

Gatwick Unzipped

**A paper for the Airports Commission
commenting on the plans
for a new runway at Gatwick**

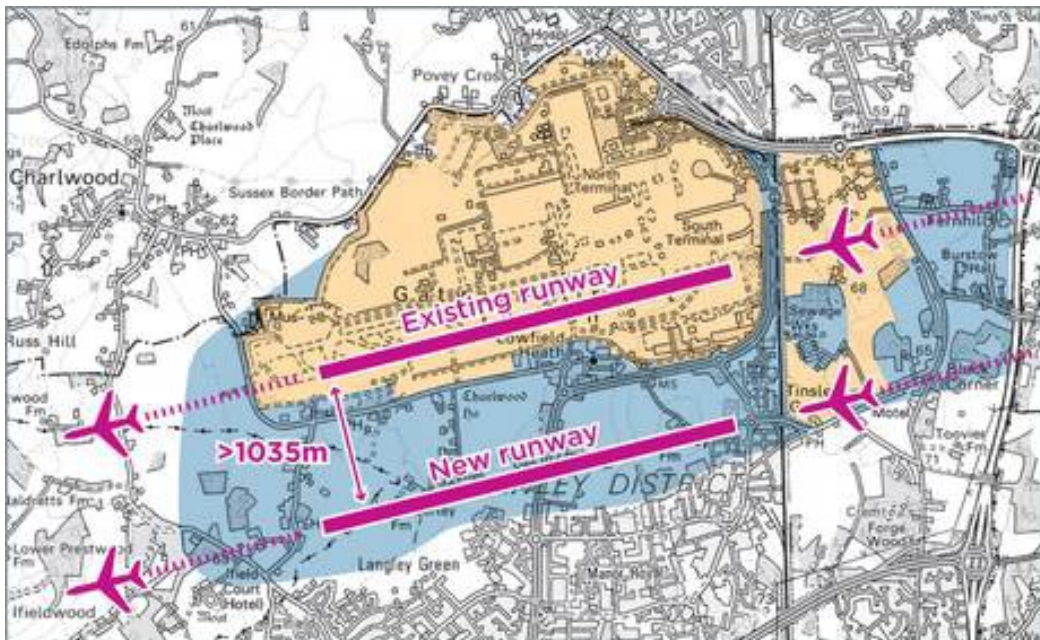
September 2013

GACC, founded in 1968, has as paid-up members nearly 100 councils and local environmental groups, and is the main environmental body concerned with Gatwick Airport.

Gatwick Unzipped

1. This paper is submitted to the Airports Commission in response to their invitation to interested bodies to comment on the plans presented to them in July 2013.
2. The proposals presented to the Commission by Gatwick Airport Ltd (GAL) dated 19 July are long on aspiration but short on detail. And at Gatwick the devil has always been in the detail - that is because Gatwick is a small cramped site and, as has been found many times in the past, there is no room for an efficient new runway. Or to put it another way, space could only be found for a new runway at an unacceptable environmental cost.
3. We realise, of course, that the Commission is expecting the detail to be filled in during the first half of 2014, when all airport promoters are due to provide an environmental impact assessment and a business case. But we hope these preliminary comments may be helpful.
4. In this paper we comment on each runway option in turn, and divide our comments into 'Aeronautical Problems' and 'Environmental Damage'.

THE 'WIDE SPACED' RUNWAY



5. The proposals for a 'wide spaced' runway are set out on page 20 of the GAL submission. This is the only option that could provide maximum runway capacity, and is clearly the option favoured by GAL. Yet it is described in only three paragraphs, with remarkably little detail.

