."*

At 1000:23, 2min after the A321 flight had checked in on frequency, the A319 flight was instructed, *"(A319 c/s) climb Flight Level one seven zero expedite through Flight Level one four zero."* The A319 pilot replied, *"Climb Flight Level one seven zero wilco (A319 c/s)."* Print 2 below shows the B737 turning R at DET and the A319 on a track to route S of B737. The A321 is shown 19·4nm SE of the A319 and the BIG controller's written report indicated that the controller had forgotten about the A321.



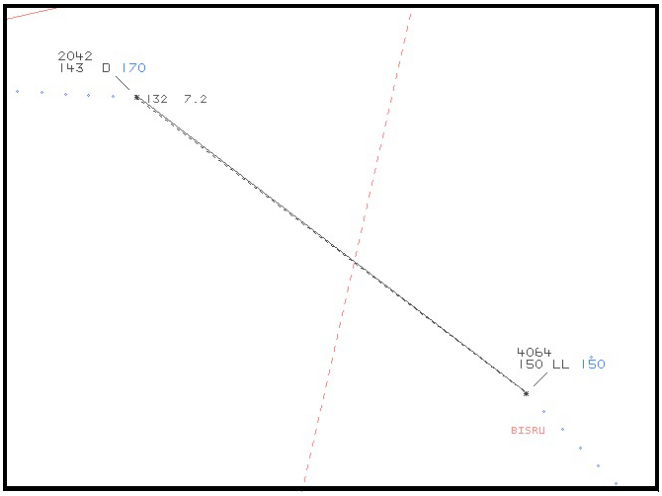
Print 2 – 1000:23

At 1001:03, the A319's rate of climb had increased to 2800fpm and as the A319 passed FL128, the A319 was transferred to London on frequency 134·9MHz (DVR S15). This was correctly acknowledged by the A319 pilot, who then contacted the DVR Sector Controller.

At 1001:31, the A319 flight on first contact with DVR Sector was instructed, *"(A319 c/s) turn left immediately heading zero seven five,"* which was acknowledged.

Meanwhile the LTC S Coordinator, having just completed coordination, pointed out to the BIG controller that the A321 needed immediate descent. The BIG controller realised that the A321 was in conflict with the A319 and at 1001:31, the BIG controller gave avoiding action to the A321, *"er avoiding action (A321 c/s) turn left immediately heading two seven zero degrees."* There was no reply from the A321 crew.

At 1001:33, the STCA activated as the range between the 2 ac reached 7·2nm as shown in print 3 below.

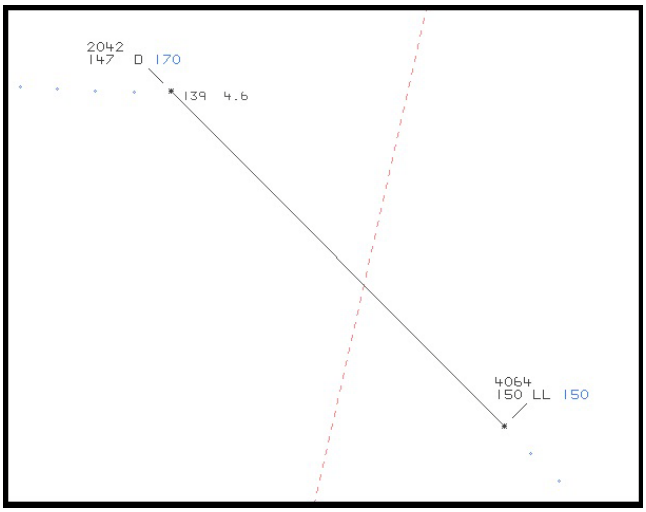


Print 3 – 1001:34

At 1001:38, the DVR controller updated the A319, *"(A319 c/s) it's avoiding action further left heading zero six zero degrees traffic in your three o'clock range five miles Flight Level one five zero.*" There was no response from the A319.

At 1001:41, the BIG controller, having not received a response from the A321, then gave avoiding action to the A319, *"(A319 c/s) avoiding action turn left now heading zero eight zero degrees."* The BIG controller's written report indicated that the controller had forgotten that the A319 had already been transferred.

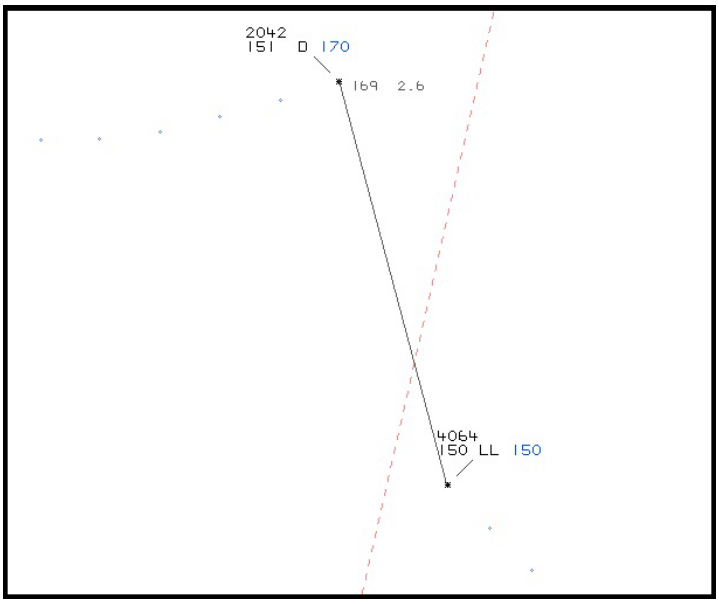
At 1001:52 the BIG controller passed TI, *"(A321 c/s) traffic in your twelve o'clock range of three miles climbing through your level."* The A321 pilot responded, *"Yes er we saw also TCAS also we saw contact."* The BIG controller replied *"Roger.*" Print 4 below shows the distance between the ac as 4·6nm.