Aeronautical Problems

6. Because the two existing terminals lie to the north of the existing runway it would not be possible to operate the two runways in segregated mode, with one runway for arrivals and the other runway for departing aircraft, as at Heathrow: to do so would mean that all aircraft bound for the two existing terminals would either have to cross the existing runway (with a loss of capacity) or taxi round the ends of the runway.
7. It is therefore proposed by GAL, as by BAA in 2003, that the runways would operate in independent mixed mode with each runway handling both arriving and departing aircraft. Aircraft using the new southern runway would use a new terminal between the runways, while aircraft using the existing runway would use the two existing terminals.
8. Runway separation. The proposed separation of 1,035m is the minimum allowed by international safety regulations for independent mixed mode operations.¹ The reason for this is that there would be frequent occasions when two aircraft approaching Gatwick would be side-by-side only one kilometre apart for the final ten or fifteen miles: any closer together would be dangerous; even this separation would require extremely accurate navigation.
9. Although described as 'wide spaced' to distinguish it from the other Gatwick options, the runway separation between the new runway and the existing runway is too narrow to provide room for aircraft to congregate around a new terminal and too narrow to provide sufficient space for aircraft to manoeuvre on the ground. When similar plans were put forward in 2003, British Airways commented that: "the space between the two runways is inadequate for the traffic assumed."
10. The cramped nature of the site was also, surprisingly, admitted by GAL themselves in the Gatwick Master Plan published in July 2012: "This separation is relatively narrow when compared to other airports, for example, the current arrangement at Heathrow (1460m separation) and that proposed by BAA for a second runway at Stansted Airport (2200m separation)." ²
11. Options for new runways at other airports which have been submitted to the Commission all show a wider separation. For example, the Heathrow north west option 1,330m; Heathrow north 1,330m; Heathrow south west 1650m; Stansted 2,200m.
12. Runway length. The GAL submission admits that 'the exact length' of the new runway has yet to be decided.³ It is likely to be constrained by natural obstacles - by the main London-Brighton railway line to the east and by high ground to the west. A new office complex, City Place, to the east of the runway would probably need to be demolished.
13. BAA stated in 2003 that: 'the presence of high ground to the west is likely to limit the runway take-off distance.'⁴ The hill, called 'Hilly Barn Hill', has not moved since 2003. The problem is referred to obliquely in the GAL submission: 'The flat topography of the landscape to the west of our southern runway options gives way to rising land. Some of this land is

wooded and some trees might encroach into the aeronautical 'surfaces' of a second runway.'⁵

Environmental Damage

14. The 'wide-spaced' runway option would cause severe environmental damage.
15. The exact position of the runway is not stated, merely that it would be 'at least' 1,035m south of the existing runway: the sketch plan (reproduced above) shows it as >1035m. At 1,035m it would lie only about 400m north of the residential areas of Crawley. The new airport boundary would virtually abut the housing, with very little space for earth bunds or other landscaping.
16. If it were greater than 1,035m it might mean demolishing houses in Langley Green on the northern side of Crawley.
17. Noise would be a serious problem, with much of the northern part of Crawley likely to fall within the 57 Leq contour, defined as significant community annoyance.
18. The GAL document suggests that 11,800 people would come within the 57 Leq contour compared with 3,050 at present.⁶ But as mentioned in the Commission's Discussion Paper on Noise, it is increasingly recognised that 57 Leq is not a good indicator of the extent of annoyance, and that the 54 leq contour (moderate community annoyance) is a more appropriate metric. The GAL document suggests that 27,000 people will fall within the 54 Leq contour. To this would need to be added around 5,000 people in the new houses being built within the Crawley NE Sector, giving a total of 32,000.
19. The EU, for example in the requirement for Noise Action Plans, stipulates the use of the 54 Lden contour. On this measurement (including the new Crawley houses), the total number of people likely to be affected by noise would be 47,800 compared to around 10,000 at present.⁷
20. That does not appear consistent with the Aviation Policy White Paper (March 2013) which states that: 'The Government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise.'
21. GAL are incorrect in claiming that a major advantage of Gatwick compared to Heathrow is that because the approach and take-off paths would be mainly over rural areas comparatively few people would be affected. As GACC has pointed out in our submission to the Commission on noise, the International Standards Organisation recommends a 10dB difference in the assessment of noise in rural areas and in urban residential areas, to allow for the difference in background noise levels.⁸
22. Moreover, Gatwick is surrounded on three sides by Areas of Outstanding Natural Beauty, visited by over a million people each year in search of peace and tranquillity. Local councils have a statutory duty to conserve and enhance the natural beauty of these areas.⁹

23. The need to operate both runways in mixed mode would mean that there could be no scheme to provide respite by alternating the use of the runways, as at Heathrow.
24. The GAL document admits that: ‘New flight paths to and from the new runway ... would mean that some people who are not currently overflowed ... would be newly exposed to air noise’ We trust that the Commission will insist that in the environmental impact assessments that GAL (and other airport proposers) are due to produce should give some indication of where the new flight paths are likely to be.¹⁰
25. The destruction of listed buildings is a serious disadvantage of the so-called wide spaced option. 18 listed buildings would be at risk of demolition.¹¹ That would be a unprecedented loss of our heritage.
26. The new runway would also have a severe impact on the Ifield Conservation Area which includes a number of listed buildings and a 13th century church listed grade 1.¹²



Rowley. A 15C manor house, listed grade 2* (ie among the 6% most important buildings in England). Would be demolished under any of the runway options.

27. Urbanisation. The GAL submission suggests that the wide spaced option would result in 18,800 new jobs.¹³ Moreover, use of the wide spaced option to its full capacity would make Gatwick larger than Heathrow today, and would attract many new firms to the area (the catalytic effect).
28. An independent study commissioned by the West Sussex County Council has found that ‘The catalytic impact of 2 runways would be dramatic and could more than match the number of direct, indirect and induced jobs.’¹⁴ The number of new jobs would far exceed the available labour, and could only be filled by large scale inward migration from other parts of the UK or from the EU.
29. The West Sussex study concluded that a new runway would create a need for 30,000 - 45,000 new houses - equivalent to a new town the size of Crawley.

30. Already the councils to the north of the airport are struggling to find space for the new houses required at present, without infringing the Green Belt. Already Crawley and Horsham, to the south, are struggling to find space for a few thousand extra houses. A new runway would multiply these problems ten-fold.
31. The in-migration of labour would put a severe strain on other social infrastructure, such as hospitals, schools and social services.
32. Roads. We suspect that the need for improvements to the road infrastructure is seriously understated in the GAL proposals which mainly list developments already in hand. The M25 is already often at a standstill for parts of each day. Indeed the Daily Mail recently described it as 'the largest car park in Europe'.
33. It is suggested that 'enhancements' to the road network would include 'improvements to the A23'. That euphemistic phrase conceals the fact that this road would be obliterated by the new runway and, on the 2003 plans, would need to be put in a 1½ mile long tunnel.
34. It is widely considered that it would become necessary to build a new western bypass around Crawley, resulting in more loss of countryside, and a further adverse impact on Ifield. There would be no space for this new road on the southern side of the new airport boundary.
35. Gatwick lacks any good road connections to the east or west. Many local roads through the neighbouring towns and villages would become congested with queues at junctions and a general environmental deterioration.
36. Rail. We are surprised at the suggestion in paragraphs 4.9 - 4.15 that no new investment in railway infrastructure would be required. If the new runway were to be operating at its full capacity of 80-87 million passengers per year that would mean around 50 million more air passengers than at present. A target is proposed that 50% will use public transport. Most of them would travel by rail, and that would mean around 50,000 more rail passengers each day, resulting in severe over-crowding on many services.
37. Loss of countryside. In addition to the loss of countryside due to the need for massive new housing developments, there would be a need to find land for associated retail and entertainment facilities, and also for new roads. There would be further loss of countryside for sites for the large number of new firms attracted to the area, and for the expansion of existing firms. In the Crawley area there would be a need to find new sites for the 120 commercial properties due to be demolished.¹⁵

THE MEDIUM SPACED RUNWAY

38. The proposal for a medium spaced runway are set out on page 19 of the GAL submission. In this option the new runway is positioned some 760m south of the existing runway.