Print 4 – 1001:50

The DVR Sector contacted the BIG Sector to advise that they had given avoiding action to the A319.

At 1002:05, print 5 below, shows separation as 2·6nm with a vertical distance of 100ft. The A319, turning L reported, *"(A319 c/s) is expediting climb traffic just in sight passing behind"* and shortly after reported clear of the traffic.



Print 5 – 1002:05

[UKAB Note (1): CPA occurs at 1002:13, the A319 climbing through FL156 and passing 2·3nm NNE of the A321 which is maintaining FL150 with tracks diverging.]

The A321 flight reported unable to hold at BIG due to Wx, and the BIG controller provided vectors on a W'ly heading. At 1004:45 the A321 flight was given descent to FL090 and this was immediately corrected to stop descent at FL140. At 1005:22, the A321 flight was given descent to FL110 and instructed to resume own navigation to hold at OCK.

The Wx conditions and complexity of the workload caused the controller to become agitated in the period leading up to the incident. After the sector was split, the BIG controller became absorbed and focused on the problem associated with holding the B737 at DET and the plan to climb the A319. The RT exchange with the B737 flight regarding holding and the direction of hold was distracting and occurred just prior to the controller forgetting about the A321. Having resolved the separation problem between the B737 and A319, it is likely that in order to reduce the workload, the BIG controller was keen to transfer the A319, passing FL128, at an early stage and the controller did so without properly checking the strip presentation, which would have shown the A321 at FL150. The A321 crew's first RT contact was acknowledged with, *"Roger"*. It is likely that the controller was fully absorbed at this point and ignored, or did not recognise the significance of the A321. The prompt provided by the LTC S Coodinator, caused the BIG controller to belatedly recognise the conflict and to take avoiding action. When the A321 flight was given avoiding action, the range between the 2 ac was 7·5nm. However the A321 crew did not respond to the avoiding action and there was no re-transmission of the avoiding action. Shortly afterwards the controller gave the A321 flight TI and the A321 crew reported visual with the A319 and on TCAS.

The Airprox occurred when the BIG controller climbed the A319 into confliction with the A321. The BIG controller had forgotten about the presence of the A321, whilst being distracted by the hold swapping of the B737 and then focusing on the interaction between B737 and A319. Contributory to the incident was the on-going complexity of the traffic situation, resulting from the prevailing Wx conditions.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC authorities.

Some Members wondered why there could be a situation in which one flight reports unable to hold at a specific location whilst others were able to hold without reporting any difficulty. CAT pilot Members commented that each crew had to make its own decision on the suitability of the conditions, which could vary with altitude; the decision could also be made on crew interpretation of the ac's Wx radar, which can be variable in performance and differ between ac types. In this incident, the B737 crew had requested to route from LAM to BIG but then asked to hold at TIGER. Although stack swaps were not unusual, controller Members thought that the late change of hold request to TIGER had placed an additional strain on the BIG controller who made a snap decision to hold the B737 at DET, which was unusual. It was during this part of the scenario that the A321 flight had called on frequency and the transmission was acknowledged with, *"(A321 c/s) roger"*, the controller focussing on the B737 and not assimilating the importance of the A321. Once LTC BIG had established the B737's hold location and axis, the controller was content that the A319 could be climbed on its track through the B737's level. However, in resolving the Wx related re-routeing, the LTC BIG controller did not take the A321 into account when clearing the A319 to climb and this had caused the Airprox.

Members were disappointed that when the confliction became apparent to the LTC BIG controller, the A321 crew did not respond to timely avoiding action. In the heat of the moment LTC BIG then tried to give the A319 flight an avoiding action L turn away from the A321 but had forgotten that the A319 flight had already been transferred to LAC S15. LTC BIG then passed TI to the A321 crew who reported TCAS and visual contact. Meanwhile the S15T controller had given the A319 crew a L turn, in response to their initial call, which was upgraded to avoiding action with TI as the A321 converged. The A319 crew were aware of the A321's presence when a TCAS TA was received simultaneously with the S15T turn away. The PF then reduced their ROC in reaction to the TA and it was then that the PNF visually acquired the A321 and told the PF to increase their ROC as he perceived this to the best resolution. Neither crew received a TCAS RA during the incident, the radar recording showing the A319 turning L and climbing through the A321's level, the tracks already diverging, at the CPA. In the end, the Board was content that the actions taken by the S15T and A319 crew were enough to remove any risk of collision

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: In resolving a complex Wx-related re-routeing, the LTC BIG controller did not take the A321 into account when clearing the A319 to climb.

Degree of Risk: C.