FIGURE 11:
ILLUSTRATION OF MEDIUM TO WIDE SPACED INDEPENDENT SEGREGATED MODE



Aeronautical Problems

39. Due to international regulations it would not be permissible to operate the airport in mixed mode. Therefore it is suggested by GAL that the runways would be used in segregated mode, one for arrivals and the other for departures.
40. Aircraft using the new runway would, however, need to cross the existing runway in order to reach the two existing terminals. If they actually crossed the runway that would take at least a minute - roughly the same time as the interval between movements on the runway at present. Therefore there would be no increase in the capacity of the airport.
41. Presumably it is intended that in this option all aircraft using the new runway would need to taxi round the ends of the existing runway. Although this procedure is used at other airports abroad, due to the lack of space at Gatwick it could create dangers if a landing aircraft were to undershoot the runway, or if an aircraft attempting to take-off were to overshoot. Examples of such incidents are given in a footnote.¹⁶
42. The killer aeronautical objection to this option is given in paragraph 3.14 where it is stated, in effect, that there would not be sufficient space between the runways for terminal and apron facilities. GAL themselves thus virtually rule out this option in favour of the 'wide spaced' option.

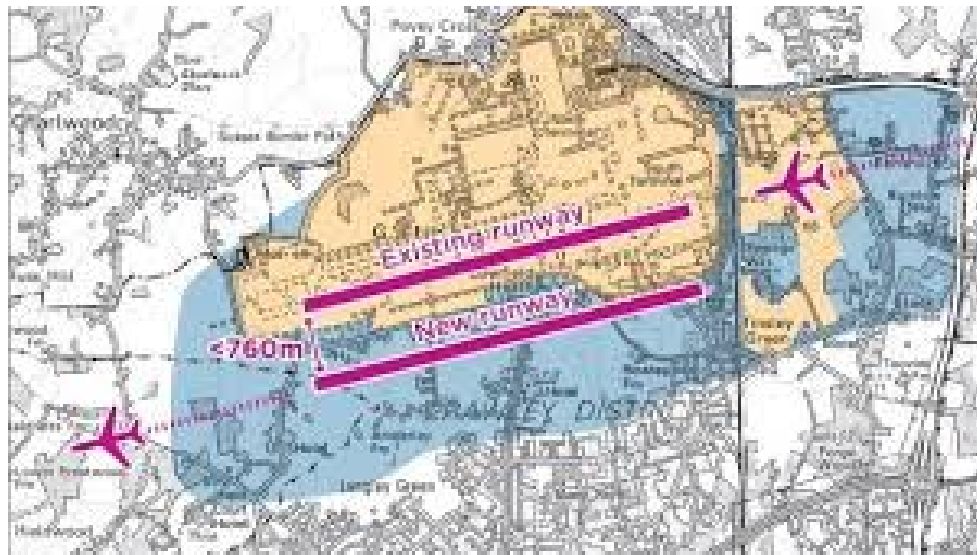
Environmental Damage

43. The environmental consequences of the medium spaced option would be similar to those of a 'wide spaced' option, although somewhat smaller in scale.

44. Additional land take would be required outside the safeguarded area to provide space for new taxiways round the western end of the existing runway.¹⁷
45. The capacity of the two existing terminals is 40 million passengers a year. If GAL are correct that the middle spaced option would enable the airport to handle 75-82 million passengers a year, that would require a new terminal (or terminals) to handle the extra 40 million - a building bigger than T5 at Heathrow.
46. There is, however, no space available within the present airport boundary on the north side of the airport. It would mean putting the River Mole underground; demolishing all the earth bunds and landscaping that have been so carefully built up during the past forty years; extending the airport into the Green Belt (and into Surrey); and would cut off the village of Charlwood from the nearby town of Horley. Nor is it clear how the airport could function efficiently if the terminal were to be put on the southern side of the new runway.
47. Since this option has been virtually ruled out by GAL, there would be no point in listing all the environmental disadvantages in detail. Suffice to say that the number of people within the 54 Lden contour would rise to 37,300.

THE CLOSE PARALLEL RUNWAY

48. Plans for a close parallel runway about 600 m south of the existing runway are set out in two paragraphs on page 18 of the GAL submission.
49. Gatwick, of course, already has a close parallel runway. This is the 'standby runway' (08L/26R) 200m to the north of the existing runway. The two runways are, however, too close together to be used at the same time.



Aeronautical Problems

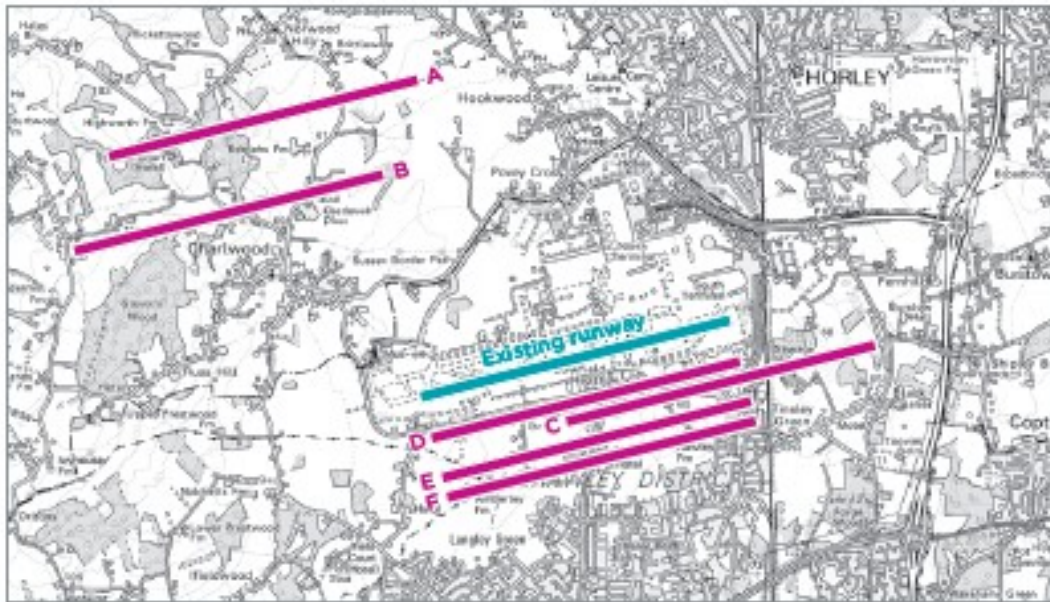
50. CAA Guidance states that where runways are closer together than 760m there is a risk of wake turbulence. That is why in their submission GAL state that: 'The runways would have to be used dependently i.e. operations on one runway temporarily interrupting operations on the other.'¹⁸
51. A close parallel runway would provide comparatively little extra capacity. GAL state that the existing runway can handle 40 million passengers a year, rising to 48 million by 2050.¹⁹ A new close parallel runway would raise this to around 60-66 million. Thus the increase in capacity could be as little as 25%.
52. If the DfT forecasts are correct that a new full size runway is needed in the South East by around 2030, a close parallel runway at Gatwick would not fulfil this need. Another runway at another airport would also be necessary - a situation which is unlikely to appeal to the Airports Commission or to a future Government.
53. Nor would a close parallel runway fulfil the 'vision' of Gatwick Airport Ltd that London should have a 'constellation' of three airports each with two runways. If the three airports were to have equal status they would each need full scale runways.
54. Since the close parallel runway would be used in segregated mode, all aircraft using the existing terminals would need to taxi around the ends of the existing runway.
55. The small increase in capacity would mean that a close parallel would have a higher cost per passenger than the other options.²⁰ That is why GAL clearly prefer the 'wide spaced' option.

Environmental Damage

56. A close parallel runway would obviously cause less environmental damage than the other two options but the damage would be by no means negligible.
57. A new terminal would be required of a similar size to the present North or South terminals. It is not clear where it could be sited, or what the road connections to it would be.
58. Additional land would be needed to build new taxiways round the western end of the existing runway. Seven listed buildings would be demolished.²¹
59. According to GAL, 21,300 people would be affected by noise (on the standard EU 54 Lden metric).

A NORTHERN RUNWAY ?

**FIGURE 9:
ADDITIONAL RUNWAY OPTIONS CONSIDERED PREVIOUSLY AT GATWICK**



60. The GAL submission appears to rule out a new runway to the north of Gatwick.²² That is the same decision that was reached by the Government in 2003.²³ Previous proposals for a northern runway are shown as lines A and B above.
61. GAL, however, contradict themselves by saying that this option will ‘be included in later consultation and engagement processes.’²⁴ We consider this highly irresponsible as it will cause widespread and unnecessary blight.
62. GAL also invite the Commission to consider the possibility that Gatwick could become a ‘mega-hub’ with three runways, including one to the north.²⁵ That is a prospect so serious that it would arouse massive opposition and would, we believe, have no chance of being accepted by any future Government.
63. We consider GAL are disingenuous in only referring to the engineering difficulties in constructing a northern runway and not mentioning the other major considerations which have ruled it out in the past.

Aeronautical Problems

64. A northern runway would require aircraft to fly through a cutting 50m deep, with the danger of turbulence in cross winds.²⁶
65. When this option was considered in the Department for Transport SERAS study it was suggested that the northern runway would need to operate only in a western direction, i.e. with departures to the west and arrivals from the west. And that a new southern runway would only operate in an easterly direction. That would involve aircraft having to taxi up to five miles between landing and take-off. And would involve one aircraft a minute having to cross at the end of the existing runway.

66. For GAL to suggest a three runway Gatwick is to contradict their 'vision' of London with a constellation of three equal airports each with two runways. Moreover most advocates of the mega-hub concept envisage a minimum of four runways.

Environmental Damage

67. A northern runway would cause severe environmental damage.
68. It would point straight at the town of Horley, causing serious problems of noise, and also pollution which might well be above EU mandatory standards.
69. It would leave the medieval village of Charlwood sandwiched between the runways. According to the Transport Department RUCATSE report, that would make the village uninhabitable.²⁷ Charlwood parish contains over 80 listed buildings and features. Charlwood church, c.1080, is listed grade 1 and contains nationally important wall paintings.
70. A northern runway would require a cutting 50m deep and 1 km wide, and would destroy the whole of the 60 acre Edolphs Copse, a Local Nature Reserve and Site of Nature Conservation Importance, owned by the Woodland Trust.
71. The River Mole would need to be put in a long tunnel. All the earth bunds and landscaping would be destroyed. All the Green Belt land between Charlwood and Horley would be converted into terminals, taxiways and aprons.
72. A three runway Gatwick would be even worse. It would have a capacity of 120 million passengers a year, nearly twice the size of Heathrow today, and nearly four times the size of Gatwick today. An airport this size would cause massive environmental damage and would change the character of much of Surrey and Sussex.
73. We therefore trust that the Commission will not even contemplate this option.

GENERAL POINTS

Economic benefits

74. The economic benefits are grossly exaggerated. For example, the first claim is that 'a new runway at Gatwick will... generate investment benefits calculated to be some £56 billion'²⁸. Yet on examination this turns out to be the benefit to the UK of building any new runway in the South East, not peculiar to Gatwick. Moreover it is cumulative to 2050: the *annual* benefit is £1.3 billion. That is small compared to the net £9 billion annual cost to the Exchequer of the tax concessions to aviation (exemption from fuel tax and VAT only partly balanced by air passenger duty).
75. The next claim is that a new runway would produce '£3 billion of tourist spending in 2050.' That ignores the impact on the UK and on the Gatwick

area of outward-bound tourism. The Department for Transport forecasts show that in 2030 Gatwick will be handling 24 million UK passengers going abroad on leisure compared to 7 million foreign passengers coming to the UK. There is no reason to suppose that a second runway would change these proportions. So the main economic impact of a new runway would be to add to the amount of money that British citizens spend abroad.

76. The GAL document refers to the concern felt by some local authorities that the area may deteriorate if a new runway were to be built elsewhere. This anxiety, which we believe has been fostered by GAL themselves, is misplaced. It ignores the costs of any new runway. For example, a new runway at Heathrow would cost £14 - 18 billion and the resulting increase in airport charges would mean that few Gatwick airlines would move to Heathrow: indeed some might decide to move from Heathrow to Gatwick.

The cost of a new runway

77. The GAL submission estimates the cost of a new wide-spaced Gatwick runway at £9 billion.²⁹ When that is compared to the £1.5 billion that Global Infrastructure Partners paid for Gatwick airport in 2009, it is obvious that the new runway would mean a substantial increase in airport charges. That is admitted by GAL who state that: 'We anticipate that aeronautical prices associated with runway development will be higher than today's prices ...'³⁰

CONCLUSION

78. We are, of course, well aware that many of the disadvantages of Gatwick apply in greater or lesser measure to any of the other airports under consideration as a location for new runway. We hope, however, that this paper will have dispelled any superficial impressions that Gatwick might be an easy option.
79. If all the airports in the London area have unacceptable environmental disadvantages, the conclusion perhaps will be for policy makers to look more carefully at the option of 'no new runway'. The case for this option has been cogently argued by many national environmental organisations.³¹

- ¹ ICAO Annex 14 Vol. I
- ² Master Plan paragraph 10.3.6
- ³ Executive summary. Page v.
- ⁴ BAA response to DfT consultation. May 2003
- ⁵ GAL submission 19 July 2013. paragraph 6.34
- ⁶ GAL submission 19 July 2013. Table 7, page 31. Also paragraph 6.14.
- ⁷ GAL submission 19 July 2013. Table 8, page 31. Also Appendix 11. The number of people in the 54 Lden contour is given as 15,300 in the base case – ie with full use of the existing runway. But the 2012 master plan shows that the number affected by noise in the base case will be substantially higher than at present.
- ⁸ www.gacc.org.uk/latest-news
- ⁹ Countryside and Rights of Way Act. Section 85
- ¹⁰ GACC has published indicative maps of the new flight paths see www.gacc.org.uk/latest-news
- ¹¹ GAL submission 19 July 2013. Paragraph 6.30
- ¹² <http://www.crawley.gov.uk/pw/web/int169915>
- ¹³ GAL submission 19 July 2013. Paragraph 5.15
- ¹⁴ Berkeley Hanover. PowerPoint presentation . February 2013
- ¹⁵ GAL submission 19 July 2013. Table 10.
- ¹⁶ Examples include **undershot** : Boeing 777 crash at San Francisco July 3013; Airbus 320 crash Bangalore February 1990; Boeing 777 crash Heathrow January 2008. **Overshot**: Boeing 737 crash Bali April 2013; TU 204 crash Moscow December 2012; Boeing 737 crash Jamaica December 2009.
- ¹⁷ GAL submission 19 July 2013. Paragraph 3.17
- ¹⁸ GAL submission 19 July 2013. Paragraph 3.10
- ¹⁹ GAL submission 19 July 2013. Paragraph 2.24
- ²⁰ GAL submission 19 July 2013 appendix. Evaluation. Executive Summary. ARUP.
- ²¹ Air Transport White Paper 11.76
- ²² GAL submission 19 July 2013. Paragraph 3.6
- ²³ Air Transport White Paper 11.83
- ²⁴ GAL submission 19 July 2013. Paragraph 3.6
- ²⁵ GAL submission 19 July 2013. Paragraph 2.54
- ²⁶ Department of Transport. Runway Capacity to Serve the South East. July 1993. Page 67
- ²⁷ Department of Transport. Runway Capacity to Serve the South East. July 1993. Page 74
- ²⁸ GAL submission 19 July 2013. Paragraph 5.1
- ²⁹ GAL submission 19 July 2013. Paragraph 8.3
- ³⁰ GAL submission 19 July 2013. Paragraphs 8.7 and 8.8
- ³¹ The trend towards use of larger aircraft may make any new runway unnecessary. See GACC paper on Airport Models. www.gacc.org.uk/latest-news